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RF Exposure Part 0 Test Report

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FCC ID:	**A3LSMS936U**
APPLICANT:	**SAMSUNG ELECTRONICS CO., LTD.**

Report Type:	SAR Characterization
DUT Type:	Portable Handset
Model(s):	SM-S936U
Additional Model(s):	SM-S936U1

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them. Test results reported herein relate only to the item(s) tested.

RJ Ortanez
Executive Vice President

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APPENDIX A: PART 0 SAR TEST RESULTS FOR P_{LIMIT} CALCULATIONS

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1 DEVICE UNDER TEST

1.1 Device Overview

Band & Mode	Operating Modes	Tx Frequency
GSM/GPRS/EDGE 850	Voice/Data	824.20 - 848.80 MHz
GSM/GPRS/EDGE 1900	Voice/Data	1850.20 - 1909.80 MHz
UMTS 850	Voice/Data	826.40 - 846.60 MHz
UMTS 1750	Voice/Data	1712.4 - 1752.6 MHz
UMTS 1900	Voice/Data	1852.4 - 1907.6 MHz
LTE Band 71	Voice/Data	665.5 - 695.5 MHz
LTE Band 12	Voice/Data	699.7 - 715.3 MHz
LTE Band 13	Voice/Data	779.5 - 784.5 MHz
LTE Band 14	Voice/Data	790.5 - 795.5 MHz
LTE Band 26	Voice/Data	814.7 - 848.3 MHz
LTE Band 5	Voice/Data	824.7 - 848.3 MHz
LTE Band 66	Voice/Data	1710.7 - 1779.3 MHz
LTE Band 4	Voice/Data	1710.7 - 1754.3 MHz
LTE Band 25	Voice/Data	1850.7 - 1914.3 MHz
LTE Band 2	Voice/Data	1850.7 - 1909.3 MHz
LTE Band 30	Voice/Data	2307.5 - 2312.5 MHz
LTE Band 7	Voice/Data	2502.5 - 2567.5 MHz
LTE Band 41	Voice/Data	2498.5 - 2687.5 MHz
LTE Band 38	Voice/Data	2572.5 - 2617.5 MHz
LTE Band 48	Voice/Data	3552.5 - 3697.5 MHz
NR Band n71	Voice/Data	665.5 - 695.5 MHz
NR Band n12	Voice/Data	701.5 - 713.5 MHz
NR Band n14	Voice/Data	790.5 - 795.5 MHz
NR Band n26	Voice/Data	816.5 - 846.5 MHz
NR Band n5	Voice/Data	826.5 - 846.5 MHz
NR Band n70	Voice/Data	1697.5 - 1707.5 MHz
NR Band n66	Voice/Data	1712.5 - 1777.5 MHz
NR Band n25	Voice/Data	1852.5 - 1912.5 MHz
NR Band n2	Voice/Data	1852.5 - 1907.5 MHz
NR Band n30	Voice/Data	2307.5 - 2312.5 MHz
NR Band n7	Voice/Data	2502.5 - 2567.5 MHz
NR Band n41	Voice/Data	2501.01 - 2685 MHz
NR Band n38	Voice/Data	2575 - 2615 MHz
NR Band n48	Voice/Data	3555 - 3694.98 MHz
NR Band n78	Voice/Data	3455.01 - 3544.98 MHz; 3705 - 3795 MHz
NR Band n77	Voice/Data	3455.01 - 3544.98 MHz; 3705 - 3975 MHz
NTN Band 255	Data	1629 - 1658 MHz
NR Band n258	Data	24250 - 24450 MHz; 24750 - 25250 MHz
NR Band n260	Data	37000 - 40000 MHz
NR Band n261	Data	27500 - 28350 MHz
2.4 GHz WIFI	Voice/Data	2412 - 2462 MHz
5 GHz WIFI	Voice/Data	U-NII-1: 5180 - 5240 MHz U-NII-2A: 5260 - 5320 MHz U-NII-2C: 5500 - 5720 MHz U-NII-3: 5745 - 5825 MHz U-NII-4: 5845 - 5885 MHz
6 GHz WIFI	Voice/Data	U-NII-5: 5935 - 6415 MHz U-NII-6: 6435 - 6515 MHz U-NII-7: 6535 - 6875 MHz U-NII-8: 6895 - 7115 MHz
2.4 GHz Bluetooth	Data	2402 - 2480 MHz
NFC	Data	13.56 MHz
UWB	Data	6489.6 - 7987.2 MHz

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1.2 Time-Averaging Algorithm for RF Exposure Compliance

The purpose of this report is to show SAR Characterization of WWAN sub-6/WLAN/BT (Part0) and to demonstrate that the EUT meets FCC SAR limits when transmitting in static transmission scenario at maximum allowable time-averaged power levels (Part1).

1.2.1 Nomenclature

Technology	Term	Description
WWAN Sub-6 /WLAN/BT	P_{limit}	Power level that corresponds to the exposure design target (*SAR_design_target)* after accounting for all device design related uncertainties
	P_{max}	Maximum tune up output power
	SAR_design_target	Target SAR level < FCC SAR limit after accounting for all device design related uncertainties
	SAR Char	Table containing *Plimit* for all technologies and bands

1.2.2 Time-Averaged Algorithm

This Device is enabled with the Qualcomm® Smart Transmit Gen2 feature with antenna grouping. This feature performs time-averaging algorithm in real time to control and manage transmitting power and ensure the time-averaged RF exposure is in compliance with FCC requirements all the time. Refer to Compliance Summary document for detailed description of Qualcomm® Smart Transmit feature (report SN could be found in Section 1.3– Bibliography).

Note that NTN operations are not enabled with Smart Transmit.

The Smart Transmit algorithm maintains the time-averaged transmit power, in turn, time-averaged RF exposure of *SAR_design_target* or *PD_design_target*, below the predefined time-averaged power limit (i.e., P_{limit} for WWAN sub-6/WLAN/BT radio, and *input.power.limit* for 5G mmW NR), for each characterized technology and band. Characterization is achieved by determining P_{limit} for WWAN sub-6/WLAN/BT that corresponds to the exposure design targets after accounting for all device design related uncertainties, i.e., SAR_design_target (<FCC SAR Limit) for sub-6 radio. The SAR characterization is denoted as SAR char in this report (see SAR Summary Section and Part 0 SAR Test Results for P_{limit} Calculations Appendix).

Smart Transmit allows the device to transmit at higher power instantaneously, as high as P_{max}, when needed, but enforces power limiting to maintain time-averaged transmit power to P_{limit}. Below table shows P_{limit} EFS settings and maximum tune up output power P_{max} configured for this EUT for various transmit conditions (Device State Index DSI). Note that the device uncertainty for WWAN sub-6/WLAN/BT is 1.0dB for this EUT.

The maximum time-averaged output power (dBm) for any WWAN sub-6/WLAN/BT technology, band, and DSI is the minimum of ("P_{limit} EFS" and "Maximum tune up output power P_{max}") + 1dB device uncertainty. SAR values in this report were scaled to this maximum time-averaged output power to determine compliance per KDB Publication 447498 D01v06.

1.3 Bibliography

Report Type	Report Serial Number
RF Exposure Part 1 Test Report	1M2408260064-23.A3L
Near Field PD Report (Part 1)	1M2408260064-25.A3L
Near Field PD Report (Part 0)	
RF Exposure Part 2 Test Report	1M2408260064-24.A3L
RF Exposure Compliance Summary Report	1M2408260064-26.A3L

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2 SAR AND POWER DENSITY MEASUREMENTS

1.1 SAR Definition

Specific Absorption Rate is defined as the time derivative (rate) of the incremental energy (dU) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dV) of a given density (ρ). It is also defined as the rate of RF energy absorption per unit mass at a point in an absorbing body (see Equation 2-1).

Equation 2-1
SAR Mathematical Equation

$$SAR = \frac{d}{dt}\left(\frac{dU}{dm}\right) = \frac{d}{dt}\left(\frac{dU}{\rho dv}\right)$$

SAR is expressed in units of Watts per Kilogram (W/kg).

$$SAR = \frac{\sigma \cdot E^2}{\rho}$$

where:

σ = conductivity of the tissue-simulating material (S/m)
ρ = mass density of the tissue-simulating material (kg/m^3)
E = Total RMS electric field strength (V/m)

NOTE: The primary factors that control rate of energy absorption were found to be the wavelength of the incident field in relation to the dimensions and geometry of the irradiated organism, the orientation of the organism in relation to the polarity of field vectors, the presence of reflecting surfaces, and whether conductive contact is made by the organism with a ground plane.[6]

1.2 SAR Measurement Procedure

The evaluation was performed using the following procedure compliant to FCC KDB Publication 865664 D01v01r04 and IEEE 1528-2013:

1. The SAR distribution at the exposed side of the head or body was measured at a distance no greater than 5.0 mm from the inner surface of the shell. The area covered the entire dimension of the device-head and body interface and the horizontal grid resolution was determined per FCC KDB Publication 865664 D01v01r04 (See Table 2-1) and IEEE 1528-2013.
2. The point SAR measurement was taken at the maximum SAR region determined from Step 1 to enable the monitoring of SAR fluctuations/drifts during the 1g/10g cube evaluation. SAR at this fixed point was measured and used as a reference value.

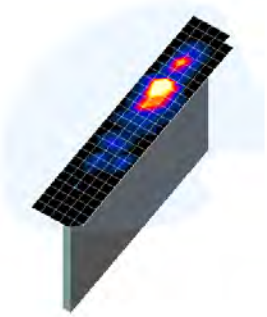

Figure 2-1
Sample SAR Area Scan

3. Based on the area scan data, the peak of the region with maximum SAR was determined by spline interpolation. Around this point, a volume was assessed according to the measurement resolution and volume

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size requirements of FCC KDB Publication 865664 D01v01r04 (See Table 2-1) and IEEE 1528-2013. On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure (see references or the DASY manual online for more details):

a. SAR values at the inner surface of the phantom are extrapolated from the measured values along the line away from the surface with spacing no greater than that in Table 2-1. The extrapolation was based on a least-squares algorithm. A polynomial of the fourth order was calculated through the points in the z-axis (normal to the phantom shell).

b. After the maximum interpolated values were calculated between the points in the cube, the SAR was averaged over the spatial volume (1g or 10g) using a 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the "Not a knot" condition (in x, y, and z directions). The volume was then integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were obtained through interpolation, in order to calculate the averaged SAR.

c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

4. The SAR reference value, at the same location as step 2, was re-measured after the zoom scan was complete to calculate the SAR drift. If the drift deviated by more than 5%, the SAR test and drift measurements were repeated.

Table 2-1
Area and Zoom Scan Resolutions per FCC KDB Publication 865664 D01v01r04*

Frequency	Maximum Area Scan Resolution (mm) (Δx_{area}, Δy_{area})	Maximum Zoom Scan Resolution (mm) (Δx_{zoom}, Δy_{zoom})	Maximum Zoom Scan Spatial Resolution (mm)			Minimum Zoom Scan Volume (mm) (x,y,z)
			Uniform Grid	Graded Grid		
			$\Delta z_{zoom}(n)$	$\Delta z_{zoom}(1)$*	$\Delta z_{zoom}(n>1)$*	
≤ 2 GHz	≤ 15	≤ 8	≤ 5	≤ 4	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 30
2-3 GHz	≤ 12	≤ 5	≤ 5	≤ 4	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 30
3-4 GHz	≤ 12	≤ 5	≤ 4	≤ 3	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 28
4-5 GHz	≤ 10	≤ 4	≤ 3	≤ 2.5	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 25
5-6 GHz	≤ 10	≤ 4	≤ 2	≤ 2	≤ 1.5*$\Delta z_{zoom}(n-1)$	≥ 22

*Also compliant to IEEE 1528-2013 Table 6

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3 PART 0 SAR CHARACTERIZATION

3.1 SAR Characterization

3.1.1 DSI and SAR Determination

This device uses different Device State Index (DSI) to configure different time averaged power levels based on certain exposure scenarios. Depending on the detection scheme implemented in the smartphone, the worst-case SAR was determined by measurements for the relevant exposure conditions for that DSI. Detailed descriptions of the detection mechanisms are included in the operational description.

When 1g SAR and 10g SAR exposure comparison is needed, the worst-case was determined from SAR normalized to 1g or 10g SAR limit.

The device state index (DSI) conditions used in Table 2-1 represent different exposure scenarios.

Table 3-1
DSI and Corresponding Exposure Scenarios

Scenario	Description	SAR Test Cases
Head (DSI = 1)	▪ Device positioned next to head ▪ Receiver Active	*Head SAR per KDB Publication 648474 D04*
Hotspot mode (DSI = 0)	▪ Device transmits in hotspot mode near body ▪ Hotspot Mode Active	*Hotspot SAR per KDB Publication 941225 D06*
Phablet (DSI = 0)	▪ Device is held with hand	*Phablet SAR per KDB Publication 648474 D04 & KDB Publication 616217 D04*
Body-worn (DSI = 0)	▪ Device being used with a body-worn accessory	*Body-worn SAR per KDB Publication 648474 D04*

3.1.2 SAR_Design_Target

SAR_design_target is determined by ensuring that it is less than FCC SAR limit after accounting for total device designed related uncertainties specified by the manufacturer (see Table 2-2).

Table 3-2
***SAR_design_target* Calculations**

SAR_design_target			
$SAR_design_target < SAR_regulatory_limit \times 10^{\frac{-Total\ Uncertainty}{10}}$			
1g SAR (W/kg)		**10g SAR (W/kg)**	
Total Uncertainty	1.0 dB	*Total Uncertainty*	1.0 dB
SAR_regulatory_limit	1.6 W/kg	*SAR_regulatory_limit*	4.0 W/kg
SAR_design_target	1.0 W/kg	*SAR_design_target*	2.5 W/kg

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3.1.3 SAR Char

SAR test results corresponding to *Pmax/Plimit* for each antenna/technology/band/DSI can be found in SAR Summary Section and Part 0 SAR Test Results for Plimit Calculations Appendix.

Plimit is calculated by linearly scaling with the measured SAR at the Ppart0 to correspond to the *SAR_design_target*. When *Plimit* < *Pmax*, *Ppart0* was used as Plimit in the Smart Transmit EFS. When *Plimit* > *Pmax* and *Ppart0*=Pmax, calculated *Plimit* was used in the Smart Transmit EFS. For some bands/modes, the manufacture selected a lower *Plimit*. All reported SAR obtained from the Ppart0 SAR tests was less than *SAR_Design_target*+ 1 dB Uncertainty. The final *Plimit* determination for each exposure scenario corresponding to *SAR_design_target* are shown in Table 2-3.

Table 3-3
***PLimit* Determination**

Device State Index (DSI)	*PLimit* Determination Scenarios
0	The worst-case SAR exposure is determined as maximum SAR normalized to the limit (i.e. lowest P_{limit}) among: 1. Body Worn SAR 2. Extremity SAR measured at 0 mm for all surfaces. 3. Hotspot SAR at 10 mm
1	P_{limit} is calculated based on 1g Head SAR

Notes:

- When P_{max} < P_{limit} EFS, the DUT will operate at a power level up to P_{max}

- All P_{limit} EFS and maximum tune up output power P_{max} levels entered in above Table correspond to average power levels after accounting for duty cycle in the case of TDD, GMSK, or OFDM modulation schemes (e.g. GSM, LTE TDD and WLAN/BT).

- Maximum tune up output power P_{max} is used to configure EUT during RF tune up procedure. The maximum allowed output power is equal to maximum Tune up output power + 1dB device design uncertainty.

- All MIMO P_{max} and P_{limit} are defined per antenna chain.

Measurement Condition: All conducted power and SAR measurements in this report (Part 1 test) were performed by setting Reserve_power_margin (Smart Transmit EFS entry) to 0dB.

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Table 3-4
SAR Characterizations

Exposure Scenario			Maximum Tune-Up Output Power*	Body-Worn, Hotspot, or Phablet	Head
Averaging Volume				1g/10g	1g
Spacing				10mm, 0mm	0mm
Configuration					
DSI				0	1
Technology/Band	Antenna	Antenna Group	P_{max}	P_{limit}	P_{limit}
GSM 850	A	AG0	25.3	30.2	30.2
GSM 850	E	AG1	25.3	28.4	20.8
GSM 1900	A	AG0	22.1	17.8	28.0
UMTS 850	A	AG0	24.0	28.0	29.8
UMTS 850	E	AG1	24.0	26.8	21.0
UMTS 1750	A	AG0	22.5	18.0	27.6
UMTS 1900	A	AG0	23.5	17.5	27.8
LTE Band 71	A	AG0	24.0	28.7	30.1
LTE Band 71	E	AG1	24.0	28.4	18.0
LTE Band 12	A	AG0	24.3	29.5	30.3
LTE Band 12	E	AG1	24.3	27.9	21.0
LTE Band 13	A	AG0	24.0	28.5	30.0
LTE Band 13	E	AG1	24.0	26.2	21.0
LTE Band 14	A	AG0	24.3	28.8	29.9
LTE Band 14	E	AG1	24.3	26.4	21.0
LTE Band 26/5	A	AG0	24.0	28.8	29.8
LTE Band 26/5	E	AG1	24.0	26.2	21.0
LTE Band 66/4	A	AG0	23.5	18.5	27.3
LTE Band 66/4	F	AG1	23.5	20.0	16.0
LTE Band 25/2	A	AG0	23.5	18.0	28.8
LTE Band 25/2	F	AG1	23.5	20.0	18.0
LTE Band 30	A	AG0	22.5	19.0	34.8
LTE Band 30	F	AG1	22.5	18.0	16.5
LTE Band 7	B	AG0	23.0	19.0	31.2
LTE Band 7	F	AG1	23.0	17.0	15.5
LTE Band 41	B	AG0	22.0	19.0	18.4
LTE Band 41	F	AG1	22.0	16.0	14.5
LTE Band 38	B	AG0	22.0	17.0	18.4
LTE Band 38	F	AG1	22.0	14.5	12.5
LTE Band 48	F	AG1	20.5	16.5	12.5
NR Band n71	A	AG0	24.0	28.4	31.0
NR Band n71	E	AG1	24.0	27.5	18.0
NR Band n12	A	AG0	24.3	28.6	31.2
NR Band n12	E	AG1	24.3	28.2	21.0
NR Band n14	A	AG0	24.0	28.7	34.2
NR Band n14	E	AG1	24.0	26.8	21.0
NR Band n26/n5	A	AG0	24.0	27.6	33.5
NR Band n26/n5	E	AG1	24.0	25.8	21.0
NR Band n70	A	AG0	23.0	19.0	28.5
NR Band n70	F	AG1	23.0	19.0	16.0
NR Band n66	A	AG0	23.5	18.5	26.7
NR Band n66	F	AG1	23.5	20.0	16.0
NR Band n25/n2	A	AG0	23.5	18.0	28.0
NR Band n25/n2	F	AG1	23.5	20.0	18.0
NR Band n30	A	AG0	22.5	19.0	34.9
NR Band n30	F	AG1	22.5	18.0	16.5
NR Band n7	B	AG0	23.0	19.0	30.7
NR Band n7	F	AG1	23.0	17.0	15.5
NR Band n41 PC2 (Path 1)	F	AG1	26.0	16.5	13.5
NR Band n41 PC2 (Path 1)	B	AG0	25.0	19.0	17.5
NR Band n41 PC2 (Path 1)	E	AG1	24.0	17.5	16.0
NR Band n41 PC2 (Path 1)	D	AG0	20.0	15.5	14.0
NR Band n41 PC2 (Path 2)	B	AG0	26.0	20.0	24.0
NR Band n41 PC2 (Path 2)	F	AG1	21.0	16.5	13.5
NR Band n41 PC2 (Path 2)	D	AG0	22.0	15.5	14.0
NR Band n41 PC2 (Path 2)	E	AG1	19.0	17.5	16.0
NR Band n38 (Path 1)	F	AG1	24.0	16.5	13.5
NR Band n38 (Path 2)	B	AG0	24.0	19.0	24.0
NR Band n48	F	AG1	22.5	18.0	14.0
NR Band n48	C	AG0	19.5	13.0	9.0
NR Band n48	I	AG1	22.5	16.0	12.0
NR Band n48	D	AG0	18.5	11.5	7.5
NR Band n77/n78 PC2	F	AG1	26.0	17.0	15.0
NR Band n77/n78 PC2	C	AG0	19.0	11.0	10.0
NR Band n77/n78 PC2	I	AG1	23.5	15.0	14.0
NR Band n77/n78 PC2	D	AG0	18.0	10.0	9.0
2.4 GHz WIFI	H	AG1	19.0	20.1	13.0
2.4 GHz WIFI	J	AG1	19.0	25.1	13.0
2.4 GHz WIFI	MIMO	AG1	19.0	19.6	13.0
5 GHz WIFI	H	AG1	17.0	16.0	13.0
5 GHz WIFI	E	AG1	17.0	16.0	13.0
5 GHz WIFI	MIMO	AG1	17.0	16.0	13.0
6 GHz WIFI	H	AG1	16.0	10.5	9.0
6 GHz WIFI	E	AG1	16.0	10.5	9.0
6 GHz WIFI	MIMO	AG1	16.0	10.5	9.0
2.4 GHz Bluetooth	H	AG1	17.4	20.2	10.9
2.4 GHz Bluetooth	J	AG1	17.4	26.9	10.9
2.4 GHz Bluetooth	MIMO	AG1	10.9	19.3	17.7

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4 EQUIPMENT LIST

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	E4404B	Spectrum Analyzer	N/A	N/A	N/A	MY45113242
Agilent	E4438C	ESG Vector Signal Generator	11/14/2023	Annual	11/14/2024	MY45093852
Agilent	E4438C	ESG Vector Signal Generator	11/15/2023	Annual	11/15/2024	MY45092078
Agilent	N5182A	MXG Vector Signal Generator	10/12/2023	Annual	10/12/2024	MY47400315
Agilent	N5182A	MXG Vector Signal Generator	3/7/2024	Annual	3/7/2025	MY47420603
Agilent	8753ES	S-Parameter Vector Network Analyzer	1/10/2024	Annual	1/10/2025	MY40001472
Agilent	8753ES	S-Parameter Vector Network Analyzer	7/21/2023	Annual	7/21/2024	US39170118
Agilent	E5515C	Wireless Communications Test Set	CBT	N/A	CBT	GB46310798
Agilent	E5515C	Wireless Communications Test Set	CBT	N/A	CBT	US41140256
Agilent	N4010A	Wireless Connectivity Test Set	N/A	N/A	N/A	GB46170464
Amplifier Research	1S1G6	Amplifier	CBT	N/A	CBT	433973
Amplifier Research	1S1G6	Amplifier	CBT	N/A	CBT	433974
Amplifier Research	150A100C	Amplifier	CBT	N/A	CBT	350132
Anritsu	MN81110B	I/O Adaptor	CBT	N/A	CBT	6261747881
Anritsu	ML2496A	Power Meter	6/24/2024	Annual	6/24/2025	1840005
Anritsu	ML2495A	Power Meter	7/8/2024	Annual	7/8/2025	1038008
Anritsu	MA2411B	Pulse Power Sensor	8/22/2023	Annual	8/22/2024	1726362
Anritsu	MA2411B	Pulse Power Sensor	11/8/2023	Annual	11/8/2024	1027293
Anritsu	MT8821C	Radio Communication Analyzer MT8821C	12/15/2023	Annual	12/15/2024	6200903190
Anritsu	MT8821C	Radio Communication Analyzer MT8821C	5/15/2024	Annual	5/15/2025	6262150047
Anritsu	MT8821C	Radio Communication Analyzer MT8821C	5/30/2024	Annual	5/30/2025	6262044715
Anritsu	MT8000A	Radio Communication Test Station	CBT	N/A	CBT	6261936-3572
Anritsu	MT8000A	Radio Communication Test Station	4/10/2024	Annual	4/10/2025	6261987983
Anritsu	MT8000A	Radio Communication Test Station	5/2/2024	Annual	5/2/2025	6272337436
Anritsu	MA24106A	USB Power Sensor	12/4/2023	Annual	12/4/2024	1528501
Anritsu	MA24106A	USB Power Sensor	4/15/2024	Annual	4/15/2025	1827528
Mini-Circuits	PWR-4GHS	USB Power Sensor	6/12/2024	Annual	6/12/2025	12001070013
Control Company	4052	Long Stem Thermometer	2/27/2024	Biennial	2/27/2026	240174346
Control Company	4052	Long Stem Thermometer	2/27/2024	Biennial	2/27/2026	240173096
Control Company	4052	Long Stem Thermometer	2/27/2024	Biennial	2/27/2026	240173059
Control Company	4040	Therm / Clock/ Humidity Monitor	4/15/2024	Biennial	4/15/2026	240310280
Control Company	4040	Therm / Clock/ Humidity Monitor	4/15/2024	Biennial	4/15/2026	240310282
Control Company	S66279	Therm / Clock/ Humidity Monitor	2/16/2024	Biennial	2/16/2026	240140051
Mitutoyo	500-196-30	CD-6"ASX Ginch Digital Caliper	2/16/2022	Triennial	2/16/2025	A20238413
Keysight Technologies	N9020A	MXA Signal Analyzer	4/11/2024	Annual	4/11/2025	MY54500644
Agilent	N9020A	MXA Signal Analyzer	6/14/2024	Annual	6/14/2025	MY56470202
MCL	BW-N6W5+	6dB Attenuator	CBT	N/A	CBT	1139
Mini-Circuits	VLF-6000+	Low Pass Filter DC to 6000 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	VLF-6000+	Low Pass Filter DC to 6000 MHz	7/5/2023	Annual	7/5/2024	31634
Mini-Circuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-1200+	Low Pass Filter DC to 3000 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	BW-N20W5	Power Attenuator	CBT	N/A	CBT	1226
Mini-Circuits	ZUDC10-83-S+	Directional Coupler	CBT	N/A	CBT	2050
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Narda	BW-S3W2	Attenuator (3dB)	CBT	N/A	CBT	120
Seekonk	NC-100	Torque Wrench	CBT	N/A	CBT	22217
Seekonk	NC-100	Torque Wrench	4/2/2024	Biennial	4/2/2026	1262
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	1/11/2024	Annual	1/11/2025	150117
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	1/10/2024	Annual	1/10/2025	131454
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	8/10/2023	Annual	8/10/2024	140144
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	8/9/2023	Annual	8/9/2024	162125
SPEAG	DAK-3.5	Dielectric Assessment Kit	11/13/2023	Annual	11/13/2024	1277
SPEAG	DAKS-3.5	Portable Dielectric Assessment Kit	8/14/2023	Annual	8/14/2024	1041
SPEAG	MAIA	Modulation and Audio Interference Analyser	N/A	N/A	N/A	1237
SPEAG	MAIA	Modulation and Audio Interference Analyser	N/A	N/A	N/A	1331
SPEAG	MAIA	Modulation and Audio Interference Analyser	N/A	N/A	N/A	1390
SPEAG	DAK-12	Dielectric Assessment Kit (4MHz - 3GHz)	3/11/2024	Annual	3/11/2025	1102
SPEAG	CLA-13	Confined Loop Antenna	11/9/2023	Annual	11/9/2024	1004
SPEAG	D750V3	750 MHz SAR Dipole	10/19/2023	Triennial	10/19/2026	1161
SPEAG	D750V3	750 MHz SAR Dipole	3/14/2022	Triennial	3/14/2025	1054
SPEAG	D750V3	750 MHz SAR Dipole	9/13/2023	Biennial	9/13/2025	1097
SPEAG	D835V2	835 MHz SAR Dipole	3/11/2024	Annual	3/11/2025	4d133
SPEAG	D835V2	835 MHz SAR Dipole	5/16/2022	Triennial	5/16/2025	4d040
SPEAG	D835V2	835 MHz SAR Dipole	4/8/2024	Annual	4/8/2025	4d119
SPEAG	D835V2	835 MHz SAR Dipole	1/18/2024	Annual	1/18/2025	4d132
SPEAG	D1640V2	1640 MHz SAR Dipole	12/13/2022	Biennial	12/13/2024	321
SPEAG	D1750V2	1750 MHz SAR Dipole	10/22/2021	Triennial	10/22/2024	1150
SPEAG	D1750V2	1750 MHz SAR Dipole	4/15/2024	Annual	4/15/2025	1051
SPEAG	D1750V2	1750 MHz SAR Dipole	1/18/2022	Triennial	1/18/2025	1148
SPEAG	D1900V2	1900 MHz SAR Dipole	2/21/2022	Triennial	2/21/2025	5d148
SPEAG	D1900V2	1900 MHz SAR Dipole	4/12/2024	Annual	4/12/2025	5d141
SPEAG	D2300V2	2300 MHz SAR Dipole	11/14/2023	Annual	11/14/2024	1064
SPEAG	D2300V2	2300 MHz SAR Dipole	3/11/2024	Annual	3/11/2025	1038
SPEAG	D2450V2	2450 MHz SAR Dipole	2/8/2024	Annual	2/8/2025	882
SPEAG	D2450V2	2450 MHz SAR Dipole	5/10/2024	Annual	5/10/2025	945
SPEAG	D2450V2	2450 MHz SAR Dipole	5/11/2022	Triennial	5/11/2025	750
SPEAG	D2450V2	2450 MHz SAR Dipole	11/15/2022	Biennial	11/15/2024	855
SPEAG	D2600V2	2600 MHz SAR Dipole	5/11/2022	Triennial	5/11/2025	1042
SPEAG	D2600V2	2600 MHz SAR Dipole	9/12/2023	Biennial	9/12/2025	1069
SPEAG	D2600V2	2600 MHz SAR Dipole	6/14/2024	Annual	6/14/2025	1039
SPEAG	D3500V2	3500 MHz SAR Dipole	12/13/2023	Annual	12/13/2024	1068
SPEAG	D3500V2	3500 MHz SAR Dipole	1/12/2024	Annual	1/12/2025	1059
SPEAG	D3700V2	3700 MHz SAR Dipole	12/13/2023	Annual	12/13/2024	1029
SPEAG	D3700V2	3700 MHz SAR Dipole	1/13/2023	Biennial	1/13/2025	1057
SPEAG	D3900V2	3900 MHz SAR Dipole	10/19/2023	Annual	10/19/2024	1056
SPEAG	D3700V2	3700 MHz SAR Dipole	1/9/2024	Annual	1/9/2025	1018
SPEAG	D5GHzV2	5 GHz SAR Dipole	2/21/2024	Annual	2/21/2025	1057
SPEAG	D5GHzV2	5 GHz SAR Dipole	4/9/2024	Annual	4/9/2025	1237
SPEAG	D6.5GHzV2	6.5 GHz SAR Dipole	2/22/2024	Annual	2/22/2025	1111
SPEAG	D6.5GHzV2	6.5 GHz SAR Dipole	10/11/2023	Annual	10/11/2024	1019
SPEAG	D8GHzV2	8GHz SAR Dipole	3/4/2024	Annual	3/4/2025	1007
SPEAG	5G Verification Source 10GHz	10GHz System Verification Antenna	3/5/2024	Annual	3/5/2025	1002
SPEAG	5G Verification Source 10GHz	10GHz System Verification Antenna	8/22/2024	Annual	8/22/2025	1004
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/16/2024	Annual	1/16/2025	1582
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/8/2024	Annual	7/8/2025	1677
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/9/2024	Annual	4/9/2025	1415
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/1/2024	Annual	3/1/2025	665
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/8/2024	Annual	5/8/2025	1678
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/8/2024	Annual	5/8/2025	728
SPEAG	DAE4	Dasy Data Acquisition Electronics	9/10/2024	Annual	9/10/2025	1364
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/16/2024	Annual	1/16/2025	1466
SPEAG	DAE4	Dasy Data Acquisition Electronics	8/8/2024	Annual	8/8/2025	1532
SPEAG	DAE4	Dasy Data Acquisition Electronics	6/11/2024	Annual	6/11/2025	1334
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/18/2024	Annual	4/18/2025	1407
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/9/2024	Annual	2/9/2025	467
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/8/2024	Annual	5/8/2025	1683
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/9/2024	Annual	4/9/2025	1652
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/9/2024	Annual	2/9/2025	1645
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/8/2024	Annual	5/8/2025	1502
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/8/2024	Annual	5/8/2025	1676
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/6/2024	Annual	3/6/2025	604
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/6/2024	Annual	3/6/2025	534
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/12/2024	Annual	3/12/2025	1272
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/16/2024	Annual	1/16/2025	1530
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/18/2024	Annual	7/18/2025	1583
SPEAG	DAE4	Dasy Data Acquisition Electronics	12/5/2023	Annual	12/5/2024	1639
SPEAG	EX3DV4	SAR Probe	4/16/2024	Annual	4/16/2025	7357
SPEAG	EX3DV4	SAR Probe	7/18/2024	Annual	7/18/2025	7406
SPEAG	EX3DV4	SAR Probe	2/9/2024	Annual	2/9/2025	7308
SPEAG	EX3DV4	SAR Probe	1/16/2024	Annual	1/16/2025	7565
SPEAG	EX3DV4	SAR Probe	9/2/2024	Annual	9/2/2025	7491
SPEAG	EX3DV4	SAR Probe	3/8/2024	Annual	3/8/2025	7488
SPEAG	EX3DV4	SAR Probe	6/17/2024	Annual	6/17/2025	7409
SPEAG	EX3DV4	SAR Probe	5/8/2024	Annual	5/8/2025	7660
SPEAG	EX3DV4	SAR Probe	4/17/2024	Annual	4/17/2025	7718
SPEAG	EX3DV4	SAR Probe	2/9/2024	Annual	2/9/2025	7427
SPEAG	EX3DV4	SAR Probe	4/17/2024	Annual	4/17/2025	7659
SPEAG	EX3DV4	SAR Probe	5/13/2024	Annual	5/13/2025	7682
SPEAG	EX3DV4	SAR Probe	4/17/2024	Annual	4/17/2025	7637
SPEAG	EX3DV4	SAR Probe	2/9/2024	Annual	2/9/2025	7640
SPEAG	EX3DV4	SAR Probe	5/10/2024	Annual	5/10/2025	7402
SPEAG	EX3DV4	SAR Probe	5/10/2024	Annual	5/10/2025	3914
SPEAG	EX3DV4	SAR Probe	3/11/2024	Annual	3/11/2025	7421
SPEAG	EX3DV4	SAR Probe	3/8/2024	Annual	3/8/2025	7527
SPEAG	EX3DV4	SAR Probe	9/11/2024	Annual	9/11/2025	7558
SPEAG	EX3DV4	SAR Probe	1/15/2024	Annual	1/15/2025	7570
SPEAG	EX3DV4	SAR Probe	6/28/2024	Annual	6/28/2025	7803
SPEAG	EX3DV4	SAR Probe	5/13/2024	Annual	5/13/2024	7552
SPEAG	EUmmWV4	EUmmWV4 Probe	2/2/2024	Annual	2/2/2025	9622
SPEAG	EUmmWV4	EUmmWV4 Probe	3/4/2024	Annual	3/4/2025	9421

Note: CBT (Calibrated Before Testing). Prior to testing, the measurement paths containing a cable, amplifier, attenuator, coupler or filter were connected to a calibrated source (i.e. a signal generator) to determine the losses of the measurement path. The power meter offset was then adjusted to compensate for the measurement system losses. This level offset is stored within the power meter before measurements are made. This calibration verification procedure applies to the system verification and output power measurements. The calibrated reading is then taken directly from the power meter after compensation of the losses for all final power measurements.
Note: All equipment was used solely within its respective calibration period.

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5 MEASUREMENT UNCERTAINTIES

Applicable for SAR measurements < 6GHz:

a	b	c	d	e= f(d,k)	f	g	h = c x f/e	i = c x g/e	k
Uncertainty Component	IEEE 1528 Sec.	Tol. (± %)	Prob. Dist.	Div.	c_i 1gm	c_i 10 gms	1gm u_i (± %)	10gms u_i (± %)	v_i
Measurement System									
Probe Calibration	E.2.1	7	N	1	1	1	7.0	7.0	∞
Axial Isotropy	E.2.2	0.25	N	1	0.7	0.7	0.2	0.2	∞
Hemishperical Isotropy	E.2.2	1.3	N	1	0.7	0.7	0.9	0.9	∞
Boundary Effect	E.2.3	2	R	1.73	1	1	1.2	1.2	∞
Linearity	E.2.4	0.3	N	1	1	1	0.3	0.3	∞
System Detection Limits	E.2.4	0.25	R	1.73	1	1	0.1	0.1	∞
Modulation Response	E.2.5	4.8	R	1.73	1	1	2.8	2.8	∞
Readout Electronics	E.2.6	0.3	N	1	1	1	0.3	0.3	∞
Response Time	E.2.7	0.8	R	1.73	1	1	0.5	0.5	∞
Integration Time	E.2.8	2.6	R	1.73	1	1	1.5	1.5	∞
RF Ambient Conditions - Noise	E.6.1	3	R	1.73	1	1	1.7	1.7	∞
RF Ambient Conditions - Reflections	E.6.1	3	R	1.73	1	1	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	E.6.2	0.8	R	1.73	1	1	0.5	0.5	∞
Probe Positioning w/ respect to Phantom	E.6.3	6.7	R	1.73	1	1	3.9	3.9	∞
Extrapolation, Interpolation & Integration algorithms for Max. SAR Evaluation	E.5	4	R	1.73	1	1	2.3	2.3	∞
Test Sample Related									
Test Sample Positioning	E.4.2	3.12	N	1	1	1	3.1	3.1	35
Device Holder Uncertainty	E.4.1	1.67	N	1	1	1	1.7	1.7	5
Output Power Variation - SAR drift measurement	E.2.9	5	R	1.73	1	1	2.9	2.9	∞
SAR Scaling	E.6.5	0	R	1.73	1	1	0.0	0.0	∞
Phantom & Tissue Parameters									
Phantom Uncertainty (Shape & Thickness tolerances)	E.3.1	7.6	R	1.73	1.0	1.0	4.4	4.4	∞
Liquid Conductivity - measurement uncertainty	E.3.3	4.3	N	1	0.78	0.71	3.3	3.0	76
Liquid Permittivity - measurement uncertainty	E.3.3	4.2	N	1	0.23	0.26	1.0	1.1	75
Liquid Conductivity - Temperature Uncertainty	E.3.4	3.4	R	1.73	0.78	0.71	1.5	1.4	∞
Liquid Permittivity - Temperature Unceritainty	E.3.4	0.6	R	1.73	0.23	0.26	0.1	0.1	∞
Liquid Conductivity - deviation from target values	E.3.2	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Permittivity - deviation from target values	E.3.2	5.0	R	1.73	0.60	0.49	1.7	1.4	∞
Combined Standard Uncertainty (k=1)			RSS				12.2	12.0	191
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=2				24.4	24.0	

The above measurement uncertainties are according to IEEE Std. 1528-2013

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Applicable for SAR measurements > 6GHz:

a	b	c	d	e= f(d,k)	f	g	h = c x f/e	i = c x g/e	k
Uncertainty Component	IEEE 1528 Sec.	Tol. (± %)	Prob. Dist.	Div.	c_i 1gm	c_i 10 gms	1gm u_i (± %)	10gms u_i (± %)	v_i
Measurement System									
Probe Calibration	E.2.1	9.3	N	1	1	1	9.3	9.3	∞
Axial Isotropy	E.2.2	0.25	N	1	0.7	0.7	0.2	0.2	∞
Hemishperical Isotropy	E.2.2	1.3	N	1	0.7	0.7	0.9	0.9	∞
Boundary Effect	E.2.3	2	R	1.73	1	1	1.2	1.2	∞
Linearity	E.2.4	0.3	N	1	1	1	0.3	0.3	∞
System Detection Limits	E.2.4	0.25	R	1.73	1	1	0.1	0.1	∞
Modulation Response	E.2.5	4.8	R	1.73	1	1	2.8	2.8	∞
Readout Electronics	E.2.6	0.3	N	1	1	1	0.3	0.3	∞
Response Time	E.2.7	0.8	R	1.73	1	1	0.5	0.5	∞
Integration Time	E.2.8	2.6	R	1.73	1	1	1.5	1.5	∞
RF Ambient Conditions - Noise	E.6.1	3	R	1.73	1	1	1.7	1.7	∞
RF Ambient Conditions - Reflections	E.6.1	3	R	1.73	1	1	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	E.6.2	0.8	R	1.73	1	1	0.5	0.5	∞
Probe Positioning w/ respect to Phantom	E.6.3	6.7	R	1.73	1	1	3.9	3.9	∞
Extrapolation, Interpolation & Integration algorithms for Max. SAR Evaluation	E.5	4	R	1.73	1	1	2.3	2.3	∞
Test Sample Related									
Test Sample Positioning	E.4.2	3.12	N	1	1	1	3.1	3.1	35
Device Holder Uncertainty	E.4.1	1.67	N	1	1	1	1.7	1.7	5
Output Power Variation - SAR drift measurement	E.2.9	5	R	1.73	1	1	2.9	2.9	∞
SAR Scaling	E.6.5	0	R	1.73	1	1	0.0	0.0	∞
Phantom & Tissue Parameters									
Phantom Uncertainty (Shape & Thickness tolerances)	E.3.1	7.6	R	1.73	1.0	1.0	4.4	4.4	∞
Liquid Conductivity - measurement uncertainty	E.3.3	4.3	N	1	0.78	0.71	3.3	3.0	76
Liquid Permittivity - measurement uncertainty	E.3.3	4.2	N	1	0.23	0.26	1.0	1.1	75
Liquid Conductivity - Temperature Uncertainty	E.3.4	3.4	R	1.73	0.78	0.71	1.5	1.4	∞
Liquid Permittivity - Temperature Unceritainty	E.3.4	0.6	R	1.73	0.23	0.26	0.1	0.1	∞
Liquid Conductivity - deviation from target values	E.3.2	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Permittivity - deviation from target values	E.3.2	5.0	R	1.73	0.60	0.49	1.7	1.4	∞
Combined Standard Uncertainty (k=1)			RSS				13.8	13.6	191
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=2				27.6	27.1	

The above measurement uncertainties are according to IEEE Std. 1528-2013

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Applicable for Power Density Measurements:

a	b	c	d	e	f = c x f/e	g
Uncertainty Component	Unc. (± dB)	Prob. Dist.	Div.	c_i	u_i (± dB)	v_i
Measurement System						
Calibration	0.49	N	1	1	0.49	∞
Probe Correction	0.00	R	1.73	1	0.00	∞
Frequency Response	0.20	R	1.73	1	0.12	∞
Sensor Cross Coupling	0.00	R	1.73	1	0.00	∞
Isotropy	0.50	R	1.73	1	0.29	∞
Linearity	0.20	R	1.73	1	0.12	∞
Probe Scattering	0.00	R	1.73	1	0.00	∞
Probe Positioning offset	0.30	R	1.73	1	0.17	∞
Probe Positioning Repeatability	0.04	R	1.73	1	0.02	∞
Sensor MechanicalOffset	0.00	R	1.73	1	0.00	∞
Probe Spatial Resolution	0.00	R	1.73	1	0.00	∞
Field Impedence Dependance	0.00	R	1.73	1	0.00	∞
Amplitude and Phase Drift	0.00	R	1.73	1	0.00	∞
Amplitude and Phase Noise	0.04	R	1.73	1	0.02	∞
Measurement Area Truncation	0.00	R	1.73	1	0.00	∞
Data Acquisition	0.03	N	1	1	0.03	∞
Sampling	0.00	R	1.73	1	0.00	∞
Field Reconstruction	2.00	R	1.73	1	1.15	∞
Forward Transformation	0.00	R	1.73	1	0.00	∞
Power Density Scaling	0.00	R	1.73	1	0.00	∞
Spatial Averaging	0.10	R	1.73	1	0.06	∞
System Detection Limit	0.04	R	1.73	1	0.02	∞
Test Sample Related						
Probe Coupling with DUT	0.00	R	1.73	1	0.00	∞
Modulation Response	0.40	R	1.73	1	0.23	∞
Integration Time	0.00	R	1.73	1	0.00	∞
Response Time	0.00	R	1.73	1	0.00	∞
Device Holder Influence	0.10	R	1.73	1	0.06	∞
DUT alignment	0.00	R	1.73	1	0.00	∞
RF Ambient Conditions	0.04	R	1.73	1	0.02	∞
Ambient Reflections	0.04	R	1.73	1	0.02	∞
Immunity/Secondary Reception	0.00	R	1.73	1	0.00	∞
Drift of DUT	0.21	R	1.73	1	0.12	∞
Combined Standard Uncertainty (k=1)		RSS			1.34	∞
Expanded Uncertainty (95% CONFIDENCE LEVEL)		k=2			2.68	

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APPENDIX A: SAR TEST RESULTS FOR P_{LIMIT} CALCULATIONS

For some bands/modes, a lower P_{Limit} was selected as a more conservative evaluation. See RF Exposure SAR Evaluation Report (Part 1) section 12 for 5/6 GHz WLAN SAR data.

Table A-1
DSI = 0 P_{Limit} Calculations – GPRS 850 Phablet SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	GPRS 850	GPRS 3 Tx Slots	A	1267M	1:2.76	-0.10	848.80	251	29.38	Back	0	0.607	31.0	30.2	30.2
Phablet	GPRS 850	GPRS 3 Tx Slots	A	1267M	1:2.76	0.07	848.80	251	29.38	Front	0	0.517	31.7		
Phablet	GPRS 850	GPRS 3 Tx Slots	A	1267M	1:2.76	-0.01	848.80	251	29.38	Bottom	0	0.503	31.9		
Phablet	GPRS 850	GPRS 3 Tx Slots	A	1267M	1:2.76	0.06	848.80	251	29.38	Right	0	0.143	37.3		
Phablet	GPRS 850	GPRS 3 Tx Slots	A	1267M	1:2.76	0.05	848.80	251	29.38	Left	0	0.736	30.2		
Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	GPRS 850	GPRS 3 Tx Slots	E	1267M	1:2.76	-0.06	848.80	251	28.92	Back	0	0.663	30.2	28.7	28.4
Phablet	GPRS 850	GPRS 3 Tx Slots	E	1267M	1:2.76	0.09	848.80	251	28.92	Front	0	0.525	31.2		
Phablet	GPRS 850	GPRS 3 Tx Slots	E	1267M	1:2.76	0.07	848.80	251	28.92	Top	0	0.940	28.7		
Phablet	GPRS 850	GPRS 3 Tx Slots	E	1267M	1:2.76	-0.03	848.80	251	28.92	Right	0	0.426	32.1		

Table A-2
DSI = 0 P_{Limit} Calculations – GPRS 1900 Phablet SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	GPRS 1900	GPRS 4 Tx Slots	A	1298M	1:2.076	0.06	1880.00	661	20.79	Back	0	0.739	22.9	22.5	17.8
Phablet	GPRS 1900	GPRS 4 Tx Slots	A	1298M	1:2.076	0.02	1880.00	661	20.79	Front	0	0.793	22.5		
Phablet	GPRS 1900	GPRS 4 Tx Slots	A	1298M	1:2.076	-0.08	1880.00	661	20.79	Bottom	0	0.458	24.9		
Phablet	GPRS 1900	GPRS 4 Tx Slots	A	1298M	1:2.076	0.02	1880.00	661	20.79	Right	0	0.086	32.2		
Phablet	GPRS 1900	GPRS 4 Tx Slots	A	1298M	1:2.076	0.09	1880.00	661	20.79	Left	0	0.124	30.6		

Table A-3
DSI = 0 P_{Limit} Calculations – UMTS 850 Phablet SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	UMTS 850	RMC	A	1267M	1:1	-0.01	846.60	4233	24.94	Back	0	1.220	28.0	28.0	28.0
Phablet	UMTS 850	RMC	A	1267M	1:1	-0.02	846.60	4233	24.94	Front	0	0.960	29.0		
Phablet	UMTS 850	RMC	A	1267M	1:1	0.05	846.60	4233	24.94	Bottom	0	0.913	29.3		
Phablet	UMTS 850	RMC	A	1267M	1:1	-0.02	846.60	4233	24.94	Right	0	0.186	36.2		
Phablet	UMTS 850	RMC	A	1267M	1:1	0.03	846.60	4233	24.94	Left	0	1.130	28.3		
Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	UMTS 850	RMC	E	1267M	1:1	0.07	846.60	4233	24.23	Back	0	0.950	28.4	26.8	26.8
Phablet	UMTS 850	RMC	E	1267M	1:1	0.01	846.60	4233	24.23	Front	0	1.380	26.8		
Phablet	UMTS 850	RMC	E	1267M	1:1	0.19	846.60	4233	24.23	Top	0	0.975	28.3		
Phablet	UMTS 850	RMC	E	1267M	1:1	-0.04	846.60	4233	24.23	Right	0	1.070	27.9		

Table A-4
DSI = 0 P_{Limit} Calculations – UMTS 1900 Phablet SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	UMTS 1750	RMC	A	1298M	1:1	0.03	1712.40	1312	18.85	Back	0	1.090	22.4	22.4	18.0
Phablet	UMTS 1750	RMC	A	1298M	1:1	0.00	1712.40	1312	18.85	Front	0	1.090	22.4		
Phablet	UMTS 1750	RMC	A	1298M	1:1	0.02	1712.40	1312	18.85	Bottom	0	0.695	24.4		
Phablet	UMTS 1750	RMC	A	1298M	1:1	0.02	1712.40	1312	18.85	Right	0	0.222	29.3		
Phablet	UMTS 1750	RMC	A	1298M	1:1	0.02	1712.40	1312	18.85	Left	0	0.140	31.3		

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Table A-5
DSI = 0 P_{Limit} Calculations – UMTS 1900 Phablet SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	UMTS 1900	RMC	A	1298M	1:1	-0.03	1907.60	9538	18.20	Back	0	0.819	23.0	23.0	17.5
Phablet	UMTS 1900	RMC	A	1298M	1:1	0.02	1907.60	9538	18.20	Front	0	0.800	23.1		
Phablet	UMTS 1900	RMC	A	1298M	1:1	0.01	1907.60	9538	18.20	Bottom	0	0.601	24.3		
Phablet	UMTS 1900	RMC	A	1298M	1:1	0.01	1907.60	9538	18.20	Right	0	0.120	31.3		
Phablet	UMTS 1900	RMC	A	1298M	1:1	0.03	1907.60	9538	18.20	Left	0	0.169	29.9		

Table A-6
DSI = 0 P_{Limit} Calculations – LTE B71 Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	LTE Band 71	20	QPSK	A	1247M	1:1	0.05	680.50	133297	0.0	24.46	1	50	Front	0	0.680	30.1	30.1	28.7
Phablet	LTE Band 71	20	QPSK	A	1247M	1:1	0.10	680.50	133297	0.0	24.46	1	50	Bottom	0	0.398	32.4		
Phablet	LTE Band 71	20	QPSK	A	1247M	1:1	0.03	680.50	133297	0.0	24.46	1	50	Right	0	0.106	38.1		
Phablet	LTE Band 71	20	QPSK	A	1247M	1:1	-0.01	680.50	133297	0.0	24.46	1	50	Left	0	0.247	34.5		
Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	LTE Band 71	20	QPSK	E	1247M	1:1	0.01	680.50	133297	0.0	23.92	1	50	Back	0	0.729	29.2	28.7	28.4
Phablet	LTE Band 71	20	QPSK	E	1247M	1:1	-0.01	680.50	133297	0.0	23.92	1	50	Front	0	0.611	30.0		
Phablet	LTE Band 71	20	QPSK	E	1247M	1:1	0.03	680.50	133297	0.0	23.92	1	50	Top	0	0.814	28.7		
Phablet	LTE Band 71	20	QPSK	E	1247M	1:1	0.09	680.50	133297	0.0	23.92	1	50	Right	0	0.466	31.2		

Table A-7
DSI = 0 P_{Limit} Calculations – LTE B12 Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	LTE Band 12	10	QPSK	A	1247M	1:1	0.07	707.50	23095	0.0	24.83	1	0	Front	0	0.815	29.6	29.6	29.6
Phablet	LTE Band 12	10	QPSK	A	1247M	1:1	0.03	707.50	23095	0.0	24.83	1	0	Bottom	0	0.529	31.5		
Phablet	LTE Band 12	10	QPSK	A	1247M	1:1	0.02	707.50	23095	0.0	24.83	1	0	Right	0	0.122	37.9		
Phablet	LTE Band 12	10	QPSK	A	1247M	1:1	0.05	707.50	23095	0.0	24.83	1	0	Left	0	0.339	33.5		
Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	LTE Band 12	10	QPSK	E	1247M	1:1	0.00	707.50	23095	0.0	24.39	1	0	Back	0	0.940	28.6	28.1	27.9
Phablet	LTE Band 12	10	QPSK	E	1247M	1:1	0.00	707.50	23095	0.0	24.39	1	0	Front	0	0.859	29.0		
Phablet	LTE Band 12	10	QPSK	E	1247M	1:1	-0.06	707.50	23095	0.0	24.39	1	0	Top	0	1.040	28.1		
Phablet	LTE Band 12	10	QPSK	E	1247M	1:1	-0.02	707.50	23095	0.0	24.39	1	0	Right	0	0.690	29.9		

Table A-8
DSI = 0 P_{Limit} Calculations – LTE B13 Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	LTE Band 13	10	QPSK	A	1247M	1:1	0.04	782.00	23230	0.0	24.09	1	49	Front	0	0.724	29.4	29.4	28.5
Phablet	LTE Band 13	10	QPSK	A	1247M	1:1	0.06	782.00	23230	0.0	24.09	1	49	Bottom	0	0.477	31.2		
Phablet	LTE Band 13	10	QPSK	A	1247M	1:1	-0.07	782.00	23230	0.0	24.09	1	49	Right	0	0.131	36.8		
Phablet	LTE Band 13	10	QPSK	A	1247M	1:1	0.02	782.00	23230	0.0	24.09	1	49	Left	0	0.524	30.8		
Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	LTE Band 13	10	QPSK	E	1247M	1:1	0.01	782.00	23230	1.0	22.53	25	12	Back	0	0.946	26.7	26.4	26.2
Phablet	LTE Band 13	10	QPSK	E	1247M	1:1	0.00	782.00	23230	1.0	22.53	25	12	Front	0	0.880	27.0		
Phablet	LTE Band 13	10	QPSK	E	1247M	1:1	0.01	782.00	23230	1.0	22.53	25	12	Top	0	1.010	26.4		
Phablet	LTE Band 13	10	QPSK	E	1247M	1:1	-0.03	782.00	23230	1.0	22.53	25	12	Right	0	0.695	28.0		

Table A-9
DSI = 0 P_{Limit} Calculations – LTE B14 Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	LTE Band 14	10	QPSK	A	1247M	1:1	-0.01	793.00	23330	0.0	24.85	1	49	Front	0	0.785	29.8	29.8	28.8
Phablet	LTE Band 14	10	QPSK	A	1247M	1:1	0.09	793.00	23330	0.0	24.85	1	49	Bottom	0	0.495	31.8		
Phablet	LTE Band 14	10	QPSK	A	1247M	1:1	0.00	793.00	23330	0.0	24.85	1	49	Right	0	0.147	37.1		
Phablet	LTE Band 14	10	QPSK	A	1247M	1:1	0.06	793.00	23330	0.0	24.85	1	49	Left	0	0.587	31.1		

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Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	LTE Band 14	10	QPSK	E	1247M	1:1	-0.01	793.00	23330	0.0	24.16	1	25	Back	0	1.350	26.8	26.6	26.4
Phablet	LTE Band 14	10	QPSK	E	1247M	1:1	0.06	793.00	23330	0.0	24.16	1	25	Front	0	1.170	27.4		
Phablet	LTE Band 14	10	QPSK	E	1247M	1:1	-0.01	793.00	23330	0.0	24.16	1	25	Top	0	1.400	26.6		
Phablet	LTE Band 14	10	QPSK	E	1247M	1:1	-0.01	793.00	23330	0.0	24.16	1	25	Right	0	1.070	27.8		

Table A-10
DSI = 0 P_{Limit} Calculations – LTE B26 Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	LTE Band 26	15	QPSK	A	1247M	1:1	-0.02	831.50	26865	0.0	24.46	1	36	Front	0	0.850	29.1	28.8	28.8
Phablet	LTE Band 26	15	QPSK	A	1247M	1:1	-0.04	831.50	26865	0.0	24.46	1	36	Bottom	0	0.743	29.7		
Phablet	LTE Band 26	15	QPSK	A	1247M	1:1	-0.04	831.50	26865	0.0	24.46	1	36	Right	0	0.096	38.6		
Phablet	LTE Band 26	15	QPSK	A	1247M	1:1	-0.04	831.50	26865	0.0	24.46	1	36	Left	0	0.920	28.8		
Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	LTE Band 26	15	QPSK	E	1247M	1:1	0.01	831.50	26865	0.0	23.67	1	36	Back	0	1.190	26.8	26.7	26.2
Phablet	LTE Band 26	15	QPSK	E	1247M	1:1	-0.02	831.50	26865	0.0	23.67	1	36	Front	0	0.892	28.1		
Phablet	LTE Band 26	15	QPSK	E	1247M	1:1	0.07	831.50	26865	0.0	23.67	1	36	Top	0	1.240	26.7		
Phablet	LTE Band 26	15	QPSK	E	1247M	1:1	0.00	831.50	26865	0.0	23.67	1	36	Right	0	0.734	28.9		

Table A-11
DSI = 0 P_{Limit} Calculations – LTE B66 Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	LTE Band 66	20	QPSK	A	1263M	1:1	0.09	1720.00	132072	0.0	18.49	1	0	Back	0	1.210	21.6	21.6	18.5
Phablet	LTE Band 66	20	QPSK	A	1263M	1:1	0.02	1720.00	132072	0.0	18.49	1	0	Front	0	1.050	22.2		
Phablet	LTE Band 66	20	QPSK	A	1263M	1:1	-0.05	1720.00	132072	0.0	18.49	1	0	Bottom	0	1.110	22.0		
Phablet	LTE Band 66	20	QPSK	A	1263M	1:1	-0.07	1720.00	132072	0.0	18.49	1	0	Right	0	0.035	37.0		
Phablet	LTE Band 66	20	QPSK	A	1263M	1:1	-0.13	1720.00	132072	0.0	18.49	1	0	Left	0	0.195	29.5		
Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	LTE Band 66	20	QPSK	F	1252M	1:1	0.05	1720.00	132072	0.0	20.23	50	0	Back	0	1.090	23.8	20.3	20.0
Phablet	LTE Band 66	20	QPSK	F	1252M	1:1	0.00	1720.00	132072	0.0	20.23	50	0	Front	0	1.440	22.6		
Phablet	LTE Band 66	20	QPSK	F	1252M	1:1	-0.02	1720.00	132072	0.0	20.20	1	50	Top	0	2.110	20.9		
Phablet	LTE Band 66	20	QPSK	F	1252M	1:1	0.02	1745.00	132322	0.0	19.82	1	50	Top	0	2.210	20.3		
Phablet	LTE Band 66	20	QPSK	F	1252M	1:1	-0.06	1770.00	132572	0.0	20.02	1	0	Top	0	2.140	20.6		
Phablet	LTE Band 66	20	QPSK	F	1252M	1:1	0.00	1720.00	132072	0.0	20.23	50	0	Top	0	2.060	21.0		
Phablet	LTE Band 66	20	QPSK	F	1252M	1:1	0.01	1745.00	132322	0.0	19.96	50	0	Top	0	2.200	20.5		
Phablet	LTE Band 66	20	QPSK	F	1252M	1:1	0.00	1770.00	132572	0.0	19.87	50	0	Top	0	2.180	20.4		
Phablet	LTE Band 66	20	QPSK	F	1252M	1:1	0.00	1720.00	132072	0.0	20.09	100	0	Top	0	2.120	20.8		
Phablet	LTE Band 66	20	QPSK	F	1252M	1:1	-0.17	1720.00	132072	0.0	20.23	50	0	Left	0	0.510	27.1		

Table A-12
DSI = 0 P_{Limit} Calculations – LTE B25 Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	LTE Band 25	20	QPSK	A	1263M	1:1	0.03	1860.00	26140	0.0	18.44	1	0	Back	0	0.839	23.1	22.8	18.0
Phablet	LTE Band 25	20	QPSK	A	1263M	1:1	0.01	1860.00	26140	0.0	18.44	1	0	Front	0	0.915	22.8		
Phablet	LTE Band 25	20	QPSK	A	1263M	1:1	0.05	1860.00	26140	0.0	18.44	1	0	Bottom	0	0.854	23.1		
Phablet	LTE Band 25	20	QPSK	A	1263M	1:1	0.07	1860.00	26140	0.0	18.44	1	0	Right	0	0.117	31.7		
Phablet	LTE Band 25	20	QPSK	A	1263M	1:1	0.04	1860.00	26140	0.0	18.44	1	0	Left	0	0.132	31.2		
Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	LTE Band 25	20	QPSK	F	1252M	1:1	0.04	1882.50	26365	0.0	20.23	1	0	Back	0	1.210	23.3	20.7	20.0
Phablet	LTE Band 25	20	QPSK	F	1252M	1:1	0.09	1882.50	26365	0.0	20.23	1	0	Front	0	1.390	22.7		
Phablet	LTE Band 25	20	QPSK	F	1252M	1:1	-0.01	1860.00	26140	0.0	20.20	1	50	Top	0	2.140	20.8		
Phablet	LTE Band 25	20	QPSK	F	1252M	1:1	-0.04	1882.50	26365	0.0	20.23	1	0	Top	0	2.010	21.1		
Phablet	LTE Band 25	20	QPSK	F	1252M	1:1	-0.01	1905.00	26590	0.0	19.96	1	0	Top	0	1.990	20.9		
Phablet	LTE Band 25	20	QPSK	F	1252M	1:1	-0.03	1860.00	26140	0.0	20.16	50	25	Top	0	2.180	20.7		
Phablet	LTE Band 25	20	QPSK	F	1252M	1:1	0.00	1882.50	26365	0.0	20.17	50	25	Top	0	2.060	21.0		
Phablet	LTE Band 25	20	QPSK	F	1252M	1:1	-0.01	1905.00	26590	0.0	20.03	50	25	Top	0	1.970	21.0		
Phablet	LTE Band 25	20	QPSK	F	1252M	1:1	-0.01	1860.00	26140	0.0	20.15	100	0	Top	0	2.150	20.8		
Phablet	LTE Band 25	20	QPSK	F	1252M	1:1	-0.09	1882.50	26365	0.0	20.23	1	0	Left	0	0.522	27.0		

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Table A-13
DSI = 0 P_{Limit} Calculations – LTE B30 Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	LTE Band 30	10	QPSK	A	1285M	1:1	-0.13	2310.00	27710	0.0	19.52	1	25	Back	0	1.010	23.4	23.2	19.0
Phablet	LTE Band 30	10	QPSK	A	1285M	1:1	0.00	2310.00	27710	0.0	19.52	1	25	Front	0	0.565	25.9		
Phablet	LTE Band 30	10	QPSK	A	1285M	1:1	-0.03	2310.00	27710	0.0	19.52	1	25	Bottom	0	1.060	23.2		
Phablet	LTE Band 30	10	QPSK	A	1285M	1:1	0.08	2310.00	27710	0.0	19.52	1	25	Right	0	0.190	30.7		
Phablet	LTE Band 30	10	QPSK	A	1285M	1:1	-0.07	2310.00	27710	0.0	19.52	1	25	Left	0	0.294	28.8		
Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	LTE Band 30	10	QPSK	F	1285M	1:1	-0.02	2310.00	27710	0.0	18.19	1	25	Back	0	0.825	23.0	19.6	18.0
Phablet	LTE Band 30	10	QPSK	F	1285M	1:1	0.00	2310.00	27710	0.0	18.19	1	25	Front	0	1.000	22.1		
Phablet	LTE Band 30	10	QPSK	F	1285M	1:1	-0.09	2310.00	27710	0.0	18.19	1	25	Top	0	1.770	19.6		
Phablet	LTE Band 30	10	QPSK	F	1285M	1:1	0.06	2310.00	27710	0.0	18.19	1	25	Left	0	0.105	31.9		

Table A-14
DSI = 0 P_{Limit} Calculations – LTE B7 Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	LTE Band 7	20	QPSK	B	1285M	1:1	0.01	2510.00	20850	0.0	19.73	50	0	Back	0	1.730	21.3	21.3	19.0
Phablet	LTE Band 7	20	QPSK	B	1285M	1:1	-0.12	2510.00	20850	0.0	19.73	50	0	Front	0	0.862	24.3		
Phablet	LTE Band 7	20	QPSK	B	1285M	1:1	0.01	2510.00	20850	0.0	19.73	50	0	Bottom	0	1.210	22.8		
Phablet	LTE Band 7	20	QPSK	B	1302M	1:1	0.19	2510.00	20850	0.0	19.73	50	0	Left	0	1.100	23.2		
Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	LTE Band 7	20	QPSK	F	1285M	1:1	0.03	2535.00	21100	0.0	16.95	50	0	Back	0	0.972	21.0	18.4	17.0
Phablet	LTE Band 7	20	QPSK	F	1285M	1:1	-0.01	2535.00	21100	0.0	16.95	50	0	Front	0	1.070	20.6		
Phablet	LTE Band 7	20	QPSK	F	1285M	1:1	-0.02	2535.00	21100	0.0	16.95	50	0	Top	0	1.770	18.4		
Phablet	LTE Band 7	20	QPSK	F	1285M	1:1	0.01	2535.00	21100	0.0	16.95	50	0	Left	0	0.126	29.9		

Table A-15
DSI = 0 P_{Limit} Calculations – LTE B41 Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	LTE Band 41	20	QPSK	B	1249M	1:1.58	-0.01	2636.50	41055	0.0	21.84	1	0	Back	0	1.130	23.3	22.4	19.0
Phablet	LTE Band 41	20	QPSK	B	1249M	1:1.58	0.01	2636.50	41055	0.0	21.84	1	0	Front	0	0.994	23.8		
Phablet	LTE Band 41	20	QPSK	B	1249M	1:1.58	0.02	2636.50	41055	0.0	21.84	1	0	Bottom	0	0.932	24.1		
Phablet	LTE Band 41	20	QPSK	B	1249M	1:1.58	-0.05	2636.50	41055	0.0	21.84	1	0	Left	0	1.380	22.4		
Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	LTE Band 41	20	QPSK	F	1294M	1:1.58	-0.01	2506.00	39750	0.0	18.32	50	50	Back	0	0.721	21.7	19.6	16.0
Phablet	LTE Band 41	20	QPSK	F	1294M	1:1.58	0.00	2506.00	39750	0.0	18.32	50	50	Front	0	0.755	21.5		
Phablet	LTE Band 41	20	QPSK	F	1294M	1:1.58	0.04	2506.00	39750	0.0	18.32	50	50	Top	0	1.160	19.6		
Phablet	LTE Band 41	20	QPSK	F	1294M	1:1.58	-0.15	2506.00	39750	0.0	18.32	50	50	Left	0	0.098	30.4		

Table A-16
DSI = 0 P_{Limit} Calculations – LTE B48 Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	LTE Band 48	20	QPSK	F	1263M	1:1.58	-0.05	3646.70	56207	0.0	21.64	1	99	Back	0	0.941	23.8	21.4	19.0
Phablet	LTE Band 48	20	QPSK	F	1263M	1:1.58	0.04	3646.70	56207	0.0	21.64	1	99	Front	0	0.814	24.5		
Phablet	LTE Band 48	20	QPSK	F	1263M	1:1.58	-0.02	3646.70	56207	0.0	21.64	1	99	Top	0	1.650	21.4		
Phablet	LTE Band 48	20	QPSK	F	1263M	1:1.58	0.00	3646.70	56207	0.0	21.64	1	99	Left	0	0.159	31.6		

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Table A-17
DSI = 0 P_{Limit} Calculations – NR n71 Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	NR Band n71	35	QPSK	A	1266M	1:1	0.02	680.50	136100	DFT-s-OFDM	0.0	24.40	1	94	Back	0	0.987	28.4	28.4	28.4
Phablet	NR Band n71	35	QPSK	A	1266M	1:1	0.04	680.50	136100	DFT-s-OFDM	0.0	24.40	1	94	Front	0	0.761	29.5		
Phablet	NR Band n71	35	QPSK	A	1266M	1:1	0.03	680.50	136100	DFT-s-OFDM	0.0	24.40	1	94	Bottom	0	0.533	31.1		
Phablet	NR Band n71	35	QPSK	A	1266M	1:1	-0.12	680.50	136100	DFT-s-OFDM	0.0	24.40	1	94	Right	0	0.137	37.0		
Phablet	NR Band n71	35	QPSK	A	1266M	1:1	-0.07	680.50	136100	DFT-s-OFDM	0.0	24.40	1	94	Left	0	0.190	35.5		
Exposure	**Band / Mode**	**Bandwidth [MHz]**	**Service / Modulation**	**Ant.**	**Serial Number**	**Duty Cycle**	**Power Drift [dB]**	**Frequency [MHz]**	**Channel #**	**Waveform**	**MPR [dB]**	**Conducted Power [dBm]**	**RB Size**	**RB Offset**	**Test Position**	**Spacing [mm]**	**Measured 10g SAR [W/kg]**	**Plimit [dBm]**	**Overall Plimit [dBm]**	**EFS Plimit [dBm]**
Phablet	NR Band n71	20	QPSK	E	1255M	1:1	-0.11	680.50	136100	DFT-s-OFDM	0.0	23.82	1	104	Back	0	0.767	28.9	28.9	28.9
Phablet	NR Band n71	20	QPSK	E	1252M	1:1	-0.02	680.50	136100	DFT-s-OFDM	0.0	23.82	1	104	Front	0	0.596	30.0		
Phablet	NR Band n71	20	QPSK	E	1252M	1:1	-0.04	680.50	136100	DFT-s-OFDM	0.0	23.82	1	104	Top	0	0.767	28.9		
Phablet	NR Band n71	20	QPSK	E	1252M	1:1	0.13	680.50	136100	DFT-s-OFDM	0.0	23.82	1	104	Right	0	0.311	32.8		

Table A-18
DSI = 0 P_{Limit} Calculations – NR n12 Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	NR Band n12	15	QPSK	A	1266M	1:1	-0.06	707.50	141500	DFT-s-OFDM	0.0	24.71	1	1	Back	0	0.862	29.3	29.3	28.6
Phablet	NR Band n12	15	QPSK	A	1266M	1:1	-0.07	707.50	141500	DFT-s-OFDM	0.0	24.71	1	1	Front	0	0.691	30.2		
Phablet	NR Band n12	15	QPSK	A	1266M	1:1	-0.03	707.50	141500	DFT-s-OFDM	0.0	24.71	1	1	Bottom	0	0.476	31.9		
Phablet	NR Band n12	15	QPSK	A	1266M	1:1	-0.20	707.50	141500	DFT-s-OFDM	0.0	24.71	1	1	Right	0	0.113	38.1		
Phablet	NR Band n12	15	QPSK	A	1266M	1:1	0.01	707.50	141500	DFT-s-OFDM	0.0	24.71	1	1	Left	0	0.289	34.0		
Exposure	**Band / Mode**	**Bandwidth [MHz]**	**Service / Modulation**	**Ant.**	**Serial Number**	**Duty Cycle**	**Power Drift [dB]**	**Frequency [MHz]**	**Channel #**	**Waveform**	**MPR [dB]**	**Conducted Power [dBm]**	**RB Size**	**RB Offset**	**Test Position**	**Spacing [mm]**	**Measured 10g SAR [W/kg]**	**Plimit [dBm]**	**Overall Plimit [dBm]**	**EFS Plimit [dBm]**
Phablet	NR Band n12	15	QPSK	E	1255M	1:1	0.07	707.50	141500	DFT-s-OFDM	0.0	24.37	1	40	Back	0	0.902	28.7	28.2	28.2
Phablet	NR Band n12	15	QPSK	E	1252M	1:1	-0.08	707.50	141500	DFT-s-OFDM	0.0	24.37	1	40	Front	0	0.911	28.7		
Phablet	NR Band n12	15	QPSK	E	1252M	1:1	-0.01	707.50	141500	DFT-s-OFDM	0.0	24.37	1	40	Top	0	1.030	28.2		
Phablet	NR Band n12	15	QPSK	E	1252M	1:1	0.05	707.50	141500	DFT-s-OFDM	0.0	24.37	1	40	Right	0	0.429	32.0		

Table A-19
DSI = 0 P_{Limit} Calculations – NR n14 Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	NR Band n14	10	QPSK	A	1266M	1:1	-0.09	793.00	158600	DFT-s-OFDM	0.0	24.32	1	26	Back	0	0.907	28.7	28.7	28.7
Phablet	NR Band n14	10	QPSK	A	1266M	1:1	-0.01	793.00	158600	DFT-s-OFDM	0.0	24.32	1	26	Front	0	0.707	29.8		
Phablet	NR Band n14	10	QPSK	A	1266M	1:1	0.04	793.00	158600	DFT-s-OFDM	0.0	24.32	1	26	Bottom	0	0.474	31.5		
Phablet	NR Band n14	10	QPSK	A	1266M	1:1	-0.03	793.00	158600	DFT-s-OFDM	0.0	24.32	1	26	Right	0	0.146	36.6		
Phablet	NR Band n14	10	QPSK	A	1266M	1:1	-0.08	793.00	158600	DFT-s-OFDM	0.0	24.32	1	26	Left	0	0.456	31.7		
Exposure	**Band / Mode**	**Bandwidth [MHz]**	**Service / Modulation**	**Ant.**	**Serial Number**	**Duty Cycle**	**Power Drift [dB]**	**Frequency [MHz]**	**Channel #**	**Waveform**	**MPR [dB]**	**Conducted Power [dBm]**	**RB Size**	**RB Offset**	**Test Position**	**Spacing [mm]**	**Measured 10g SAR [W/kg]**	**Plimit [dBm]**	**Overall Plimit [dBm]**	**EFS Plimit [dBm]**
Phablet	NR Band n14	10	QPSK	E	1255M	1:1	-0.02	793.00	158600	DFT-s-OFDM	0.0	23.82	25	14	Back	0	1.140	27.2	26.9	26.8
Phablet	NR Band n14	10	QPSK	E	1252M	1:1	-0.01	793.00	158600	DFT-s-OFDM	0.0	23.82	25	14	Front	0	1.070	27.5		
Phablet	NR Band n14	10	QPSK	E	1252M	1:1	0.00	793.00	158600	DFT-s-OFDM	0.0	23.82	25	14	Top	0	1.210	26.9		
Phablet	NR Band n14	10	QPSK	E	1252M	1:1	-0.02	793.00	158600	DFT-s-OFDM	0.0	23.82	25	14	Right	0	0.539	30.4		

Table A-20
DSI = 0 P_{Limit} Calculations – NR n26 Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	NR Band n26	20	QPSK	A	1266M	1:1	0.00	831.50	166300	DFT-s-OFDM	0.0	24.00	1	104	Back	0	1.070	27.6	27.6	27.6
Phablet	NR Band n26	20	QPSK	A	1266M	1:1	-0.02	831.50	166300	DFT-s-OFDM	0.0	24.00	1	104	Front	0	0.764	29.1		
Phablet	NR Band n26	20	QPSK	A	1266M	1:1	0.00	831.50	166300	DFT-s-OFDM	0.0	24.00	1	104	Bottom	0	0.529	30.7		
Phablet	NR Band n26	20	QPSK	A	1266M	1:1	0.13	831.50	166300	DFT-s-OFDM	0.0	24.00	1	104	Right	0	0.148	36.2		
Phablet	NR Band n26	20	QPSK	A	1266M	1:1	-0.03	831.50	166300	DFT-s-OFDM	0.0	24.00	1	104	Left	0	0.654	29.8		
Exposure	**Band / Mode**	**Bandwidth [MHz]**	**Service / Modulation**	**Ant.**	**Serial Number**	**Duty Cycle**	**Power Drift [dB]**	**Frequency [MHz]**	**Channel #**	**Waveform**	**MPR [dB]**	**Conducted Power [dBm]**	**RB Size**	**RB Offset**	**Test Position**	**Spacing [mm]**	**Measured 10g SAR [W/kg]**	**Plimit [dBm]**	**Overall Plimit [dBm]**	**EFS Plimit [dBm]**
Phablet	NR Band n26	20	QPSK	E	1255M	1:1	-0.07	831.50	166300	DFT-s-OFDM	0.0	23.56	1	104	Back	0	1.120	27.0	27.0	25.8
Phablet	NR Band n26	20	QPSK	E	1252M	1:1	0.06	831.50	166300	DFT-s-OFDM	0.0	23.56	1	104	Front	0	0.730	28.9		
Phablet	NR Band n26	20	QPSK	E	1252M	1:1	-0.02	831.50	166300	DFT-s-OFDM	0.0	23.56	1	104	Top	0	0.945	27.7		
Phablet	NR Band n26	20	QPSK	E	1252M	1:1	-0.14	831.50	166300	DFT-s-OFDM	0.0	23.56	1	104	Right	0	0.129	36.4		

Table A-21
DSI = 0 P_{Limit} Calculations – NR n70 Phablet SAR

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Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	NR Band n70	15	QPSK	A	1263M	1:1	-0.02	1702.50	340500	CP-OFDM	0.0	19.35	1	1	Back	0	0.761	24.5	23.5	19.0
Phablet	NR Band n70	15	QPSK	A	1263M	1:1	-0.04	1702.50	340500	CP-OFDM	0.0	19.35	1	1	Front	0	0.782	24.3		
Phablet	NR Band n70	15	QPSK	A	1263M	1:1	-0.08	1702.50	340500	CP-OFDM	0.0	19.35	1	1	Bottom	0	0.959	23.5		
Phablet	NR Band n70	15	QPSK	A	1263M	1:1	-0.02	1702.50	340500	CP-OFDM	0.0	19.35	1	1	Right	0	0.038	37.5		
Phablet	NR Band n70	15	QPSK	A	1263M	1:1	-0.02	1702.50	340500	CP-OFDM	0.0	19.35	1	1	Left	0	0.168	31.0		
Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	NR Band n70	15	QPSK	F	1243M	1:1	0.08	1702.50	340500	CP-OFDM	0.0	19.44	1	1	Back	0	0.944	23.6	20.1	19.0
Phablet	NR Band n70	15	QPSK	F	1243M	1:1	0.02	1702.50	340500	CP-OFDM	0.0	19.44	1	1	Front	0	0.882	23.9		
Phablet	NR Band n70	15	QPSK	F	1243M	1:1	-0.02	1702.50	340500	CP-OFDM	0.0	19.44	1	1	Top	0	2.110	20.1		
Phablet	NR Band n70	15	QPSK	F	1243M	1:1	0.02	1702.50	340500	CP-OFDM	0.0	19.44	1	1	Left	0	0.426	27.1		

Table A-22
DSI = 0 P_{Limit} Calculations – NR n66 Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	NR Band n66	40	QPSK	A	1190M	1:1	0.09	1745.00	349000	CP-OFDM	0.0	18.74	1	1	Back	0	1.370	21.3	20.7	18.5
Phablet	NR Band n66	40	QPSK	A	1190M	1:1	0.00	1745.00	349000	CP-OFDM	0.0	18.74	1	1	Front	0	1.340	21.4		
Phablet	NR Band n66	40	QPSK	A	1190M	1:1	-0.01	1745.00	349000	CP-OFDM	0.0	18.74	1	1	Bottom	0	1.590	20.7		
Phablet	NR Band n66	40	QPSK	A	1190M	1:1	-0.08	1745.00	349000	CP-OFDM	0.0	18.74	1	1	Right	0	0.160	30.6		
Phablet	NR Band n66	40	QPSK	A	1190M	1:1	-0.10	1745.00	349000	CP-OFDM	0.0	18.74	1	1	Left	0	0.261	28.5		
Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	NR Band n66	40	QPSK	F	1243M	1:1	0.03	1745.00	349000	CP-OFDM	0.0	20.25	1	1	Back	0	0.956	24.4	20.7	20.0
Phablet	NR Band n66	40	QPSK	F	1243M	1:1	-0.02	1745.00	349000	CP-OFDM	0.0	20.25	1	1	Front	0	0.927	24.5		
Phablet	NR Band n66	40	QPSK	F	1243M	1:1	0.02	1745.00	349000	CP-OFDM	0.0	20.25	1	1	Top	0	2.220	20.7		
Phablet	NR Band n66	40	QPSK	F	1243M	1:1	0.02	1745.00	349000	CP-OFDM	0.0	20.25	1	1	Left	0	0.417	28.0		

Table A-23
DSI = 0 P_{Limit} Calculations – NR n25 Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	NR Band n25	40	QPSK	A	1190M	1:1	0.04	1882.50	376500	CP-OFDM	0.0	18.24	1	1	Back	0	0.876	22.7	21.9	18.0
Phablet	NR Band n25	40	QPSK	A	1190M	1:1	0.00	1882.50	376500	CP-OFDM	0.0	18.24	1	1	Front	0	1.050	22.0		
Phablet	NR Band n25	40	QPSK	A	1190M	1:1	0.07	1882.50	376500	CP-OFDM	0.0	18.24	1	1	Bottom	0	1.070	21.9		
Phablet	NR Band n25	40	QPSK	A	1190M	1:1	-0.15	1882.50	376500	CP-OFDM	0.0	18.24	1	1	Right	0	0.125	31.2		
Phablet	NR Band n25	40	QPSK	A	1190M	1:1	-0.04	1882.50	376500	CP-OFDM	0.0	18.24	1	1	Left	0	0.179	29.6		
Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	NR Band n25	40	QPSK	F	1243M	1:1	0.08	1882.50	376500	CP-OFDM	0.0	20.39	1	1	Back	0	1.010	24.3	21.1	20.0
Phablet	NR Band n25	40	QPSK	F	1243M	1:1	0.03	1882.50	376500	CP-OFDM	0.0	20.39	1	1	Front	0	0.879	24.9		
Phablet	NR Band n25	40	QPSK	F	1243M	1:1	0.02	1882.50	376500	CP-OFDM	0.0	20.39	1	1	Top	0	2.090	21.1		
Phablet	NR Band n25	40	QPSK	F	1243M	1:1	0.03	1882.50	376500	CP-OFDM	0.0	20.39	1	1	Left	0	0.421	28.1		

Table A-24
DSI = 0 P_{Limit} Calculations – NR n30 Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	NR Band n30	10	QPSK	A	1285M	1:1	-0.05	2310.00	462000	CP-OFDM	0.0	19.29	1	1	Back	0	0.933	23.5	22.9	19.0
Phablet	NR Band n30	10	QPSK	A	1285M	1:1	-0.04	2310.00	462000	CP-OFDM	0.0	19.29	1	1	Front	0	0.491	26.3		
Phablet	NR Band n30	10	QPSK	A	1285M	1:1	-0.14	2310.00	462000	DFT-s-OFDM	0.0	19.26	1	1	Bottom	0	1.060	22.9		
Phablet	NR Band n30	10	QPSK	A	1285M	1:1	0.03	2310.00	462000	CP-OFDM	0.0	19.29	1	1	Right	0	0.171	30.9		
Phablet	NR Band n30	10	QPSK	A	1285M	1:1	-0.10	2310.00	462000	CP-OFDM	0.0	19.29	1	1	Left	0	0.233	29.5		
Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	NR Band n30	10	QPSK	F	1285M	1:1	-0.03	2310.00	462000	DFT-s-OFDM	0.0	18.09	1	50	Back	0	0.923	22.4	20.6	18.0
Phablet	NR Band n30	10	QPSK	F	1285M	1:1	0.02	2310.00	462000	DFT-s-OFDM	0.0	18.09	1	50	Front	0	0.962	22.2		
Phablet	NR Band n30	10	QPSK	F	1285M	1:1	-0.06	2310.00	462000	DFT-s-OFDM	0.0	18.09	1	50	Top	0	1.390	20.6		
Phablet	NR Band n30	10	QPSK	F	1285M	1:1	-0.02	2310.00	462000	DFT-s-OFDM	0.0	18.09	1	50	Left	0	0.110	31.6		

Table A-25
DSI = 0 P_{Limit} Calculations – NR n7 Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	NR Band n7	50	QPSK	B	1285M	1:1	-0.14	2535.00	507000	CP-OFDM	0.0	19.34	1	1	Back	0	1.640	21.1	21.1	19.0
Phablet	NR Band n7	50	QPSK	B	1285M	1:1	-0.01	2535.00	507000	CP-OFDM	0.0	19.34	1	1	Front	0	0.907	23.7		
Phablet	NR Band n7	50	QPSK	B	1285M	1:1	0.00	2535.00	507000	CP-OFDM	0.0	19.34	1	1	Bottom	0	1.220	22.4		
Phablet	NR Band n7	50	QPSK	B	1285M	1:1	-0.07	2535.00	507000	CP-OFDM	0.0	19.34	1	1	Left	0	1.090	22.9		

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Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	NR Band n7	50	QPSK	F	1285M	1:1	0.11	2535.00	507000	CP-OFDM	0.0	18.20	1	1	Back	0	0.994	22.2	20.4	18.0
Phablet	NR Band n7	50	QPSK	F	1285M	1:1	0.00	2535.00	507000	CP-OFDM	0.0	18.20	1	1	Front	0	0.944	22.4		
Phablet	NR Band n7	50	QPSK	F	1285M	1:1	-0.02	2535.00	507000	CP-OFDM	0.0	18.20	1	1	Top	0	1.480	20.4		
Phablet	NR Band n7	50	QPSK	F	1285M	1:1	0.03	2535.00	507000	CP-OFDM	0.0	18.20	1	1	Left	0	0.153	30.3		

Table A-26
DSI = 0 P_{Limit} Calculations – NR n41 Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	NR Band n41	100	QPSK	B	1298M	1:1	0.00	2592.99	518598	CP-OFDM	0.0	20.77	1	1	Back	0	2.140	21.4	21.4	20.0
Phablet	NR Band n41	100	QPSK	B	1298M	1:1	0.09	2592.99	518598	CP-OFDM	0.0	20.77	1	1	Front	0	1.190	23.9		
Phablet	NR Band n41	100	QPSK	B	1298M	1:1	0.03	2592.99	518598	CP-OFDM	0.0	20.77	1	1	Bottom	0	1.420	23.2		
Phablet	NR Band n41	100	QPSK	B	1298M	1:1	-0.04	2592.99	518598	CP-OFDM	0.0	20.77	1	1	Left	0	1.530	22.9		

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	NR Band n41	100	E	1294M	1:1	0.09	2592.99	518598	CW/SRS	18.24	Back	0	0.589	24.5	22.3	17.5
Phablet	NR Band n41	100	E	1294M	1:1	-0.06	2592.99	518598	CW/SRS	18.24	Front	0	0.662	24.0		
Phablet	NR Band n41	100	E	1294M	1:1	0.04	2592.99	518598	CW/SRS	18.24	Top	0	0.409	26.1		
Phablet	NR Band n41	100	E	1294M	1:1	-0.01	2592.99	518598	CW/SRS	18.24	Right	0	0.969	22.3		

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	NR Band n41	100	D	1294M	1:1	0.06	2592.99	518598	CW/SRS	16.01	Back	0	0.622	22.0	22.0	15.5
Phablet	NR Band n41	100	D	1294M	1:1	-0.09	2592.99	518598	CW/SRS	16.01	Front	0	0.063	31.9		
Phablet	NR Band n41	100	D	1294M	1:1	0.02	2592.99	518598	CW/SRS	16.01	Bottom	0	0.062	32.0		
Phablet	NR Band n41	100	D	1294M	1:1	-0.17	2592.99	518598	CW/SRS	16.01	Right	0	0.004	43.9		

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	NR Band n41	100	QPSK	F	1294M	1:1	0.06	2592.99	518598	CP-OFDM	0.0	17.24	1	1	Back	0	0.429	24.8	20.8	16.5
Phablet	NR Band n41	100	QPSK	F	1294M	1:1	0.06	2592.99	518598	CP-OFDM	0.0	17.24	1	1	Front	0	0.636	23.1		
Phablet	NR Band n41	100	QPSK	F	1294M	1:1	0.09	2592.99	518598	CP-OFDM	0.0	17.24	1	1	Top	0	1.080	20.8		
Phablet	NR Band n41	100	QPSK	F	1294M	1:1	-0.20	2592.99	518598	CP-OFDM	0.0	17.24	1	1	Left	0	0.093	31.5		

Table A-27
DSI = 0 P_{Limit} Calculations – NR n48 Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	NR Band n48	40	C	1298M	1:1	0.08	3624.99	641666	CW/SRS	13.27	Back	0	0.355	21.7	21.3	13.0
Phablet	NR Band n48	40	C	1298M	1:1	0.05	3624.99	641666	CW/SRS	13.27	Front	0	0.243	23.3		
Phablet	NR Band n48	40	C	1298M	1:1	0.03	3624.99	641666	CW/SRS	13.27	Bottom	0	0.078	28.3		
Phablet	NR Band n48	40	C	1298M	1:1	-0.02	3624.99	641666	CW/SRS	13.27	Left	0	0.393	21.3		

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	NR Band n48	40	D	1298M	1:1	-0.01	3624.99	641666	CW/SRS	12.05	Back	0	0.570	18.4	18.4	11.5
Phablet	NR Band n48	40	D	1298M	1:1	-0.07	3624.99	641666	CW/SRS	12.05	Front	0	0.051	28.9		
Phablet	NR Band n48	40	D	1298M	1:1	0.03	3624.99	641666	CW/SRS	12.05	Bottom	0	0.046	29.4		
Phablet	NR Band n48	40	D	1298M	1:1	0.13	3624.99	641666	CW/SRS	12.05	Right	0	0.016	33.9		

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	NR Band n48	40	QPSK	F	1298M	1:1	0.01	3624.99	641666	DFT-s-OFDM	0.0	19.0	18.28	50	28	Back	0	0.897	22.7	20.3	18.0
Phablet	NR Band n48	40	QPSK	F	1298M	1:1	-0.02	3624.99	641666	DFT-s-OFDM	0.0	19.0	18.28	50	28	Front	0	0.696	23.8		
Phablet	NR Band n48	40	QPSK	F	1298M	1:1	-0.02	3624.99	641666	DFT-s-OFDM	0.0	19.0	18.28	50	28	Top	0	1.560	20.3		
Phablet	NR Band n48	40	QPSK	F	1298M	1:1	-0.05	3624.99	641666	DFT-s-OFDM	0.0	19.0	18.28	50	28	Left	0	0.136	30.9		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Phablet 4.0 W/kg (mW/g) averaged over 10 grams					

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	NR Band n48	40	I	1298M	1:1	0.05	3624.99	641666	CW/SRS	16.26	Back	0	0.606	22.4	20.7	16.0
Phablet	NR Band n48	40	I	1298M	1:1	0.01	3624.99	641666	CW/SRS	16.26	Front	0	0.890	20.7		
Phablet	NR Band n48	40	I	1298M	1:1	0.09	3624.99	641666	CW/SRS	16.26	Top	0	0.036	34.6		
Phablet	NR Band n48	40	I	1298M	1:1	0.02	3624.99	641666	CW/SRS	16.26	Left	0	0.271	25.9		

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Table A-28
DSI = 0 P_{Limit} Calculations – NR n77 Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	NR Band n77 DoD	100	C	1313M	1:1	-0.05	3500.01	633334	CW/SRS	11.61	Back	0	0.291	20.9	20.9	11.0
Phablet	NR Band n77	100	C	1313M	1:1	-0.01	3750.00	650000	CW/SRS	11.81	Back	0	0.193	22.9		
Phablet	NR Band n77	100	C	1313M	1:1	0.02	3750.00	650000	CW/SRS	11.81	Front	0	0.073	27.1		
Phablet	NR Band n77	100	C	1313M	1:1	-0.05	3750.00	650000	CW/SRS	11.81	Bottom	0	0.078	26.8		
Phablet	NR Band n77	100	C	1313M	1:1	-0.02	3750.00	650000	CW/SRS	11.81	Left	0	0.267	21.5		

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	NR Band n77 DoD	100	D	1313M	1:1	-0.04	3500.01	633334	CW/SRS	10.48	Back	0	0.255	20.3	20.3	10.0
Phablet	NR Band n77	100	D	1313M	1:1	-0.09	3750.00	650000	CW/SRS	10.81	Back	0	0.226	21.2		
Phablet	NR Band n77	100	D	1313M	1:1	0.21	3750.00	650000	CW/SRS	10.81	Front	0	0.023	31.1		
Phablet	NR Band n77	100	D	1313M	1:1	0.10	3750.00	650000	CW/SRS	10.81	Bottom	0	0.036	29.2		
Phablet	NR Band n77	100	D	1313M	1:1	-0.14	3750.00	650000	CW/SRS	10.81	Right	0	0.013	33.6		

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	NR Band n77	100	QPSK	F	1313M	1:1	-0.02	3750.00	650000	DFT-s-OFDM	0.0	17.66	1	1	Back	0	0.697	23.2	21.3	17.0
Phablet	NR Band n77	100	QPSK	F	1313M	1:1	0.06	3750.00	650000	DFT-s-OFDM	0.0	17.66	1	1	Front	0	0.388	25.7		
Phablet	NR Band n77	100	QPSK	F	1313M	1:1	-0.07	3750.00	650000	DFT-s-OFDM	0.0	17.66	1	1	Top	0	1.080	21.3		
Phablet	NR Band n77	100	QPSK	F	1313M	1:1	0.07	3750.00	650000	DFT-s-OFDM	0.0	17.66	1	1	Left	0	0.133	30.4		

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	NR Band n77 DoD	100	I	1313M	1:1	0.00	3500.01	633334	CW/SRS	15.40	Back	0	0.449	22.8	22.8	15.0
Phablet	NR Band n77	100	I	1313M	1:1	0.08	3750.00	650000	CW/SRS	15.47	Back	0	0.435	23.0		
Phablet	NR Band n77	100	I	1313M	1:1	-0.07	3750.00	650000	CW/SRS	15.47	Front	0	0.279	24.9		
Phablet	NR Band n77	100	I	1313M	1:1	-0.04	3750.00	650000	CW/SRS	15.47	Top	0	0.020	36.4		
Phablet	NR Band n77	100	I	1313M	1:1	0.03	3750.00	650000	CW/SRS	15.47	Left	0	0.182	26.8		

Table A-29
DSI = 0 P_{Limit} Calculations – 2.4 GHz WLAN Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	2.4 GHz WIFI/ IEEE 802.11b	22	DSSS	H	1262M	98.90	-0.02	2437.00	6	1	19.47	Back	0	1.610	21.3	20.1	20.1
Phablet	2.4 GHz WIFI/ IEEE 802.11b	22	DSSS	H	1262M	98.90	0.00	2437.00	6	1	19.47	Front	0	1.230	22.5		
Phablet	2.4 GHz WIFI/ IEEE 802.11b	22	DSSS	H	1262M	98.90	0.00	2437.00	6	1	19.47	Top	0	0.590	25.6		
Phablet	2.4 GHz WIFI/ IEEE 802.11b	22	DSSS	H	1262M	98.90	-0.01	2437.00	6	1	19.47	Left	0	2.130	20.1		

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	2.4 GHz WIFI/ IEEE 802.11b	22	DSSS	J	1262M	98.99	0.01	2437.00	6	1	19.48	Back	0	0.476	26.6	25.1	25.1
Phablet	2.4 GHz WIFI/ IEEE 802.11b	22	DSSS	J	1262M	98.99	0.02	2437.00	6	1	19.48	Front	0	0.666	25.1		
Phablet	2.4 GHz WIFI/ IEEE 802.11b	22	DSSS	J	1262M	98.99	0.05	2437.00	6	1	19.48	Top	0	0.017	41.1		
Phablet	2.4 GHz WIFI/ IEEE 802.11b	22	DSSS	J	1262M	98.99	-0.10	2437.00	6	1	19.48	Right	0	0.249	29.4		

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Conducted Power [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	2.4 GHz WIFI/ IEEE 802.11b	22	DSSS	MIMO	1262M	98.82	-0.01	2437.00	6	6.5	19.20	19.95	Back	0	1.040	22.9	19.6	19.6
Phablet	2.4 GHz WIFI/ IEEE 802.11b	22	DSSS	MIMO	1262M	98.82	-0.01	2437.00	6	6.5	19.20	19.95	Front	0	1.180	22.4		
Phablet	2.4 GHz WIFI/ IEEE 802.11b	22	DSSS	MIMO	1262M	98.82	0.00	2437.00	6	6.5	19.20	19.95	Top	0	0.532	25.8		
Phablet	2.4 GHz WIFI/ IEEE 802.11b	22	DSSS	MIMO	1262M	98.82	0.03	2437.00	6	6.5	19.20	19.95	Right	0	0.223	29.6		
Phablet	2.4 GHz WIFI/ IEEE 802.11b	22	DSSS	MIMO	1262M	98.82	-0.03	2437.00	6	6.5	19.20	19.95	Left	0	2.220	19.6		

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Table A-30
DSI = 0 P_{Limit} Calculations – 2.4 GHz Bluetooth Standalone SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	2.4 GHz Bluetooth LE	DSSS	H	1262M	85.28	-0.04	2402.00	0	1	18.39	Back	0	0.717	23.1	20.2	20.2
Phablet	2.4 GHz Bluetooth LE	DSSS	H	1262M	85.28	0.01	2402.00	0	1	18.39	Front	0	0.904	22.1		
Phablet	2.4 GHz Bluetooth LE	DSSS	H	1262M	85.28	0.00	2402.00	0	1	18.39	Top	0	0.333	26.4		
Phablet	2.4 GHz Bluetooth LE	DSSS	H	1262M	85.28	0.01	2402.00	0	1	18.39	Left	0	1.380	20.2		

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	2.4 GHz Bluetooth LE	DSSS	J	1262M	85.33	0.07	2440.00	19	1	18.02	Back	0	0.185	28.6	26.9	26.9
Phablet	2.4 GHz Bluetooth LE	DSSS	J	1262M	85.33	0.06	2440.00	19	1	18.02	Front	0	0.274	26.9		
Phablet	2.4 GHz Bluetooth LE	DSSS	J	1262M	85.33	0.08	2440.00	19	1	18.02	Top	0	0.008	42.2		
Phablet	2.4 GHz Bluetooth LE	DSSS	J	1262M	85.33	-0.04	2440.00	19	1	18.02	Right	0	0.105	31.0		

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Conducted Power [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	2.4 GHz Bluetooth LE	DSSS	MIMO	1262M	85.33	0.02	2402.00	0	1	12.35	11.92	Back	0	0.176	22.7	19.3	19.3
Phablet	2.4 GHz Bluetooth LE	DSSS	MIMO	1262M	85.33	0.00	2402.00	0	1	12.35	11.92	Front	0	0.219	21.8		
Phablet	2.4 GHz Bluetooth LE	DSSS	MIMO	1262M	85.33	0.00	2402.00	0	1	12.35	11.92	Top	0	0.069	26.8		
Phablet	2.4 GHz Bluetooth LE	DSSS	MIMO	1262M	85.33	0.09	2402.00	0	1	12.35	11.92	Right	0	0.036	29.6		
Phablet	2.4 GHz Bluetooth LE	DSSS	MIMO	1262M	85.33	-0.19	2402.00	0	1	12.35	11.92	Left	0	0.387	19.3		

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RF Exposure Part 1 Test Report

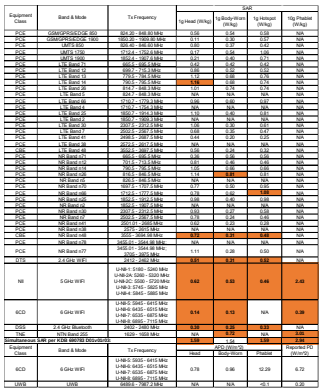
Applicant Name:
Samsung Electronics Co., Ltd.
129, Samsung-ro, Maetan dong,
Yeongtong-gu, Suwon-si
Gyeonggi-do, 16677, Korea

Date of Testing:
09/02/2024-10/28/2024
Test Site/Locations:
Element, Columbia, MD, USA
Element, Morgan Hill, C A, USA
Element, Suwon
Document Serial No.:
1M2408260064-23.A3L (Rev 1)

FCC ID: **A3LSMS936U**

APPLICANT: **SAMSUNG ELECTRONICS CO., LTD.**

DUT Type:	Portable Handset
Application Type:	Certification
FCC Rule Part(s):	CFR §2.1093
Model(s):	SM-S936U
Additional Model(s):	SM-S936U1



Equipment Class	Band & Mode	Tx Frequency	SAR 1g Head (W/kg)	SAR 1g Body-Worn (W/kg)	SAR 1g Hotspot (W/kg)	SAR 10g Phablet (W/kg)
PCE	GSM/GPRS/EDGE 850	824.20 - 848.80 MHz	0.56	0.54	0.68	N/A
PCE	GSM/GPRS/EDGE 1900	1850.20 - 1909.80 MHz	0.11	0.30	0.67	N/A
PCE	UMTS 850	826.40 - 846.60 MHz	0.69	0.57	0.42	N/A
PCE	UMTS 1730	1712.4 - 1752.6 MHz	0.47	0.54	1.06	N/A
PCE	UMTS 1880	1852.4 - 1907.6 MHz	0.41	0.40	0.71	N/A
PCE	LTE Band 71	663.5 - 698.5 MHz	0.62	0.62	0.62	N/A
PCE	LTE Band 12	699.7 - 715.3 MHz	0.63	0.62	0.62	N/A
PCE	LTE Band 13	779.5 - 784.5 MHz	0.65	0.60	0.59	N/A
PCE	LTE Band 14	790.5 - 795.5 MHz	0.76	0.68	0.74	N/A
PCE	LTE Band 26	814.7 - 848.3 MHz	1.01	0.76	0.74	N/A
PCE	LTE Band 5	824.7 - 848.3 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 66	1710.7 - 1779.3 MHz	0.66	0.60	0.67	N/A
PCE	LTE Band 4	1710.7 - 1754.3 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 25	1850.7 - 1914.3 MHz	1.13	0.80	0.81	N/A
PCE	LTE Band 2	1850.7 - 1909.3 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 30	2307.5 - 2312.5 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 7	2502.5 - 2567.5 MHz	0.68	0.60	0.67	N/A
PCE	LTE Band 41	2496.5 - 2687.5 MHz	0.44	0.30	0.65	N/A
PCE	LTE Band 38	2572.5 - 2617.5 MHz	N/A	N/A	N/A	N/A
CBC	LTE Band 48	3552.5 - 3697.5 MHz	0.55	0.34	0.50	N/A
PCE	NR Band n71	663.5 - 698.5 MHz	0.56	0.56	0.65	N/A
PCE	NR Band n12	701.5 - 715.3 MHz	0.63	0.62	0.62	N/A
PCE	NR Band n13	779.5 - 784.5 MHz	0.65	0.60	0.59	N/A
PCE	NR Band n26	821.5 - 846.5 MHz	1.12	0.81	0.81	N/A
PCE	NR Band n5	826.5 - 846.5 MHz	N/A	N/A	N/A	N/A
PCE	NR Band n70	1697.5 - 1707.5 MHz	0.77	0.50	0.69	N/A
PCE	NR Band n66	1712.5 - 1777.5 MHz	0.78	0.62	1.08	N/A
PCE	NR Band n25	1852.5 - 1912.5 MHz	0.68	0.60	0.65	N/A
PCE	NR Band n2	1852.5 - 1907.5 MHz	N/A	N/A	N/A	N/A
PCE	NR Band n30	2307.5 - 2312.5 MHz	0.53	0.42	0.65	N/A
PCE	NR Band n7	2502.5 - 2567.5 MHz	0.73	0.54	0.65	N/A
PCE	NR Band n41	2498.5 - 2688.5 MHz	0.49	0.34	0.65	N/A
PCE	NR Band n48	3552.5 - 3697.5 MHz	N/A	N/A	N/A	N/A
CBC	NR Band n48	3555 - 3696.66 MHz	0.72	0.51	0.65	N/A
PCE	NR Band n78	3450.01 - 3544.98 MHz	N/A	N/A	N/A	N/A
PCE	NR Band n77	3450.01 - 3544.98 MHz 3706 - 3970.99 MHz	1.11	0.28	0.50	N/A
DTS	2.4 GHz WiFi	2412 - 2462 MHz	0.81	0.21	0.84	N/A
NII	5 GHz WiFi	U-NII-1: 5180 - 5240 MHz U-NII-2A: 5260 - 5320 MHz U-NII-2C: 5500 - 5720 MHz U-NII-3: 5745 - 5825 MHz U-NII-4: 5845 - 5885 MHz	0.62	0.53	0.49	2.43
6CD	6 GHz WiFi	U-NII-5: 5945 - 6415 MHz U-NII-6: 6435 - 6515 MHz U-NII-7: 6535 - 6875 MHz U-NII-8: 6895 - 7115 MHz	0.14	0.13	N/A	0.39
2DD	2.4 GHz Bluetooth	2402 - 2480 MHz	0.20	0.20	0.22	N/A
TNB	NTN Band 255	1626 - 1659 MHz	N/A	0.72	N/A	0.93
Simultaneous Tx per KDB 690783 D01v03r01			1.25	1.04	1.08	2.82

Equipment Class	Band & Mode	Tx Frequency	ADG (Watch) Head	ADG (Watch) Body-Worn	ADG (Watch) Phablet	Reported FD (W/m^2)
6CD	6 GHz WiFi	U-NII-5: 5935 - 6415 MHz U-NII-6: 6435 - 6515 MHz U-NII-7: 6535 - 6875 MHz U-NII-8: 6895 - 7115 MHz	0.78	0.96	12.29	6.72
UWB	UWB	6489.6 - 7987.2 MHz	N/A	N/A	<0.1	0.20

Note: This revised test report supersedes and replaces the previously issued test report on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.

This wireless portable device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment/general population exposure limits specified in ANSI/IEEE C95.1-1992 and has been tested in accordance with the measurement procedures specified in Section 2.9 of this report; for North American frequency bands only.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them. Test results reported herein relate only to the item(s) tested.

RJ Ortanez
Executive Vice President

The SAR Tick is an initiative of the Mobile & Wireless Forum (MWF). While a product may be considered eligible, use of the SAR Tick logo requires an agreement with the MWF. Further details can be obtained by emailing: sartick@mwfai.info.

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1 TEST LABORATORY INFORMATION

1.1 Introduction

This test report for device subject to testing at an accredited testing laboratory has been generated by the testing laboratory that tested the device. Measurements were performed at various locations within Element Materials Technology. Detailed location and accredited information regarding the testing laboratories are provided below.

1.2 Test Laboratories Information

1.2.1 Testing Laboratory 1

Test Firm Name	ELEMENT MATERIALS TECHNOLOGY WASHINGTON DC LLC
Test Lab Location	7185 Oakland Mills Road, Columbia, MD 21046, United States Tel. +1.410.290.6652 / Fax +1.410.290.6654
Accreditation Info.	Lab Code. (ISED): 2451B
	CAB Identifier (NIST): US0110
	ISO/IEC 17025 (A2LA): CERT #2041.01
	ilac-MRA A2LA ACCREDITED CERT #2041.01
Measurement System No.	C, E, G, H, J, L, O, P, R, S

1.2.2 Testing Laboratory 2

Test Firm Name	ELEMENT MATERIALS TECHNOLOGY SAN JOSE, CA
Test Lab Location	18855 Adams Ct, Morgan Hill, CA 95037 USA United States Tel. +1.408.538.5600 / Fax +1.410.290.6654
Accreditation Info.	Lab Code. (ISED): 22831
	CAB Identifier (NIST): US0211
	ISO/IEC 17025 (A2LA): CERT #2041.02
	ilac-MRA A2LA ACCREDITED CERT #2041.02
Measurement System No.	AM4, AM7, AM8, AM13, AM14, AM16,

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1.2.3 Testing Laboratory 3

Test Firm Name	ELEMENT MATERIALS TECHNOLOGY SUWON, LTD.
Test Lab Location	Yongin-si, Gyeonggi-do, 16954, South Korea Tel. +82.31.660.7391 / Fax +82)31-660-7318
Accreditation Info.	Lab Code. (ISED): 26168
	CAB Identifier (NIST): KR0169
	ISO/IEC 17025 (A2LA): CERT #2041.04
	ilac-MRA A2LA ACCREDITED CERT #2041.04
Measurement System No.	K2, K3, K4, K6

Note: For each test performed, the test site can be verified with the probe serial numbers specified in the table of Test System Verification and Equipment List.

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2 DEVICE UNDER TEST

2.1 Device Overview

Band & Mode	Operating Modes	Tx Frequency
GSM/GPRS/EDGE 850	Voice/Data	824.20 - 848.80 MHz
GSM/GPRS/EDGE 1900	Voice/Data	1850.20 - 1909.80 MHz
UMTS 850	Voice/Data	826.40 - 846.60 MHz
UMTS 1750	Voice/Data	1712.4 - 1752.6 MHz
UMTS 1900	Voice/Data	1852.4 - 1907.6 MHz
LTE Band 71	Voice/Data	665.5 - 695.5 MHz
LTE Band 12	Voice/Data	699.7 - 715.3 MHz
LTE Band 13	Voice/Data	779.5 - 784.5 MHz
LTE Band 14	Voice/Data	790.5 - 795.5 MHz
LTE Band 26	Voice/Data	814.7 - 848.3 MHz
LTE Band 5	Voice/Data	824.7 - 848.3 MHz
LTE Band 66	Voice/Data	1710.7 - 1779.3 MHz
LTE Band 4	Voice/Data	1710.7 - 1754.3 MHz
LTE Band 25	Voice/Data	1850.7 - 1914.3 MHz
LTE Band 2	Voice/Data	1850.7 - 1909.3 MHz
LTE Band 30	Voice/Data	2307.5 - 2312.5 MHz
LTE Band 7	Voice/Data	2502.5 - 2567.5 MHz
LTE Band 41	Voice/Data	2498.5 - 2687.5 MHz
LTE Band 38	Voice/Data	2572.5 - 2617.5 MHz
LTE Band 48	Voice/Data	3552.5 - 3697.5 MHz
NR Band n71	Voice/Data	665.5 - 695.5 MHz
NR Band n12	Voice/Data	701.5 - 713.5 MHz
NR Band n14	Voice/Data	790.5 - 795.5 MHz
NR Band n26	Voice/Data	816.5 - 846.5 MHz
NR Band n5	Voice/Data	826.5 - 846.5 MHz
NR Band n70	Voice/Data	1697.5 - 1707.5 MHz
NR Band n66	Voice/Data	1712.5 - 1777.5 MHz
NR Band n25	Voice/Data	1852.5 - 1912.5 MHz
NR Band n2	Voice/Data	1852.5 - 1907.5 MHz
NR Band n30	Voice/Data	2307.5 - 2312.5 MHz
NR Band n7	Voice/Data	2502.5 - 2567.5 MHz
NR Band n41	Voice/Data	2501.01 - 2685 MHz
NR Band n38	Voice/Data	2575 - 2615 MHz
NR Band n48	Voice/Data	3555 - 3694.98 MHz
NR Band n78	Voice/Data	3455.01 - 3544.98 MHz; 3705 - 3795 MHz
NR Band n77	Voice/Data	3455.01 - 3544.98 MHz; 3705 - 3975 MHz
NTN Band 255	Data	1629 - 1658 MHz
NR Band n258	Data	24250 - 24450 MHz; 24750 - 25250 MHz
NR Band n260	Data	37000 - 40000 MHz
NR Band n261	Data	27500 - 28350 MHz
2.4 GHz WIFI	Voice/Data	2412 - 2462 MHz
5 GHz WIFI	Voice/Data	U-NII-1: 5180 - 5240 MHz U-NII-2A: 5260 - 5320 MHz U-NII-2C: 5500 - 5720 MHz U-NII-3: 5745 - 5825 MHz U-NII-4: 5845 - 5885 MHz
6 GHz WIFI	Voice/Data	U-NII-5: 5935 - 6415 MHz U-NII-6: 6435 - 6515 MHz U-NII-7: 6535 - 6875 MHz U-NII-8: 6895 - 7115 MHz
2.4 GHz Bluetooth	Data	2402 - 2480 MHz
NFC	Data	13.56 MHz
UWB	Data	6489.6 - 7987.2 MHz

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2.2 Time-Averaging Algorithm for RF Exposure Compliance

This Device is enabled with the Qualcomm® Smart Transmit Gen2 feature with antenna grouping. This feature performs time-averaging algorithm in real time to control and manage transmitting power and ensure the time-averaged RF exposure is in compliance with FCC requirements all the time. Refer to Compliance Summary document for detailed description of Qualcomm® Smart Transmit feature (report SN could be found in Section 2.10– Bibliography).

Note that NTN operations are not enabled with Smart Transmit.

The Smart Transmit algorithm maintains the time-averaged transmit power, in turn, time-averaged RF exposure of *SAR_design_target* or *PD_design_target*, below the predefined time-averaged power limit (i.e., P_{limit} for WWAN sub-6/WLAN/BT radio, and *input.power.limit* for 5G mmW NR), for each characterized technology and band. Characterization is achieved by determining P_{limit} for WWAN sub-6/WLAN/BT that corresponds to the exposure design targets after accounting for all device design related uncertainties, i.e., SAR_design_target (<FCC SAR Limit) for sub-6 radio. The SAR characterization is denoted as SAR char in this report (see SAR Summary Section and Part 0 SAR Test Results for P_{limit} Calculations Appendix).

Smart Transmit allows the device to transmit at higher power instantaneously, as high as P_{max}, when needed, but enforces power limiting to maintain time-averaged transmit power to P_{limit}. Below table shows P_{limit} EFS settings and maximum tune up output power P_{max} configured for this EUT for various transmit conditions (Device State Index DSI). Note that the device uncertainty for WWAN sub-6/WLAN/BT is 1.0dB for this EUT.

The maximum time-averaged output power (dBm) for any WWAN sub-6/WLAN/BT technology, band, and DSI is the minimum of ("P_{limit} EFS" and "Maximum tune up output power P_{max}") + 1dB device uncertainty. SAR values in this report were scaled to this maximum time-averaged output power to determine compliance per KDB Publication 447498 D01v06.

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Exposure Scenario			Maximum Tune-Up Output Power*	Body-Worn, Hotspot, or Phablet	Head
Averaging Volume				1g/10g	1g
Spacing				10mm, 0mm	0mm
Configuration					
DSI				0	1
Technology/Band	Antenna	Antenna Group	P_{max}	P_{limit}	P_{limit}
GSM 850	A	AG0	25.3	30.2	30.2
GSM 850	E	AG1	25.3	28.4	20.8
GSM 1900	A	AG0	22.1	17.8	28.0
UMTS 850	A	AG0	24.0	28.0	29.8
UMTS 850	E	AG1	24.0	26.8	21.0
UMTS 1750	A	AG0	22.5	18.0	27.6
UMTS 1900	A	AG0	23.5	17.5	27.8
LTE Band 71	A	AG0	24.0	28.7	30.1
LTE Band 71	E	AG1	24.0	28.4	18.0
LTE Band 12	A	AG0	24.3	29.5	30.3
LTE Band 12	E	AG1	24.3	27.9	21.0
LTE Band 13	A	AG0	24.0	28.5	30.0
LTE Band 13	E	AG1	24.0	26.2	21.0
LTE Band 14	A	AG0	24.3	28.8	29.9
LTE Band 14	E	AG1	24.3	26.4	21.0
LTE Band 26/5	A	AG0	24.0	28.8	29.8
LTE Band 26/5	E	AG1	24.0	26.2	21.0
LTE Band 66/4	A	AG0	23.5	18.5	27.3
LTE Band 66/4	F	AG1	23.5	20.0	16.0
LTE Band 25/2	A	AG0	23.5	18.0	28.8
LTE Band 25/2	F	AG1	23.5	20.0	18.0
LTE Band 30	A	AG0	22.5	19.0	34.8
LTE Band 30	F	AG1	22.5	18.0	16.5
LTE Band 7	B	AG0	23.0	19.0	31.2
LTE Band 7	F	AG1	23.0	17.0	15.5
LTE Band 41	B	AG0	22.0	19.0	18.4
LTE Band 41	F	AG1	22.0	16.0	14.5
LTE Band 38	B	AG0	22.0	17.0	18.4
LTE Band 38	F	AG1	22.0	14.5	12.5
LTE Band 48	F	AG1	20.5	16.5	12.5
NR Band n71	A	AG0	24.0	28.4	31.0
NR Band n71	E	AG1	24.0	27.5	18.0
NR Band n12	A	AG0	24.3	28.6	31.2
NR Band n12	E	AG1	24.3	28.2	21.0
NR Band n14	A	AG0	24.0	28.7	34.2
NR Band n14	E	AG1	24.0	26.8	21.0
NR Band n26/n5	A	AG0	24.0	27.6	33.5
NR Band n26/n5	E	AG1	24.0	25.8	21.0
NR Band n70	A	AG0	23.0	19.0	28.5
NR Band n70	F	AG1	23.0	19.0	16.0
NR Band n66	A	AG0	23.5	18.5	26.7
NR Band n66	F	AG1	23.5	20.0	16.0
NR Band n25/n2	A	AG0	23.5	18.0	28.0
NR Band n25/n2	F	AG1	23.5	20.0	18.0
NR Band n30	A	AG0	22.5	19.0	34.9
NR Band n30	F	AG1	22.5	18.0	16.5
NR Band n7	B	AG0	23.0	19.0	30.7
NR Band n7	F	AG1	23.0	17.0	15.5
NR Band n41 PC2 (Path 1)	F	AG1	26.0	16.5	13.5
NR Band n41 PC2 (Path 1)	B	AG0	25.0	19.0	17.5
NR Band n41 PC2 (Path 1)	E	AG1	24.0	17.5	16.0
NR Band n41 PC2 (Path 1)	D	AG0	20.0	15.5	14.0
NR Band n41 PC2 (Path 2)	B	AG0	26.0	20.0	24.0
NR Band n41 PC2 (Path 2)	F	AG1	21.0	16.5	13.5
NR Band n41 PC2 (Path 2)	D	AG0	22.0	15.5	14.0
NR Band n41 PC2 (Path 2)	E	AG1	19.0	17.5	16.0
NR Band n38 (Path 1)	F	AG1	24.0	16.5	13.5
NR Band n38 (Path 2)	B	AG0	24.0	19.0	24.0
NR Band n48	F	AG1	22.5	18.0	14.0
NR Band n48	C	AG0	19.5	13.0	9.0
NR Band n48	I	AG1	22.5	16.0	12.0
NR Band n48	D	AG0	18.5	11.5	7.5
NR Band n77/n78 PC2	F	AG1	26.0	17.0	15.0
NR Band n77/n78 PC2	C	AG0	19.0	11.0	10.0
NR Band n77/n78 PC2	I	AG1	23.5	15.0	14.0
NR Band n77/n78 PC2	D	AG0	18.0	10.0	9.0
2.4 GHz WIFI	H	AG1	19.0	20.1	13.0
2.4 GHz WIFI	J	AG1	19.0	25.1	13.0
2.4 GHz WIFI	MIMO	AG1	19.0	19.6	13.0
5 GHz WIFI	H	AG1	17.0	16.0	13.0
5 GHz WIFI	E	AG1	17.0	16.0	13.0
5 GHz WIFI	MIMO	AG1	17.0	16.0	13.0
6 GHz WIFI	H	AG1	16.0	10.5	9.0
6 GHz WIFI	E	AG1	16.0	10.5	9.0
6 GHz WIFI	MIMO	AG1	16.0	10.5	9.0
2.4 GHz Bluetooth	H	AG1	17.4	20.2	10.9
2.4 GHz Bluetooth	J	AG1	17.4	26.9	10.9
2.4 GHz Bluetooth	MIMO	AG1	10.9	19.3	17.7

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Notes:

-All Plimit EFS and maximum tune up output power Pmax levels entered in above Table correspond to average power levels after accounting for duty cycle in the case of TDD, GMSK, or OFDM modulation schemes (e.g. GSM, LTE TDD and WLAN/BT).

-The purpose of this report (Part 1 Test) is to demonstrate that the EUT meets FCC SAR limits when transmitting in static transmission scenario at maximum allowable time-averaged power levels.

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2.3 Nominal and Maximum Output Power Specifications

This device operates using the following maximum and nominal output power specifications. SAR values were scaled to the maximum allowed power to determine compliance per KDB Publication 447498 D01v06.

Note: Targets for 802.11ax/be RU operations can be found in 802.11ax/be RU SAR Exclusion Appendix.

2.3.1 Licensed Output Power

GSM/GPRS/EDGE 850										
Antenna A										
Power Level		Voice (in dBm)	Data - Burst Average GMSK (in dBm)				Data - Burst Average 8-PSK (in dBm)			
		1 TX Slot	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots
Pmax	Max Allowed Power	33.5	33.5	32.5	30.5	28.5	28.0	26.0	24.0	23.0
	Nominal	32.5	32.5	31.5	29.5	27.5	27.0	25.0	23.0	22.0
DSI = 0 (Body-Worn, Hotspot, or Phablet)	Max Allowed Power	33.5	33.5	32.5	30.5	28.5	28.0	26.0	24.0	23.0
	Nominal	32.5	32.5	31.5	29.5	27.5	27.0	25.0	23.0	22.0
DSI = 1 (Head)	Max Allowed Power	33.5	33.5	32.5	30.5	28.5	28.0	26.0	24.0	23.0
	Nominal	32.5	32.5	31.5	29.5	27.5	27.0	25.0	23.0	22.0

GSM/GPRS/EDGE 850										
Antenna E										
Power Level		Voice (in dBm)	Data - Burst Average GMSK (in dBm)				Data - Burst Average 8-PSK (in dBm)			
		1 TX Slot	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots
Pmax	Max Allowed Power	33.5	33.5	32.5	30.5	28.5	28.0	26.0	24.0	23.0
	Nominal	32.5	32.5	31.5	29.5	27.5	27.0	25.0	23.0	22.0
DSI = 0 (Body-Worn, Hotspot, or Phablet)	Max Allowed Power	33.5	33.5	32.5	30.5	28.5	28.0	26.0	24.0	23.0
	Nominal	32.5	32.5	31.5	29.5	27.5	27.0	25.0	23.0	22.0
DSI = 1 (Head)	Max Allowed Power	31.0	31.0	28.0	26.2	25.0	28.0	26.0	24.0	23.0
	Nominal	30.0	30.0	27.0	25.2	24.0	27.0	25.0	23.0	22.0

GSM/GPRS/EDGE 1900										
Antenna A										
Power Level		Voice (in dBm)	Data - Burst Average GMSK (in dBm)				Data - Burst Average 8-PSK (in dBm)			
		1 TX Slot	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots
Pmax	Max Allowed Power	31.0	31.0	29.0	27.5	25.5	27.0	25.0	23.0	22.0
	Nominal	30.0	30.0	28.0	26.5	24.5	26.0	24.0	22.0	21.0
DSI = 0 (Body-Worn, Hotspot, or Phablet)	Max Allowed Power	28.0	28.0	25.0	23.2	22.0	27.0	25.0	23.0	22.0
	Nominal	27.0	27.0	24.0	22.2	21.0	26.0	24.0	22.0	21.0
DSI = 1 (Head)	Max Allowed Power	31.0	31.0	29.0	27.5	25.5	27.0	25.0	23.0	22.0
	Nominal	30.0	30.0	28.0	26.5	24.5	26.0	24.0	22.0	21.0

For GSM, the above powers listed are GSM burst average values.

UMTS Band 5 (850 MHz)					
Antenna A					
Power Level		Modulated Average Output Power (in dBm)			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
Pmax	Max Allowed Power	25.0	24.0	24.0	24.0
	Nominal	24.0	23.0	23.0	23.0
DSI = 0 (Body-Worn, Hotspot, or Phablet)	Max Allowed Power	25.0	24.0	24.0	24.0
	Nominal	24.0	23.0	23.0	23.0
DSI = 1 (Head)	Max Allowed Power	25.0	24.0	24.0	24.0
	Nominal	24.0	23.0	23.0	23.0

UMTS Band 5 (850 MHz)					
Antenna E					
Power Level		Modulated Average Output Power (in dBm)			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
Pmax	Max Allowed Power	25.0	24.0	24.0	24.0
	Nominal	24.0	23.0	23.0	23.0
DSI = 0 (Body-Worn, Hotspot, or Phablet)	Max Allowed Power	25.0	24.0	24.0	24.0
	Nominal	24.0	23.0	23.0	23.0
DSI = 1 (Head)	Max Allowed Power	22.0	21.0	21.0	21.0
	Nominal	21.0	20.0	20.0	20.0

UMTS Band 4 (1750 MHz)					
Antenna A					
Power Level		Modulated Average Output Power (in dBm)			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
Pmax	Max Allowed Power	23.5	22.5	22.5	22.5
	Nominal	22.5	21.5	21.5	21.5
DSI = 0 (Body-Worn, Hotspot, or Phablet)	Max Allowed Power	19.0	18.0	18.0	18.0
	Nominal	18.0	17.0	17.0	17.0
DSI = 1 (Head)	Max Allowed Power	23.5	22.5	22.5	22.5
	Nominal	22.5	21.5	21.5	21.5

UMTS Band 2 (1900 MHz)					
Antenna A					
Power Level		Modulated Average Output Power (in dBm)			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
Pmax	Max Allowed Power	24.5	23.5	23.5	23.5
	Nominal	23.5	22.5	22.5	22.5
DSI = 0 (Body-Worn, Hotspot, or Phablet)	Max Allowed Power	18.5	17.5	17.5	17.5
	Nominal	17.5	16.5	16.5	16.5
DSI = 1 (Head)	Max Allowed Power	24.5	23.5	23.5	23.5
	Nominal	23.5	22.5	22.5	22.5

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Mode / Band	Antenna		Modulated Average Output Power (in dBm)		
			Pmax	DSI = 0 (Body-Worn, Hotspot, or Phablet)	DSI = 1 (Head)
LTE Band 71	A	Max Allowed Power	25.0	25.0	25.0
		Nominal	24.0	24.0	24.0
LTE Band 71	E	Max Allowed Power	25.0	25.0	19.0
		Nominal	24.0	24.0	18.0
LTE Band 12	A	Max Allowed Power	25.3	25.3	25.3
		Nominal	24.3	24.3	24.3
LTE Band 12	E	Max Allowed Power	25.3	25.3	22.0
		Nominal	24.3	24.3	21.0
LTE Band 13	A	Max Allowed Power	25.0	25.0	25.0
		Nominal	24.0	24.0	24.0
LTE Band 13	E	Max Allowed Power	25.0	25.0	22.0
		Nominal	24.0	24.0	21.0
LTE Band 14	A	Max Allowed Power	25.3	25.3	25.3
		Nominal	24.3	24.3	24.3
LTE Band 14	E	Max Allowed Power	25.3	25.3	22.0
		Nominal	24.3	24.3	21.0
LTE Band 26/5	A	Max Allowed Power	25.0	25.0	25.0
		Nominal	24.0	24.0	24.0
LTE Band 26/5	E	Max Allowed Power	25.0	25.0	22.0
		Nominal	24.0	24.0	21.0
LTE Band 66/4	A	Max Allowed Power	24.5	19.5	24.5
		Nominal	23.5	18.5	23.5
LTE Band 66/4	F	Max Allowed Power	24.5	21.0	17.0
		Nominal	23.5	20.0	16.0
LTE Band 25/2	A	Max Allowed Power	24.5	19.0	24.5
		Nominal	23.5	18.0	23.5
LTE Band 25/2	F	Max Allowed Power	24.5	21.0	19.0
		Nominal	23.5	20.0	18.0
LTE Band 30	A	Max Allowed Power	23.5	20.0	23.5
		Nominal	22.5	19.0	22.5
LTE Band 30	F	Max Allowed Power	23.5	19.0	17.5
		Nominal	22.5	18.0	16.5
LTE Band 7	B	Max Allowed Power	24.0	20.0	24.0
		Nominal	23.0	19.0	23.0
LTE Band 7	F	Max Allowed Power	24.0	18.0	16.5
		Nominal	23.0	17.0	15.5
LTE Band 41	B	Max Allowed Power	25.0	22.0	21.4
		Nominal	24.0	21.0	20.4
LTE Band 41	F	Max Allowed Power	25.0	19.0	17.5
		Nominal	24.0	18.0	16.5
LTE Band 38	B	Max Allowed Power	25.0	20.0	21.4
		Nominal	24.0	19.0	20.4
LTE Band 38	F	Max Allowed Power	25.0	17.5	15.5
		Nominal	24.0	16.5	14.5
LTE Band 48	F	Max Allowed Power	23.5	19.5	15.5
		Nominal	22.5	18.5	14.5
NTN Band 255	F	Max Allowed Power	23.0	23.0	N/A
		Nominal	22.0	22.0	N/A

For LTE TDD, the above powers listed are TDD burst average values.

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Mode / Band	Antenna		Modulated Average Output Power (in dBm)		
			Pmax	DSI = 0 (Body-Worn, Hotspot, or Phablet)	DSI = 1 (Head)
NR Band n71	A	Max Allowed Power	25.0	25.0	25.0
		Nominal	24.0	24.0	24.0
NR Band n71	E	Max Allowed Power	25.0	25.0	19.0
		Nominal	24.0	24.0	18.0
NR Band n12	A	Max Allowed Power	25.3	25.3	25.3
		Nominal	24.3	24.3	24.3
NR Band n12	E	Max Allowed Power	25.3	25.3	22.0
		Nominal	24.3	24.3	21.0
NR Band n14	A	Max Allowed Power	25.0	25.0	25.0
		Nominal	24.0	24.0	24.0
NR Band n14	E	Max Allowed Power	25.0	25.0	22.0
		Nominal	24.0	24.0	21.0
NR Band n26/n5	A	Max Allowed Power	25.0	25.0	25.0
		Nominal	24.0	24.0	24.0
NR Band n26/n5	E	Max Allowed Power	25.0	25.0	22.0
		Nominal	24.0	24.0	21.0
NR Band n70	A	Max Allowed Power	24.0	20.0	24.0
		Nominal	23.0	19.0	23.0
NR Band n70	F	Max Allowed Power	24.0	20.0	17.0
		Nominal	23.0	19.0	16.0
NR Band n66	A	Max Allowed Power	24.5	19.5	24.5
		Nominal	23.5	18.5	23.5
NR Band n66	F	Max Allowed Power	24.5	21.0	17.0
		Nominal	23.5	20.0	16.0
NR Band n25/n2	A	Max Allowed Power	24.5	19.0	24.5
		Nominal	23.5	18.0	23.5
NR Band n25/n2	F	Max Allowed Power	24.5	21.0	19.0
		Nominal	23.5	20.0	18.0
NR Band n30	A	Max Allowed Power	23.5	20.0	23.5
		Nominal	22.5	19.0	22.5
NR Band n30	F	Max Allowed Power	23.5	19.0	17.5
		Nominal	22.5	18.0	16.5
NR Band n7	B	Max Allowed Power	24.0	20.0	24.0
		Nominal	23.0	19.0	23.0
NR Band n7	F	Max Allowed Power	24.0	18.0	16.5
		Nominal	23.0	17.0	15.5
NR Band n41 PC2 (Path 1)	F	Max Allowed Power	27.0	17.5	14.5
		Nominal	26.0	16.5	13.5
NR Band n41 PC2 (Path 1)	B	Max Allowed Power	26.0	20.0	18.5
		Nominal	25.0	19.0	17.5
NR Band n41 PC2 (Path 1)	E	Max Allowed Power	25.0	18.5	17.0
		Nominal	24.0	17.5	16.0
NR Band n41 PC2 (Path 1)	D	Max Allowed Power	21.0	16.5	15.0
		Nominal	20.0	15.5	14.0
NR Band n41 PC2 (Path 2)	B	Max Allowed Power	27.0	21.0	25.0
		Nominal	26.0	20.0	24.0
NR Band n41 PC2 (Path 2)	F	Max Allowed Power	22.0	17.5	14.5
		Nominal	21.0	16.5	13.5
NR Band n41 PC2 (Path 2)	D	Max Allowed Power	23.0	16.5	15.0
		Nominal	22.0	15.5	14.0
NR Band n41 PC2 (Path 2)	E	Max Allowed Power	20.0	18.5	17.0
		Nominal	19.0	17.5	16.0
NR Band n38	F	Max Allowed Power	25.0	17.5	14.5
		Nominal	24.0	16.5	13.5
NR Band n38	B	Max Allowed Power	25.0	20.0	25.0
		Nominal	24.0	19.0	24.0
NR Band n48	F	Max Allowed Power	23.5	19.0	15.0
		Nominal	22.5	18.0	14.0
NR Band n48	C	Max Allowed Power	20.5	14.0	10.0
		Nominal	19.5	13.0	9.0
NR Band n48	I	Max Allowed Power	23.5	17.0	13.0
		Nominal	22.5	16.0	12.0
NR Band n48	D	Max Allowed Power	19.5	12.5	8.5
		Nominal	18.5	11.5	7.5
NR Band n77/n78 PC2	F	Max Allowed Power	27.0	18.0	16.0
		Nominal	26.0	17.0	15.0
NR Band n77/n78 PC2	C	Max Allowed Power	20.0	12.0	11.0
		Nominal	19.0	11.0	10.0
NR Band n77/n78 PC2	I	Max Allowed Power	24.5	16.0	15.0
		Nominal	23.5	15.0	14.0
NR Band n77/n78 PC2	D	Max Allowed Power	19.0	11.0	10.0
		Nominal	18.0	10.0	9.0

For NR TDD, the above powers listed are TDD burst average and framed average values

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2.3.2 2.4 GHz WLAN Output Power

The below table is applicable is applicable in the following conditions:

- Pmax

Mode	Band	Power Level	IEEE 802.11 Modulated Output Power (in dBm)																																							
			SISO Antenna H												SISO Antenna J												SISO in MIMO															
			b		g		n		ac		ax (5G)		be (5G)		b		g		n		ac		ax (5G)		be (5G)		b (CDD + STBC)		g (CDD + STBC)		n (CDD + STBC, SDM)		ac (CDD + STBC, SDM)		ax (5G) (CDD + STBC, SDM)		be (5G) (CDD + STBC, SDM)						
Maximum / Nominal Power			Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.				
Pmax	2.4 GHz WLAN	2.4G GHz	20.0	19.0	18.0	17.0	18.0	17.0	18.0	17.0	16.0	15.0	16.0	15.0	20.0	19.0	18.0	17.0	18.0	17.0	18.0	17.0	16.0	15.0	16.0	15.0	20.0	19.0	18.0	17.0	18.0	17.0	18.0	17.0	16.0	15.0	16.0	15.0				

The below table is applicable is applicable in the following conditions:

- DSI=0 (Body-worn, Hotspot or Phablet)

Mode	Band	Power Level	IEEE 802.11 Modulated Output Power (in dBm)																																							
			SISO Antenna H												SISO Antenna J												SISO in MIMO															
			b		g		n		ac		ax (5G)		be (5G)		b		g		n		ac		ax (5G)		be (5G)		b (CDD + STBC)		g (CDD + STBC)		n (CDD + STBC, SDM)		ac (CDD + STBC, SDM)		ax (5G) (CDD + STBC, SDM)		be (5G) (CDD + STBC, SDM)						
Maximum / Nominal Power			Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.				
0_Body-Worn, Hotspot, or Phablet	2.4 GHz WLAN	2.4G GHz	20.0	19.0	18.0	17.0	18.0	17.0	18.0	17.0	16.0	15.0	16.0	15.0	20.0	19.0	18.0	17.0	18.0	17.0	18.0	17.0	16.0	15.0	16.0	15.0	20.0	19.0	18.0	17.0	18.0	17.0	18.0	17.0	16.0	15.0	16.0	15.0				

The below table is applicable is applicable in the following conditions:

- DSI=1 (RCV)

Mode	Band	Power Level	IEEE 802.11 Modulated Output Power (in dBm)																																							
			SISO Antenna H												SISO Antenna J												SISO in MIMO															
			b		g		n		ac		ax (5G)		be (5G)		b		g		n		ac		ax (5G)		be (5G)		b (CDD + STBC)		g (CDD + STBC)		n (CDD + STBC, SDM)		ac (CDD + STBC, SDM)		ax (5G) (CDD + STBC, SDM)		be (5G) (CDD + STBC, SDM)						
Maximum / Nominal Power			Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.				
SISO + 1 (Head)	2.4 GHz WLAN	2.4G GHz	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0				

2.3.3 5 GHz WLAN Output Power

The below table is applicable is applicable in the following conditions:

- Pmax

Power Level	Mode	Band	IEEE 802.11 Modulated Output Power (in dBm)																																							
			SISO Antenna H												SISO Antenna E												SISO in MIMO															
			a		n		ac		ax (5G)		be (5G)				a		n		ac		ax (5G)		be (5G)				a (CDD + STBC)		n (CDD + STBC, SDM)		ac (CDD + STBC, SDM)		ax (5G) (CDD + STBC, SDM)		be (5G) (CDD + STBC, SDM)						
Maximum / Nominal Power			Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.			Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.			Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.				
Pmax	5 GHz WiFi (20MHz BW)	UNII-1	18.0 ch. 36: 17.0	17.0 16.0	18.0 ch. 36: 17.0	17.0 16.0	18.0 ch. 36: 17.0	17.0 16.0	16.0	15.0	16.0	15.0			18.0 ch. 36: 17.0	17.0 16.0	18.0 ch. 36: 17.0	17.0 16.0	18.0 ch. 36: 17.0	17.0 16.0	16.0	15.0	16.0	15.0			18.0 ch. 36: 17.0	17.0 16.0	18.0 ch. 36: 17.0	17.0 16.0	18.0 ch. 36: 17.0	17.0 16.0	16.0	15.0	16.0	15.0				
		UNII-2A	18.0 ch. 64: 17.0	17.0 16.0	18.0 ch. 64: 17.0	17.0 16.0	18.0 ch. 64: 17.0	17.0 16.0	16.0	15.0	16.0	15.0			18.0 ch. 64: 17.0	17.0 16.0	18.0 ch. 64: 17.0	17.0 16.0	18.0 ch. 64: 17.0	17.0 16.0	16.0	15.0	16.0	15.0			18.0 ch. 64: 17.0	17.0 16.0	18.0 ch. 64: 17.0	17.0 16.0	18.0 ch. 64: 17.0	17.0 16.0	16.0	15.0	16.0	15.0				
		UNII-2C	18.0	17.0	18.0	17.0	18.0	17.0	16.0	15.0	16.0	15.0			18.0	17.0	18.0	17.0	18.0	17.0	16.0	15.0	16.0	15.0			18.0	17.0	18.0	17.0	18.0	17.0	16.0	15.0	16.0	15.0				
		UNII-3	18.0	17.0	18.0	17.0	18.0	17.0	16.0	15.0	16.0	15.0			18.0	17.0	18.0	17.0	18.0	17.0	16.0	15.0	16.0	15.0			18.0	17.0	18.0	17.0	18.0	17.0	16.0	15.0	16.0	15.0				
		UNII-4	18.0	17.0	18.0	17.0	18.0	17.0	16.0	15.0	16.0	15.0			18.0	17.0	18.0	17.0	18.0	17.0	16.0	15.0	16.0	15.0			18.0	17.0	18.0	17.0	18.0	17.0	16.0	15.0	16.0	15.0				
	5 GHz WiFi (40MHz BW)	UNII-1			16.0 ch. 38: 14.5	15.0 13.5	16.0 ch. 38: 14.5	15.0 13.5	16.0 ch. 38: 14.0	15.0 13.0	16.0 ch. 38: 14.0	15.0 13.0					16.0 ch. 38: 14.5	15.0 13.5	16.0 ch. 38: 14.5	15.0 13.5	16.0 ch. 38: 14.0	15.0 13.0	16.0 ch. 38: 14.0	15.0 13.0					16.0 ch. 38: 14.5	15.0 13.5	16.0 ch. 38: 14.5	15.0 13.5	16.0 ch. 38: 14.0	15.0 13.0	16.0 ch. 38: 14.0	15.0 13.0						
		UNII-2A			16.0 ch. 62: 14.5	15.0 13.5	16.0 ch. 62: 14.5	15.0 13.5	16.0 ch. 62: 14.0	15.0 13.0	16.0 ch. 62: 14.0	15.0 13.0					16.0 ch. 62: 14.5	15.0 13.5	16.0 ch. 62: 14.5	15.0 13.5	16.0 ch. 62: 14.0	15.0 13.0	16.0 ch. 62: 14.0	15.0 13.0					16.0 ch. 62: 14.5	15.0 13.5	16.0 ch. 62: 14.5	15.0 13.5	16.0 ch. 62: 14.0	15.0 13.0	16.0 ch. 62: 14.0	15.0 13.0						
		UNII-2C			16.0 ch. 102: 14.5	15.0 13.5	16.0 ch. 102: 14.5	15.0 13.5	16.0 ch. 102: 14.5	15.0 13.5	16.0 ch. 102: 14.5	15.0 13.5					16.0 ch. 102: 14.5	15.0 13.5	16.0 ch. 102: 14.5	15.0 13.5	16.0 ch. 102: 14.5	15.0 13.5	16.0 ch. 102: 14.5	15.0 13.5					16.0 ch. 102: 14.5	15.0 13.5	16.0 ch. 102: 14.5	15.0 13.5	16.0 ch. 102: 14.5	15.0 13.5	16.0 ch. 102: 14.5	15.0 13.5						
		UNII-3			16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0					16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0					16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0						
		UNII-4			16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0					16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0					16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0						
	5 GHz WiFi (80MHz BW)	UNII-1					12.0	11.0	11.5	10.5	11.5	10.5							12.0	11.0	11.5	10.5	11.5	10.5							12.0	11.0	11.5	10.5	11.5	10.5						
		UNII-2A					13.0	12.0	12.5	11.5	12.5	11.5							13.0	12.0	12.5	11.5	12.5	11.5							13.0	12.0	12.5	11.5	12.5	11.5						
		UNII-2C					15.0 ch. 106: 12.0	14.0 11.0	15.0 ch. 106: 12.0	14.0 11.0	15.0 ch. 106: 12.0	14.0 11.0							15.0 ch. 106: 12.0	14.0 11.0	15.0 ch. 106: 12.0	14.0 11.0	15.0 ch. 106: 12.0	14.0 11.0							15.0 ch. 106: 12.0	14.0 11.0	15.0 ch. 106: 12.0	14.0 11.0	15.0 ch. 106: 12.0	14.0 11.0						
		UNII-3					15.0	14.0	15.0	14.0	15.0	14.0							15.0	14.0	15.0	14.0	15.0	14.0							15.0	14.0	15.0	14.0	15.0	14.0						
		UNII-4					15.0	14.0	15.0	14.0	15.0	14.0							15.0	14.0	15.0	14.0	15.0	14.0							15.0	14.0	15.0	14.0	15.0	14.0						
	5 GHz WiFi (160MHz BW)	UNII-1/2A					14.0	13.0	14.0	13.0	14.0	13.0							14.0	13.0	14.0	13.0	14.0	13.0							14.0	13.0	14.0	13.0	14.0	13.0						
		UNII-2C					14.0	13.0	14.0	13.0	14.0	13.0							14.0	13.0	14.0	13.0	14.0	13.0							14.0	13.0	14.0	13.0	14.0	13.0						
		UNII-3/4					14.0	13.0	14.0	13.0	14.0	13.0							14.0	13.0	14.0	13.0	14.0	13.0							14.0	13.0	14.0	13.0	14.0	13.0						

The below table is applicable is applicable in the following conditions:

- DSI=0 (Body-worn, Hotspot or Phablet

Power Level	Mode	Band	IEEE 802.11 Modulated Output Power (in dBm)																																							
			SISO Antenna H												SISO Antenna E												SISO in MIMO															
			a		n		ac		ax (5G)		be (5G)				a		n		ac		ax (5G)		be (5G)				a (CDD + STBC)		n (CDD + STBC, SDM)		ac (CDD + STBC, SDM)		ax (5G) (CDD + STBC, SDM)		be (5G) (CDD + STBC, SDM)						
Maximum / Nominal Power			Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.			Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.			Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.				
0_Body-Worn, Hotspot, or Phablet	5 GHz WiFi (20MHz BW)	UNII-1	17.0	16.0	17.0	16.0	17.0	16.0	16.0	15.0	16.0	15.0			17.0	16.0	17.0	16.0	17.0	16.0	16.0	15.0	16.0	15.0			17.0	16.0	17.0	16.0	17.0	16.0	16.0	15.0	16.0	15.0				
		UNII-2A	17.0	16.0	17.0	16.0	17.0	16.0	16.0	15.0	16.0	15.0			17.0	16.0	17.0	16.0	17.0	16.0	16.0	15.0	16.0	15.0			17.0	16.0	17.0	16.0	17.0	16.0	16.0	15.0	16.0	15.0				
		UNII-2C	17.0	16.0	17.0	16.0	17.0	16.0	16.0	15.0	16.0	15.0			17.0	16.0	17.0	16.0	17.0	16.0	16.0	15.0	16.0	15.0			17.0	16.0	17.0	16.0	17.0	16.0	16.0	15.0	16.0	15.0				
		UNII-3	17.0	16.0	17.0	16.0	17.0	16.0	16.0	15.0	16.0	15.0			17.0	16.0	17.0	16.0	17.0	16.0	16.0	15.0	16.0	15.0			17.0	16.0	17.0	16.0	17.0	16.0	16.0	15.0	16.0	15.0				
		UNII-4	17.0	16.0	17.0	16.0	17.0	16.0	16.0	15.0	16.0	15.0			17.0	16.0	17.0	16.0	17.0	16.0	16.0	15.0	16.0	15.0			17.0	16.0	17.0	16.0	17.0	16.0	16.0	15.0	16.0	15.0				
	5 GHz WiFi (40MHz BW)	UNII-1			16.0 ch. 38: 14.5	15.0 13.5	16.0 ch. 38: 14.5	15.0 13.5	16.0 ch. 38: 14.0	15.0 13.0	16.0 ch. 38: 14.0	15.0 13.0					16.0 ch. 38: 14.5	15.0 13.5	16.0 ch. 38: 14.5	15.0 13.5	16.0 ch. 38: 14.0	15.0 13.0	16.0 ch. 38: 14.0	15.0 13.0					16.0 ch. 38: 14.5	15.0 13.5	16.0 ch. 38: 14.5	15.0 13.5	16.0 ch. 38: 14.0	15.0 13.0	16.0 ch. 38: 14.0	15.0 13.0						
		UNII-2A			16.0 ch. 62: 14.5	15.0 13.5	16.0 ch. 62: 14.5	15.0 13.5	16.0 ch. 62: 14.0	15.0 13.0	16.0 ch. 62: 14.0	15.0 13.0					16.0 ch. 62: 14.5	15.0 13.5	16.0 ch. 62: 14.5	15.0 13.5	16.0 ch. 62: 14.0	15.0 13.0	16.0 ch. 62: 14.0	15.0 13.0					16.0 ch. 62: 14.5	15.0 13.5	16.0 ch. 62: 14.5	15.0 13.5	16.0 ch. 62: 14.0	15.0 13.0	16.0 ch. 62: 14.0	15.0 13.0						
		UNII-2C			16.0 ch. 102: 14.5	15.0 13.5	16.0 ch. 102: 14.5	15.0 13.5	16.0 ch. 102: 14.5	15.0 13.5	16.0 ch. 102: 14.5	15.0 13.5					16.0 ch. 102: 14.5	15.0 13.5	16.0 ch. 102: 14.5	15.0 13.5	16.0 ch. 102: 14.5	15.0 13.5	16.0 ch. 102: 14.5	15.0 13.5					16.0 ch. 102: 14.5	15.0 13.5	16.0 ch. 102: 14.5	15.0 13.5	16.0 ch. 102: 14.5	15.0 13.5	16.0 ch. 102: 14.5	15.0 13.5						
		UNII-3			16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0					16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0					16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0						
		UNII-4			16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0					16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0					16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0						
	5 GHz WiFi (80MHz BW)	UNII-1					12.0	11.0	11.5	10.5	11.5	10.5							12.0	11.0	11.5	10.5	11.5	10.5							12.0	11.0	11.5	10.5	11.5	10.5						
		UNII-2A					13.0	12.0	12.5	11.5	12.5	11.5							13.0	12.0	12.5	11.5	12.5	11.5							13.0	12.0	12.5	11.5	12.5	11.5						
		UNII-2C					15.0 ch. 106: 12.0	14.0 11.0	15.0 ch. 106: 12.0	14.0 11.0	15.0 ch. 106: 12.0	14.0 11.0							15.0 ch. 106: 12.0	14.0 11.0	15.0 ch. 106: 12.0	14.0 11.0	15.0 ch. 106: 12.0	14.0 11.0							15.0 ch. 106: 12.0	14.0 11.0	15.0 ch. 106: 12.0	14.0 11.0	15.0 ch. 106: 12.0	14.0 11.0						
		UNII-3					15.0	14.0	15.0	14.0	15.0	14.0							15.0	14.0	15.0	14.0	15.0	14.0							15.0	14.0	15.0	14.0	15.0	14.0						
		UNII-4					15.0	14.0	15.0	14.0	15.0	14.0							15.0	14.0	15.0	14.0	15.0	14.0							15.0	14.0	15.0	14.0	15.0	14.0						
	5 GHz WiFi (160MHz BW)	UNII-1/2A					14.0	13.0	14.0	13.0	14.0	13.0							14.0	13.0	14.0	13.0	14.0	13.0							14.0	13.0	14.0	13.0	14.0	13.0						
		UNII-2C					14.0	13.0	14.0	13.0	14.0	13.0							14.0	13.0	14.0	13.0	14.0	13.0							14.0	13.0	14.0	13.0	14.0	13.0						
		UNII-3/4					14.0	13.0	14.0	13.0	14.0	13.0							14.0	13.0	14.0	13.0	14.0	13.0							14.0	13.0	14.0	13.0	14.0	13.0						

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The below table is applicable is applicable in the following conditions:

- DSI=1 (RCV)

Power Level	Mode	Band	IEEE 802.11 Modulated Output Power (in dBm)																											
			SISO Antenna H										SISO Antenna E										SISO in MIMO							
			a		n		ac		ax (SU)		be (SU)		a		n		ac		ax (SU)		be (SU)		a (CDD + STBC)		n (CDD + STBC, SDM)		ac (CDD + STBC, SDM)		ax (SU) (CDD + STBC, SDM)		be (SU) (CDD + STBC, SDM)	
Maximum / Nominal Power			Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
1_Head	5 GHz WIFI (20MHz BW)	UNII-1	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0
		UNII-2A	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0
		UNII-2C	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0
		UNII-3	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0
		UNII-4	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0
	5 GHz WIFI (40MHz BW)	UNII-1			14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0			14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0			14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0
		UNII-2A			14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0			14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0			14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0
		UNII-2C			14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0			14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0			14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0
		UNII-3			14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0			14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0			14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0
		UNII-4			14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0			14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0			14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0
	5 GHz WIFI (80MHz BW)	UNII-1			12.0	11.0	11.5	10.5	11.5	10.5					12.0	11.0	11.5	10.5	11.5	10.5					12.0	11.0	11.5	10.5	11.5	10.5		
		UNII-2A			13.0	12.0	12.5	11.5	12.5	11.5					13.0	12.0	12.5	11.5	12.5	11.5					13.0	12.0	12.5	11.5	12.5	11.5		
		UNII-2C			14.0 ch 106: 12.0	13.0 11.0	14.0 ch 106: 12.0	13.0 11.0	14.0 ch 106: 12.0	13.0 11.0					14.0 ch 106: 12.0	13.0 11.0	14.0 ch 106: 12.0	13.0 11.0	14.0 ch 106: 12.0	13.0 11.0					14.0 ch 106: 12.0	13.0 11.0	14.0 ch 106: 12.0	13.0 11.0	14.0 ch 106: 12.0	13.0 11.0		
		UNII-3			14.0	13.0	14.0	13.0	14.0	13.0					14.0	13.0	14.0	13.0	14.0	13.0					14.0	13.0	14.0	13.0	14.0	13.0		
		UNII-4			14.0	13.0	14.0	13.0	14.0	13.0					14.0	13.0	14.0	13.0	14.0	13.0					14.0	13.0	14.0	13.0	14.0	13.0		
	5 GHz WIFI (160MHz BW)	UNII-1/2A			14.0	13.0	14.0	13.0	14.0	13.0					14.0	13.0	14.0	13.0	14.0	13.0					14.0	13.0	14.0	13.0	14.0	13.0		
		UNII-2C			14.0	13.0	14.0	13.0	14.0	13.0					14.0	13.0	14.0	13.0	14.0	13.0					14.0	13.0	14.0	13.0	14.0	13.0		
		UNII-3/4			14.0	13.0	14.0	13.0	14.0	13.0					14.0	13.0	14.0	13.0	14.0	13.0					14.0	13.0	14.0	13.0	14.0	13.0		

2.3.4 6 GHz WLAN Output Power

The below table is applicable is applicable in the following conditions:

- Pmax

Power Level	Mode	Band	IEEE 802.11 Modulated Output Power (in dBm)																											
			SISO Antenna H										SISO Antenna E										SISO in MIMO							
			a		ax (SU)		be (SU)						a		ax (SU)		be (SU)						a (CDD + STBC)		ax (SU) (CDD + STBC, SDM)		be (SU) (CDD + STBC, SDM)			
Maximum / Nominal Power			Max	Nom.	Max	Nom.	Max	Nom.					Max	Nom.	Max	Nom.	Max	Nom.					Max	Nom.	Max	Nom.	Max	Nom.		
Pmax	6 GHz WIFI (20MHz BW) - LPI	UNII-5/6/7/8	8.0	7.0	11.0 ch. 2: 9.0	10.0 8.0	11.0 ch. 2: 9.0	10.0 8.0					8.0	7.0	11.0 ch. 2: 9.0	10.0 8.0	11.0 ch. 2: 9.0	10.0 8.0					8.0	7.0	11.0 ch. 2: 9.0	10.0 8.0	11.0 ch. 2: 9.0	10.0 8.0		
	6 GHz WIFI (40MHz BW) - LPI	UNII-5/6/7/8			11.0	10.0	11.0	10.0							11.0	10.0	11.0	10.0							11.0	10.0	11.0	10.0		
	6 GHz WIFI (80MHz BW) - LPI	UNII-5/6/7/8			11.0	10.0	11.0	10.0							11.0	10.0	11.0	10.0							11.0	10.0	11.0	10.0		
	6 GHz WIFI (160MHz BW) - LPI	UNII-5/6/7/8			11.0	10.0	11.0	10.0							11.0	10.0	11.0	10.0							11.0	10.0	11.0	10.0		
	6 GHz WIFI (320MHz BW) - LPI	UNII-5/6/7/8					11.0	10.0									11.0	10.0									11.0	10.0		

Power Level	Mode	Band	IEEE 802.11 Modulated Output Power (in dBm)																											
			SISO Antenna H										SISO Antenna E										SISO in MIMO							
			a		ax (SU)		be (SU)						a		ax (SU)		be (SU)						a (CDD + STBC)		ax (SU) (CDD + STBC, SDM)		be (SU) (CDD + STBC, SDM)			
Maximum / Nominal Power			Max	Nom.	Max	Nom.	Max	Nom.					Max	Nom.	Max	Nom.	Max	Nom.					Max	Nom.	Max	Nom.	Max	Nom.		
Pmax	6 GHz WIFI (20MHz BW) - SP	UNII-5/7	17.0 ch. 2: 9.0	16.0 8.0	17.0 ch. 2: 9.0	16.0 8.0	17.0 ch. 2: 9.0	16.0 8.0					17.0 ch. 2: 9.0	16.0 8.0	17.0 ch. 2: 9.0	16.0 8.0	17.0 ch. 2: 9.0	16.0 8.0					17.0 ch. 2: 9.0	16.0 8.0	17.0 ch. 2: 9.0	16.0 8.0	17.0 ch. 2: 9.0	16.0 8.0		
	6 GHz WIFI (40MHz BW) - SP	UNII-5/7			17.0	16.0	17.0	16.0							17.0	16.0	17.0	16.0							17.0	16.0	17.0	16.0		
	6 GHz WIFI (80MHz BW) - SP	UNII-5/7			17.0	16.0	17.0	16.0							17.0	16.0	17.0	16.0							17.0	16.0	17.0	16.0		
	6 GHz WIFI (160MHz BW) - SP	UNII-5/7			17.0	16.0	17.0	16.0							17.0	16.0	17.0	16.0							17.0	16.0	17.0	16.0		
	6 GHz WIFI (320MHz BW) - SP	UNII-5/7					17.0	16.0									17.0	16.0									17.0	16.0		

Power Level	Mode	Band	IEEE 802.11 Modulated Output Power (in dBm)																											
			SISO Antenna H										SISO Antenna E										MIMO SISO in MIMO							
			a		ax (SU)		be (SU)						a		ax (SU)		be (SU)						a (CDD + STBC)		ax (SU) (CDD + STBC, SDM)		be (SU) (CDD + STBC, SDM)			
Maximum / Nominal Power			Max	Nom.	Max	Nom.	Max	Nom.					Max	Nom.	Max	Nom.	Max	Nom.					Max	Nom.	Max	Nom.	Max	Nom.		
Pmax	6 GHz WIFI (20MHz BW) - VLP	UNII-5	6.0	5.0	6.0	5.0	6.0	5.0					6.0	5.0	6.0	5.0	6.0	5.0					6.0	5.0	6.0	5.0	6.0	5.0		
	6 GHz WIFI (40MHz BW) - VLP	UNII-5			6.0	5.0	6.0	5.0							6.0	5.0	6.0	5.0							6.0	5.0	6.0	5.0		
	6 GHz WIFI (80MHz BW) - VLP	UNII-5			6.0	5.0	6.0	5.0							6.0	5.0	6.0	5.0							6.0	5.0	6.0	5.0		
	6 GHz WIFI (160MHz BW) - VLP	UNII-5			6.0	5.0	6.0	5.0							6.0	5.0	6.0	5.0							6.0	5.0	6.0	5.0		
	6 GHz WIFI (320MHz BW) - VLP	UNII-5					6.0	5.0									6.0	5.0									6.0	5.0		

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The below table is applicable is applicable in the following conditions:

- DSI=0 (Body-worn or Phablet)

Power Level	Mode	Band	IEEE 802.11 Modulated Output Power (in dBm)																	
			SISO Antenna H						SISO Antenna E						SISO in MIMO					
			a		ax (SU)		be (SU)		a		ax (SU)		be (SU)		a (CDD + STBC)		ax (SU) (CDD + STBC, SDM)		be (SU) (CDD + STBC, SDM)	
Maximum / Nominal Power			Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
DSI = 0 (Body-Worn, Hotspot, or Phablet)	6 GHz WIFI (20MHz BW) - LPI	UNII-5/6/7/8	8.0	7.0	11.0 ch. 2: 9.0	10.0 8.0	11.0 ch. 2: 9.0	10.0 8.0	8.0	7.0	11.0 ch. 2: 9.0	10.0 8.0	11.0 ch. 2: 9.0	10.0 8.0	8.0	7.0	11.0 ch. 2: 9.0	10.0 8.0	11.0 ch. 2: 9.0	10.0 8.0
	6 GHz WIFI (40MHz BW) - LPI	UNII-5/6/7/8			11.0	10.0	11.0	10.0			11.0	10.0	11.0	10.0			11.0	10.0	11.0	10.0
	6 GHz WIFI (80MHz BW) - LPI	UNII-5/6/7/8			11.0	10.0	11.0	10.0			11.0	10.0	11.0	10.0			11.0	10.0	11.0	10.0
	6 GHz WIFI (160MHz BW) - LPI	UNII-5/6/7/8			11.0	10.0	11.0	10.0			11.0	10.0	11.0	10.0			11.0	10.0	11.0	10.0
	6 GHz WIFI (320MHz BW) - LPI	UNII-5/6/7/8					11.0	10.0					11.0	10.0					11.0	10.0

Power Level	Mode	Band	IEEE 802.11 Modulated Output Power (in dBm)																	
			SISO Antenna H						SISO Antenna E						SISO in MIMO					
			a		ax (SU)		be (SU)		a		ax (SU)		be (SU)		a (CDD + STBC)		ax (SU) (CDD + STBC, SDM)		be (SU) (CDD + STBC, SDM)	
Maximum / Nominal Power			Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
DSI = 0 (Body-Worn, Hotspot, or Phablet)	6 GHz WIFI (20MHz BW) - SP	UNII-5/7	11.5 ch. 2: 9.0	10.5 8.0	11.5 ch. 2: 9.0	10.5 8.0	11.5 ch. 2: 9.0	10.5 8.0	11.5 ch. 2: 9.0	10.5 8.0	11.5 ch. 2: 9.0	10.5 8.0	11.5 ch. 2: 9.0	10.5 8.0	11.5 ch. 2: 9.0	10.5 8.0	11.5 ch. 2: 9.0	10.5 8.0	11.5 ch. 2: 9.0	10.5 8.0
	6 GHz WIFI (40MHz BW) - SP	UNII-5/7			11.5	10.5	11.5	10.5			11.5	10.5	11.5	10.5			11.5	10.5	11.5	10.5
	6 GHz WIFI (80MHz BW) - SP	UNII-5/7			11.5	10.5	11.5	10.5			11.5	10.5	11.5	10.5			11.5	10.5	11.5	10.5
	6 GHz WIFI (160MHz BW) - SP	UNII-5/7			11.5	10.5	11.5	10.5			11.5	10.5	11.5	10.5			11.5	10.5	11.5	10.5
	6 GHz WIFI (320MHz BW) - SP	UNII-5/7					11.5	10.5					11.5	10.5					11.5	10.5

Power Level	Mode	Band	IEEE 802.11 Modulated Output Power (in dBm)																	
			SISO Antenna H						SISO Antenna E						MIMO SISO in MIMO					
			a		ax (SU)		be (SU)		a		ax (SU)		be (SU)		a (CDD + STBC)		ax (SU) (CDD + STBC, SDM)		be (SU) (CDD + STBC, SDM)	
Maximum / Nominal Power			Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
Pmax	6 GHz WIFI (20MHz BW) - VLP	UNII-5	6.0	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0	5.0
	6 GHz WIFI (40MHz BW) - VLP	UNII-5			6.0	5.0	6.0	5.0			6.0	5.0	6.0	5.0			6.0	5.0	6.0	5.0
	6 GHz WIFI (80MHz BW) - VLP	UNII-5			6.0	5.0	6.0	5.0			6.0	5.0	6.0	5.0			6.0	5.0	6.0	5.0
	6 GHz WIFI (160MHz BW) - VLP	UNII-5			6.0	5.0	6.0	5.0			6.0	5.0	6.0	5.0			6.0	5.0	6.0	5.0
	6 GHz WIFI (320MHz BW) - VLP	UNII-5					6.0	5.0					6.0	5.0					6.0	5.0

The below table is applicable is applicable in the following conditions:

- DSI=1 (RCV)

Power Level	Mode	Band	IEEE 802.11 Modulated Output Power (in dBm)																	
			SISO Antenna H						SISO Antenna E						SISO in MIMO MIMO					
			a		ax (SU)		be (SU)		a		ax (SU)		be (SU)		a (CDD + STBC)		ax (SU) (CDD + STBC, SDM)		be (SU) (CDD + STBC, SDM)	
Maximum / Nominal Power			Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
DSI = 1 (Head)	6 GHz WIFI (20MHz BW) - LPI	UNII-5/6/7/8	8.0	7.0	10.0 ch. 2: 9.0	9.0 8.0	10.0 ch. 2: 9.0	9.0 8.0	8.0	7.0	10.0 ch. 2: 9.0	9.0 8.0	10.0 ch. 2: 9.0	9.0 8.0	8.0	7.0	10.0 ch. 2: 9.0	9.0 8.0	10.0 ch. 2: 9.0	9.0 8.0
	6 GHz WIFI (40MHz BW) - LPI	UNII-5/6/7/8			10.0	9.0	10.0	9.0			10.0	9.0	10.0	9.0			10.0	9.0	10.0	9.0
	6 GHz WIFI (80MHz BW) - LPI	UNII-5/6/7/8			10.0	9.0	10.0	9.0			10.0	9.0	10.0	9.0			10.0	9.0	10.0	9.0
	6 GHz WIFI (160MHz BW) - LPI	UNII-5/6/7/8			10.0	9.0	10.0	9.0			10.0	9.0	10.0	9.0			10.0	9.0	10.0	9.0
	6 GHz WIFI (320MHz BW) - LPI	UNII-5/6/7/8					10.0	9.0					10.0	9.0					10.0	9.0

Power Level	Mode	Band	IEEE 802.11 Modulated Output Power (in dBm)																	
			SISO Antenna H						SISO Antenna E						SISO in MIMO MIMO					
			a		ax (SU)		be (SU)		a		ax (SU)		be (SU)		a (CDD + STBC)		ax (SU) (CDD + STBC, SDM)		be (SU) (CDD + STBC, SDM)	
Maximum / Nominal Power			Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
DSI = 1 (Head)	6 GHz WIFI (20MHz BW) - SP	UNII-5/7	10.0 ch. 2: 9.0	9.0 8.0	10.0 ch. 2: 9.0	9.0 8.0	10.0 ch. 2: 9.0	9.0 8.0	10.0 ch. 2: 9.0	9.0 8.0	10.0 ch. 2: 9.0	9.0 8.0	10.0 ch. 2: 9.0	9.0 8.0	10.0 ch. 2: 9.0	9.0 8.0	10.0 ch. 2: 9.0	9.0 8.0	10.0 ch. 2: 9.0	9.0 8.0
	6 GHz WIFI (40MHz BW) - SP	UNII-5/7			10.0	9.0	10.0	9.0			10.0	9.0	10.0	9.0			10.0	9.0	10.0	9.0
	6 GHz WIFI (80MHz BW) - SP	UNII-5/7			10.0	9.0	10.0	9.0			10.0	9.0	10.0	9.0			10.0	9.0	10.0	9.0
	6 GHz WIFI (160MHz BW) - SP	UNII-5/7			10.0	9.0	10.0	9.0			10.0	9.0	10.0	9.0			10.0	9.0	10.0	9.0
	6 GHz WIFI (320MHz BW) - SP	UNII-5/7					10.0	9.0					10.0	9.0					10.0	9.0

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Power Level	Mode	Band	IEEE 802.11 Modulated Output Power (in dBm)																	
			SISO Antenna H						SISO Antenna E						MIMO SISO in MIMO					
			a		ax (SU)		be (SU)		a		ax (SU)		be (SU)		a (CDD + STBC)		ax (SU) (CDD + STBC, SDM)		be (SU) (CDD + STBC, SDM)	
Maximum / Nominal Power			Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
DSI = 1 (Head)	6 GHz WIFI (20MHz BW) - VLP	UNII-5	6.0	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0	5.0
	6 GHz WIFI (40MHz BW) - VLP	UNII-5			6.0	5.0	6.0	5.0			6.0	5.0	6.0	5.0			6.0	5.0	6.0	5.0
	6 GHz WIFI (80MHz BW) - VLP	UNII-5			6.0	5.0	6.0	5.0			6.0	5.0	6.0	5.0			6.0	5.0	6.0	5.0
	6 GHz WIFI (160MHz BW) - VLP	UNII-5			6.0	5.0	6.0	5.0			6.0	5.0	6.0	5.0			6.0	5.0	6.0	5.0
	6 GHz WIFI (320MHz BW) - VLP	UNII-5					6.0	5.0					6.0	5.0					6.0	5.0

2.3.5 2.4 GHz Maximum Bluetooth Output Power

The below table is applicable is applicable in the following conditions:

- Pmax, DSI=0 (Body-worn, Hotspot or Phablet)

Mode	Data Rate	Modulated Output Power (in dBm)					
		Single Antenna				Each Chain in Dual Mode	
		Antenna H		Antenna J		MIMO	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.
Bluetooth	1Mbps	18.0	17.0	18.0	17.0	12.0	11.0
Bluetooth EDR	2Mbps	15.0	14.0	15.0	14.0	10.0	9.0
Bluetooth EDR	3Mbps	15.0	14.0	15.0	14.0	10.0	9.0
Bluetooth LE	1Mbps	19.0	18.0	19.0	18.0	12.5	11.5
Bluetooth LE	2Mbps	19.0	18.0	19.0	18.0	12.5	11.5
Bluetooth LE	125kbps	8.5	7.5	8.5	7.5	N/A	N/A
Bluetooth LE	500kbps	8.5	7.5	8.5	7.5	N/A	N/A

The below table is applicable is applicable in the following conditions:

- DSI=1 (RCV)

Mode	Data Rate	Modulated Output Power (in dBm)					
		Single Antenna				Each Chain in Dual Mode	
		Antenna H		Antenna J		MIMO	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.
Bluetooth	1Mbps	12.0	11.0	12.0	11.0	12.0	11.0
Bluetooth EDR	2Mbps	12.0	11.0	12.0	11.0	10.0	9.0
Bluetooth EDR	3Mbps	12.0	11.0	12.0	11.0	10.0	9.0
Bluetooth LE	1Mbps	12.5	11.5	12.5	11.5	12.5	11.5
Bluetooth LE	2Mbps	12.5	11.5	12.5	11.5	12.5	11.5
Bluetooth LE	125kbps	8.5	7.5	8.5	7.5	N/A	N/A
Bluetooth LE	500kbps	8.5	7.5	8.5	7.5	N/A	N/A

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2.4 DUT Antenna Locations

The overall dimensions of this device are > 9 x 5 cm. A diagram showing the location of the device antennas can be found in DUT Antenna Diagram & SAR Test Setup Photographs Appendix. Since the display diagonal dimension of this device is > 150 mm and <200 mm, it is considered a “phablet.” Exact antenna dimensions and separation distances are shown in the Technical Descriptions in the FCC filing.

Table 2-1
Device Edges/Sides for SAR Testing

Antenna	Back	Front	Top	Bottom	Right	Left
A	Yes	Yes	No	Yes	Yes	Yes
B	Yes	Yes	No	Yes	No	Yes
C	Yes	Yes	No	Yes	No	Yes
D	Yes	Yes	No	Yes	Yes	No
E	Yes	Yes	Yes	No	Yes	No
F	Yes	Yes	Yes	No	No	Yes
I	Yes	Yes	Yes	No	No	Yes
H	Yes	Yes	Yes	No	No	Yes
J	Yes	Yes	Yes	No	Yes	No
MIMO	Yes	Yes	Yes	No	Yes	Yes

Note: Particular DUT edges were not required to be evaluated for wireless router SAR or phablet SAR if the edges were greater than 2.5 cm from the transmitting antenna according to FCC KDB Publication 941225 D06v02r01 Section III and FCC KDB Publication 648474 D01v06r03. The distances between the transmit antennas and the edges of the device are included in the filing. When wireless router mode is enabled, NTN, U-NII-1, U-NII-2A, U-NII-2C, U-NII-4, and WIFI6E operations are disabled.

2.5 Near Field Communications (NFC) Antenna

This DUT has NFC operations. The NFC antenna is integrated into the device for this model. Therefore, all SAR tests were performed with the device which already incorporates the NFC antenna. A diagram showing the location of the NFC antenna can be found in DUT Antenna Diagram & SAR Test Setup Photographs Appendix.

2.6 Simultaneous Transmission Capabilities

According to FCC KDB Publication 447498 D01v06, transmitters are considered to be operating simultaneously when there is overlapping transmission, with the exception of transmissions during network hand-offs with maximum hand-off duration less than 30 seconds.

This device contains multiple transmitters that may operate simultaneously, and therefore requires a simultaneous transmission analysis according to FCC KDB Publication 447498 D01v06 procedures.

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Table 2-2
Simultaneous Transmission Scenarios

No.	Capable Transmit Configuration	Head	Body-Worn Accessory	Wireless Router	Phablet	Notes
1	GSM voice + 2.4 GHz Bluetooth SISO	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered only on Ant H
2	GSM voice + 2.4 GHz Bluetooth Dual	Yes	Yes	N/A	Yes	
3	GSM voice + 2.4 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
4	GSM voice + 2.4 GHz WLAN SISO	Yes	Yes	N/A	Yes	
5	GSM voice + 5 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
6	GSM voice + 5 GHz WLAN SISO	Yes	Yes	N/A	Yes	
7	GSM voice + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
8	GSM voice + 6 GHz WLAN SISO	Yes	Yes	N/A	Yes	
9	GSM voice + 2.4 GHz WLAN MIMO + 5 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
10	GSM voice + 2.4 GHz WLAN MIMO + 5 GHz WLAN SISO	Yes	Yes	N/A	Yes	
11	GSM voice + 2.4 GHz WLAN MIMO + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
12	GSM voice + 2.4 GHz WLAN MIMO + 6 GHz WLAN SISO	Yes	Yes	N/A	Yes	
13	GSM voice + 2.4 GHz WLAN SISO + 5 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
14	GSM voice + 2.4 GHz WLAN SISO + 5 GHz WLAN SISO	Yes	Yes	N/A	Yes	
15	GSM voice + 2.4 GHz WLAN SISO + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
16	GSM voice + 2.4 GHz WLAN SISO + 6 GHz WLAN SISO	Yes	Yes	N/A	Yes	
17	GSM voice + 2.4 GHz Bluetooth Ant H + 2.4 GHz WLAN Ant J	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered only on Ant H
18	GSM voice + 2.4 GHz Bluetooth SISO + 5 GHz WLAN MIMO	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered only on Ant H
19	GSM voice + 2.4 GHz Bluetooth SISO + 5 GHz WLAN SISO	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered only on Ant H
20	GSM voice + 2.4 GHz Bluetooth SISO + 6 GHz WLAN MIMO	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered only on Ant H
21	GSM voice + 2.4 GHz Bluetooth SISO + 6 GHz WLAN SISO	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered only on Ant H
22	GSM voice + 2.4 GHz Bluetooth Dual + 5 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
23	GSM voice + 2.4 GHz Bluetooth Dual + 5 GHz WLAN SISO	Yes	Yes	N/A	Yes	
24	GSM voice + 2.4 GHz Bluetooth Dual + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
25	GSM voice + 2.4 GHz Bluetooth Dual + 6 GHz WLAN SISO	Yes	Yes	N/A	Yes	
26	GSM voice + 2.4 GHz Bluetooth Ant H + 2.4 GHz WLAN Ant J + 5 GHz WLAN MIMO	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered only on Ant H
27	GSM voice + 2.4 GHz Bluetooth Ant H + 2.4 GHz WLAN Ant J + 5 GHz WLAN SISO	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered only on Ant H
28	GSM voice + 2.4 GHz Bluetooth Ant H + 2.4 GHz WLAN Ant J + 6 GHz WLAN MIMO	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered only on Ant H
29	GSM voice + 2.4 GHz Bluetooth Ant H + 2.4 GHz WLAN Ant J + 6 GHz WLAN SISO	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered only on Ant H
30	UMTS/LTE/NR + 2.4 GHz Bluetooth SISO	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered only on Ant H
31	UMTS/LTE/NR + 2.4 GHz Bluetooth Dual	Yes	Yes	N/A	Yes	
32	UMTS/LTE/NR + 2.4 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
33	UMTS/LTE/NR + 2.4 GHz WLAN SISO	Yes	Yes	Yes	Yes	
34	UMTS/LTE/NR + 5 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
35	UMTS/LTE/NR + 5 GHz WLAN SISO	Yes	Yes	Yes	Yes	
36	UMTS/LTE/NR + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
37	UMTS/LTE/NR + 6 GHz WLAN SISO	Yes	Yes	N/A	Yes	
38	UMTS/LTE/NR + 2.4 GHz WLAN MIMO + 5 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
39	UMTS/LTE/NR + 2.4 GHz WLAN MIMO + 5 GHz WLAN SISO	Yes	Yes	Yes	Yes	
40	UMTS/LTE/NR + 2.4 GHz WLAN MIMO + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
41	UMTS/LTE/NR + 2.4 GHz WLAN MIMO + 6 GHz WLAN SISO	Yes	Yes	N/A	Yes	
42	UMTS/LTE/NR + 2.4 GHz WLAN SISO + 5 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
43	UMTS/LTE/NR + 2.4 GHz WLAN SISO + 5 GHz WLAN SISO	Yes	Yes	Yes	Yes	
44	UMTS/LTE/NR + 2.4 GHz WLAN SISO + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
45	UMTS/LTE/NR + 2.4 GHz WLAN SISO + 6 GHz WLAN SISO	Yes	Yes	N/A	Yes	
46	UMTS/LTE/NR + 2.4 GHz Bluetooth Ant H + 2.4 GHz WLAN Ant J	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered only on Ant H
47	UMTS/LTE/NR + 2.4 GHz Bluetooth SISO + 5 GHz WLAN MIMO	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered only on Ant H
48	UMTS/LTE/NR + 2.4 GHz Bluetooth SISO + 5 GHz WLAN SISO	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered only on Ant H
49	UMTS/LTE/NR + 2.4 GHz Bluetooth SISO + 6 GHz WLAN MIMO	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered only on Ant H
50	UMTS/LTE/NR + 2.4 GHz Bluetooth SISO + 6 GHz WLAN SISO	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered only on Ant H
51	UMTS/LTE/NR + 2.4 GHz Bluetooth Dual + 5 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
52	UMTS/LTE/NR + 2.4 GHz Bluetooth Dual + 5 GHz WLAN SISO	Yes	Yes	N/A	Yes	
53	UMTS/LTE/NR + 2.4 GHz Bluetooth Dual + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
54	UMTS/LTE/NR + 2.4 GHz Bluetooth Dual + 6 GHz WLAN SISO	Yes	Yes	N/A	Yes	
55	UMTS/LTE/NR + 2.4 GHz Bluetooth Ant H + 2.4 GHz WLAN Ant J + 5 GHz WLAN MIMO	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered only on Ant H
56	UMTS/LTE/NR + 2.4 GHz Bluetooth Ant H + 2.4 GHz WLAN Ant J + 5 GHz WLAN SISO	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered only on Ant H
57	UMTS/LTE/NR + 2.4 GHz Bluetooth Ant H + 2.4 GHz WLAN Ant J + 6 GHz WLAN MIMO	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered only on Ant H
58	UMTS/LTE/NR + 2.4 GHz Bluetooth Ant H + 2.4 GHz WLAN Ant J + 6 GHz WLAN SISO	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered only on Ant H
59	LTE + NR	Yes	Yes	N/A	Yes	
60	LTE + NR + 2.4 GHz Bluetooth SISO	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered only on Ant H
61	LTE + NR + 2.4 GHz Bluetooth Dual	Yes	Yes	N/A	Yes	
62	LTE + NR + 2.4 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
63	LTE + NR + 2.4 GHz WLAN SISO	Yes	Yes	Yes	Yes	
64	LTE + NR + 5 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
65	LTE + NR + 5 GHz WLAN SISO	Yes	Yes	Yes	Yes	
66	LTE + NR + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
67	LTE + NR + 6 GHz WLAN SISO	Yes	Yes	N/A	Yes	
68	LTE + NR + 2.4 GHz WLAN MIMO + 5 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
69	LTE + NR + 2.4 GHz WLAN MIMO + 5 GHz WLAN SISO	Yes	Yes	Yes	Yes	
70	LTE + NR + 2.4 GHz WLAN MIMO + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
71	LTE + NR + 2.4 GHz WLAN MIMO + 6 GHz WLAN SISO	Yes	Yes	N/A	Yes	
72	LTE + NR + 2.4 GHz WLAN SISO + 5 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
73	LTE + NR + 2.4 GHz WLAN SISO + 5 GHz WLAN SISO	Yes	Yes	Yes	Yes	
74	LTE + NR + 2.4 GHz WLAN SISO + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
75	LTE + NR + 2.4 GHz WLAN SISO + 6 GHz WLAN SISO	Yes	Yes	N/A	Yes	
76	LTE + NR + 2.4 GHz Bluetooth Ant H + 2.4 GHz WLAN Ant J	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered only on Ant H
77	LTE + NR + 2.4 GHz Bluetooth SISO + 5 GHz WLAN MIMO	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered only on Ant H
78	LTE + NR + 2.4 GHz Bluetooth SISO + 5 GHz WLAN SISO	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered only on Ant H
79	LTE + NR + 2.4 GHz Bluetooth SISO + 6 GHz WLAN MIMO	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered only on Ant H
80	LTE + NR + 2.4 GHz Bluetooth SISO + 6 GHz WLAN SISO	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered only on Ant H
81	LTE + NR + 2.4 GHz Bluetooth Dual + 5 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
82	LTE + NR + 2.4 GHz Bluetooth Dual + 5 GHz WLAN SISO	Yes	Yes	N/A	Yes	
83	LTE + NR + 2.4 GHz Bluetooth Dual + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
84	LTE + NR + 2.4 GHz Bluetooth Dual + 6 GHz WLAN SISO	Yes	Yes	N/A	Yes	
85	LTE + NR + 2.4 GHz Bluetooth Ant H + 2.4 GHz WLAN Ant J + 5 GHz WLAN MIMO	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered only on Ant H
86	LTE + NR + 2.4 GHz Bluetooth Ant H + 2.4 GHz WLAN Ant J + 5 GHz WLAN SISO	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered only on Ant H
87	LTE + NR + 2.4 GHz Bluetooth Ant H + 2.4 GHz WLAN Ant J + 6 GHz WLAN MIMO	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered only on Ant H
88	LTE + NR + 2.4 GHz Bluetooth Ant H + 2.4 GHz WLAN Ant J + 6 GHz WLAN SISO	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered only on Ant H
89	GPRS/EDGE + 2.4 GHz Bluetooth SISO	N/A	N/A	Yes^	Yes	^ Bluetooth Tethering is considered only on Ant H
90	GPRS/EDGE + 2.4 GHz Bluetooth Dual	N/A	N/A	N/A	Yes	
91	GPRS/EDGE + 2.4 GHz WLAN MIMO	N/A	N/A	Yes	Yes	
92	GPRS/EDGE + 2.4 GHz WLAN SISO	N/A	N/A	Yes	Yes	
93	GPRS/EDGE + 5 GHz WLAN MIMO	N/A	N/A	Yes	Yes	
94	GPRS/EDGE + 5 GHz WLAN SISO	N/A	N/A	Yes	Yes	
95	GPRS/EDGE + 6 GHz WLAN MIMO	N/A	N/A	N/A	Yes	
96	GPRS/EDGE + 6 GHz WLAN SISO	N/A	N/A	N/A	Yes	
97	GPRS/EDGE + 2.4 GHz WLAN MIMO + 5 GHz WLAN MIMO	N/A	N/A	Yes	Yes	
98	GPRS/EDGE + 2.4 GHz WLAN MIMO + 5 GHz WLAN SISO	N/A	N/A	Yes	Yes	
99	GPRS/EDGE + 2.4 GHz WLAN MIMO + 6 GHz WLAN MIMO	N/A	N/A	N/A	Yes	
100	GPRS/EDGE + 2.4 GHz WLAN MIMO + 6 GHz WLAN SISO	N/A	N/A	N/A	Yes	
101	GPRS/EDGE + 2.4 GHz WLAN SISO + 5 GHz WLAN MIMO	N/A	N/A	Yes	Yes	
102	GPRS/EDGE + 2.4 GHz WLAN SISO + 5 GHz WLAN SISO	N/A	N/A	Yes	Yes	
103	GPRS/EDGE + 2.4 GHz WLAN SISO + 6 GHz WLAN MIMO	N/A	N/A	N/A	Yes	
104	GPRS/EDGE + 2.4 GHz WLAN SISO + 6 GHz WLAN SISO	N/A	N/A	N/A	Yes	
105	GPRS/EDGE + 2.4 GHz Bluetooth Ant H + 2.4 GHz WLAN Ant J	N/A	N/A	Yes^	Yes	^ Bluetooth Tethering is considered only on Ant H
106	GPRS/EDGE + 2.4 GHz Bluetooth SISO + 5 GHz WLAN MIMO	N/A	N/A	Yes^	Yes	^ Bluetooth Tethering is considered only on Ant H
107	GPRS/EDGE + 2.4 GHz Bluetooth SISO + 5 GHz WLAN SISO	N/A	N/A	Yes^	Yes	^ Bluetooth Tethering is considered only on Ant H
108	GPRS/EDGE + 2.4 GHz Bluetooth SISO + 6 GHz WLAN MIMO	N/A	N/A	N/A	Yes	
109	GPRS/EDGE + 2.4 GHz Bluetooth SISO + 6 GHz WLAN SISO	N/A	N/A	N/A	Yes	
110	GPRS/EDGE + 2.4 GHz Bluetooth Dual + 5 GHz WLAN MIMO	N/A	N/A	N/A	Yes	
111	GPRS/EDGE + 2.4 GHz Bluetooth Dual + 5 GHz WLAN SISO	N/A	N/A	N/A	Yes	
112	GPRS/EDGE + 2.4 GHz Bluetooth Dual + 6 GHz WLAN MIMO	N/A	N/A	N/A	Yes	
113	GPRS/EDGE + 2.4 GHz Bluetooth Dual + 6 GHz WLAN SISO	N/A	N/A	N/A	Yes	
114	GPRS/EDGE + 2.4 GHz Bluetooth Ant H + 2.4 GHz WLAN Ant J + 5 GHz WLAN MIMO	N/A	N/A	Yes^	Yes	^ Bluetooth Tethering is considered only on Ant H
115	GPRS/EDGE + 2.4 GHz Bluetooth Ant H + 2.4 GHz WLAN Ant J + 5 GHz WLAN SISO	N/A	N/A	Yes^	Yes	^ Bluetooth Tethering is considered only on Ant H
116	GPRS/EDGE + 2.4 GHz Bluetooth Ant H + 2.4 GHz WLAN Ant J + 6 GHz WLAN MIMO	N/A	N/A	N/A	Yes	
117	GPRS/EDGE + 2.4 GHz Bluetooth Ant H + 2.4 GHz WLAN Ant J + 6 GHz WLAN SISO	N/A	N/A	N/A	Yes	

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1. No other simultaneous scenarios besides described above is supported for this model.
2. SISO represents 2.4 GHz WLAN/BT transmission on Ant H or Ant J, and 5/6 GHz transmission on Ant H or Ant E.
3. When the user utilizes multiple services in UMTS 3G mode it uses multi-Radio Access Bearer or multi-RAB. The power control is based on a physical control channel (Dedicated Physical Control Channel [DPCCH]) and power control will be adjusted to meet the needs of both services. Therefore, the UMTS+WLAN scenario also represents the UMTS Voice/DATA + WLAN Hotspot scenario.
4. Per the manufacturer, WIFI Direct is not expected to be used in conjunction with a held-to-ear or body-worn accessory voice call. Therefore, there are no simultaneous transmission scenarios involving WIFI direct beyond that listed in the above table.
5. 5 GHz Wireless Router is only supported for the U-NII-3 by S/W, therefore U-NII-1, U-NII-2A, U-NII-2C, and U-NII-4 were not evaluated for wireless router conditions.
6. 6 GHz Wireless Router is not supported, therefore it was not evaluated for wireless router conditions.
7. This device supports 2x2 MIMO Tx for WLAN 802.11a/b/g/n/ac/ax/be. 802.11a/b/g/n/ac/ax/be supports CDD and STBC and 802.11n/ac/ax/be additionally supports SDM.
8. This device supports VoWIFI.
9. This device supports Bluetooth Tethering on Ant H only.
10. This device supports VoLTE.
11. This device supports VoNR.
12. LTE + 5G NR FR1 Scenarios are limited to EN-DC combinations with anchor bands as shown in the NR FR1 checklist.
13. 5G NR FR2 n258, n260, and n261 cannot transmit simultaneously.
14. LTE + 5G NR FR2 and 5G NR FR1 + 5G NR FR2 scenarios are limited to combinations with anchor bands as shown in the NR FR2 checklist.
15. UWB and NFC were evaluated for phablet based on expected usage conditions.
16. NB NTN-IoT only transmits only when the device is set to satellite mode and does not transmit with any other radios simultaneously.

2.7 Miscellaneous SAR Test Considerations

(A) WIFI/BT

Since U-NII-1 and U-NII-2A bands have the same maximum output power and the highest reported SAR for U-NII-2A is less than 1.2 W/kg, SAR is not required for U-NII-1 band according to FCC KDB Publication 248227 D01v02r02.

Since Wireless Router operations are not allowed by the chipset firmware using U-NII-1, U-NII-2A, U-NII-2C, U-NII-4 WIFI and 6 GHz, only 2.4 GHz WIFI, 2.4 GHz Bluetooth, and U-NII-3 WIFI Hotspot SAR tests and combinations are considered for SAR with respect to Wireless Router configurations according to FCC KDB 941225 D06v02r01.

This device supports IEEE 802.11ax/be with the following features:

a) Up to 320 MHz Bandwidth only for 6GHz
b) Up to 160 MHz Bandwidth only for 5/6 GHz
c) Up to 20 MHz Bandwidth only for 2.4 GHz
d) 2 Tx antenna output
e) Up to 4KQAM is supported
f) TDWR and Band gap channels are supported for 5/6 GHz
g) MU-MIMO UL Operations are not supported

Per FCC KDB Publication 648474 D01v06r03, this device is considered a "phablet" since the display diagonal dimension is greater than 150mm and less than 200mm. Phablet SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR > 1.2 W/kg. Because wireless router operations are not supported for U-NII-1, U-NII-2A, U-NII-2C, U-NII-4 WIFI and 6 GHz, phablet SAR tests were performed.

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Phablet SAR was not evaluated for 2.4 GHz WLAN, 2.4 GHz Bluetooth, and U-NII-3 WLAN operations since wireless router 1g SAR was < 1.2 W/kg.

Per April 2019 TCB Workshop Notes and FCC guidance, SAR testing for 802.11ax/be follows initial test configuration procedures of KDB 248227, with 802.11ax/be considered a higher order 802.11 mode.

Per FCC guidance, SAR was performed using 6.5 GHz SAR probe calibration factors for WIFI 6GHz/UWB and 8GHz SAR probe calibration factors for UWB. FCC KDB 648474, FCC KDB 941225 D07 and FCC KDB 248227 were followed for test positions, distances, and modes. Absorbed power density (APD) using a $4cm^2$ averaging area is reported based on SAR measurements. Incident power density is evaluated at 2mm ensuring that the resolution is sufficient such that integrated power density (iPD) between d=2mm and d=λ/5mm is ≥ -1dB per equipment manufacturer guidance. Power density results are scaled up for uncertainty above 30%. Per TCB workshop October 2020 notes, 5 channels were tested for WIFI 6 GHz.

(B) Licensed Transmitter(s)

GSM/GPRS/EDGE DTM is not supported for US bands. Therefore, the GSM Voice modes in this report do not transmit simultaneously with GPRS/EDGE Data.

This device is only capable of QPSK HSUPA in the uplink. Therefore, no additional SAR tests are required beyond that described for devices with HSUPA in KDB 941225 D01v03r01.

LTE SAR for the higher modulations and lower bandwidths were not tested since the maximum average output power of all required channels and configurations was not more than 0.5 dB higher than the highest bandwidth; and the reported LTE SAR for the highest bandwidth was less than 1.45 W/kg for all configurations according to FCC KDB 941225 D05v02r04.

This device supports LTE Carrier Aggregation (CA) in the downlink. All uplink communications are identical to Release 8 specifications. Per FCC KDB Publication 941225 D05A v01r02, SAR for LTE CA operations was not needed since the maximum average output power in LTE CA mode was not >0.25 dB higher than the maximum output power when downlink carrier aggregation was inactive.

Per FCC KDB Publication 648474 D01v06r03, this device is considered a "phablet" since the display diagonal dimension is greater than 150mm and less than 200mm. Therefore, phablet SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR > 1.2 W/kg.

This device supports downlink 4x4 MIMO operations for some LTE Bands. Per May 2017 TCB Workshop Notes, SAR for 4x4 DL MIMO was not needed since the maximum average output power in 4x4 DL MIMO mode was not more than 0.25 dB higher than the maximum output power with 4x4 DL MIMO inactive. Additionally, SAR for 4x4 MIMO Downlink Carrier Aggregation was not needed since the maximum average output power in 4x4 MIMO Downlink Carrier Aggregation mode was not more than 0.25 dB higher than the maximum output power with 4x4 MIMO Downlink and downlink carrier aggregation inactive.

This device supports LTE/NR capabilities with overlapping transmission frequency ranges. When the supported frequency range of an LTE/NR Band falls completely within an LTE/NR band with a larger transmission frequency range, both LTE/NR bands have the same target power (or the band with the larger transmission frequency range has a higher target power), and both LTE/NR bands share the same transmission path and signal characteristics, SAR was only assessed for the band with the larger transmission frequency range.

This device supports LTE Carrier Aggregation (CA) for LTE Band 48 with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per 2017 Fall TCB Workshop Notes.

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This device can transmit with antenna switching for bands/modes on antenna A,B,E, and F. SAR tests were performed for each antenna where switching is used per band/mode to ensure compliance. Antennas and indicated band/modes are included in section 2.3.1 of this report .
Per FCC Guidance, C-Band for NR n77 (3705 – 3975 MHz) was fully tested according to FCC procedures. For each exposure condition and antenna, the worst-case position was additionally evaluated for the NR n77 DoD (3455.01 – 3544.98 MHz).

This device uses two transmit pathways for n41 operations (Path 1 and Path 2). For each exposure condition, the pathway with the highest target power was fully evaluated. The worst case for each antenna and exposure condition was additionally evaluated using the other path.

This device supports 5G NR for Bands n258, n260, and n261. RF Exposure assessment and simultaneous transmission analysis for these bands can be found in the Near Field PD Report (report SN can be found in Section 2.10 – Bibliography).

NR implementation supports SA and NSA mode. In EN-DC mode, NR operates with the LTE Bands shown in the NR FR1 checklist acting as anchor bands. Per FCC guidance, SAR tests for NR Bands and LTE Anchors Bands were performed separately due to limitations in SAR probe calibration factors.

SRS was tested with CW signal per Qualcomm guidance in 80-w2112-4.

Per Qualcomm guidance in 80-W2112-4, when hotspot mode applies, 10-g extremity SAR is required for the surfaces and edges with hotspot mode 1g reported SAR > 1.2 W/kg. For surfaces and edges with hotspot mode 1g SAR < 1.2 W/kg, the 10-g extremity can be excluded when the normalized *SAR_design_target* for extremity DSI is less than or equal to that of hotspot DSI.

$$SAR_design_target_extremity \leq \frac{SAR_design_target_hotspot}{1g\ SAR\ limit} * 10g\ SAR\ limit$$

2.8 Guidance Applied

- IEEE 1528-2013
- FCC KDB Publication 941225 D01v03r01, D05v02r05, D05Av01r02, D06v02r01 (2G/3G/4G and Hotspot)
- FCC KDB Publication 248227 D01v02r02 (SAR Considerations for 802.11 Devices)
- FCC KDB Publication 447498 D01v06 (General SAR Guidance)
- FCC KDB Publication 865664 D01v01r04, D02v01r02 (SAR Measurements up to 6 GHz)
- FCC KDB Publication 648474 D01v06r03 (Phablet Procedures)
- October 2013 TCB Workshop Notes (GPRS Testing Considerations)
- May 2017 TCB Workshop Notes (LTE 4x4 Downlink MIMO)
- November 2017, April 2018, October 2018 TCB Workshop Notes (LTE Carrier Aggregation)
- April 2019 TCB Workshop Notes (IEEE 802.11ax, Dynamic Antenna Tuning)
- November 2017, October 2018, April 2019, November 2019, October 2020 TCBC Workshop Notes (6-8 GHz)
- SPEAG DASY6 Application Note (Interim Procedures for Devices Operating at 6-10 GHz) (Nov 2021)
- IEC/IEEE 63195-1:2022
- IEC 62479:2010

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2.9 Device Serial Numbers

Several samples with identical hardware were used to support SAR testing. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units. The serial numbers used for each test are indicated alongside the results in Section 12.

2.10 Bibliography

Report Type	Report Serial Number
PD Part 1 Test Report	1M2408260064-25.A3L
PD Part 0 Test Report	
RF Exposure Part 0 Test Report	1M2408260064-31.A3L
RF Exposure Part 2 Test Report	1M2408260064-24.A3L
Compliance Summary Report	1M2408260064-26.A3L

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3 LTE AND NR INFORMATION

LTE Information					
Form Factor	Portable Handset				
Frequency Range of each LTE transmission band	LTE Band 71: 665.5 - 695.5 MHz				
	LTE Band 12: 699.7 - 715.3 MHz				
	LTE Band 13: 779.5 - 784.5 MHz				
	LTE Band 14: 790.5 - 795.5 MHz				
	LTE Band 26: 814.7 - 848.3 MHz				
	LTE Band 5: 824.7 - 848.3 MHz				
	LTE Band 66: 1710.7 - 1779.3 MHz				
	LTE Band 4: 1710.7 - 1754.3 MHz				
	LTE Band 25: 1850.7 - 1914.3 MHz				
	LTE Band 2: 1850.7 - 1909.3 MHz				
	LTE Band 30: 2307.5 - 2312.5 MHz				
	LTE Band 7: 2502.5 - 2567.5 MHz				
	LTE Band 41: 2498.5 - 2687.5 MHz				
	LTE Band 38: 2572.5 - 2617.5 MHz				
	LTE Band 48: 3552.5 - 3697.5 MHz				
Channel Bandwidths	LTE Band 71: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 12: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 13: 5 MHz, 10 MHz				
	LTE Band 14: 5 MHz, 10 MHz				
	LTE Band 26: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz				
	LTE Band 5: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 66: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 4: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 25: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 2: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 30: 5 MHz, 10 MHz				
	LTE Band 7: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 41: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 38: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 48: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
Channel Numbers and Frequencies (MHz)	Low	Low-Mid	Mid	Mid-High	High
LTE Band 71: 5 MHz	665.5 (133147)		680.5 (133297)	695.5 (133447)	
LTE Band 71: 10 MHz	668 (133172)		680.5 (133297)	693 (133422)	
LTE Band 71: 15 MHz	670.5 (133197)		680.5 (133297)	690.5 (133397)	
LTE Band 71: 20 MHz	673 (133222)		680.5 (133297)	688 (133372)	
LTE Band 12: 1.4 MHz	699.7 (23017)		707.5 (23095)	715.3 (23173)	
LTE Band 12: 3 MHz	700.5 (23025)		707.5 (23095)	714.5 (23165)	
LTE Band 12: 5 MHz	701.5 (23035)		707.5 (23095)	713.5 (23155)	
LTE Band 12: 10 MHz	704 (23060)		707.5 (23095)	711 (23130)	
LTE Band 13: 5 MHz	779.5 (23205)		782 (23230)	784.5 (23255)	
LTE Band 13: 10 MHz	(N/A)		782 (23230)	(N/A)	
LTE Band 14: 5 MHz	790.5 (23305)		793 (23330)	795.5 (23355)	
LTE Band 14: 10 MHz	(N/A)		793 (23330)	(N/A)	
LTE Band 26: 1.4 MHz	814.7 (26697)		831.5 (26865)	848.3 (27033)	
LTE Band 26: 3 MHz	815.5 (26705)		831.5 (26865)	847.5 (27025)	
LTE Band 26: 5 MHz	816.5 (26715)		831.5 (26865)	846.5 (27015)	
LTE Band 26: 10 MHz	819 (26740)		831.5 (26865)	844 (26990)	
LTE Band 26: 15 MHz	821.5 (26765)		831.5 (26865)	841.5 (26965)	
LTE Band 5: 1.4 MHz	824.7 (20407)		836.5 (20525)	848.3 (20643)	
LTE Band 5: 3 MHz	825.5 (20415)		836.5 (20525)	847.5 (20635)	
LTE Band 5: 5 MHz	826.5 (20425)		836.5 (20525)	846.5 (20625)	
LTE Band 5: 10 MHz	829 (20450)		836.5 (20525)	844 (20600)	
LTE Band 66: 1.4 MHz	1710.7 (131979)		1745 (132322)	1779.3 (132665)	
LTE Band 66: 3 MHz	1711.5 (131987)		1745 (132322)	1778.5 (132657)	
LTE Band 66: 5 MHz	1712.5 (131997)		1745 (132322)	1777.5 (132647)	
LTE Band 66: 10 MHz	1715 (132022)		1745 (132322)	1775 (132622)	
LTE Band 66: 15 MHz	1717.5 (132047)		1745 (132322)	1772.5 (132597)	
LTE Band 66: 20 MHz	1720 (132072)		1745 (132322)	1770 (132572)	
LTE Band 4: 1.4 MHz	1710.7 (19957)		1732.5 (20175)	1754.3 (20393)	
LTE Band 4: 3 MHz	1711.5 (19965)		1732.5 (20175)	1753.5 (20385)	
LTE Band 4: 5 MHz	1712.5 (19975)		1732.5 (20175)	1752.5 (20375)	
LTE Band 4: 10 MHz	1715 (20000)		1732.5 (20175)	1750 (20350)	
LTE Band 4: 15 MHz	1717.5 (20025)		1732.5 (20175)	1747.5 (20325)	
LTE Band 4: 20 MHz	1720 (20050)		1732.5 (20175)	1745 (20300)	
LTE Band 25: 1.4 MHz	1850.7 (26047)		1882.5 (26365)	1914.3 (26683)	
LTE Band 25: 3 MHz	1851.5 (26055)		1882.5 (26365)	1913.5 (26675)	
LTE Band 25: 5 MHz	1852.5 (26065)		1882.5 (26365)	1912.5 (26665)	
LTE Band 25: 10 MHz	1855 (26090)		1882.5 (26365)	1910 (26640)	
LTE Band 25: 15 MHz	1857.5 (26115)		1882.5 (26365)	1907.5 (26615)	
LTE Band 25: 20 MHz	1860 (26140)		1882.5 (26365)	1905 (26590)	
LTE Band 2: 1.4 MHz	1850.7 (18607)		1880 (18900)	1909.3 (19193)	
LTE Band 2: 3 MHz	1851.5 (18615)		1880 (18900)	1908.5 (19185)	
LTE Band 2: 5 MHz	1852.5 (18625)		1880 (18900)	1907.5 (19175)	
LTE Band 2: 10 MHz	1855 (18650)		1880 (18900)	1905 (19150)	
LTE Band 2: 15 MHz	1857.5 (18675)		1880 (18900)	1902.5 (19125)	
LTE Band 2: 20 MHz	1860 (18700)		1880 (18900)	1900 (19100)	
LTE Band 30: 5 MHz	2307.5 (27685)		2310 (27710)	2312.5 (27735)	
LTE Band 30: 10 MHz	(N/A)		2310 (27710)	(N/A)	
LTE Band 7: 5 MHz	2502.5 (20775)		2535 (21100)	2567.5 (21425)	
LTE Band 7: 10 MHz	2505 (20800)		2535 (21100)	2565 (21400)	
LTE Band 7: 15 MHz	2507.5 (20825)		2535 (21100)	2562.5 (21375)	
LTE Band 7: 20 MHz	2510 (20850)		2535 (21100)	2560 (21350)	
LTE Band 41: 5 MHz	2502.5 (39715)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 10 MHz	2505 (39740)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 15 MHz	2507.5 (39765)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 20 MHz	2510 (39790)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 38: 5 MHz	2572.5 (37775)		2595 (38000)	2617.5 (38225)	
LTE Band 38: 10 MHz	2575 (37800)		2595 (38000)	2615 (38200)	
LTE Band 38: 15 MHz	2577.5 (37825)		2595 (38000)	2612.5 (38175)	
LTE Band 38: 20 MHz	2580 (37850)		2595 (38000)	2610 (38150)	
LTE Band 48: 5 MHz	3552.5 (55265)	3600.8 (55748)	(N/A)	3649.2 (56222)	3697.5 (56715)
LTE Band 48: 10 MHz	3555 (55290)	3601.7 (55757)	(N/A)	3648.3 (56223)	3695 (56690)
LTE Band 48: 15 MHz	3557.5 (55315)	3602.5 (55765)	(N/A)	3647.5 (56215)	3692.5 (56665)
LTE Band 48: 20 MHz	3560 (55340)	3603.3 (55773)	(N/A)	3646.7 (56207)	3690 (56640)
UE Category	UL UE Cat 18 , DL UE Cat 20				
Modulations Supported in UL	QPSK, 16QAM, 64QAM, 256QAM				
LTE MPR Permanently implemented per 3GPP TS 36.101 section 6.2.3~6.2.5? (manufacturer attestation to be provided)	YES				
A-MPR (Additional MPR) disabled for SAR Testing?	YES				
LTE Carrier Aggregation Possible Combinations	The technical description includes all the possible carrier aggregation combinations				
LTE Additional Information	This device does not support full CA features on 3GPP Release 16. It supports carrier aggregation and downlink MIMO features. All uplink communications are identical to the Release 8 Specifications. Uplink communications are done on the PCC. The following LTE Release 16 Features are not supported: Relay, HetNet, Enhanced MIMO, eICIC, eMBMS, Wifi Offloading, Cross-Carrier Scheduling, Enhanced SC-FDMA.				

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NR Information									
Form Factor	Portable Handset								
Frequency Range of each NR transmission band	NR Band n71: 665.5 - 695.5 MHz NR Band n12: 701.5 - 713.5 MHz NR Band n14: 790.5 - 795.5 MHz NR Band n26: 816.5 - 846.5 MHz NR Band n5: 826.5 - 846.5 MHz NR Band n70: 1697.5 - 1707.5 MHz NR Band n66: 1712.5 - 1777.5 MHz NR Band n25: 1852.5 - 1912.5 MHz NR Band n2: 1852.5 - 1907.5 MHz NR Band n30: 2307.5 - 2312.5 MHz NR Band n7: 2502.5 - 2567.5 MHz NR Band n41: 2501.01 - 2685 MHz NR Band n38: 2575 - 2615 MHz NR Band n48: 3550 - 3694.98 MHz NR Band n78: 3455.01 - 3544.98 MHz; 3705 - 3795 MHz NR Band n77: 3455.01 - 3544.98 MHz; 3705 - 3975 MHz NR Band n77 DoD: 3455.01 - 3544.98 MHz								
Channel Bandwidths	NR Band n71: 5 MHz, 10 MHz, 15 MHz, 20 MHz, 25 MHz, 30 MHz, 35 MHz NR Band n12: 5 MHz, 10 MHz, 15 MHz NR Band n14: 5 MHz, 10 MHz NR Band n26: 5 MHz, 10 MHz, 15 MHz, 20 MHz NR Band n5: 5 MHz, 10 MHz, 15 MHz, 20 MHz NR Band n70: 5 MHz, 10 MHz, 15 MHz NR Band n66: 5 MHz, 10 MHz, 15 MHz, 20 MHz, 25 MHz, 30 MHz, 35 MHz, 40 MHz, 45 MHz NR Band n25: 5 MHz, 10 MHz, 15 MHz, 20 MHz, 25 MHz, 30 MHz, 35 MHz, 40 MHz NR Band n2: 5 MHz, 10 MHz, 15 MHz, 20 MHz, 25 MHz, 30 MHz, 35 MHz, 40 MHz NR Band n30: 5 MHz, 10 MHz NR Band n7: 5 MHz, 10 MHz, 15 MHz, 20 MHz, 25 MHz, 30 MHz, 35 MHz, 40 MHz, 50 MHz NR Band n41: 10 MHz, 15 MHz, 20 MHz, 25 MHz, 30 MHz, 35 MHz, 40 MHz, 50 MHz, 60 MHz, 70 MHz, 80 MHz, 90 MHz, 100 MHz NR Band n38: 10 MHz, 15 MHz, 20 MHz, 25 MHz, 30 MHz, 40 MHz NR Band n48: 10 MHz, 15 MHz, 20 MHz, 30 MHz, 40 MHz NR Band n78: 10 MHz, 15 MHz, 20 MHz, 25 MHz, 30 MHz, 40 MHz, 50 MHz, 60 MHz, 70 MHz, 80 MHz, 90 MHz, 100 MHz NR Band n77: 10 MHz, 15 MHz, 20 MHz, 25 MHz, 30 MHz, 40 MHz, 50 MHz, 60 MHz, 70 MHz, 80 MHz, 90 MHz, 100 MHz								
Channel Numbers and Frequencies (MHz)									
NR Band n71: 5 MHz	665.5 (133100)		680.5 (136100)			695.5 (139100)			
NR Band n71: 10 MHz	668 (133600)		680.5 (136100)			693 (138600)			
NR Band n71: 15 MHz	670.5 (134100)		680.5 (136100)			690.5 (138100)			
NR Band n71: 20 MHz	673 (134600)		680.5 (136100)			688 (137600)			
NR Band n71: 25 MHz	675.5 (135100)		680.5 (136100)			685.5 (137100)			
NR Band n71: 30 MHz	678 (135600)		680.5 (136100)			683 (136600)			
NR Band n71: 35 MHz	680.5 (136100)		680.5 (136100)			680.5 (136100)			
NR Band n12: 5 MHz	701.5 (140300)		707.5 (141500)			713.5 (142700)			
NR Band n12: 10 MHz	704 (140800)		707.5 (141500)			711 (142200)			
NR Band n12: 15 MHz	706.5 (141300)		707.5 (141500)			708.5 (141700)			
NR Band n14: 5 MHz	790.5 (158100)		793 (158600)			795.5 (159100)			
NR Band n14: 10 MHz	793 (158600)		793 (158600)			793 (158600)			
NR Band n26: 5 MHz	816.5 (163300)		831.5 (166300)			846.5 (169300)			
NR Band n26: 10 MHz	819 (163800)		831.5 (166300)			844 (168800)			
NR Band n26: 15 MHz	821.5 (164320)		831.5 (166300)			841.5 (168330)			
NR Band n26: 20 MHz	824 (164800)		831.5 (166300)			839 (167800)			
NR Band n5: 5 MHz	826.5 (165300)		836.5 (167300)			846.5 (169300)			
NR Band n5: 10 MHz	829 (165800)		836.5 (167300)			844 (168800)			
NR Band n5: 15 MHz	831.5 (166300)		836.5 (167300)			841.5 (168300)			
NR Band n5: 20 MHz	834 (166800)		836.5 (167300)			839 (167800)			
NR Band n70: 5 MHz	1697.5 (339500)		1702.5 (340500)			1707.5 (341500)			
NR Band n70: 10 MHz	1700 (340000)		1702.5 (340500)			1705 (341000)			
NR Band n70: 15 MHz	1702.5 (340500)		1702.5 (340500)			1702.5 (340500)			
NR Band n66: 5 MHz	1712.5 (342500)		1745 (349000)			1777.5 (355500)			
NR Band n66: 10 MHz	1715 (343000)		1745 (349000)			1775 (355000)			
NR Band n66: 15 MHz	1717.5 (343500)		1745 (349000)			1772.5 (354500)			
NR Band n66: 20 MHz	1720 (344000)		1745 (349000)			1770 (354000)			
NR Band n66: 25 MHz	1722.5 (344500)		1745 (349000)			1767.5 (353500)			
NR Band n66: 30 MHz	1725 (345000)		1745 (349000)			1765 (353000)			
NR Band n66: 35 MHz	1727.5 (345500)		1745 (349000)			1762.5 (352500)			
NR Band n66: 40 MHz	1730 (346000)		1745 (349000)			1760 (352000)			
NR Band n66: 45 MHz	1732 (346600)		1745 (349000)			1760 (352000)			
NR Band n25: 5 MHz	1852.5 (370500)		1882.5 (376500)			1912.5 (382500)			
NR Band n25: 10 MHz	1855 (371000)		1882.5 (376500)			1910 (382000)			
NR Band n25: 15 MHz	1857.5 (371500)		1882.5 (376500)			1907.5 (381500)			
NR Band n25: 20 MHz	1860 (372000)		1882.5 (376500)			1905 (381000)			
NR Band n25: 25 MHz	1862.5 (372500)		1882.5 (376500)			1902.5 (380500)			
NR Band n25: 30 MHz	1865 (373000)		1882.5 (376500)			1900 (380000)			
NR Band n25: 35 MHz	1867.5 (373500)		1882.5 (376500)			1897.5 (379500)			
NR Band n25: 40 MHz	1870 (374000)		1882.5 (376500)			1895 (379000)			
NR Band n2: 5 MHz	1852.5 (370500)		1880 (376000)			1907.5 (381500)			
NR Band n2: 10 MHz	1855 (371000)		1880 (376000)			1905 (381000)			
NR Band n2: 15 MHz	1857.5 (371500)		1880 (376000)			1902.5 (380500)			
NR Band n2: 20 MHz	1860 (372000)		1880 (376000)			1900 (380000)			
NR Band n2: 25 MHz	(N/A)		1880 (376000)			(N/A)			
NR Band n2: 30 MHz	(N/A)		1880 (376000)			(N/A)			
NR Band n2: 35 MHz	(N/A)		1880 (376000)			(N/A)			
NR Band n2: 40 MHz	(N/A)		1880 (376000)			(N/A)			
NR Band n30: 5 MHz	2307.5 (461500)		2310 (462000)			2312.5 (462500)			
NR Band n30: 10 MHz	2310 (462000)		2310 (462000)			2310 (462000)			
NR Band n7: 5 MHz	2502.5 (500500)		2535 (507000)			2567.5 (513500)			
NR Band n7: 10 MHz	2505 (501000)		2535 (507000)			2565 (513000)			
NR Band n7: 15 MHz	2507.5 (501500)		2535 (507000)			2562.5 (512500)			
NR Band n7: 20 MHz	2510 (502000)		2535 (507000)			2560 (512000)			
NR Band n7: 25 MHz	2512.5 (502500)		2535 (507000)			2557.5 (511500)			
NR Band n7: 30 MHz	2515 (503000)		2535 (507000)			2555 (511000)			
NR Band n7: 35 MHz	2517.5 (503500)		2535 (507000)			2552.5 (510500)			
NR Band n7: 40 MHz	2520 (504000)		2535 (507000)			2550 (510000)			
NR Band n7: 50 MHz	2525 (505000)		2535 (507000)			2545 (509000)			
NR Band n41: 10 MHz	2501.01 (500202)	2547 (509400)	2592.99 (518598)			2639.01 (527802)	2685 (537000)		
NR Band n41: 15 MHz	2503.5 (500700)	2548.26 (509652)	2592.99 (518598)			2637.75 (527550)	2682.51 (536502)		
NR Band n41: 20 MHz	2506.02 (501204)	2549.49 (509898)	2592.99 (518598)			2636.49 (527298)	2679.99 (535998)		
NR Band n41: 25 MHz	2508.51 (501702)	2550.75 (510150)	2592.99 (518598)			2635.26 (527052)	2677.5 (535500)		
NR Band n41: 30 MHz	2511 (502200)	2552.01 (510402)	2592.99 (518598)			2634 (526800)	2674.98 (534996)		
NR Band n41: 35 MHz	2513.52 (502704)	2553.24 (510648)	2592.99 (518598)			2632.74 (526548)	2672.49 (534498)		
NR Band n41: 40 MHz	2516.01 (503202)	2567.34 (513468)	(N/A)			2618.67 (523734)	2670 (534000)		
NR Band n41: 45 MHz	2518.5 (503700)	2568.18 (513636)	(N/A)			2617.83 (523566)	2667.48 (533496)		
NR Band n41: 50 MHz	2521.02 (504204)		2592.99 (518598)			2664.99 (532998)			
NR Band n41: 60 MHz	2526 (505200)		2592.99 (518598)			2659.98 (531996)			
NR Band n41: 70 MHz	2531.01 (506202)		(N/A)			2655 (531000)			
NR Band n41: 80 MHz	2536.02 (507204)		(N/A)			2649.99 (529998)			
NR Band n41: 90 MHz	2541 (508200)		(N/A)			2644.98 (528996)			
NR Band n41: 100 MHz	2546.01 (509202)		2592.99 (518598)			2640 (528000)			
NR Band n38: 10 MHz	2575 (515000)		2595 (519000)			2615 (523000)			
NR Band n38: 15 MHz	2577.5 (515500)		2595 (519000)			2612.5 (522500)			
NR Band n38: 20 MHz	2580 (516000)		2595 (519000)			2610 (522000)			
NR Band n38: 25 MHz	2582.5 (516500)		2595 (519000)			2607.5 (521500)			
NR Band n38: 30 MHz	2585 (517000)		2595 (519000)			2605 (521000)			
NR Band n38: 40 MHz	2590 (518000)		2595 (519000)			2600 (520000)			
NR Band n48: 10 MHz	3555 (637000)	3601.68 (640112)	(N/A)			3648.33 (643222)	3694.98 (646332)		
NR Band n48: 15 MHz	3557.52 (637188)	3602.49 (640166)	(N/A)			3647.49 (643166)	3692.49 (646166)		
NR Band n48: 20 MHz	3560.01 (637334)	3603.33 (640222)	(N/A)			3646.68 (643112)	3690 (646000)		
NR Band n48: 30 MHz	3565.02 (637698)	3605.01 (640334)	(N/A)			3645 (643000)	3684.99 (645666)		
NR Band n48: 40 MHz	3570 (638000)	(N/A)	3624.99 (641666)			(N/A)	3679.98 (645332)		
NR Band n78: 10 MHz	3705 (647000)	(N/A)	(N/A)	3750 (650000)	(N/A)	(N/A)	3795 (653000)		
NR Band n78: 15 MHz	3707.52 (647168)	(N/A)	(N/A)	3750 (650000)	(N/A)	(N/A)	3792.48 (652832)		
NR Band n78: 20 MHz	3710.01 (647334)	(N/A)	(N/A)	3750 (650000)	(N/A)	(N/A)	3789.99 (652666)		
NR Band n78: 25 MHz	3712.5 (647500)	(N/A)	(N/A)	3750 (650000)	(N/A)	(N/A)	3787.5 (652500)		
NR Band n78: 30 MHz	3715.02 (647668)	(N/A)	(N/A)	3750 (650000)	(N/A)	(N/A)	3784.98 (652332)		
NR Band n78: 40 MHz	3720 (648000)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	3780 (652000)		
NR Band n78: 50 MHz	3725.01 (648334)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	3774.99 (651666)		
NR Band n78: 60 MHz	(N/A)	(N/A)	(N/A)	3750 (650000)	(N/A)	(N/A)	(N/A)		
NR Band n78: 70 MHz	(N/A)	(N/A)	(N/A)	3750 (650000)	(N/A)	(N/A)	(N/A)		
NR Band n78: 80 MHz	(N/A)	(N/A)	(N/A)	3750 (650000)	(N/A)	(N/A)	(N/A)		
NR Band n78: 90 MHz	(N/A)	(N/A)	(N/A)	3750 (650000)	(N/A)	(N/A)	(N/A)		
NR Band n78: 100 MHz	(N/A)	(N/A)	(N/A)	3750 (650000)	(N/A)	(N/A)	(N/A)		
NR Band n77 DoD: 10 MHz	3455.01 (633334)		3500.01 (633334)			3544.98 (638332)			
NR Band n77 DoD: 15 MHz	3457.5 (633500)		3500.01 (633334)			3542.49 (638166)			
NR Band n77 DoD: 20 MHz	3460.02 (633668)		3500.01 (633334)			3540 (638000)			
NR Band n77 DoD: 25 MHz	3462.51 (633834)		3500.01 (633334)			3537.48 (637832)			
NR Band n77 DoD: 30 MHz	3465 (634000)		3500.01 (633334)			3534.99 (637666)			
NR Band n77 DoD: 40 MHz	3470.01 (631334)		(N/A)			3529.98 (635332)			
NR Band n77 DoD: 50 MHz	3475.02 (631668)		(N/A)			3525 (635000)			
NR Band n77 DoD: 60 MHz	(N/A)		3500.01 (633334)			(N/A)			
NR Band n77 DoD: 70 MHz	(N/A)		3500.01 (633334)			(N/A)			
NR Band n77 DoD: 80 MHz	(N/A)		3500.01 (633334)			(N/A)			
NR Band n77 DoD: 90 MHz	(N/A)		3500.01 (633334)			(N/A)			
NR Band n77 DoD: 100 MHz	(N/A)		3500.01 (633334)			(N/A)			
NR Band n77: 10 MHz	3705 (647000)	3759 (650600)	3813 (654200)	(N/A)	3867 (657800)	3921 (661400)	3975 (665000)		
NR Band n77: 15 MHz	3707.52 (647168)	3760.5 (650700)	3813.51 (654234)	(N/A)	3866.49 (657766)	3919.5 (661300)	3972.48 (664832)		
NR Band n77: 20 MHz	3710.01 (647334)	3762 (650800)	3813.99 (654266)	(N/A)	3866.01 (657734)	3918 (661200)	3969.99 (664666)		
NR Band n77: 25 MHz	3712.5 (647500)	3763.5 (650900)	3814.5 (654300)	(N/A)	3865.5 (657700)	3916.5 (661100)	3967.5 (664500)		
NR Band n77: 30 MHz	3715.02 (647668)	3765 (651000)	3815.01 (654334)	(N/A)	3864.99 (657666)	3915 (661000)	3964.98 (664332)		
NR Band n77: 40 MHz	3720 (648000)	3768 (651200)	3816 (654400)	(N/A)	3864 (657600)	3912 (660800)	3960 (664000)		
NR Band n77: 50 MHz	3725.01 (648334)	3782.49 (652166)	(N/A)	3840 (656000)	(N/A)	3897.51 (659834)	3954.99 (663666)		
NR Band n77: 60 MHz	3730.02 (648668)	3803.34 (653556)	(N/A)	(N/A)	(N/A)	3876.66 (658444)	3949.98 (663332)		
NR Band n77: 70 MHz	3735 (649000)	3804.99 (653666)	(N/A)	(N/A)	(N/A)	3875.01 (658334)	3945 (663000)		
NR Band n77: 80 MHz	3740.01 (649334)	(N/A)		3840 (656000)		(N/A)	3939.99 (662666)		
NR Band n77: 90 MHz	3745.02 (649668)	(N/A)		3840 (656000)		(N/A)	3934.98 (662332)		
NR Band n77: 100 MHz	3750 (650000)	(N/A)		(N/A)		(N/A)	3930 (662000)		
SCS for NR Band n71, n12, n14, n26, n5, n70, n66, n25, n2, n30, n7	15 kHz								
SCS for NR Band n41, n38, n48, n78, n77, n77 DoD	30 kHz								
Modulations Supported in UL	DFT-s-OFDM: π/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 256QAM								
A-MPR (Additional MPR) disabled for SAR Testing?	YES								
EN-DC and NR Carrier Aggregation Possible Combinations	The technical description includes all the possible carrier aggregation combinations								
LTE Anchor Bands for NR Band n71	LTE Band 2/4/66								
LTE Anchor Bands for NR Band n12	N/A								
LTE Anchor Bands for NR Band n14	N/A								
LTE Anchor Bands for NR Band n26	N/A								
LTE Anchor Bands for NR Band n5	LTE Band 2/4/66								
LTE Anchor Bands for NR Band n70	N/A								
LTE Anchor Bands for NR Band n66	LTE Band 2/5/12/13/48								
LTE Anchor Bands for NR Band n25	LTE Band 12								
LTE Anchor Bands for NR Band n2	LTE Band 5/12/13/48/66								
LTE Anchor Bands for NR Band n30	N/A								
LTE Anchor Bands for NR Band n7	N/A								
LTE Anchor Bands for NR Band n41	LTE Band 2/5/12/66								
LTE Anchor Bands for NR Band n38	N/A								
LTE Anchor Bands for NR Band n48	N/A								
LTE Anchor Bands for NR Band n78	N/A								
LTE Anchor Bands for NR Band n77	LTE Band 2/5/12/13/66								
LTE Anchor Bands for NR Band n77 DoD	N/A								

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4 INTRODUCTION

The FCC and Innovation, Science, and Economic Development Canada have adopted the guidelines for evaluating the environmental effects of radio frequency (RF) radiation in ET Docket 93-62 on Aug. 6, 1996 and Health Canada Safety Code 6 to protect the public and workers from the potential hazards of RF emissions due to FCC-regulated portable devices. [1]

The safety limits used for the environmental evaluation measurements are based on the criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate (SAR) in IEEE/ANSI C95.1-1992 Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz [3] and Health Canada RF Exposure Guidelines Safety Code 6 [22]. The measurement procedure described in IEEE/ANSI C95.3-2002 Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave [4] is used for guidance in measuring the Specific Absorption Rate (SAR) due to the RF radiation exposure from the Equipment Under Test (EUT). These criteria for SAR evaluation are similar to those recommended by the International Committee for Non-Ionizing Radiation Protection (ICNIRP) in Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," Report No. Vol 74. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have been related to threshold levels for potential biological hazards.

4.1 SAR Definition

Specific Absorption Rate is defined as the time derivative (rate) of the incremental energy (dU) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dV) of a given density (ρ). It is also defined as the rate of RF energy absorption per unit mass at a point in an absorbing body (see Equation 4-1).

Equation 4-1
SAR Mathematical Equation

$$SAR = \frac{d}{dt}\left(\frac{dU}{dm}\right) = \frac{d}{dt}\left(\frac{dU}{\rho dv}\right)$$

SAR is expressed in units of Watts per Kilogram (W/kg).

$$SAR = \frac{\sigma \cdot E^2}{\rho}$$

where:

σ = conductivity of the tissue-simulating material (S/m)
ρ = mass density of the tissue-simulating material (kg/m^3)
E = Total RMS electric field strength (V/m)

NOTE: The primary factors that control rate of energy absorption were found to be the wavelength of the incident field in relation to the dimensions and geometry of the irradiated organism, the orientation of the organism in relation to the polarity of field vectors, the presence of reflecting surfaces, and whether conductive contact is made by the organism with a ground plane.[6]

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5 DOSIMETRIC ASSESSMENT

5.1 Measurement Procedure

The evaluation was performed using the following procedure compliant to FCC KDB Publication 865664 D01v01r04 and IEEE 1528-2013:

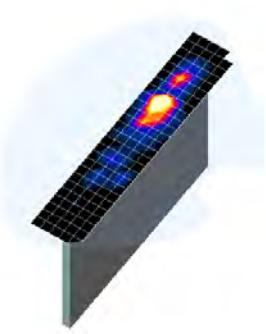

Figure 5-1
Sample SAR Area Scan

1. The SAR distribution at the exposed side of the head or body was measured at a distance no greater than 5.0 mm from the inner surface of the shell. The area covered the entire dimension of the device-head and body interface and the horizontal grid resolution was determined per FCC KDB Publication 865664 D01v01r04 (See Table 5-1) and IEEE 1528-2013.
2. The point SAR measurement was taken at the maximum SAR region determined from Step 1 to enable the monitoring of SAR fluctuations/drifts during the 1g/10g cube evaluation. SAR at this fixed point was measured and used as a reference value.
3. Based on the area scan data, the peak of the region with maximum SAR was determined by spline interpolation. Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB Publication 865664 D01v01r04 (See Table 5-1) and IEEE 1528-2013. On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure (see references or the DASY manual online for more details):

   a. SAR values at the inner surface of the phantom are extrapolated from the measured values along the line away from the surface with spacing no greater than that in Table 5-1. The extrapolation was based on a least-squares algorithm. A polynomial of the fourth order was calculated through the points in the z-axis (normal to the phantom shell).

   b. After the maximum interpolated values were calculated between the points in the cube, the SAR was averaged over the spatial volume (1g or 10g) using a 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the “Not a knot” condition (in x, y, and z directions). The volume was then integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were obtained through interpolation, in order to calculate the averaged SAR.

   c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.
4. The SAR reference value, at the same location as step 2, was re-measured after the zoom scan was complete to calculate the SAR drift. If the drift deviated by more than 5%, the SAR test and drift measurements were repeated.

Table 5-1
Area and Zoom Scan Resolutions per FCC KDB Publication 865664 D01v01r04*

Frequency	Maximum Area Scan Resolution (mm) (Δx_{area}, Δy_{area})	Maximum Zoom Scan Resolution (mm) (Δx_{zoom}, Δy_{zoom})	Maximum Zoom Scan Spatial Resolution (mm)			Minimum Zoom Scan Volume (mm) (x,y,z)
			Uniform Grid	Graded Grid		
			$\Delta z_{zoom}(n)$	$\Delta z_{zoom}(1)$*	$\Delta z_{zoom}(n>1)$*	
≤ 2 GHz	≤ 15	≤ 8	≤ 5	≤ 4	≤ 1.5*Δz_{zoom}(n-1)	≥ 30
2-3 GHz	≤ 12	≤ 5	≤ 5	≤ 4	≤ 1.5*Δz_{zoom}(n-1)	≥ 30
3-4 GHz	≤ 12	≤ 5	≤ 4	≤ 3	≤ 1.5*Δz_{zoom}(n-1)	≥ 28
4-5 GHz	≤ 10	≤ 4	≤ 3	≤ 2.5	≤ 1.5*Δz_{zoom}(n-1)	≥ 25
5-6 GHz	≤ 10	≤ 4	≤ 2	≤ 2	≤ 1.5*Δz_{zoom}(n-1)	≥ 22

*Also compliant to IEEE 1528-2013 Table 6

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6 DEFINITION OF REFERENCE POINTS

6.1 EAR REFERENCE POINT

Figure 6-2 shows the front, back and side views of the SAM Twin Phantom. The point "M" is the reference point for the center of the mouth, "LE" is the left ear reference point (ERP), and "RE" is the right ERP. The ERP is 15mm posterior to the entrance to the ear canal (EEC) along the B-M line (Back-Mouth), as shown in Figure 6-1. The plane passing through the two ear canals and M is defined as the Reference Plane. The line N-F (Neck-Front), also called the Reference Pivoting Line, is not perpendicular to the reference plane (see Figure 6-1). Line B-M is perpendicular to the N-F line. Both N-F and B-M lines are marked on the external phantom shell to facilitate handset positioning [5].

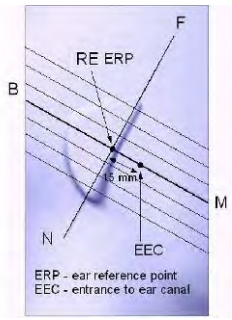

Figure 6-1
Close-Up Side view of ERP

6.2 HANDSET REFERENCE POINTS

Two imaginary lines on the handset were established: the vertical centerline and the horizontal line. The test device was placed in a normal operating position with the acoustic output located along the "vertical centerline" on the front of the device aligned to the "ear reference point" (See Figure 6-3). The acoustic output was than located at the same level as the center of the ear reference point. The test device was positioned so that the "vertical centerline" was bisecting the front surface of the handset at its top and bottom edges, positioning the "ear reference point" on the outer surface of the both the left and right head phantoms on the ear reference point.

Figure 6-2
Front, back and side view of SAM Twin Phantom

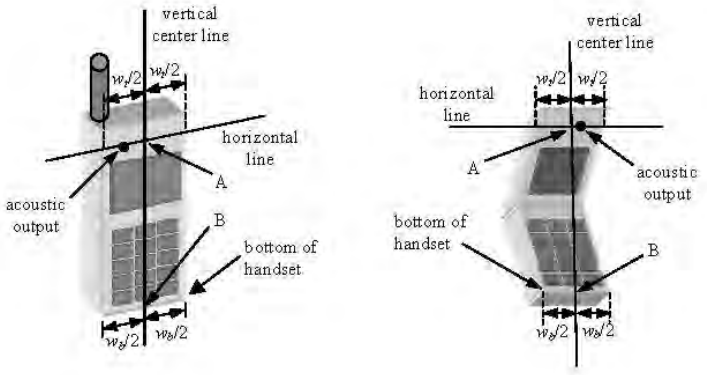

Figure 6-3
Handset Vertical Center & Horizontal Line Reference Points

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7 TEST CONFIGURATION POSITIONS

7.1 Device Holder

The device holder is made out of low-loss POM material having the following dielectric parameters: relative permittivity ε = 3 and loss tangent δ = 0.02.

7.2 Positioning for Cheek

1. The test device was positioned with the device close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom (see Figure 7-1), such that the plane defined by the vertical center line and the horizontal line of the phone is approximately parallel to the sagittal plane of the phantom.

Figure 7-1 Front, Side and Top View of Cheek Position

2. The handset was translated towards the phantom along the line passing through RE & LE until the handset touches the pinna.
3. While maintaining the handset in this plane, the handset was rotated around the LE-RE line until the vertical centerline was in the reference plane.
4. The phone was then rotated around the vertical centerline until the phone (horizontal line) was symmetrical was respect to the line NF.
5. While maintaining the vertical centerline in the reference plane, keeping point A on the line passing through RE and LE, and maintaining the device contact with the ear, the device was rotated about the NF line until any point on the handset made contact with a phantom point below the ear (cheek) (See Figure 7-2).

7.3 Positioning for Ear / 15º Tilt

With the test device aligned in the “Cheek Position”:

1. While maintaining the orientation of the phone, the phone was retracted parallel to the reference plane far enough to enable a rotation of the phone by 15degrees.
2. The phone was then rotated around the horizontal line by 15 degrees.
3. While maintaining the orientation of the phone, the phone was moved parallel to the reference plane until any part of the handset touched the head. (In this position, point A was located on the line RE-LE). The tilted position is obtained when the contact is on the pinna. If the contact was at any location other than the pinna, the angle of the phone would then be reduced. In this situation, the tilted position was obtained when any part of the phone was in contact of the ear as well as a second part of the phone was in contact with the head (see Figure 7-2).

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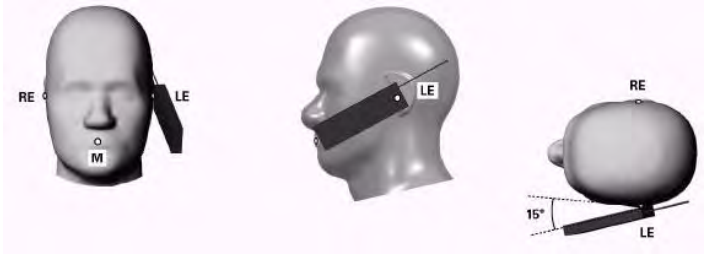

Figure 7-2 Front, Side and Top View of Ear/15º Tilt Position

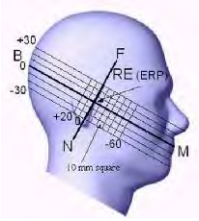

Figure 7-3
Side view w/ relevant markings

7.4 SAR Evaluations near the Mouth/Jaw Regions of the SAM Phantom

Antennas located near the bottom of a phone may require SAR measurements around the mouth and jaw regions of the SAM head phantom. This typically applies to clam-shell style phones that are generally longer in the unfolded normal use positions or to certain older style long rectangular phones. Per IEEE 1528-2013, a rotated SAM phantom is necessary to allow probe access to such regions. Both SAM heads of the TwinSAM-Chin20 are rotated 20 degrees around the NF line. Each head can be removed from the table for emptying and cleaning.

Under these circumstances, the following procedures apply, adopted from the FCC guidance on SAR handsets document FCC KDB Publication 648474 D01v06r03. The SAR required in these regions of SAM should be measured using a flat phantom. The phone should be positioned with a separation distance of 4 mm between the ear reference point (ERP) and the outer surface of the flat phantom shell. While maintaining this distance at the ERP location, the low (bottom) edge of the phone should be lowered from the phantom to establish the same separation distance between the peak SAR location identified by the truncated partial SAR distribution measured with the SAM phantom. The distance from the peak SAR location to the phone is determined by the straight line passing perpendicularly through the phantom surface. When it is not feasible to maintain 4 mm separation at the ERP while also establishing the required separation at the peak SAR location, the top edge of the phone will be allowed to touch the phantom with a separation < 4 mm at the ERP. The phone should not be tilted to the left or right while placed in this inclined position to the flat phantom.

7.5 Body-Worn Accessory Configurations

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 7-4). Per FCC KDB Publication 648474 D01v06r03, Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB Publication 447498 D01v06 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

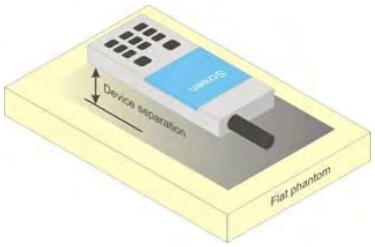

Figure 7-4
Sample Body-Worn Diagram

Accessories for Body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not

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contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are tested with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

Body-worn accessories may not always be supplied or available as options for some devices intended to be authorized for body-worn use. In this case, a test configuration with a separation distance between the back of the device and the flat phantom is used. Test position spacing was documented.
Transmitters that are designed to operate in front of a person's face, as in push-to-talk configurations, are tested for SAR compliance with the front of the device positioned to face the flat phantom in head fluid. For devices that are carried next to the body such as a shoulder, waist or chest-worn transmitters, SAR compliance is tested with the accessories, including headsets and microphones, attached to the device and positioned against a flat phantom in a normal use configuration.

7.6 Extremity Exposure Configurations

Devices that are designed or intended for use on extremities or mainly operated in extremity only exposure conditions; i.e., hands, wrists, feet and ankles, may require extremity SAR evaluation. When the device also operates in close proximity to the user's body, SAR compliance for the body is also required. The 1g body and 10g extremity SAR Exclusion Thresholds found in KDB Publication 447498 D01v06 should be applied to determine SAR test requirements.

Per KDB Publication 447498 D01v06, Cell phones (handsets) are not normally designed to be used on extremities or operated in extremity only exposure conditions. The maximum output power levels of handsets generally do not require extremity SAR testing to show compliance. Therefore, extremity SAR was not evaluated for this device.

7.7 Wireless Router Configurations

Some battery-operated handsets have the capability to transmit and receive user data through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06v02r01 where SAR test considerations for handsets (L x W ≥ 9 cm x 5 cm) are based on a composite test separation distance of 10 mm from the front, back and edges of the device containing transmitting antennas within 2.5 cm of their edges, determined from general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some body-worn accessory SAR tests.

When the user enables the personal wireless router functions for the handset, actual operations include simultaneous transmission of both the WIFI transmitter and another licensed transmitter. Both transmitters often do not transmit at the same transmitting frequency and thus cannot be evaluated for SAR under actual use conditions due to the limitations of the SAR assessment probes. Therefore, SAR must be evaluated for each frequency transmission and mode separately and spatially summed with the WIFI transmitter according to FCC KDB Publication 447498 D01v06 procedures. The "Portable Hotspot" feature on the handset was NOT activated during SAR assessments, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal at a time.

7.8 Phablet Configurations

For smart phones with a display diagonal dimension > 150 mm or an overall diagonal dimension > 160 mm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that

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support voice calls next to the ear, the phablets procedures outlined in KDB Publication 648474 D01v06r03 should be applied to evaluate SAR compliance. A device marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance. In addition to the normally required head and body-worn accessory SAR test procedures required for handsets, the UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna <=25 mm from that surface or edge, in direct contact with the phantom, for 10g SAR. The UMPC mini-tablet 1g SAR at 5 mm is not required. When hotspot mode applies, 10g SAR is required only for the surfaces and edges with hotspot mode 1g SAR > 1.2 W/kg.

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8 RF EXPOSURE LIMITS

8.1 Uncontrolled Environment

UNCONTROLLED ENVIRONMENTS are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

8.2 Controlled Environment

CONTROLLED ENVIRONMENTS are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Table 8-1
SAR Human Exposure Specified in ANSI/IEEE C95.1-1992 and Health Canada Safety Code 6

HUMAN EXPOSURE LIMITS		
	UNCONTROLLED ENVIRONMENT *General Population* (W/kg) or (mW/g)	CONTROLLED ENVIRONMENT *Occupational* (W/kg) or (mW/g)
Peak Spatial Average SAR Head	1.6	8.0
Whole Body SAR	0.08	0.4
Peak Spatial Average SAR Hands, Feet, Ankle, Wrists, etc.	4.0	20

1. The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.
2. The Spatial Average value of the SAR averaged over the whole body.
3. The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

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8.3 RF Exposure Limits for Frequencies above 6 GHz

Per §1.1310 (d)(3), the MPE limits are applied for frequencies above 6 GHz. Power Density is expressed in units of W/m^2 or mW/cm^2.

Peak Spatially Averaged Power Density was evaluated over a circular area of 4 cm^2 per interim FCC Guidance for near-field power density evaluations per October 2018 TCB Workshop notes.

Table 8-2
Human Exposure Limits Specified in FCC 47 CFR §1.1310

Human Exposure to Radiofrequency (RF) Radiation Limits		
Frequency Range [MHz]	**Power Density** [mW/cm^2]	**Average Time** [Minutes]
(A) Limits For Occupational / Controlled Environments		
1,500 – 100,000	5.0	6
(B) Limits For General Population / Uncontrolled Environments		
1,500 – 100,000	1.0	30

Note: 1.0 mW/cm^2 is 10 W/m^2

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9 FCC MEASUREMENT PROCEDURES

Power measurements for licensed transmitters are performed using a base station simulator under digital average power.

9.1 Measured and Reported SAR

Per FCC KDB Publication 447498 D01v06, when SAR is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance. For simultaneous transmission, the measured aggregate SAR must be scaled according to the sum of the differences between the maximum tune-up tolerance and actual power used to test each transmitter. When SAR is measured at or scaled to the maximum tune-up tolerance limit, the results are referred to as *reported* SAR. The highest *reported* SAR results are identified on the grant of equipment authorization according to procedures in KDB 690783 D01v01r03.

9.2 3G SAR Test Reduction Procedure

In FCC KDB Publication 941225 D01v03r01, certain transmission modes within a frequency band and wireless mode evaluated for SAR are defined as primary modes. The equivalent modes considered for SAR test reduction are denoted as secondary modes. When the maximum output power including tune-up tolerance specified for production units in a secondary mode is ≤ 0.25 dB higher than the primary mode or when the highest reported SAR of the primary mode, scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode, is ≤ 1.2 W/kg, SAR measurements are not required for the secondary mode. These criteria are referred to as the 3G SAR test reduction procedure. When the 3G SAR test reduction procedure is not satisfied, SAR measurements are additionally required for the secondary mode.

9.3 Procedures Used to Establish RF Signal for SAR

The following procedures are according to FCC KDB Publication 941225 D01v03r01 “3G SAR Measurement Procedures.”

The device is placed into a simulated call using a base station simulator in a RF shielded chamber. Establishing connections in this manner ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. Devices under test are evaluated prior to testing, with a fully charged battery and were configured to operate at maximum output power. In order to verify that the device is tested throughout the SAR test at maximum output power, the SAR measurement system measures a “point SAR” at an arbitrary reference point at the start and end of the 1 gram SAR evaluation, to assess for any power drifts during the evaluation. If the power drift deviates by more than 5%, the SAR test and drift measurements are repeated.

9.4 SAR Measurement Conditions for UMTS

9.4.1 Output Power Verification

Maximum output power is verified on the High, Middle and Low channels according to the general descriptions in section 5.2 of 3GPP TS 34.121, using the appropriate RMC with TPC (transmit power control) set to all “1s” or applying the required inner loop power control procedures to maintain maximum output power while HSUPA is active. Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes, HS-DPCCH etc) are tabulated in this test report. All configurations that are not supported by the DUT or cannot be measured due to technical or equipment limitations are identified.

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9.4.2 Head SAR Measurements

SAR for next to the ear head exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's". The 3G SAR test reduction procedure is applied to AMR configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for 12.2 kbps AMR in 3.4 kbps SRB (signaling radio bearer) using the highest reported SAR configuration in 12.2 kbps RMC for head exposure.

9.4.3 Body SAR Measurements

SAR for body exposure configurations is measured using the 12.2 kbps RMC with the TPC bits all "1s". The 3G SAR test reduction procedure is applied to other spreading codes and multiple $DPDCH_n$ configurations supported by the handset with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured using an applicable RMC configuration with the corresponding spreading code or $DPDCH_n$, for the highest reported SAR configuration in 12.2 kbps RMC.

9.4.4 SAR Measurements with Rel 5 HSDPA

The 3G SAR test reduction procedure is applied to HSDPA body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSDPA is measured using an FRC with H-Set 1 in Sub-test 1 and a 12.2 kbps RMC configured in Test Loop Mode 1, for the highest reported SAR configuration in 12.2 kbps RMC without HSDPA. Handsets with both HSDPA and HSUPA are tested according to Release 6 HSPA test procedures.

9.4.5 SAR Measurements with Rel 6 HSUPA

The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSPA is measured with E-DCH Sub-test 5, using H-Set 1 and QPSK for FRC and a 12.2 kbps RMC configured in Test Loop Mode 1 and power control algorithm 2, according to the highest reported body SAR configuration in 12.2 kbps RMC without HSPA.

When VOIP applies to head exposure, the 3G SAR test reduction procedure is applied with 12.2 kbps RMC as the primary mode; otherwise, the same HSPA configuration used for body SAR measurements are applied to head exposure testing.

9.4.6 SAR Measurement Conditions for DC-HSDPA

SAR is required for Rel. 8 DC-HSDPA when SAR is required for Rel. 5 HSDPA; otherwise, the 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode. Power is measured for DC-HSDPA according to the H-Set 12, FRC configuration in Table C.8.1.12 of 3GPP TS 34.121-1 to determine SAR test reduction. A primary and a secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to be acceptable.

9.5 SAR Measurement Conditions for LTE

LTE modes are tested according to FCC KDB 941225 D05v02r04 publication. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. The R&S CMW500 or Anritsu MT8820C simulators are used for LTE output power measurements and SAR testing. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).

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9.5.1 Spectrum Plots for RB Configurations

A properly configured base station simulator was used for SAR tests and power measurements. Therefore, spectrum plots for RB configurations were not required to be included in this report.

9.5.2 MPR

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.

9.5.3 A-MPR

A-MPR (Additional MPR) has been disabled for all SAR tests by setting NS=01 on the base station simulator.

9.5.4 Required RB Size and RB Offsets for SAR Testing

According to FCC KDB 941225 D05v02r04:

a. Per Section 5.2.1, SAR is required for QPSK 1 RB Allocation for the largest bandwidth
   i. The required channel and offset combination with the highest maximum output power is required for SAR.
   ii. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required. Otherwise, SAR is required for the remaining required test channels using the RB offset configuration with highest output power for that channel.
   iii. When the reported SAR for a required test channel is > 1.45 W/kg, SAR is required for all RB offset configurations for that channel.
b. Per Section 5.2.2, SAR is required for 50% RB allocation using the largest bandwidth following the same procedures outlined in Section 5.2.1.
c. Per Section 5.2.3, QPSK SAR is not required for the 100% allocation when the highest maximum output power for the 100% allocation is less than the highest maximum output power of the 1 RB and 50% RB allocations and the reported SAR for the 1 RB and 50% RB allocations is < 0.8 W/kg.
d. Per Section 5.2.4 and 5.3, SAR tests for higher order modulations and lower bandwidths configurations are not required when the conducted power of the required test configurations determined by Sections 5.2.1 through 5.2.3 is less than or equal to ½ dB higher than the equivalent configuration using QPSK modulation and when the QPSK SAR for those configurations is <1.45 W/kg.

9.5.5 TDD

LTE TDD testing is performed using the SAR test guidance provided in FCC KDB 941225 D05v02r04. TDD is tested at the highest duty factor using UL-DL configuration 0 with special subframe configuration 6 and applying the FDD LTE procedures in KDB 941225 D05v02r04. SAR testing is performed using the extended cyclic prefix listed in 3GPP TS 36.211 Section 4.

9.5.6 Downlink Only Carrier Aggregation

Conducted power measurements with LTE Carrier Aggregation (CA) (downlink only) active are made in accordance to KDB Publication 941225 D05Av01r02. The RRC connection is only handled by one cell, the primary component carrier (PCC) for downlink and uplink communications. After making a data connection to the PCC, the UE device adds secondary component carrier(s) (SCC) on the downlink only. All uplink communications and acknowledgements remain identical to specifications when downlink

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carrier aggregation is inactive on the PCC. Additional conducted output powers are measured with the downlink carrier aggregation active for the configuration with highest measured maximum conducted power with downlink carrier aggregation inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band. Per FCC KDB Publication 941225 D05Av01r02, no SAR measurements are required for downlink only carrier aggregation configurations when the average output power with downlink only carrier aggregation active is not more than 0.25 dB higher than the average output power with downlink only carrier aggregation inactive.

9.6 SAR Testing with 802.11 Transmitters

The normal network operating configurations of 802.11 transmitters are not suitable for SAR measurements. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure the results are consistent and reliable. See KDB Publication 248227 D01v02r02 for more details.

9.6.1 General Device Setup

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters.

A periodic duty factor is required for current generation SAR systems to measure SAR. When 802.11 frame gaps are accounted for in the transmission, a maximum transmission duty factor of 92 - 96% is typically achievable in most test mode configurations. A minimum transmission duty factor of 85% is required to avoid certain hardware and device implementation issues related to wide range SAR scaling. The reported SAR is scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit.

9.6.2 U-NII-1 and U-NII-2A

For devices that operate in both U-NII-1 and U-NII-2A bands, when the same maximum output power is specified for both bands, SAR measurement using OFDM SAR test procedures is not required for U-NII-1 unless the highest reported SAR for U-NII-2A is > 1.2 W/kg. When different maximum output powers are specified for the bands, SAR measurement for the U-NII band with the lower maximum output power is not required unless the highest reported SAR for the U-NII band with the higher maximum output power, adjusted by the ratio of lower to higher specified maximum output power for the two bands, is > 1.2 W/kg. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

9.6.3 U-NII-2C and U-NII-3

The frequency range covered by U-NII-2C and U-NII-3 is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. When Terminal Doppler Weather Radar (TDWR) restriction applies, the channels at 5.60 – 5.65 GHz in U-NII-2C band must be disabled with acceptable mechanisms and documented in the equipment certification. Unless band gap channels are permanently disabled, SAR must be considered for these channels. Each band is tested independently according to the normally required OFDM SAR measurement and probe calibration frequency points requirements.

9.6.4 Initial Test Position Procedure

For exposure conditions with multiple test positions, such as handset operating next to the ear, devices with hotspot mode or UMPC mini-tablet, procedures for initial test position can be applied. Using the transmission mode determined by the DSSS procedure or initial test configuration, area scans are measured for all

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positions in an exposure condition. The test position with the highest extrapolated (peak) SAR is used as the initial test position. When reported SAR for the initial test position is ≤ 0.4 W/kg, no additional testing for the remaining test positions is required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is ≤ 0.8 W/kg or all test positions are measured. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

9.6.5 2.4 GHz SAR Test Requirements

SAR is measured for 2.4 GHz 802.11b DSSS using either the fixed test position or, when applicable, the initial test position procedure. SAR test reduction is determined according to the following:

1) When the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.

2) When the reported SAR is > 0.8 W/kg, SAR is required for that position using the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel; i.e., all channels require testing.

2.4 GHz 802.11 g/n/ax OFDM are additionally evaluated for SAR if the highest reported SAR for 802.11b, adjusted by the ratio of the OFDM to DSSS specified maximum output power, is > 1.2 W/kg. When SAR is required for OFDM modes in 2.4 GHz band, the Initial Test Configuration Procedures should be followed. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

9.6.6 OFDM Transmission Mode and SAR Test Channel Selection

When the same maximum output power was specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration with the largest channel bandwidth, lowest order modulation and lowest data rate. When the maximum output power of a channel is the same for equivalent OFDM configurations; for example, 802.11a, 802.11n and 802.11ac or 802.11g and 802.11n with the same channel bandwidth, modulation and data rate etc., the lower order 802.11 mode i.e., 802.11a, then 802.11n and 802.11ac or 802.11g then 802.11n, is used for SAR measurement. Per April 2019 TCB Workshop and FCC guidance, 802.11ax/be was considered the highest order 802.11 mode. When the maximum output power are the same for multiple test channels, either according to the default or additional power measurement requirements, SAR is measured using the channel closest to the middle of the frequency band or aggregated band. When there are multiple channels with the same maximum output power, SAR is measured using the higher number channel.

9.6.7 Initial Test Configuration Procedure

For OFDM, an initial test configuration is determined for each frequency band and aggregated band, according to the transmission mode with the highest maximum output power specified for SAR measurements. When the same maximum output power is specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration(s) with the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order IEEE 802.11 mode. The channel of the transmission mode with the highest average RF output conducted power will be the initial test configuration.

When the reported SAR is ≤ 0.8 W/kg, no additional measurements on other test channels are required. Otherwise, SAR is evaluated using the subsequent highest average RF output channel until the reported SAR result is ≤ 1.2 W/kg or all channels are measured. When there are multiple untested channels having the same subsequent highest average RF output power, the channel with higher frequency from the lowest

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802.11 mode is considered for SAR measurements (See Section 9.6.6). When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

9.6.8 Subsequent Test Configuration Procedures

For OFDM configurations in each frequency band and aggregated band, SAR is evaluated for initial test configuration using the fixed test position or the initial test position procedure. When the highest reported SAR (for the initial test configuration), adjusted by the ratio of the specified maximum output power of the subsequent test configuration to initial test configuration, is ≤ 1.2 W/kg, no additional SAR tests for the subsequent test configurations are required. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

9.6.9 MIMO SAR considerations

Per KDB Publication 248227 D01v02r02, the simultaneous SAR provisions in KDB Publication 447498 D01v06 should be applied to determine simultaneous transmission SAR test exclusion for WIFI MIMO. If the sum of 1g single transmission chain SAR measurements is <1.6 W/kg, no additional SAR measurements for MIMO are required. Alternatively, SAR for MIMO can be measured with all antennas transmitting simultaneously at the specified maximum output power of MIMO operation. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

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10 RF CONDUCTED POWERS

10.1 GSM Conducted Powers

Table 10-1
Measured P_{max} for all DSI for GSM 850 Ant A
Measured P_{limit} for DSI = 0 (Body-worn, Hotspot or Phablet) for GSM 1900 Ant A

Maximum Burst-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 850	128	32.64	32.57	31.14	**29.16**	27.61	26.71	25.07	23.20	22.51
	190	32.90	32.90	31.25	**29.37**	27.66	26.61	25.13	23.30	22.37
	251	32.88	32.87	31.21	**29.38**	27.59	26.76	25.20	23.41	22.38
GSM 1900	512	26.48	26.54	23.72	22.07	**20.78**	25.37	23.90	22.03	20.79
	661	26.55	26.62	23.91	22.06	**20.79**	25.71	23.98	22.32	21.07
	810	26.00	26.00	23.62	21.97	**20.52**	25.35	23.99	22.19	20.85

Calculated Maximum Frame-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 850	128	23.44	23.37	24.95	**24.73**	24.43	17.51	18.88	18.77	19.33
	190	23.70	23.70	25.06	**24.94**	24.48	17.41	18.94	18.87	19.19
	251	23.68	23.67	25.02	**24.95**	24.41	17.56	19.01	18.98	19.20
GSM 1900	512	17.28	17.34	17.53	17.64	**17.60**	16.17	17.71	17.60	17.61
	661	17.35	17.42	17.72	17.63	**17.61**	16.51	17.79	17.89	17.89
	810	16.80	16.80	17.43	17.54	**17.34**	16.15	17.80	17.76	17.67
GSM 850	Frame Avg.Targets:	23.30	23.30	25.31	**25.07**	24.32	17.80	18.81	18.57	18.82
GSM 1900		17.80	17.80	17.81	17.77	**17.82**	16.80	17.81	17.57	17.82

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Table 10-2
Measured P_{max} for DSI = 1 (Head) for GSM 1900 Ant A

Maximum Burst-Averaged Output Power										
		Voice	GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
Band	Channel	GSM [dBm] CS (1 Slot)	GPRS [dBm] 1 Tx Slot	GPRS [dBm] 2 Tx Slot	GPRS [dBm] 3 Tx Slot	GPRS [dBm] 4 Tx Slot	EDGE [dBm] 1 Tx Slot	EDGE [dBm] 2 Tx Slot	EDGE [dBm] 3 Tx Slot	EDGE [dBm] 4 Tx Slot
GSM 1900	512	29.66	29.71	27.76	**25.80**	24.15	25.37	23.90	22.03	20.79
	661	29.90	29.94	27.79	**25.95**	24.19	25.71	23.98	22.32	21.07
	810	29.70	29.76	27.46	**25.58**	24.03	25.35	23.99	22.19	20.85

Calculated Maximum Frame-Averaged Output Power										
		Voice	GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
Band	Channel	GSM [dBm] CS (1 Slot)	GPRS [dBm] 1 Tx Slot	GPRS [dBm] 2 Tx Slot	GPRS [dBm] 3 Tx Slot	GPRS [dBm] 4 Tx Slot	EDGE [dBm] 1 Tx Slot	EDGE [dBm] 2 Tx Slot	EDGE [dBm] 3 Tx Slot	EDGE [dBm] 4 Tx Slot
GSM 1900	512	20.46	20.51	21.57	**21.37**	20.97	16.17	17.71	17.60	17.61
	661	20.70	20.74	21.60	**21.52**	21.01	16.51	17.79	17.89	17.89
	810	20.50	20.56	21.27	**21.15**	20.85	16.15	17.80	17.76	17.67
GSM 1900	Frame Avg.Targets:	20.80	20.80	21.81	**22.07**	21.32	16.80	17.81	17.57	17.82

Table 10-3
Measured P_{max} for DSI = 0 (Body-worn, Hotspot or Phablet) for GSM 850 Ant E

Maximum Burst-Averaged Output Power										
		Voice	GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
Band	Channel	GSM [dBm] CS (1 Slot)	GPRS [dBm] 1 Tx Slot	GPRS [dBm] 2 Tx Slot	GPRS [dBm] 3 Tx Slot	GPRS [dBm] 4 Tx Slot	EDGE [dBm] 1 Tx Slot	EDGE [dBm] 2 Tx Slot	EDGE [dBm] 3 Tx Slot	EDGE [dBm] 4 Tx Slot
GSM 850	128	31.98	31.82	31.94	**28.71**	26.67	26.45	25.08	22.62	21.55
	190	32.22	32.05	31.10	**28.85**	26.79	26.57	25.05	22.66	21.68
	251	32.15	31.97	31.09	**28.92**	26.90	26.55	24.75	22.55	21.75

Calculated Maximum Frame-Averaged Output Power										
		Voice	GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
Band	Channel	GSM [dBm] CS (1 Slot)	GPRS [dBm] 1 Tx Slot	GPRS [dBm] 2 Tx Slot	GPRS [dBm] 3 Tx Slot	GPRS [dBm] 4 Tx Slot	EDGE [dBm] 1 Tx Slot	EDGE [dBm] 2 Tx Slot	EDGE [dBm] 3 Tx Slot	EDGE [dBm] 4 Tx Slot
GSM 850	128	22.78	22.62	25.75	**24.28**	23.49	17.25	18.89	18.19	18.37
	190	23.02	22.85	24.91	**24.42**	23.61	17.37	18.86	18.23	18.50
	251	22.95	22.77	24.90	**24.49**	23.72	17.35	18.56	18.12	18.57
GSM 850	Frame Avg.Targets:	23.30	23.30	25.31	**25.07**	24.32	17.80	18.81	18.57	18.82

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Table 10-4
Measured P_{limit} for DSI = 1 (Head) for GSM 850 Ant E

Maximum Burst-Averaged Output Power										
		Voice	GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
Band	Channel	GSM [dBm] CS (1 Slot)	GPRS [dBm] 1 Tx Slot	GPRS [dBm] 2 Tx Slot	GPRS [dBm] 3 Tx Slot	GPRS [dBm] 4 Tx Slot	EDGE [dBm] 1 Tx Slot	EDGE [dBm] 2 Tx Slot	EDGE [dBm] 3 Tx Slot	EDGE [dBm] 4 Tx Slot
GSM 850	128	29.72	29.74	26.94	24.22	**23.24**	26.45	25.08	22.62	21.55
	190	29.85	29.89	27.01	24.39	**23.20**	26.57	25.05	22.66	21.68
	251	29.90	29.90	27.46	24.47	**23.27**	26.55	24.75	22.55	21.75

Calculated Maximum Frame-Averaged Output Power										
		Voice	GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
Band	Channel	GSM [dBm] CS (1 Slot)	GPRS [dBm] 1 Tx Slot	GPRS [dBm] 2 Tx Slot	GPRS [dBm] 3 Tx Slot	GPRS [dBm] 4 Tx Slot	EDGE [dBm] 1 Tx Slot	EDGE [dBm] 2 Tx Slot	EDGE [dBm] 3 Tx Slot	EDGE [dBm] 4 Tx Slot
GSM 850	128	20.52	20.54	20.75	19.79	**20.06**	17.25	18.89	18.19	18.37
	190	20.65	20.69	20.82	19.96	**20.02**	17.37	18.86	18.23	18.50
	251	20.70	20.70	21.27	20.04	**20.09**	17.35	18.56	18.12	18.57
GSM 850	Frame Avg.Targets:	20.80	20.80	20.81	20.77	**20.82**	17.80	18.81	18.57	18.82

Note:

1. Both burst-averaged and calculated frame-averaged powers are included. Frame-averaged power was calculated from the measured burst-averaged power by converting the slot powers into linear units and calculating the energy over 8 timeslots.
2. GPRS/EDGE (GMSK) output powers were measured with coding scheme setting of 1 (CS1) on the base station simulator. CS1 was configured to measure GPRS output power measurements and SAR to ensure GMSK modulation in the signal. Our Investigation has shown that CS1 - CS4 settings do not have any impact on the output levels or modulation in the GPRS modes.
3. EDGE (8-PSK) output powers were measured with MCS7 on the base station simulator. MCS7 coding scheme was used to measure the output powers for EDGE since investigation has shown that choosing MCS7 coding scheme will ensure 8-PSK modulation. It has been shown that MCS levels that produce 8-PSK modulation do not have an impact on output power.

GSM Class: B
GPRS Multislot class: 33 (Max 4 Tx uplink slots)
EDGE Multislot class: 33 (Max 4 Tx uplink slots)
DTM Multislot Class: N/A

Figure 10-1
Power Measurement Setup

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10.2 UMTS Conducted Powers

Table 10-5
Measured P_{max} for all DSI for UMTS 850 Ant A
Measured P_{limit} for DSI = 0 (Body-worn, Hotspot or Phablet) for UMTS 1750 & UMTS 1900 Ant A

3GPP Release Version	Mode	3GPP 34.121 Subtest	Cellular Band [dBm]			AWS Band [dBm]			PCS Band [dBm]			3GPP MPR [dB]
			4132	4183	4233	1312	1412	1513	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	24.67	24.88	**24.94**	**18.85**	18.23	18.28	18.37	**18.43**	18.20	-
99		12.2 kbps AMR	24.90	24.83	24.92	18.87	18.25	18.32	18.38	18.42	18.16	-
6	HSDPA	Subtest 1	22.87	22.97	23.20	17.17	16.56	16.57	16.58	16.57	16.59	0
6		Subtest 2	22.89	22.98	23.19	17.13	16.53	16.56	16.58	16.55	16.57	0
6		Subtest 3	22.41	22.47	22.70	16.64	16.02	16.05	16.06	16.06	16.07	0.5
6		Subtest 4	22.39	22.46	22.70	16.69	15.63	16.07	16.06	16.07	16.05	0.5
6	HSUPA	Subtest 1	22.92	22.98	23.19	17.12	16.49	16.54	16.52	16.51	16.54	0
6		Subtest 2	20.87	20.91	21.15	15.06	14.48	14.54	14.53	14.58	14.56	2
6		Subtest 3	21.87	21.96	22.09	16.09	15.49	15.48	15.51	15.53	15.54	1
6		Subtest 4	20.86	20.94	21.16	15.15	14.51	14.54	14.51	14.53	14.50	2
6		Subtest 5	22.93	22.98	23.20	17.15	16.52	16.57	16.53	16.57	16.54	0
8	DC-HSDPA	Subtest 1	22.89	22.96	23.17	17.12	16.54	16.55	16.58	16.55	16.55	0
8		Subtest 2	22.88	22.96	23.18	17.14	16.54	16.58	16.57	16.56	16.56	0
8		Subtest 3	22.41	22.47	22.66	16.67	16.02	16.08	16.07	16.05	16.05	0.5
8		Subtest 4	22.40	22.46	22.68	16.64	16.20	16.06	16.08	16.06	16.06	0.5

Table 10-6
Measured P_{max} for DSI = 1 (Head) for UMTS 1750 & UMTS 1900 Ant A

3GPP Release Version	Mode	3GPP 34.121 Subtest	AWS Band [dBm]			PCS Band [dBm]			3GPP MPR [dB]
			1312	1412	1513	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	**23.45**	22.91	22.98	23.94	**23.98**	23.75	-
99		12.2 kbps AMR	23.44	22.94	23.07	23.93	24.10	23.83	-
6	HSDPA	Subtest 1	21.78	21.20	21.18	22.45	22.49	22.20	0
6		Subtest 2	21.77	21.19	21.21	22.45	22.47	22.18	0
6		Subtest 3	21.29	20.65	20.72	21.10	21.95	21.70	0.5
6		Subtest 4	21.28	20.67	20.71	21.11	21.94	21.72	0.5
6	HSUPA	Subtest 1	21.79	21.18	21.21	22.40	22.44	22.16	0
6		Subtest 2	19.78	19.14	19.16	20.42	20.43	20.14	2
6		Subtest 3	20.75	20.20	20.17	21.39	21.45	21.15	1
6		Subtest 4	19.80	19.15	19.17	20.41	20.40	20.13	2
6		Subtest 5	21.78	21.21	21.21	22.44	22.48	22.18	0
8	DC-HSDPA	Subtest 1	21.80	21.19	21.24	22.49	22.49	22.22	0
8		Subtest 2	21.76	21.17	21.21	22.49	22.49	22.23	0
8		Subtest 3	21.30	20.69	20.71	22.01	22.00	21.71	0.5
8		Subtest 4	21.31	20.73	20.72	21.98	21.97	21.72	0.5

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Table 10-7
Measured P_{max} for DSI = 0 (Body-worn, Hotspot or Phablet) for UMTS 850 Ant E

3GPP Release Version	Mode	3GPP 34.121 Subtest	Cellular Band [dBm]			3GPP MPR [dB]
			4132	4183	4233	
99	WCDMA	12.2 kbps RMC	23.97	24.16	**24.23**	-
99		12.2 kbps AMR	23.98	24.12	24.21	-
6	HSDPA	Subtest 1	22.82	23.05	23.05	0
6		Subtest 2	22.83	23.09	23.06	0
6		Subtest 3	22.33	22.58	22.55	0.5
6		Subtest 4	22.32	22.55	22.57	0.5
6	HSUPA	Subtest 1	22.83	23.07	23.09	0
6		Subtest 2	20.80	21.06	21.03	2
6		Subtest 3	21.80	22.01	22.06	1
6		Subtest 4	20.73	21.02	21.01	2
6		Subtest 5	22.77	23.05	23.02	0
8	DC-HSDPA	Subtest 1	22.72	22.87	22.98	0
8		Subtest 2	22.74	22.96	22.99	0
8		Subtest 3	22.26	22.48	22.51	0.5
8		Subtest 4	22.28	22.49	22.52	0.5

Table 10-8
Measured P_{limit} for DSI = 1 (Head) for UMTS 850 Ant E

3GPP Release Version	Mode	3GPP 34.121 Subtest	Cellular Band [dBm]			3GPP MPR [dB]
			4132	4183	4233	
99	WCDMA	12.2 kbps RMC	20.97	21.00	**21.16**	-
99		12.2 kbps AMR	20.61	20.79	20.81	-
6	HSDPA	Subtest 1	19.48	19.70	19.69	0
6		Subtest 2	19.50	19.70	19.71	0
6		Subtest 3	18.98	19.19	19.19	0.5
6		Subtest 4	18.97	19.19	19.18	0.5
6	HSUPA	Subtest 1	19.45	19.69	19.66	0
6		Subtest 2	17.45	17.66	17.66	2
6		Subtest 3	18.45	18.69	18.69	1
6		Subtest 4	17.42	17.67	17.64	2
6		Subtest 5	19.43	19.69	19.67	0
8	DC-HSDPA	Subtest 1	19.39	19.61	19.59	0
8		Subtest 2	19.41	19.61	19.60	0
8		Subtest 3	18.86	19.06	19.07	0.5
8		Subtest 4	18.81	19.05	19.06	0.5

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DC-HSDPA considerations

- 3GPP Specification 34.121-1 Release 8 Ver 8.10.0 was used for DC-HSDPA guidance
- H-Set 12 (QPSK) was confirmed to be used during DC-HSDPA measurements
- The DUT supports UE category 24 for HSDPA

It is expected by the manufacturer that MPR for some HSPA subtests may be up to 2 dB more than specified by 3GPP, but also as low as 0 dB according to the chipset implementation in this model.

Figure 10-2
Power Measurement Setup

10.3 LTE Conducted Powers

Note: Per FCC KDB Publication 941225 D05v02r05, LTE SAR for the lower bandwidths was not required for testing since the maximum average output power of all required channels and configurations was not more than 0.5 dB higher than the highest bandwidth and the reported LTE SAR for the highest bandwidth was less than 1.45 W/kg. Lower bandwidth conducted powers for all LTE bands can be found in LTE and NR Lower Bandwidth RF Conducted Powers Appendix.

Note: Some bands do not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

LTE Carrier Aggregation Notes:

1. This device supports uplink carrier aggregation for LTE CA_ 48C, with a maximum of two component carriers. For intraband contiguous carrier aggregation scenarios, 3GPP 36.101 Table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when non-contiguous RB allocation is implemented. The conducted powers and MPR settings in this device are permanently implemented per the above 3GPP requirements.
2. Per FCC Guidance, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.

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10.3.1 LTE Band 71

Table 10-9
LTE Band 71 Ant A Measured P_{Max} for all DSI - 20 MHz Bandwidth

LTE Band 71 20 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 133297 (680.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	24.41	0	0
	1	50	**24.46**		0
	1	99	24.36		0
	50	0	23.23	0-1	1
	50	25	23.33		1
	50	50	**23.34**		1
	100	0	23.30		1
16QAM	1	0	23.39	0-1	1
	1	50	23.67		1
	1	99	23.74		1
	50	0	22.29	0-2	2
	50	25	22.34		2
	50	50	22.38		2
	100	0	22.31		2
64QAM	1	0	22.21	0-2	2
	1	50	22.45		2
	1	99	22.56		2
	50	0	21.25	0-3	3
	50	25	21.34		3
	50	50	21.34		3
	100	0	21.28		3
256QAM	1	0	19.19	0-5	5
	1	50	19.55		5
	1	99	19.32		5
	50	0	19.23		5
	50	25	19.30		5
	50	50	19.29		5
	100	0	19.26		5

Table 10-10
LTE Band 71 Ant E Measured P_{Max} for DSI = 0 (Body-worn, Hotspot or Phablet) - 20 MHz Bandwidth

LTE Band 71 20 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 133297 (680.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	23.81	0	0
	1	50	**23.92**		0
	1	99	23.88		0
	50	0	22.69	0-1	1
	50	25	22.75		1
	50	50	**22.78**		1
	100	0	22.75		1
16QAM	1	0	22.91	0-1	1
	1	50	23.10		1
	1	99	23.12		1
	50	0	21.69	0-2	2
	50	25	21.76		2
	50	50	21.76		2
	100	0	21.74		2
64QAM	1	0	21.72	0-2	2
	1	50	22.10		2
	1	99	22.10		2
	50	0	20.69	0-3	3
	50	25	20.76		3
	50	50	20.79		3
	100	0	20.72		3
256QAM	1	0	18.58	0-5	5
	1	50	18.88		5
	1	99	18.90		5
	50	0	18.64		5
	50	25	18.71		5
	50	50	18.73		5
	100	0	18.68		5

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Table 10-11
LTE Band 71 Ant E Measured P_{Limit} for DSI = 1 (Head) - 20 MHz Bandwidth

LTE Band 71 20 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 133297 (680.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	17.45	0	0
	1	50	**17.46**		0
	1	99	17.42		0
	50	0	17.42	0-1	0
	50	25	17.42		0
	50	50	**17.44**		0
	100	0	17.43		0
16QAM	1	0	17.45	0-1	0
	1	50	17.42		0
	1	99	17.45		0
	50	0	17.44	0-2	0
	50	25	17.42		0
	50	50	17.45		0
	100	0	17.45		0
64QAM	1	0	17.43	0-2	0
	1	50	17.43		0
	1	99	17.41		0
	50	0	17.42	0-3	0
	50	25	17.42		0
	50	50	17.45		0
	100	0	17.44		0
256QAM	1	0	17.41	0-5	0
	1	50	17.75		0
	1	99	17.60		0
	50	0	17.40		0
	50	25	17.45		0
	50	50	17.43		0
	100	0	17.46		0

10.3.2 LTE Band 12

Table 10-12
LTE Band 12 Ant A Measured P_{Max} for all DSI - 10 MHz Bandwidth

LTE Band 12 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23095 (707.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**24.83**	0	0
	1	25	24.78		0
	1	49	24.64		0
	25	0	23.85	0-1	1
	25	12	23.85		1
	25	25	**23.88**		1
	50	0	23.80		1
16QAM	1	0	24.19	0-1	1
	1	25	24.11		1
	1	49	24.07		1
	25	0	22.83	0-2	2
	25	12	22.83		2
	25	25	22.89		2
	50	0	22.79		2
64QAM	1	0	23.01	0-2	2
	1	25	23.07		2
	1	49	22.96		2
	25	0	21.81	0-3	3
	25	12	21.83		3
	25	25	21.89		3
	50	0	21.79		3
256QAM	1	0	19.81	0-5	5
	1	25	19.95		5
	1	49	19.69		5
	25	0	19.73		5
	25	12	19.82		5
	25	25	19.82		5
	50	0	19.75		5

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Table 10-13
LTE Band 12 Ant E Measured P_{Max} for DSI = 0 (Body-worn, Hotspot or Phablet) - 10 MHz Bandwidth

LTE Band 12 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23095 (707.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**24.39**	0	0
	1	25	24.34		0
	1	49	24.24		0
	25	0	23.19	0-1	1
	25	12	23.19		1
	25	25	**23.25**		1
	50	0	23.16		1
16QAM	1	0	23.45	0-1	1
	1	25	23.47		1
	1	49	23.38		1
	25	0	22.22	0-2	2
	25	12	22.24		2
	25	25	22.27		2
	50	0	22.20		2
64QAM	1	0	22.43	0-2	2
	1	25	22.47		2
	1	49	22.40		2
	25	0	21.17	0-3	3
	25	12	21.24		3
	25	25	21.24		3
	50	0	21.17		3
256QAM	1	0	19.28	0-5	5
	1	25	19.42		5
	1	49	19.14		5
	25	0	19.18		5
	25	12	19.16		5
	25	25	19.21		5
	50	0	19.13		5

Table 10-14
LTE Band 12 Ant E Measured P_{Limit} for DSI = 1 (Head) - 10 MHz Bandwidth

LTE Band 12 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23095 (707.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**20.60**	0	0
	1	25	20.58		0
	1	49	20.58		0
	25	0	**20.62**	0-1	0
	25	12	20.60		0
	25	25	20.61		0
	50	0	20.58		0
16QAM	1	0	20.65	0-1	0
	1	25	20.62		0
	1	49	20.61		0
	25	0	20.60	0-2	0
	25	12	20.65		0
	25	25	20.59		0
	50	0	20.60		0
64QAM	1	0	20.62	0-2	0
	1	25	20.62		0
	1	49	20.63		0
	25	0	20.58	0-3	0
	25	12	20.61		0
	25	25	20.58		0
	50	0	20.62		0
256QAM	1	0	19.23	0-5	2
	1	25	19.30		2
	1	49	19.16		2
	25	0	19.14		2
	25	12	19.15		2
	25	25	19.17		2
	50	0	19.10		2

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10.3.3 LTE Band 13

Table 10-15
LTE Band 13 Ant A Measured P_{Max} for all DSI - 10 MHz Bandwidth

LTE Band 13 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23230 (782.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	23.96	0	0
	1	25	24.06		0
	1	49	**24.09**		0
	25	0	22.99	0-1	1
	25	12	**23.17**		1
	25	25	23.16		1
	50	0	23.15		1
16QAM	1	0	23.26	0-1	1
	1	25	23.45		1
	1	49	23.42		1
	25	0	22.13	0-2	2
	25	12	22.20		2
	25	25	22.13		2
	50	0	22.20		2
64QAM	1	0	22.26	0-2	2
	1	25	22.45		2
	1	49	22.45		2
	25	0	21.12	0-3	3
	25	12	21.21		3
	25	25	21.16		3
	50	0	21.17		3
256QAM	1	0	19.15	0-5	5
	1	25	19.12		5
	1	49	19.30		5
	25	0	19.06		5
	25	12	19.17		5
	25	25	19.15		5
	50	0	19.13		5

Table 10-16
LTE Band 13 Ant E Measured P_{Max} for DSI = 0 (Body-worn, Hotspot or Phablet) - 10 MHz Bandwidth

LTE Band 13 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23230 (782.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	23.22	0	0
	1	25	**23.43**		0
	1	49	23.42		0
	25	0	22.43	0-1	1
	25	12	**22.53**		1
	25	25	22.49		1
	50	0	22.50		1
16QAM	1	0	22.57	0-1	1
	1	25	22.78		1
	1	49	22.67		1
	25	0	21.50	0-2	2
	25	12	21.52		2
	25	25	21.56		2
	50	0	21.51		2
64QAM	1	0	21.62	0-2	2
	1	25	21.66		2
	1	49	21.83		2
	25	0	20.47	0-3	3
	25	12	20.53		3
	25	25	20.47		3
	50	0	20.53		3
256QAM	1	0	18.53	0-5	5
	1	25	18.58		5
	1	49	18.52		5
	25	0	18.45		5
	25	12	18.52		5
	25	25	18.49		5
	50	0	18.48		5

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Table 10-17
LTE Band 13 Ant E Measured P_{Limit} for DSI = 1 (Head) - 10 MHz Bandwidth

LTE Band 13 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23230 (782.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**20.34**	0	0
	1	25	20.29		0
	1	49	20.28		0
	25	0	20.16	0-1	0
	25	12	**20.30**		0
	25	25	20.21		0
	50	0	20.24		0
16QAM	1	0	20.39	0-1	0
	1	25	20.59		0
	1	49	20.53		0
	25	0	20.21	0-2	0
	25	12	20.30		0
	25	25	20.28		0
	50	0	20.30		0
64QAM	1	0	20.52	0-2	0
	1	25	20.41		0
	1	49	20.64		0
	25	0	20.22	0-3	0
	25	12	20.28		0
	25	25	20.28		0
	50	0	20.29		0
256QAM	1	0	18.52	0-5	2
	1	25	18.64		2
	1	49	18.62		2
	25	0	18.44		2
	25	12	18.53		2
	25	25	18.48		2
	50	0	18.50		2

10.3.4 LTE Band 14

Table 10-18
LTE Band 14 Ant A Measured P_{Max} for all DSI - 10 MHz Bandwidth

LTE Band 14 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23330 (793.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	24.69	0	0
	1	25	24.80		0
	1	49	**24.85**		0
	25	0	23.58	0-1	1
	25	12	**23.65**		1
	25	25	23.64		1
	50	0	23.63		1
16QAM	1	0	23.83	0-1	1
	1	25	23.88		1
	1	49	23.90		1
	25	0	22.58	0-2	2
	25	12	22.70		2
	25	25	22.65		2
	50	0	22.65		2
64QAM	1	0	22.68	0-2	2
	1	25	22.77		2
	1	49	22.82		2
	25	0	21.55	0-3	3
	25	12	21.66		3
	25	25	21.61		3
	50	0	21.63		3
256QAM	1	0	19.66	0-5	5
	1	25	19.70		5
	1	49	19.70		5
	25	0	19.54		5
	25	12	19.65		5
	25	25	19.60		5
	50	0	19.61		5

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Table 10-19
LTE Band 14 Ant E Measured P_{Max} for DSI = 0 (Body-worn, Hotspot or Phablet) - 10 MHz Bandwidth

LTE Band 14 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23330 (793.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	24.03	0	0
	1	25	**24.16**		0
	1	49	24.12		0
	25	0	22.93	0-1	1
	25	12	**22.99**		1
	25	25	22.96		1
	50	0	22.98		1
16QAM	1	0	23.12	0-1	1
	1	25	23.05		1
	1	49	23.04		1
	25	0	21.91	0-2	2
	25	12	21.99		2
	25	25	22.00		2
	50	0	21.98		2
64QAM	1	0	22.04	0-2	2
	1	25	22.15		2
	1	49	22.10		2
	25	0	20.90	0-3	3
	25	12	20.99		3
	25	25	20.97		3
	50	0	20.96		3
256QAM	1	0	18.85	0-5	5
	1	25	19.05		5
	1	49	19.10		5
	25	0	18.87		5
	25	12	18.99		5
	25	25	18.90		5
	50	0	18.96		5

Table 10-20
LTE Band 14 Ant E Measured P_{Limit} for DSI = 1 (Head) - 10 MHz Bandwidth

LTE Band 14 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23330 (793.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	20.35	0	0
	1	25	20.29		0
	1	49	**20.45**		0
	25	0	20.37	0-1	0
	25	12	20.44		0
	25	25	**20.46**		0
	50	0	20.43		0
16QAM	1	0	20.78	0-1	0
	1	25	20.71		0
	1	49	20.69		0
	25	0	20.37	0-2	0
	25	12	20.45		0
	25	25	20.42		0
	50	0	20.43		0
64QAM	1	0	20.51	0-2	0
	1	25	20.59		0
	1	49	20.51		0
	25	0	20.35	0-3	0
	25	12	20.48		0
	25	25	20.38		0
	50	0	20.45		0
256QAM	1	0	18.98	0-5	1.7
	1	25	19.07		1.7
	1	49	18.99		1.7
	25	0	18.86		1.7
	25	12	18.98		1.7
	25	25	18.94		1.7
	50	0	18.92		1.7

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10.3.1 LTE Band 26

Table 10-21
LTE Band 26 Ant A Measured P_{Max} for all DSI - 15 MHz Bandwidth

LTE Band 26 (Cell) 15 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 26865 (831.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	24.36	0	0
	1	36	**24.46**		0
	1	74	24.37		0
	36	0	23.08	0-1	1
	36	18	**23.17**		1
	36	37	23.08		1
	75	0	23.13		1
16QAM	1	0	23.26	0-1	1
	1	36	23.34		1
	1	74	23.31		1
	36	0	22.16	0-2	2
	36	18	22.22		2
	36	37	22.15		2
	75	0	22.19		2
64QAM	1	0	22.50	0-2	2
	1	36	22.54		2
	1	74	22.46		2
	36	0	21.17	0-3	3
	36	18	21.22		3
	36	37	21.13		3
	75	0	21.16		3
256QAM	1	0	19.25	0-5	5
	1	36	19.26		5
	1	74	19.17		5
	36	0	19.11		5
	36	18	19.19		5
	36	37	19.11		5
	75	0	19.16		5

Table 10-22
LTE Band 26 Ant E Measured P_{Max} for DSI = 0 (Body-worn, Hotspot or Phablet) - 15 MHz Bandwidth

LTE Band 26 (Cell) 15 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 26865 (831.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	23.63	0	0
	1	36	**23.67**		0
	1	74	23.55		0
	36	0	22.50	0-1	1
	36	18	**22.59**		1
	36	37	22.50		1
	75	0	22.53		1
16QAM	1	0	22.82	0-1	1
	1	36	22.91		1
	1	74	22.89		1
	36	0	21.58	0-2	2
	36	18	21.66		2
	36	37	21.57		2
	75	0	21.59		2
64QAM	1	0	21.74	0-2	2
	1	36	21.73		2
	1	74	21.75		2
	36	0	20.56	0-3	3
	36	18	20.61		3
	36	37	20.51		3
	75	0	20.56		3
256QAM	1	0	18.79	0-5	5
	1	36	18.87		5
	1	74	18.67		5
	36	0	18.54		5
	36	18	18.58		5
	36	37	18.51		5
	75	0	18.57		5

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Table 10-23
LTE Band 26 Ant E Measured P_{Limit} for DSI = 1 (Head) - 15 MHz Bandwidth

LTE Band 26 (Cell) 15 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 26865 (831.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	20.17	0	0
	1	36	**20.26**		0
	1	74	20.16		0
	36	0	20.30	0-1	0
	36	18	**20.35**		0
	36	37	20.28		0
	75	0	20.20		0
16QAM	1	0	20.43	0-1	0
	1	36	20.66		0
	1	74	20.51		0
	36	0	20.37	0-2	0
	36	18	20.40		0
	36	37	20.34		0
	75	0	20.36		0
64QAM	1	0	20.45	0-2	0
	1	36	20.47		0
	1	74	20.41		0
	36	0	20.34	0-3	0
	36	18	20.39		0
	36	37	20.31		0
	75	0	20.33		0
256QAM	1	0	18.71	0-5	2
	1	36	18.82		2
	1	74	18.63		2
	36	0	18.54		2
	36	18	18.59		2
	36	37	18.51		2
	75	0	18.55		2

10.3.2 LTE Band 66

Table 10-24
LTE Band 66 (AWS) Ant A Measured P_{Limit} for DSI= 0 (Body-worn, Hotspot or Phablet) - 20 MHz Bandwidth

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132072 (1720.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132572 (1770.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	**18.92**	18.43	18.57	0	0
	1	50	18.79	18.37	18.57		0
	1	99	18.60	18.30	18.56		0
	50	0	**18.82**	18.55	18.53	0-1	0
	50	25	18.78	18.54	18.50		0
	50	50	18.62	18.48	18.51		0
	100	0	18.77	18.51	18.51		0
16QAM	1	0	19.30	19.07	18.93	0-1	0
	1	50	19.08	18.96	18.90		0
	1	99	18.74	19.01	18.67		0
	50	0	18.86	18.58	18.55	0-2	0
	50	25	18.78	18.56	18.53		0
	50	50	18.65	18.47	18.54		0
	100	0	18.78	18.53	18.52		0
64QAM	1	0	19.29	18.72	18.74	0-2	0
	1	50	19.29	18.73	18.74		0
	1	99	18.86	18.81	18.70		0
	50	0	18.91	18.56	18.53	0-3	0
	50	25	18.86	18.53	18.48		0
	50	50	18.70	18.52	18.54		0
	100	0	18.82	18.55	18.48		0
256QAM	1	0	18.98	18.79	18.63	0-5	0
	1	50	19.03	18.67	18.72		0
	1	99	18.80	18.62	18.66		0
	50	0	18.91	18.59	18.55		0
	50	25	18.90	18.57	18.49		0
	50	50	18.70	18.52	18.50		0
	100	0	18.84	18.56	18.49		0

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Table 10-25
LTE Band 66 (AWS) Ant A Measured P_{Max} for DSI = 1 (Head) - 20 MHz Bandwidth

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132072 (1720.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132572 (1770.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.76	23.45	23.53	0	0
	1	50	**23.80**	23.40	23.59		0
	1	99	23.51	23.36	23.61		0
	50	0	**22.80**	22.48	22.56	0-1	1
	50	25	22.75	22.45	22.57		1
	50	50	22.59	22.42	22.57		1
	100	0	22.70	22.43	22.55		1
16QAM	1	0	22.90	22.64	22.76	0-1	1
	1	50	22.96	22.66	22.74		1
	1	99	22.63	22.64	22.78		1
	50	0	21.82	21.52	21.61	0-2	2
	50	25	21.79	21.52	21.59		2
	50	50	21.60	21.45	21.58		2
	100	0	21.77	21.49	21.55		2
64QAM	1	0	22.07	21.71	21.76	0-2	2
	1	50	21.96	21.66	21.87		2
	1	99	21.63	21.70	21.90		2
	50	0	20.84	20.53	20.59	0-3	3
	50	25	20.82	20.52	20.57		3
	50	50	20.63	20.49	20.61		3
	100	0	20.75	20.52	20.55		3
256QAM	1	0	18.92	18.77	18.62	0-5	5
	1	50	18.90	18.67	18.71		5
	1	99	18.70	18.64	18.76		5
	50	0	18.83	18.54	18.57		5
	50	25	18.77	18.54	18.55		5
	50	50	18.60	18.48	18.56		5
	100	0	18.78	18.53	18.52		5

Table 10-26
LTE Band 66 (AWS) Ant F Measured P_{Limit} for DSI= 0 (Body-worn, Hotspot or Phablet)- 20 MHz Bandwidth

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132072 (1720.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132572 (1770.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.18	19.78	20.02	0	0
	1	50	**20.20**	19.82	19.99		0
	1	99	20.03	19.73	19.86		0
	50	0	**20.23**	19.96	19.87	0-1	0
	50	25	20.09	19.94	19.87		0
	50	50	19.99	19.86	19.87		0
	100	0	20.09	19.88	19.86		0
16QAM	1	0	20.65	20.30	20.35	0-1	0
	1	50	20.68	20.51	20.30		0
	1	99	20.42	20.35	20.18		0
	50	0	20.27	19.97	19.88	0-2	0
	50	25	20.16	19.95	19.89		0
	50	50	20.05	19.90	19.92		0
	100	0	20.14	19.93	19.86		0
64QAM	1	0	20.05	20.19	20.26	0-2	0
	1	50	20.68	20.32	20.34		0
	1	99	20.37	20.20	20.20		0
	50	0	20.29	19.97	19.88	0-3	0
	50	25	20.14	19.96	19.86		0
	50	50	20.06	19.89	19.92		0
	100	0	20.15	19.92	19.83		0
256QAM	1	0	19.26	18.89	18.77	0-5	1.5
	1	50	19.27	18.96	18.75		1.5
	1	99	19.05	18.81	18.61		1.5
	50	0	18.94	18.66	18.56		1.5
	50	25	18.83	18.61	18.57		1.5
	50	50	18.78	18.58	18.58		1.5
	100	0	18.81	18.63	18.56		1.5

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Table 10-27
LTE Band 66 (AWS) Ant F Measured P_{Limit} for DSI = 1 (Head) - 20 MHz Bandwidth

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132072 (1720.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132572 (1770.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	**15.88**	15.48	15.82	0	0
	1	50	15.71	15.66	15.75		0
	1	99	15.60	15.56	15.63		0
	50	0	**15.90**	15.60	15.67	0-1	0
	50	25	15.88	15.60	15.63		0
	50	50	15.74	15.58	15.65		0
	100	0	15.83	15.60	15.56		0
16QAM	1	0	16.01	15.78	16.03	0-1	0
	1	50	15.93	15.67	15.87		0
	1	99	15.84	15.80	15.78		0
	50	0	15.92	15.71	15.61	0-2	0
	50	25	15.92	15.62	15.66		0
	50	50	15.74	15.61	15.70		0
	100	0	15.86	15.66	15.65		0
64QAM	1	0	16.11	15.85	15.79	0-2	0
	1	50	15.97	15.71	16.00		0
	1	99	15.80	15.75	15.83		0
	50	0	15.92	15.72	15.63	0-3	0
	50	25	15.93	15.69	15.72		0
	50	50	15.76	15.67	15.70		0
	100	0	15.92	15.66	15.62		0
256QAM	1	0	16.00	15.75	15.79	0-5	0
	1	50	15.88	15.65	15.84		0
	1	99	15.66	15.76	15.65		0
	50	0	15.92	15.70	15.71		0
	50	25	15.89	15.66	15.68		0
	50	50	15.81	15.63	15.67		0
	100	0	15.85	15.72	15.66		0

10.3.3 LTE Band 25

Table 10-28
LTE Band 25 (PCS) Ant A Measured P_{Limit} for DSI= 0 (Body-worn, Hotspot or Phablet) - 20 MHz Bandwidth

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26140 (1860.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26590 (1905.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	**18.44**	18.15	18.01	0	0
	1	50	18.36	18.17	17.84		0
	1	99	18.31	18.06	17.73		0
	50	0	18.33	18.28	18.00	0-1	0
	50	25	**18.38**	18.27	17.92		0
	50	50	18.35	18.23	17.79		0
	100	0	18.36	18.25	17.90		0
16QAM	1	0	18.71	18.81	18.42	0-1	0
	1	50	18.60	18.88	18.13		0
	1	99	18.54	18.72	18.15		0
	50	0	18.32	18.33	18.01	0-2	0
	50	25	18.38	18.34	17.95		0
	50	50	18.42	18.30	17.79		0
	100	0	18.35	18.26	17.93		0
64QAM	1	0	18.85	18.63	18.27	0-2	0
	1	50	18.85	18.78	18.27		0
	1	99	18.52	18.50	18.07		0
	50	0	18.33	18.35	17.99	0-3	0
	50	25	18.35	18.32	17.95		0
	50	50	18.35	18.29	17.82		0
	100	0	18.34	18.27	17.95		0
256QAM	1	0	18.62	18.53	18.20	0-5	0
	1	50	18.68	18.49	18.06		0
	1	99	18.44	18.36	17.86		0
	50	0	18.32	18.34	18.00		0
	50	25	18.42	18.33	17.98		0
	50	50	18.37	18.26	17.81		0
	100	0	18.39	18.29	17.98		0

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Table 10-29
LTE Band 25 (PCS) Ant A Measured P_{Max} for DSI = 1 (Head) - 20 MHz Bandwidth

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26140 (1860.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26590 (1905.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	**24.25**	23.94	23.67	0	0
	1	50	24.09	23.95	23.44		0
	1	99	24.06	23.76	23.48		0
	50	0	23.05	23.00	22.65	0-1	1
	50	25	**23.12**	23.06	22.66		1
	50	50	23.07	22.98	22.53		1
	100	0	23.07	22.99	22.67		1
16QAM	1	0	23.44	23.43	23.32	0-1	1
	1	50	23.46	23.42	23.25		1
	1	99	23.33	23.38	23.04		1
	50	0	22.07	22.05	21.74	0-2	2
	50	25	22.11	22.05	21.70		2
	50	50	22.08	21.99	21.56		2
	100	0	22.09	22.01	21.67		2
64QAM	1	0	22.38	22.38	22.13	0-2	2
	1	50	22.37	22.46	22.01		2
	1	99	22.22	22.19	21.83		2
	50	0	21.06	21.08	20.70	0-3	3
	50	25	21.16	21.09	20.70		3
	50	50	21.09	21.00	20.57		3
	100	0	21.09	21.01	20.69		3
256QAM	1	0	19.37	19.23	19.06	0-5	5
	1	50	19.30	19.28	18.81		5
	1	99	19.14	19.07	18.62		5
	50	0	19.06	19.08	18.70		5
	50	25	19.13	19.05	18.70		5
	50	50	19.05	18.98	18.54		5
	100	0	19.05	19.01	18.70		5

Table 10-30
LTE Band 25 (PCS) Ant F Measured P_{Limit} for DSI= 0 (Body-worn, Hotspot or Phablet) - 20 MHz Bandwidth

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26140 (1860.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26590 (1905.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.12	**20.23**	19.96	0	0
	1	50	20.20	20.22	19.72		0
	1	99	20.15	19.93	19.73		0
	50	0	20.08	20.13	19.99	0-1	0
	50	25	20.16	**20.17**	20.03		0
	50	50	20.15	20.10	19.86		0
	100	0	20.15	20.07	19.97		0
16QAM	1	0	20.60	20.47	20.38	0-1	0
	1	50	20.55	20.57	20.29		0
	1	99	20.54	20.29	20.27		0
	50	0	20.08	20.13	19.98	0-2	0
	50	25	20.18	20.14	20.03		0
	50	50	20.13	20.07	19.84		0
	100	0	20.14	20.12	19.97		0
64QAM	1	0	20.36	20.55	20.47	0-2	0
	1	50	20.54	20.61	20.28		0
	1	99	20.54	20.26	20.19		0
	50	0	20.12	20.15	20.01	0-3	0
	50	25	20.21	20.20	20.09		0
	50	50	20.20	20.14	19.87		0
	100	0	20.14	20.14	19.99		0
256QAM	1	0	18.95	19.20	19.01	0-5	1.5
	1	50	19.03	19.05	18.96		1.5
	1	99	18.91	18.77	18.54		1.5
	50	0	18.75	18.84	18.67		1.5
	50	25	18.86	18.84	18.75		1.5
	50	50	18.78	18.75	18.55		1.5
	100	0	18.81	18.82	18.68		1.5

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Table 10-31
LTE Band 25 (PCS) Ant F Measured P_{Limit} for DSI = 1 (Head) - 20 MHz Bandwidth

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26140 (1860.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26590 (1905.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	**18.21**	18.11	18.19	0	0
	1	50	18.12	18.13	17.93		0
	1	99	18.10	17.87	17.75		0
	50	0	18.13	18.15	18.02	0-1	0
	50	25	**18.19**	18.16	17.99		0
	50	50	18.16	18.14	17.84		0
	100	0	18.14	18.17	17.94		0
16QAM	1	0	18.40	18.52	18.43	0-1	0
	1	50	18.46	18.63	18.23		0
	1	99	18.39	18.58	18.10		0
	50	0	18.13	18.18	18.06	0-2	0
	50	25	18.19	18.12	18.02		0
	50	50	18.21	18.15	17.88		0
	100	0	18.14	18.12	17.97		0
64QAM	1	0	18.52	18.53	18.45	0-2	0
	1	50	18.51	18.54	18.19		0
	1	99	18.42	18.31	18.06		0
	50	0	18.16	18.19	18.09	0-3	0
	50	25	18.19	18.17	18.03		0
	50	50	18.22	18.19	17.90		0
	100	0	18.17	18.11	17.98		0
256QAM	1	0	18.33	18.35	18.27	0-5	0
	1	50	18.39	18.53	18.12		0
	1	99	18.35	18.15	17.81		0
	50	0	18.13	18.16	18.00		0
	50	25	18.24	18.17	18.05		0
	50	50	18.14	18.13	17.86		0
	100	0	18.14	18.15	17.99		0

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10.3.1 LTE Band 30

Table 10-32
LTE Band 30 Ant A Measured P_{Plimit} for DSI = 0 (Body-worn, Hotspot or Phablet) - 10 MHz Bandwidth

LTE Band 30 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	19.51	0	0
	1	25	**19.52**		0
	1	49	19.30		0
	25	0	**19.41**	0-1	0
	25	12	19.40		0
	25	25	19.31		0
	50	0	19.35		0
16QAM	1	0	19.66	0-1	0
	1	25	19.79		0
	1	49	19.49		0
	25	0	19.44	0-2	0
	25	12	19.38		0
	25	25	19.36		0
	50	0	19.38		0
64QAM	1	0	19.64	0-2	0
	1	25	19.69		0
	1	49	19.34		0
	25	0	19.44	0-3	0
	25	12	19.41		0
	25	25	19.32		0
	50	0	19.38		0
256QAM	1	0	18.06	0-5	1.5
	1	25	18.17		1.5
	1	49	17.95		1.5
	25	0	18.04		1.5
	25	12	18.00		1.5
	25	25	17.92		1.5
	50	0	18.00		1.5

Table 10-33
LTE Band 30 Ant A Measured P_{Max} for DSI = 1 (Head) - 10 MHz Bandwidth

LTE Band 30 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	23.09	0	0
	1	25	**23.21**		0
	1	49	23.01		0
	25	0	**22.07**	0-1	1
	25	12	22.06		1
	25	25	21.99		1
	50	0	22.05		1
16QAM	1	0	22.34	0-1	1
	1	25	22.28		1
	1	49	22.17		1
	25	0	21.08	0-2	2
	25	12	21.11		2
	25	25	21.00		2
	50	0	21.07		2
64QAM	1	0	21.30	0-2	2
	1	25	21.34		2
	1	49	21.02		2
	25	0	20.12	0-3	3
	25	12	20.13		3
	25	25	20.01		3
	50	0	20.05		3
256QAM	1	0	18.24	0-5	5
	1	25	18.28		5
	1	49	18.01		5
	25	0	18.09		5
	25	12	18.08		5
	25	25	17.97		5
	50	0	18.03		5

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Table 10-34
LTE Band 30 Ant F Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot or Phablet) - 10 MHz Bandwidth

LTE Band 30 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	18.08	0	0
	1	25	**18.19**		0
	1	49	18.05		0
	25	0	18.12	0-1	0
	25	12	**18.17**		0
	25	25	18.16		0
	50	0	18.05		0
16QAM	1	0	18.23	0-1	0
	1	25	18.39		0
	1	49	18.34		0
	25	0	18.08	0-2	0
	25	12	18.10		0
	25	25	18.09		0
	50	0	18.12		0
64QAM	1	0	18.20	0-2	0
	1	25	18.28		0
	1	49	18.37		0
	25	0	18.10	0-3	0
	25	12	18.12		0
	25	25	18.08		0
	50	0	18.10		0
256QAM	1	0	17.80	0-5	0.5
	1	25	17.99		0.5
	1	49	17.95		0.5
	25	0	17.87		0.5
	25	12	17.85		0.5
	25	25	17.90		0.5
	50	0	17.86		0.5

Table 10-35
LTE Band 30 Ant F Measured P_{Limit} for DSI = 1 (Head) - 10 MHz Bandwidth

LTE Band 30 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	16.40	0	0
	1	25	16.51		0
	1	49	**16.56**		0
	25	0	**16.60**	0-1	0
	25	12	16.57		0
	25	25	16.56		0
	50	0	16.55		0
16QAM	1	0	16.69	0-1	0
	1	25	16.94		0
	1	49	16.84		0
	25	0	16.56	0-2	0
	25	12	16.58		0
	25	25	16.58		0
	50	0	16.59		0
64QAM	1	0	16.72	0-2	0
	1	25	16.74		0
	1	49	16.73		0
	25	0	16.60	0-3	0
	25	12	16.58		0
	25	25	16.62		0
	50	0	16.63		0
256QAM	1	0	16.62	0-5	0
	1	25	16.79		0
	1	49	16.60		0
	25	0	16.56		0
	25	12	16.59		0
	25	25	16.62		0
	50	0	16.57		0

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10.3.2 LTE Band 7

Table 10-36
LTE Band 7 Ant B Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot or Phablet) - 20 MHz Bandwidth

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20850 (2510.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21350 (2560.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.64	19.62	19.35	0	0
	1	50	**19.69**	19.45	19.32		0
	1	99	19.60	19.56	19.32		0
	50	0	**19.73**	19.57	19.53	0-1	0
	50	25	19.69	19.53	19.58		0
	50	50	19.64	19.48	19.52		0
	100	0	19.68	19.54	19.52		0
16QAM	1	0	19.81	20.00	19.75	0-1	0
	1	50	19.87	19.84	19.79		0
	1	99	19.91	19.78	19.77		0
	50	0	19.75	19.78	19.51	0-2	0
	50	25	19.67	19.78	19.59		0
	50	50	19.64	19.50	19.53		0
	100	0	19.68	19.56	19.53		0
64QAM	1	0	19.85	19.65	19.80	0-2	0
	1	50	19.89	19.66	19.78		0
	1	99	19.89	19.66	19.76		0
	50	0	19.74	19.59	19.55	0-3	0
	50	25	19.70	19.59	19.64		0
	50	50	19.68	19.51	19.59		0
	100	0	19.73	19.56	19.61		0
256QAM	1	0	18.99	18.73	18.75	0-5	1
	1	50	18.95	18.65	18.62		1
	1	99	18.91	18.78	18.77		1
	50	0	18.87	18.69	18.66		1
	50	25	18.81	18.69	18.73		1
	50	50	18.81	18.67	18.68		1
	100	0	18.81	18.68	18.68		1

Table 10-37
LTE Band 7 Ant B Measured P_{Max} for DSI = 1 (Head) - 20 MHz Bandwidth

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20850 (2510.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21350 (2560.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.23	23.67	23.58	0	0
	1	50	**23.68**	23.65	23.46		0
	1	99	23.59	23.65	23.49		0
	50	0	**22.93**	22.90	22.70	0-1	1
	50	25	22.87	22.76	22.70		1
	50	50	22.86	22.71	22.74		1
	100	0	22.86	22.71	22.72		1
16QAM	1	0	22.67	22.95	22.96	0-1	1
	1	50	22.89	22.82	22.99		1
	1	99	22.88	22.82	22.91		1
	50	0	21.96	21.79	21.72	0-2	2
	50	25	21.92	21.77	21.81		2
	50	50	21.85	21.73	21.74		2
	100	0	21.89	21.64	21.79		2
64QAM	1	0	21.63	21.84	21.93	0-2	2
	1	50	21.93	21.84	21.93		2
	1	99	21.91	21.87	21.94		2
	50	0	20.94	20.87	20.72	0-3	3
	50	25	20.92	20.67	20.79		3
	50	50	20.84	20.62	20.74		3
	100	0	20.86	20.67	20.75		3
256QAM	1	0	18.79	18.74	18.84	0-5	5
	1	50	18.91	18.78	18.81		5
	1	99	18.93	18.73	18.78		5
	50	0	18.94	18.72	18.78		5
	50	25	18.88	18.71	18.77		5
	50	50	18.85	18.68	18.75		5
	100	0	18.85	18.68	18.73		5

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Table 10-38
LTE Band 7 Ant F Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot or Phablet) - 20 MHz Bandwidth

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20850 (2510.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21350 (2560.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	16.91	16.94	16.84	0	0
	1	50	16.70	**16.95**	16.57		0
	1	99	16.78	16.73	16.36		0
	50	0	16.93	**16.95**	16.75	0-1	0
	50	25	16.80	16.92	16.69		0
	50	50	16.77	16.77	16.53		0
	100	0	16.88	16.85	16.68		0
16QAM	1	0	17.12	17.02	16.99	0-1	0
	1	50	17.07	17.27	16.82		0
	1	99	17.03	17.09	16.50		0
	50	0	17.00	16.86	16.83	0-2	0
	50	25	16.94	16.94	16.74		0
	50	50	16.81	16.85	16.57		0
	100	0	16.96	16.87	16.66		0
64QAM	1	0	17.06	17.07	17.01	0-2	0
	1	50	17.11	17.10	16.81		0
	1	99	16.92	16.92	16.56		0
	50	0	16.93	16.87	16.85	0-3	0
	50	25	16.96	16.99	16.73		0
	50	50	16.74	16.89	16.62		0
	100	0	16.93	16.93	16.64		0
256QAM	1	0	17.05	16.86	16.97	0-5	0
	1	50	16.97	17.14	16.72		0
	1	99	16.92	16.75	16.39		0
	50	0	16.96	16.84	16.71		0
	50	25	16.93	16.95	16.73		0
	50	50	16.84	16.87	16.65		0
	100	0	16.97	16.95	16.68		0

Table 10-39
LTE Band 7 Ant F Measured P_{Limit} for DSI = 1 (Head) - 20 MHz Bandwidth

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20850 (2510.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21350 (2560.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	**16.18**	15.97	15.95	0	0
	1	50	16.10	15.93	15.87		0
	1	99	16.08	15.91	15.75		0
	50	0	**16.19**	16.10	15.98	0-1	0
	50	25	16.17	16.10	15.96		0
	50	50	16.13	16.12	15.90		0
	100	0	16.14	16.11	15.92		0
16QAM	1	0	16.42	16.19	16.07	0-1	0
	1	50	16.39	16.30	16.01		0
	1	99	16.31	16.17	15.97		0
	50	0	16.31	16.10	15.96	0-2	0
	50	25	16.14	16.10	15.96		0
	50	50	16.12	16.08	15.86		0
	100	0	16.12	16.05	15.89		0
64QAM	1	0	16.14	16.23	16.06	0-2	0
	1	50	16.19	16.28	16.14		0
	1	99	16.11	16.15	15.89		0
	50	0	16.18	16.07	15.99	0-3	0
	50	25	16.10	16.07	15.95		0
	50	50	16.09	16.08	15.89		0
	100	0	16.09	16.07	15.92		0
256QAM	1	0	16.23	16.06	16.12	0-5	0
	1	50	16.24	16.22	16.11		0
	1	99	16.14	16.11	15.82		0
	50	0	16.16	16.05	16.00		0
	50	25	16.12	16.10	15.96		0
	50	50	16.13	16.08	15.93		0
	100	0	16.14	16.08	15.95		0

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10.3.3 LTE Band 41

Table 10-40
LTE Band 41 Ant B Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot or Phablet) - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	21.74	21.73	21.81	**21.84**	21.47	0	0
	1	50	21.72	21.79	21.76	21.73	21.27		0
	1	99	21.68	21.65	21.53	21.47	21.05		0
	50	0	21.85	21.71	21.80	**21.90**	21.46	0-1	0
	50	25	21.86	21.84	21.83	21.83	21.40		0
	50	50	21.81	21.78	21.71	21.64	21.21		0
	100	0	21.78	21.82	21.82	21.80	21.40		0
16QAM	1	0	21.83	21.69	21.82	21.85	21.31	0-1	0
	1	50	21.81	21.70	21.88	21.76	21.32		0
	1	99	21.66	21.61	21.69	21.51	21.08		0
	50	0	21.85	21.68	21.82	21.91	21.49	0-2	0
	50	25	21.82	21.83	21.88	21.86	21.48		0
	50	50	21.80	21.77	21.73	21.68	21.19		0
	100	0	21.84	21.77	21.80	21.84	21.39		0
64QAM	1	0	21.75	21.61	21.84	21.97	21.51	0-2	0
	1	50	21.85	21.78	21.73	21.75	21.42		0
	1	99	21.78	21.67	21.54	21.54	20.94		0
	50	0	21.74	21.54	21.58	21.70	21.29	0-3	0
	50	25	21.68	21.62	21.62	21.65	21.21		0
	50	50	21.69	21.58	21.52	21.47	21.01		0
	100	0	21.69	21.59	21.61	21.62	21.23		0
256QAM	1	0	19.47	19.48	19.76	19.70	19.33	0-5	2
	1	50	19.65	19.52	19.70	19.53	19.13		2
	1	99	19.37	19.49	19.38	19.19	18.87		2
	50	0	19.67	19.50	19.60	19.69	19.34		2
	50	25	19.67	19.59	19.65	19.61	19.23		2
	50	50	19.60	19.58	19.54	19.47	19.05		2
	100	0	19.60	19.55	19.63	19.60	19.21		2

Table 10-41
LTE Band 41 Ant B Measured P_{Limit} for DSI = 1 (Head) - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	21.28	21.18	21.23	**21.32**	20.87	0	0
	1	50	21.26	21.16	21.12	21.11	20.71		0
	1	99	21.19	21.10	20.98	20.90	20.45		0
	50	0	21.30	21.20	21.19	**21.38**	20.88	0-1	0
	50	25	21.35	21.28	21.21	21.22	20.76		0
	50	50	21.28	21.20	21.17	21.05	20.60		0
	100	0	21.25	21.22	21.20	21.30	20.75		0
16QAM	1	0	21.29	21.10	21.38	21.39	21.00	0-1	0
	1	50	21.39	21.15	21.38	21.11	20.81		0
	1	99	21.26	21.13	21.28	20.86	20.44		0
	50	0	21.36	21.16	21.21	21.34	20.90	0-2	0
	50	25	21.33	21.26	21.28	21.26	20.82		0
	50	50	21.30	21.18	21.16	21.06	20.60		0
	100	0	21.31	21.21	21.24	21.22	20.79		0
64QAM	1	0	21.30	21.16	21.26	21.28	20.78	0-2	0
	1	50	21.19	21.08	21.16	21.01	20.68		0
	1	99	21.00	21.00	20.99	20.92	20.47		0
	50	0	21.37	21.14	21.21	21.31	20.91	0-3	0
	50	25	21.35	21.24	21.27	21.21	20.78		0
	50	50	21.31	21.20	21.16	21.04	20.60		0
	100	0	21.32	21.21	21.20	21.22	20.77		0
256QAM	1	0	19.53	19.39	19.69	19.56	19.35	0-5	1.4
	1	50	19.65	19.68	19.60	19.55	19.13		1.4
	1	99	19.48	19.42	19.46	19.26	18.87		1.4
	50	0	19.72	19.51	19.61	19.71	19.30		1.4
	50	25	19.73	19.62	19.65	19.63	19.19		1.4
	50	50	19.67	19.57	19.55	19.42	18.99		1.4
	100	0	19.69	19.58	19.58	19.59	19.18		1.4

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Table 10-42
LTE Band 41 Ant F Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot or Phablet) - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	18.18	18.10	17.96	17.97	17.76	0	0
	1	50	18.27	18.01	17.81	17.88	17.67		0
	1	99	**18.33**	17.88	17.62	17.59	17.39		0
	50	0	18.27	18.12	17.91	17.91	17.70	0-1	0
	50	25	18.30	18.15	17.92	17.92	17.70		0
	50	50	**18.32**	18.02	17.83	17.79	17.64		0
	100	0	18.29	18.05	17.88	17.88	17.62		0
16QAM	1	0	18.33	18.08	17.92	17.94	17.78	0-1	0
	1	50	18.26	17.99	17.94	17.85	17.59		0
	1	99	18.16	17.81	17.57	17.66	17.45		0
	50	0	18.32	18.16	17.90	17.94	17.70	0-2	0
	50	25	18.32	18.11	17.93	17.92	17.66		0
	50	50	18.30	17.98	17.86	17.81	17.62		0
	100	0	18.30	18.07	17.90	17.88	17.65		0
64QAM	1	0	18.42	18.15	18.03	18.03	17.83	0-2	0
	1	50	18.36	18.15	17.95	17.95	17.71		0
	1	99	18.22	17.92	17.74	17.75	17.50		0
	50	0	18.31	18.11	17.91	17.93	17.71	0-3	0
	50	25	18.32	18.10	17.94	17.91	17.65		0
	50	50	18.24	18.00	17.86	17.83	17.62		0
	100	0	18.28	18.03	17.92	17.92	17.64		0
256QAM	1	0	18.21	17.99	17.91	17.97	17.70	0-5	0
	1	50	18.31	18.06	17.79	17.90	17.71		0
	1	99	18.12	17.73	17.70	17.61	17.48		0
	50	0	18.28	18.08	17.96	17.94	17.75		0
	50	25	18.35	18.08	17.98	17.98	17.67		0
	50	50	18.28	17.95	17.87	17.85	17.64		0
	100	0	18.31	18.06	17.96	17.95	17.66		0

Table 10-43
LTE Band 41 Ant F Measured P_{Limit} for DSI = 1 (Head) - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	16.62	16.59	16.40	16.42	16.24	0	0
	1	50	16.76	16.51	16.34	16.24	16.07		0
	1	99	**16.82**	16.37	16.11	16.02	15.86		0
	50	0	16.79	16.62	16.37	16.37	16.17	0-1	0
	50	25	16.75	16.58	16.39	16.38	16.08		0
	50	50	**16.80**	16.45	16.32	16.24	16.06		0
	100	0	16.77	16.77	16.38	16.36	16.08		0
16QAM	1	0	16.86	16.58	16.42	16.34	16.28	0-1	0
	1	50	16.78	16.54	16.27	16.29	16.12		0
	1	99	16.68	16.34	16.11	16.10	15.89		0
	50	0	16.80	16.62	16.40	16.41	16.17	0-2	0
	50	25	16.81	16.58	16.40	16.37	16.10		0
	50	50	16.75	16.48	16.30	16.26	16.08		0
	100	0	16.76	16.52	16.41	16.34	16.09		0
64QAM	1	0	16.98	16.58	16.51	16.56	16.32	0-2	0
	1	50	16.83	16.64	16.49	16.40	16.23		0
	1	99	16.79	16.42	16.28	16.21	16.02		0
	50	0	16.81	16.65	16.38	16.41	16.21	0-3	0
	50	25	16.82	16.58	16.43	16.38	16.15		0
	50	50	16.77	16.45	16.34	16.29	16.11		0
	100	0	16.79	16.55	16.40	16.35	16.13		0
256QAM	1	0	16.70	16.52	16.35	16.36	16.20	0-5	0
	1	50	16.74	16.58	16.37	16.31	16.13		0
	1	99	16.65	16.25	16.14	16.02	15.90		0
	50	0	16.76	16.58	16.43	16.46	16.20		0
	50	25	16.83	16.60	16.45	16.41	16.15		0
	50	50	16.74	16.46	16.36	16.30	16.11		0
	100	0	16.80	16.54	16.41	16.41	16.11		0

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10.3.4 LTE Band 48

Table 10-44
LTE Band 48 Ant F Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot or Phablet) - 20 MHz Bandwidth

LTE Band 48 20 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel 55340 (3560.0 MHz)	Low-Mid Channel 55773 (3603.3 MHz)	Mid-High Channel 56207 (3646.7 MHz)	High Channel 56640 (3690.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
QPSK	1	0	19.15	19.11	19.32	19.12	0	0
	1	50	19.09	19.10	19.27	19.17		0
	1	99	19.12	19.28	**19.45**	19.35		0
	50	0	19.25	19.22	19.42	19.30	0-1	0
	50	25	19.28	19.32	**19.50**	19.40		0
	50	50	19.24	19.38	19.41	19.35		0
	100	0	19.21	19.31	19.36	19.35		0
16QAM	1	0	19.20	19.04	19.26	19.04	0-1	0
	1	50	19.19	19.25	19.40	19.28		0
	1	99	19.20	19.31	19.33	19.39		0
	50	0	19.26	19.25	19.44	19.28	0-2	0
	50	25	19.29	19.39	19.49	19.41		0
	50	50	19.33	19.40	19.43	19.38		0
	100	0	19.26	19.34	19.46	19.39		0
64QAM	1	0	19.22	19.15	19.42	19.23	0-2	0
	1	50	19.34	19.34	19.40	19.36		0
	1	99	19.39	19.45	19.32	19.44		0
	50	0	18.75	18.71	18.94	18.82	0-3	0
	50	25	18.80	18.85	19.01	18.94		0
	50	50	18.79	18.91	18.90	18.95		0
	100	0	18.77	18.83	18.95	18.88		0
256QAM	1	0	16.74	16.61	16.77	16.67	0-5	2
	1	50	16.81	16.77	16.90	16.79		2
	1	99	16.74	16.87	16.81	16.90		2
	50	0	16.77	16.76	16.97	16.82		2
	50	25	16.81	16.89	17.04	16.93		2
	50	50	16.80	16.87	16.90	16.95		2
	100	0	16.78	16.82	16.99	16.91		2

Table 10-45
LTE Band 48 Ant F Uplink Carrier Aggregation Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot or Phablet) - 20 MHz Bandwidth

	PCC							SCC							Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL/DL) Channel	PCC (UL/DL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL/DL) Channel	SCC (UL/DL) Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	LTE Tx.Power with UL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_48C	LTE B48	20	56207	3646.7	QPSK	50	0	LTE B48	20	56009	3626.9	QPSK	50	50	19.45	19.42

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Table 10-46
LTE Band 48 Ant F Measured P_{Limit} for DSI = 1 (Head) - 20 MHz Bandwidth

LTE Band 48 20 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			55340 (3560.0 MHz)	55773 (3603.3 MHz)	56207 (3646.7 MHz)	56640 (3690.0 MHz)		
			Conducted Power [dBm]					
QPSK	1	0	15.10	15.24	15.28	15.03	0	0
	1	50	14.98	15.04	15.29	**15.31**		0
	1	99	15.18	15.21	15.23	15.29		0
	50	0	15.20	15.17	15.17	15.21	0-1	0
	50	25	15.22	15.26	15.32	**15.34**		0
	50	50	15.25	15.31	15.30	15.31		0
	100	0	15.17	15.24	15.27	15.30		0
16QAM	1	0	15.08	15.02	15.29	14.97	0-1	0
	1	50	15.17	15.19	15.33	15.27		0
	1	99	15.02	15.30	15.33	15.33		0
	50	0	15.18	15.21	15.38	15.21	0-2	0
	50	25	15.26	15.28	15.42	15.36		0
	50	50	15.27	15.33	15.32	15.31		0
	100	0	15.21	15.25	15.40	15.29		0
64QAM	1	0	15.22	15.19	15.35	15.24	0-2	0
	1	50	15.34	15.27	15.38	15.28		0
	1	99	15.30	15.43	15.43	15.44		0
	50	0	15.21	15.22	15.38	15.24	0-3	0
	50	25	15.26	15.32	15.47	15.34		0
	50	50	15.26	15.33	15.38	15.32		0
	100	0	15.23	15.27	15.41	15.32		0
256QAM	1	0	15.09	14.94	15.18	15.14	0-5	0
	1	50	15.10	15.25	15.34	15.17		0
	1	99	15.07	15.26	15.23	15.32		0
	50	0	15.24	15.22	15.41	15.24		0
	50	25	15.25	15.35	15.49	15.38		0
	50	50	15.25	15.34	15.37	15.36		0
	100	0	15.23	15.29	15.43	15.32		0

Table 10-47
LTE Band 48 Ant F Uplink Carrier Aggregation Measured P_{Limit} for DSI = 1 (Head) - 20 MHz Bandwidth

	PCC							SCC							Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL/DL) Channel	PCC (UL/DL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL/DL) Channel	SCC (UL/DL) Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	LTE Tx.Power with UL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_48C	LTE B48	20	56640	3690.0	QPSK	50	0	LTE B48	20	56442	3670.2	QPSK	50	50	15.42	15.21

Figure 10-3
Power Measurement Setup

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10.4 NR Conducted Powers

Per October 2020 TCB Workshop Guidance, NR FR1 SAR evaluations are being generally based on adapting the existing LTE SAR procedures (FCC KDB Publication 941225 D05v02r05). Therefore, NR SAR for the lower bandwidths were not required for testing based on the measured output power and the reported NR SAR for the highest bandwidth. Lower bandwidth conducted powers for all NR bands can be found in LTE and NR Lower Bandwidth RF Conducted Powers Appendix.

Note: Some bands do not support non-overlapping channels. Per FCC Guidance, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

10.4.1 NR Band n71

Table 10-48
NR Band n71 Ant A Measured P_{Max} for all DSI – 35 MHz Bandwidth

NR Band n71 35 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	136100 (680.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	24.05	0	0.0
	1	94	**24.40**		0.0
	1	186	24.30		0.0
	90	0	23.05	0-1	1.0
	90	49	**24.29**	0	0.0
	90	98	23.27	0-1	1.0
	180	0	23.18		1.0
DFT-s-OFDM 16QAM	1	1	23.01	0-1	1.0
CP-OFDM QPSK	1	1	22.70	0-1.5	1.5

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Table 10-49
NR Band n71 Ant E Measured P_{Max} for DSI = 0 (Body-worn, Hotspot or Phablet) - 35 MHz Bandwidth

NR Band n71 35 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	136100 (680.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	23.48	0	0.0
	1	94	23.87		0.0
	1	186	**24.07**		0.0
	90	0	22.61	0-1	1.0
	90	49	**23.94**	0	0.0
	90	98	22.91	0-1	1.0
	180	0	22.68		1.0
DFT-s-OFDM 16QAM	1	1	22.43	0-1	1.0
CP-OFDM QPSK	1	1	22.20	0-1.5	1.5

Table 10-50
NR Band n71 Ant E Measured P_{Limit} for DSI = 1 (Head) – 35 MHz Bandwidth

NR Band n71 35 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	136100 (680.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	17.12	0	0.0
	1	94	17.55		0.0
	1	186	**17.63**		0.0
	90	0	17.28	0-1	0.0
	90	49	**17.59**	0	0.0
	90	98	17.48	0-1	0.0
	180	0	17.39		0.0
DFT-s-OFDM 16QAM	1	1	17.21	0-1	0.0
CP-OFDM QPSK	1	1	17.35	0-1.5	0.0

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10.4.2 NR Band n12

Table 10-51
NR Band n12 Ant A Measured P_{Max} for all DSI - 15 MHz Bandwidth

NR Band n12 15 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	141500 (707.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	**24.71**	0	0.0
	1	40	24.70		0.0
	1	77	24.48		0.0
	36	0	23.58	0-1	1.0
	36	22	**24.48**	0	0.0
	36	43	23.69	0-1	1.0
	75	0	23.63		1.0
DFT-s-OFDM 16QAM	1	1	23.36	0-1	1.0
CP-OFDM QPSK	1	1	23.53	0-1.5	1.5

Table 10-52
NR Band n12 Ant E Measured P_{Max} for DSI = 0 (Body-worn, Hotspot or Phablet) - 15 MHz Bandwidth

NR Band n12 15 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	141500 (707.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	24.15	0	0.0
	1	40	**24.37**		0.0
	1	77	24.03		0.0
	36	0	23.03	0-1	1.0
	36	22	**24.18**	0	0.0
	36	43	23.27	0-1	1.0
	75	0	23.20		1.0
DFT-s-OFDM 16QAM	1	1	22.93	0-1	1.0
CP-OFDM QPSK	1	1	22.61	0-1.5	1.5

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Table 10-53
NR Band n12 Ant E Measured P_{Limit} for DSI = 1 (Head) - 15 MHz Bandwidth

NR Band n12 15 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	141500 (707.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	**20.79**	0	0.0
	1	40	20.77		0.0
	1	77	20.77		0.0
	36	0	20.64	0-1	0.0
	36	22	**20.91**	0	0.0
	36	43	20.78	0-1	0.0
	75	0	20.75		0.0
DFT-s-OFDM 16QAM	1	1	20.68	0-1	0.0
CP-OFDM QPSK	1	1	20.90	0-1.5	0.0

10.4.3 NR Band n14

Table 10-54
NR Band n14 Ant A Measured P_{Max} for all DSI - 10 MHz Bandwidth

NR Band n14 10 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	158600 (793 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	24.18	0	0.0
	1	26	**24.32**		0.0
	1	50	24.23		0.0
	25	0	23.17	0-1	1.0
	25	14	**24.23**	0	0.0
	25	27	23.15	0-1	1.0
	50	0	23.11		1.0
DFT-s-OFDM 16QAM	1	1	23.09	0-1	1.0
CP-OFDM QPSK	1	1	22.76	0-1.5	1.5

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Table 10-55
NR Band n14 Ant E Measured P_{Max} for DSI = 0 (Body-worn, Hotspot or Phablet) - 10 MHz Bandwidth

NR Band n14 10 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	158600 (793 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	**23.73**	0	0.0
	1	26	23.67		0.0
	1	50	23.70		0.0
	25	0	22.69	0-1	1.0
	25	14	**23.82**	0	0.0
	25	27	22.69	0-1	1.0
	50	0	22.57		1.0
DFT-s-OFDM 16QAM	1	1	22.58	0-1	1.0
CP-OFDM QPSK	1	1	22.29	0-1.5	1.5

Table 10-56
NR Band n14 Ant E Measured P_{Limit} for DSI = 1 (Head) - 10 MHz Bandwidth

NR Band n14 10 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	158600 (793 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	20.43	0	0.0
	1	26	**20.55**		0.0
	1	50	20.46		0.0
	25	0	**20.44**	0-1	0.0
	25	14	20.37	0	0.0
	25	27	20.39	0-1	0.0
	50	0	20.40		0.0
DFT-s-OFDM 16QAM	1	1	20.38	0-1	0.0
CP-OFDM QPSK	1	1	20.51	0-1.5	0.0

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10.4.1 NR Band n26

Table 10-57
NR Band n26 Ant A Measured P_{Max} for all DSI - 20 MHz Bandwidth

NR Band n26 20 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	166300 (831.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	23.91	0	0.0
	1	53	23.87		0.0
	1	104	**24.00**		0.0
	50	0	22.96	0-1	1.0
	50	28	**23.95**	0	0.0
	50	56	22.88	0-1	1.0
	100	0	23.02		1.0
DFT-s-OFDM 16QAM	1	1	22.73	0-1	1.0
CP-OFDM QPSK	1	1	22.54	0-1.5	1.5

Table 10-58
NR Band n26 Ant E Measured P_{Max} for DSI = 0 (Body-worn, Hotspot or Phablet) - 20 MHz Bandwidth

NR Band n26 20 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	166300 (831.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	23.51	0	0.0
	1	53	23.49		0.0
	1	104	**23.56**		0.0
	50	0	22.40	0-1	1.0
	50	28	**23.53**	0	0.0
	50	56	22.43	0-1	1.0
	100	0	22.57		1.0
DFT-s-OFDM 16QAM	1	1	22.31	0-1	1.0
CP-OFDM QPSK	1	1	22.07	0-1.5	1.5

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Table 10-59
NR Band n26 Ant E Measured P_{Limit} for DSI = 1 (Head) - 20 MHz Bandwidth

NR Band n26 20 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	166300 (831.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	**20.33**	0	0.0
	1	53	20.20		0.0
	1	104	20.11		0.0
	50	0	20.09	0-1	0.0
	50	28	**20.28**	0	0.0
	50	56	20.15	0-1	0.0
	100	0	20.21		0.0
DFT-s-OFDM 16QAM	1	1	20.05	0-1	0.0
CP-OFDM QPSK	1	1	20.28	0-1.5	0.0

10.4.1 NR Band n70

Table 10-60
NR Band n70 Ant A Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot or Phablet) - 15 MHz Bandwidth

NR Band n70 15 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	340500 (1702.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	19.14	0	0.0
	1	40	19.20		0.0
	1	77	**19.25**		0.0
	36	0	**19.30**	0-1	0.0
	36	22	19.25	0	0.0
	36	43	19.27	0-1	0.0
	75	0	19.23		0.0
DFT-s-OFDM 16QAM	1	1	19.24	0-1	0.0
CP-OFDM QPSK	1	1	19.35	0-1.5	0.0

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Table 10-61
NR Band n70 Ant A Measured P_{Max} for DSI = 1 (Head) - 15 MHz Bandwidth

NR Band n70 15 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	340500 (1702.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	23.39	0	0.0
	1	40	23.43		0.0
	1	77	**23.46**		0.0
	36	0	22.41	0-1	1.0
	36	22	**23.54**	0	0.0
	36	43	22.40	0-1	1.0
	75	0	22.52		1.0
DFT-s-OFDM 16QAM	1	1	22.44	0-1	1.0
CP-OFDM QPSK	1	1	22.11	0-1.5	1.5

Table 10-62
NR Band n70 Ant F Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot or Phablet) - 15 MHz Bandwidth

NR Band n70 15 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	340500 (1702.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	19.22	0	0.0
	1	40	**19.39**		0.0
	1	77	19.37		0.0
	36	0	19.19	0-1	0.0
	36	22	**19.29**	0	0.0
	36	43	19.26	0-1	0.0
	75	0	19.21		0.0
DFT-s-OFDM 16QAM	1	1	19.10	0-1	0.0
CP-OFDM QPSK	1	1	19.44	0-1.5	0.0

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Table 10-63
NR Band n70 Ant F Measured P_{Limit} for DSI = 1 (Head) - 15 MHz Bandwidth

NR Band n70 15 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	340500 (1702.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	16.38	0	0.0
	1	40	16.21		0.0
	1	77	**16.42**		0.0
	36	0	16.12	0-1	0.0
	36	22	**16.32**	0	0.0
	36	43	16.21	0-1	0.0
	75	0	16.20		0.0
DFT-s-OFDM 16QAM	1	1	16.11	0-1	0.0
CP-OFDM QPSK	1	1	16.26	0-1.5	0.0

10.4.2 NR Band n66

Table 10-64
NR Band n66 Ant A Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot or Phablet) - 45 MHz Bandwidth

NR Band n66 45 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	349000 (1745 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	**18.58**	0	0.0
	1	121	18.17		0.0
	1	240	18.29		0.0
	120	0	**18.48**	0-1	0.0
	120	61	18.22	0	0.0
	120	122	18.30	0-1	0.0
	240	0	18.38		0.0
DFT-s-OFDM 16QAM	1	1	18.58	0-1	0.0
CP-OFDM QPSK	1	1	18.74	0-1.5	0.0

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Table 10-65
NR Band n66 Ant A Measured P_{Max} for DSI = 1 (Head) - 45 MHz Bandwidth

NR Band n66 45 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	349000 (1745 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	**23.62**	0	0.0
	1	121	23.16		0.0
	1	240	23.37		0.0
	120	0	22.44	0-1	1.0
	120	61	**23.29**	0	0.0
	120	122	22.18	0-1	1.0
	240	0	22.28		1.0
DFT-s-OFDM 16QAM	1	1	22.48	0-1	1.0
CP-OFDM QPSK	1	1	22.20	0-1.5	1.5

Table 10-66
NR Band n66 Ant F Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot or Phablet) - 45 MHz Bandwidth

NR Band n66 45 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	349000 (1745 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	**20.17**	0	0.0
	1	121	20.07		0.0
	1	240	20.05		0.0
	120	0	20.20	0-1	0.0
	120	61	**20.21**	0	0.0
	120	122	19.97	0-1	0.0
	240	0	19.95		0.0
DFT-s-OFDM 16QAM	1	1	20.09	0-1	0.0
CP-OFDM QPSK	1	1	20.25	0-1.5	0.0

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Table 10-67
NR Band n66 Ant F Measured P_{Limit} for DSI = 1 (Head) - 45 MHz Bandwidth

NR Band n66 45 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	349000 (1745 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	**16.29**	0	0.0
	1	121	16.04		0.0
	1	240	15.99		0.0
	120	0	**16.15**	0-1	0.0
	120	61	15.97	0	0.0
	120	122	15.90	0-1	0.0
	240	0	15.93		0.0
DFT-s-OFDM 16QAM	1	1	16.17	0-1	0.0
CP-OFDM QPSK	1	1	16.30	0-1.5	0.0

10.4.3 NR Band n25

Table 10-68
NR Band n25 Ant A Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot or Phablet) - 40 MHz Bandwidth

NR Band n25 40 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	376500 (1882.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	18.09	0	0.0
	1	108	**18.10**		0.0
	1	214	17.79		0.0
	108	0	18.08	0-1	0.0
	108	54	**18.09**	0	0.0
	108	108	17.77	0-1	0.0
	216	0	18.01		0.0
DFT-s-OFDM 16QAM	1	1	18.03	0-1	0.0
CP-OFDM QPSK	1	1	18.24	0-1.5	0.0

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Table 10-69
NR Band n25 Ant A Measured P_{Max} for DSI = 1 (Head) - 40 MHz Bandwidth

NR Band n25 40 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	376500 (1882.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	23.74	0	0.0
	1	108	**23.77**		0.0
	1	214	23.50		0.0
	108	0	22.67	0-1	1.0
	108	54	**23.65**	0	0.0
	108	108	22.54	0-1	1.0
	216	0	22.62		1.0
DFT-s-OFDM 16QAM	1	1	22.76	0-1	1.0
CP-OFDM QPSK	1	1	22.38	0-1.5	1.5

Table 10-70
NR Band n25 Ant F Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot or Phablet) - 40 MHz Bandwidth

NR Band n25 40 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	376500 (1882.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	20.28	0	0.0
	1	108	**20.31**		0.0
	1	214	20.12		0.0
	108	0	20.23	0-1	0.0
	108	54	**20.25**	0	0.0
	108	108	20.01	0-1	0.0
	216	0	20.24		0.0
DFT-s-OFDM 16QAM	1	1	20.19	0-1	0.0
CP-OFDM QPSK	1	1	20.39	0-1.5	0.0

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Table 10-71
NR Band n25 Ant F Measured P_{Limit} for DSI = 1 (Head) - 40 MHz Bandwidth

NR Band n25 40 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	376500 (1882.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	18.23	0	0.0
	1	108	**18.28**		0.0
	1	214	17.95		0.0
	108	0	**18.20**	0-1	0.0
	108	54	18.14	0	0.0
	108	108	18.12	0-1	0.0
	216	0	18.17		0.0
DFT-s-OFDM 16QAM	1	1	18.11	0-1	0.0
CP-OFDM QPSK	1	1	18.21	0-1.5	0.0

10.4.4 NR Band n30

Table 10-72
NR Band n30 Ant A Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot or Phablet) - 10 MHz Bandwidth

NR Band n30 10 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	462000 (2310 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	**19.26**	0	0.0
	1	26	19.22		0.0
	1	50	19.08		0.0
	25	0	**19.22**	0-1	0.0
	25	14	19.16	0	0.0
	25	27	19.15	0-1	0.0
	50	0	19.10		0.0
DFT-s-OFDM 16QAM	1	1	19.20	0-1	0.0
CP-OFDM QPSK	1	1	19.29	0-1.5	0.0

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Table 10-73
NR Band n30 Ant A Measured P_{Max} for DSI = 1 (Head) - 10 MHz Bandwidth

NR Band n30 10 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	462000 (2310 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	**22.91**	0	0.0
	1	26	22.78		0.0
	1	50	22.20		0.0
	25	0	21.80	0-1	1.0
	25	14	**22.81**	0	0.0
	25	27	21.63	0-1	1.0
	50	0	21.73		1.0
DFT-s-OFDM 16QAM	1	1	21.81	0-1	1.0
CP-OFDM QPSK	1	1	21.48	0-1.5	1.5

Table 10-74
NR Band n30 Ant F Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot or Phablet) - 10 MHz Bandwidth

NR Band n30 10 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	462000 (2310 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	17.80	0	0.0
	1	26	18.03		0.0
	1	50	**18.09**		0.0
	25	0	17.76	0-1	0.0
	25	14	17.88	0	0.0
	25	27	**17.93**	0-1	0.0
	50	0	17.83		0.0
DFT-s-OFDM 16QAM	1	1	17.53	0-1	0.0
CP-OFDM QPSK	1	1	18.00	0-1.5	0.0

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Table 10-75
NR Band n30 Ant F Measured P_{Limit} for DSI = 1 (Head) - 10 MHz Bandwidth

NR Band n30 10 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	462000 (2310 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	16.19	0	0.0
	1	26	16.47		0.0
	1	50	**16.53**		0.0
	25	0	16.30	0-1	0.0
	25	14	**16.41**	0	0.0
	25	27	16.40	0-1	0.0
	50	0	16.32		0.0
DFT-s-OFDM 16QAM	1	1	16.06	0-1	0.0
CP-OFDM QPSK	1	1	16.30	0-1.5	0.0

10.4.5 NR Band n7

Table 10-76
NR Band n7 Ant B Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot or Phablet) - 50 MHz Bandwidth

NR Band n7 50 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	507000 (2535 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	19.16	0	0.0
	1	135	19.03		0.0
	1	268	**19.30**		0.0
	135	0	19.17	0-1	0.0
	135	68	**19.29**	0	0.0
	135	135	19.24	0-1	0.0
	270	0	19.13		0.0
DFT-s-OFDM 16QAM	1	1	19.17	0-1	0.0
CP-OFDM QPSK	1	1	19.34	0-1.5	0.0

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Table 10-77
NR Band n7 Ant B Measured P_{Max} for DSI = 1 (Head) - 50 MHz Bandwidth

NR Band n7 50 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	507000 (2535 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	23.25	0	0.0
	1	135	22.99		0.0
	1	268	**23.35**		0.0
	135	0	22.29	0-1	1.0
	135	68	**23.28**	0	0.0
	135	135	22.34	0-1	1.0
	270	0	22.27		1.0
DFT-s-OFDM 16QAM	1	1	22.27	0-1	1.0
CP-OFDM QPSK	1	1	21.89	0-1.5	1.5

Table 10-78
NR Band n7 Ant F Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot or Phablet) - 50 MHz Bandwidth

NR Band n7 50 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	507000 (2535 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	**17.21**	0	0.0
	1	135	17.18		0.0
	1	268	17.11		0.0
	135	0	17.10	0-1	0.0
	135	68	17.17	0	0.0
	135	135	**17.24**	0-1	0.0
	270	0	17.06		0.0
DFT-s-OFDM 16QAM	1	1	17.03	0-1	0.0
CP-OFDM QPSK	1	1	17.30	0-1.5	0.0

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Table 10-79
NR Band n7 Ant F Measured P_{Limit} for DSI = 1 (Head) - 40 MHz Bandwidth

NR Band n7 50 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	507000 (2535 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	**15.90**	0	0.0
	1	135	15.80		0.0
	1	268	15.77		0.0
	135	0	**15.78**	0-1	0.0
	135	68	15.74	0	0.0
	135	135	15.65	0-1	0.0
	270	0	15.75		0.0
DFT-s-OFDM 16QAM	1	1	15.72	0-1	0.0
CP-OFDM QPSK	1	1	15.97	0-1.5	0.0

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10.4.6 NR Band n41

Table 10-80
NR Band n41 PC2 Antenna F Path 1 Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot or Phablet) - 100 MHz Bandwidth

NR Band n41 100 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	518598 (2592.99 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	**17.42**	0	0.0
	1	137	17.23		0.0
	1	271	17.02		0.0
	135	0	17.27	0-1	0.0
	135	69	**17.32**	0	0.0
	135	138	17.10	0-1	0.0
	270	0	17.23		0.0
DFT-s-OFDM 16QAM	1	1	17.31	0-1	0.0
CP-OFDM QPSK	1	1	17.24	0-1.5	0.0

Table 10-81
NR Band n41 PC2 Antenna F Path 1 Measured P_{Limit} for DSI = 1 (Head) - 100 MHz Bandwidth

NR Band n41 100 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	518598 (2592.99 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	**14.45**	0	0.0
	1	137	14.27		0.0
	1	271	14.11		0.0
	135	0	14.23	0-1	0.0
	135	69	**14.34**	0	0.0
	135	138	14.15	0-1	0.0
	270	0	14.26		0.0
DFT-s-OFDM 16QAM	1	1	14.28	0-1	0.0
CP-OFDM QPSK	1	1	14.33	0-1.5	0.0

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Table 10-82
NR Band n41 PC2 Antenna B & E & D Path 1 Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot or Phablet) - 100 MHz Bandwidth

NR Band n41 100 MHz Bandwidth	
	Channel
Antenna	518598 (2592.99 MHz)
	Conducted Power [dBm]
SRS #2 Ant B	19.72
SRS #3 Ant E	18.24
SRS #4 Ant D	16.01

Table 10-83
NR Band n41 PC2 Antenna B & E & D Path 1 Measured for DSI = 1 (Head) - 100 MHz Bandwidth

NR Band n41 100 MHz Bandwidth	
	Channel
Antenna	518598 (2592.99 MHz)
	Conducted Power [dBm]
SRS #2 Ant B	18.19
SRS #3 Ant E	16.73
SRS #4 Ant D	14.54

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Table 10-84
NR Band n41 PC2 Antenna B Path 2 Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot or Phablet) - 100 MHz Bandwidth

NR Band n41 100 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	518598 (2592.99 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	**20.86**	0	0.0
	1	137	20.84		0.0
	1	271	20.64		0.0
	135	0	**20.82**	0-1	0.0
	135	69	20.80	0	0.0
	135	138	20.77	0-1	0.0
	270	0	20.81		0.0
DFT-s-OFDM 16QAM	1	1	20.76	0-1	0.0
CP-OFDM QPSK	1	1	20.77	0-1.5	0.0

Table 10-85
NR Band n41 PC2 Antenna B Path 2 Measured P_{Limit} for DSI = 1 (Head) - 100 MHz Bandwidth

NR Band n41 100 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	518598 (2592.99 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	**25.00**	0	0.0
	1	137	24.93		0.0
	1	271	24.78		0.0
	135	0	**24.92**	0-1	0.0
	135	69	24.85	0	0.0
	135	138	24.88	0-1	0.0
	270	0	24.90		0.0
DFT-s-OFDM 16QAM	1	1	24.91	0-1	0.0
CP-OFDM QPSK	1	1	24.90	0-1.5	0.0

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10.4.7 NR Band n48

Table 10-86
NR Band n48 Ant F Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot or Phablet) - 40 MHz Bandwidth

NR Band n48 40 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	638000 (3570 MHz)	641666 (3624.99 MHz)	645332 (3679.98 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM QPSK	1	1	17.81	**18.25**	18.15	0	0.0
	1	53	17.96	18.14	18.09		0.0
	1	104	18.09	18.03	18.22		0.0
	50	0	17.90	18.23	18.05	0-1	0.0
	50	28	18.06	**18.28**	18.10	0	0.0
	50	56	18.02	18.13	18.20	0-1	0.0
	100	0	17.99	18.16	18.08		0.0
DFT-s-OFDM 16QAM	1	1	17.82	18.22	18.18	0-1	0.0
CP-OFDM QPSK	1	1	17.84	18.23	18.19	0-1.5	0.0

Table 10-87
NR Band n48 Ant F Measured P_{Limit} for DSI = 1 (Head) - 40 MHz Bandwidth

NR Band n48 40 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	638000 (3570 MHz)	641666 (3624.99 MHz)	645332 (3679.98 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM QPSK	1	1	13.88	**14.51**	14.42	0	0.0
	1	53	14.10	14.47	14.30		0.0
	1	104	14.23	14.33	14.45		0.0
	50	0	14.04	14.50	14.37	0-1	0.0
	50	28	14.18	**14.54**	14.43	0	0.0
	50	56	14.15	14.42	14.46	0-1	0.0
	100	0	14.12	14.47	14.38		0.0
DFT-s-OFDM 16QAM	1	1	13.94	14.47	14.38	0-1	0.0
CP-OFDM QPSK	1	1	13.89	14.49	14.35	0-1.5	0.0

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Table 10-88
NR Band n48 Antenna C, I, D Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot or Phablet) - 40 MHz Bandwidth

NR Band n48 40 MHz Bandwidth			
	Channel		
Antenna	638000 (3570 MHz)	641666 (3624.99 MHz)	645332 (3679.98 MHz)
	Conducted Power [dBm]		
SRS #2 Ant C	12.87	**13.27**	13.23
SRS #3 Ant I	15.98	**16.26**	16.03
SRS #4 Ant D	11.74	**12.05**	11.95

Table 10-89
NR Band n48 Antenna C, I, D Measured P_{Limit} for DSI = 1 (Head) - 40 MHz Bandwidth

NR Band n48 40 MHz Bandwidth			
	Channel		
Antenna	638000 (3570 MHz)	641666 (3624.99 MHz)	645332 (3679.98 MHz)
	Conducted Power [dBm]		
SRS #2 Ant C	9.05	9.48	**9.51**
SRS #3 Ant I	12.13	**12.49**	12.23
SRS #4 Ant D	7.81	**8.29**	8.23

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10.4.8 NR Band n77

Table 10-90
NR Band n77 DoD Antenna F Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot or Phablet) - 100 MHz Bandwidth

NR Band n77 DoD 100 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	633334 (3500.01 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	**17.46**	0	0.0
	1	137	17.05		0.0
	1	271	17.31		0.0
	135	0	17.34	0-1	0.0
	135	69	17.09	0	0.0
	135	138	17.16	0-1	0.0
	270	0	17.19		0.0
DFT-s-OFDM 16QAM	1	1	17.29	0-1	0.0
CP-OFDM QPSK	1	1	17.31	0-1.5	0.0

Table 10-91
NR Band n77 DoD Antenna F Measured P_{Limit} for DSI = 1 (Head) - 100 MHz Bandwidth

NR Band n77 DoD 100 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	633334 (3500.01 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	**15.32**	0	0.0
	1	137	14.87		0.0
	1	271	15.15		0.0
	135	0	15.04	0-1	0.0
	135	69	14.87	0	0.0
	135	138	14.91	0-1	0.0
	270	0	15.00		0.0
DFT-s-OFDM 16QAM	1	1	15.31	0-1	0.0
CP-OFDM QPSK	1	1	15.30	0-1.5	0.0

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Table 10-92
NR Band n77 DoD Antenna C, I, D Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot or Phablet) - 100 MHz Bandwidth

NR Band n77 DoD 100 MHz Bandwidth	
	Channel
Antenna	633334 (3500.01 MHz)
	Conducted Power [dBm]
SRS #2 Ant C	11.61
SRS #3 Ant I	15.40
SRS #4 Ant D	10.48

Table 10-93
NR Band n77 DoD Antenna C, I, D Measured P_{Limit} for DSI = 1 (Head) - 100 MHz Bandwidth

NR Band n77 DoD 100 MHz Bandwidth	
	Channel
Antenna	633334 (3500.01 MHz)
	Conducted Power [dBm]
SRS #2 Ant C	10.57
SRS #3 Ant I	14.42
SRS #4 Ant D	9.48

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Table 10-94
NR Band n77 Antenna F Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot or Phablet) - 100 MHz Bandwidth

NR Band n77 100 MHz Bandwidth						
			Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	650000 (3750 MHz)	662000 (3930 MHz)		
			Conducted Power [dBm]			
DFT-s-OFDM QPSK	1	1	**17.66**	17.53	0	0.0
	1	137	17.36	17.50		0.0
	1	271	17.20	17.48		0.0
	135	0	**17.59**	17.30	0-1	0.0
	135	69	17.37	17.42	0	0.0
	135	138	17.22	17.57	0-1	0.0
	270	0	17.39	17.26		0.0
DFT-s-OFDM 16QAM	1	1	17.43	17.39	0-1	0.0
CP-OFDM QPSK	1	1	17.57	17.49	0-1.5	0.0

Table 10-95
NR Band n77 Antenna F Measured P_{Limit} for DSI = 1 (Head) - 100 MHz Bandwidth

NR Band n77 100 MHz Bandwidth						
			Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	650000 (3750 MHz)	662000 (3930 MHz)		
			Conducted Power [dBm]			
DFT-s-OFDM QPSK	1	1	**15.70**	15.05	0	0.0
	1	137	15.42	15.03		0.0
	1	271	15.41	15.36		0.0
	135	0	**15.47**	15.05	0-1	0.0
	135	69	15.41	15.16	0	0.0
	135	138	15.35	15.29	0-1	0.0
	270	0	15.38	15.16		0.0
DFT-s-OFDM 16QAM	1	1	15.75	15.16	0-1	0.0
CP-OFDM QPSK	1	1	15.78	15.21	0-1.5	0.0

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Table 10-96
NR Band n77 Antenna C, I, D Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot or Phablet) - 100 MHz Bandwidth

NR Band n77 100 MHz Bandwidth		
	Channel	
Antenna	650000 (3750 MHz)	662000 (3930 MHz)
	Conducted Power [dBm]	
SRS #2 Ant C	**11.81**	10.32
SRS #3 Ant I	**15.47**	15.18
SRS #4 Ant D	**10.81**	10.11

Table 10-97
NR Band n77 Antenna C, I, D Measured P_{Limit} for DSI = 1 (Head) - 100 MHz Bandwidth

NR Band n77 100 MHz Bandwidth		
	Channel	
Antenna	650000 (3750 MHz)	662000 (3930 MHz)
	Conducted Power [dBm]	
SRS #2 Ant C	**10.87**	9.35
SRS #3 Ant I	**14.49**	14.16
SRS #4 Ant D	**9.86**	9.12

Figure 10-4
Power Measurement Setup – NR FDD

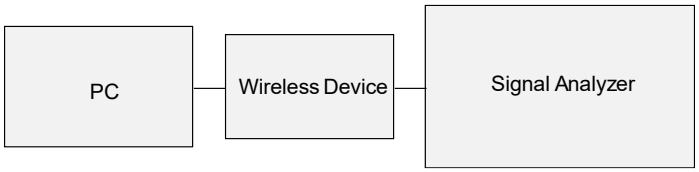

Figure 10-5
Power Measurement Setup – NR TDD

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10.4.9 NTN Band 255

Table 10-98
NTN Band b255 Antenna F Measured P_{Max} for DSI = 0 (Body-worn and Phablet) - 20 MHz Bandwidth

Rx Channel	Tx Channel	Frequency	# Tones	Tone Start	BPSK	QPSK
228737	261505	1626.6	1	0	22.44	22.48
			1	5	22.8	22.73
			1	11	22.42	22.12
			3	0	22.29	19.82
			3	3	22.38	19.89
			3	6	22.32	19.91
			6	0	22.23	19.17
			6	6	22.32	19.94
			12	0	22.31	19.83
228906	261674	1643.5	1	0	22.41	22.42
			1	5	22.76	**22.90**
			1	11	22.38	22.65
			3	0	22.4	20.17
			3	3	22.69	20.40
			3	6	22.54	20.24
			6	0	22.64	20.43
			6	6	22.66	20.39
			12	0	22.62	20.69
229075	261843	1660.4	1	0	22.42	22.33
			1	5	22.81	22.74
			1	11	22.35	22.16
			3	0	22.55	20.06
			3	3	22.57	19.93
			3	6	22.48	19.80
			6	0	22.65	20.39
			6	6	22.72	20.52
			12	0	22.54	20.77

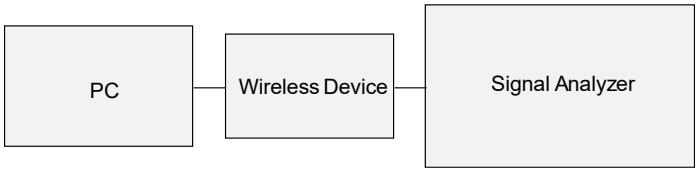

Figure 10-6
Power Measurement Setup – NTN

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10.5 WLAN Conducted Powers

Table 10-99
2.4 GHz WLAN Measured P_{Limit} Average RF Power for DSI = 1 (Head) – Ant H

2.4GHz WIFI (20MHz 802.11b SISO ANT H)				2.4GHz WIFI (20MHz 802.11ac SISO ANT H)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]	Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	12.40	2412	1	Average	12.22
2437	6		12.80	2437	6		12.09
2462	11		12.45	2462	11		12.40
2.4GHz WIFI (20MHz 802.11g SISO ANT H)				2.4GHz WIFI (20MHz 802.11ax SISO ANT H)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]	Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	12.56	2412	1	Average	12.39
2437	6		12.24	2437	6		12.27
2462	11		12.01	2462	11		12.58
2.4GHz WIFI (20MHz 802.11n SISO ANT H)				2.4GHz WIFI (20MHz 802.11be SISO ANT H)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]	Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	12.27	2412	1	Average	12.37
2437	6		12.11	2437	6		12.25
2462	11		12.37	2462	11		12.56

Table 10-100
2.4 GHz WLAN Measured P_{Limit} Average RF Power for DSI = 1 (Head) – Ant J

2.4GHz WIFI (20MHz 802.11b SISO ANT J)				2.4GHz WIFI (20MHz 802.11ac SISO ANT J)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]	Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	13.00	2412	1	Average	12.71
2437	6		13.30	2437	6		12.70
2462	11		12.98	2462	11		12.57
2.4GHz WIFI (20MHz 802.11g SISO ANT J)				2.4GHz WIFI (20MHz 802.11ax SISO ANT J)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]	Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	12.82	2412	1	Average	12.86
2437	6		12.81	2437	6		12.84
2462	11		12.69	2462	11		12.67
2.4GHz WIFI (20MHz 802.11n SISO ANT J)				2.4GHz WIFI (20MHz 802.11be SISO ANT J)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]	Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	12.72	2412	1	Average	12.86
2437	6		12.69	2437	6		12.83
2462	11		12.57	2462	11		12.73

Table 10-101
2.4 GHz WLAN Measured P_{Limit} Average RF Power for DSI = 1 (Head) – MIMO

2.4GHz WIFI (20MHz 802.11b MIMO)					
Freq [MHz]	Channel	Detector	Conducted Power [dBm]		
			ANT1	ANT2	MIMO
2412	1	Average	12.33	12.93	15.65
2437	6		12.69	13.24	15.98
2462	11		12.38	12.98	15.70

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Table 10-102
2.4 GHz WLAN Measured P_{Max} Average RF Power for DSI = 0 (Body-worn, Hotspot or Phablet) – Ant H

2.4GHz WIFI (20MHz 802.11b SISO ANT H)				2.4GHz WIFI (20MHz 802.11ac SISO ANT H)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]	Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	19.39	2412	1	Average	17.31
2437	6		19.47	2437	6		17.18
2462	11		19.46	2462	11		17.40
2.4GHz WIFI (20MHz 802.11g SISO ANT H)				2.4GHz WIFI (20MHz 802.11ax SISO ANT H)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]	Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	17.40	2412	1	Average	17.45
2437	6		17.28	2437	6		17.28
2462	11		17.48	2462	11		17.03
2.4GHz WIFI (20MHz 802.11n SISO ANT H)				2.4GHz WIFI (20MHz 802.11be SISO ANT H)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]	Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	17.35	2412	1	Average	17.45
2437	6		17.24	2437	6		17.33
2462	11		17.44	2462	11		17.04

Table 10-103
2.4 GHz WLAN Measured P_{max} Average RF Power for DSI = 0 (Body-worn, Hotspot or Phablet) – Ant J

2.4GHz WIFI (20MHz 802.11b SISO ANT J)				2.4GHz WIFI (20MHz 802.11ac SISO ANT J)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]	Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	19.19	2412	1	Average	17.12
2437	6		19.48	2437	6		17.40
2462	11		19.33	2462	11		17.32
2.4GHz WIFI (20MHz 802.11g SISO ANT J)				2.4GHz WIFI (20MHz 802.11ax SISO ANT J)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]	Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	17.20	2412	1	Average	17.25
2437	6		17.46	2437	6		17.51
2462	11		17.40	2462	11		17.45
2.4GHz WIFI (20MHz 802.11n SISO ANT J)				2.4GHz WIFI (20MHz 802.11be SISO ANT J)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]	Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	17.11	2412	1	Average	17.22
2437	6		17.40	2437	6		17.50
2462	11		17.34	2462	11		17.45

Table 10-104
2.4 GHz WLAN Measured P_{max} Average RF Power for DSI = 0 (Body-worn, Hotspot or Phablet) – MIMO

2.4GHz WIFI (20MHz 802.11b MIMO)					
Freq [MHz]	Channel	Detector	Conducted Power [dBm]		
			ANT1	ANT2	MIMO
2412	1	Average	19.01	19.70	22.38
2437	6		19.20	19.95	22.60
2462	11		19.01	19.80	22.43

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Table 10-105
5 GHz WLAN Measured P_{Limit} Average RF Power for DSI = 1 (Head) – Ant H

5GHz WIFI (80MHz 802.11ac SISO ANT H)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-1	5210	42	11.23
UNII-2A	5290	58	12.43
UNII-2C	5530	106	11.63
	5610	122	12.15
	5690	138	12.27
UNII-3	5775	155	12.61
UNII-4	5885	171	13.11

5GHz WIFI (80MHz 802.11ax SISO ANT H)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-1	5210	42	10.68
UNII-2A	5290	58	12.07
UNII-2C	5530	106	11.22
	5610	122	12.44
	5690	138	12.60
UNII-3	5775	155	12.38
UNII-4	5885	171	12.48

5GHz WIFI (80MHz 802.11be SISO ANT H)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-1	5210	42	10.53
UNII-2A	5290	58	11.77
UNII-2C	5530	106	11.33
	5610	122	12.49
	5690	138	12.59
UNII-3	5775	155	12.42
UNII-4	5885	171	12.41

5GHz WIFI (40MHz 802.11n SISO ANT H)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-1	5190	38	13.44
	5230	46	13.28
UNII-2A	5270	54	13.13
	5310	62	13.05
UNII-2C	5510	102	12.56
	5590	118	12.40
	5630	126	12.38
	5710	142	12.85
UNII-3	5755	151	12.83
	5795	159	12.94
UNII-4	5835	167	12.97
	5875	175	13.29

5GHz WIFI (40MHz 802.11ac SISO ANT H)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-1	5190	38	13.49
	5230	46	13.14
UNII-2A	5270	54	13.13
	5310	62	13.09
UNII-2C	5510	102	12.54
	5590	118	12.53
	5630	126	12.43
	5710	142	12.79
UNII-3	5755	151	12.77
	5795	159	12.80
UNII-4	5835	167	13.00
	5875	175	13.27

5GHz WIFI (40MHz 802.11ax SISO ANT H)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-1	5190	38	13.11
	5230	46	12.81
UNII-2A	5270	54	12.68
	5310	62	12.53
UNII-2C	5510	102	12.14
	5590	118	12.04
	5630	126	12.01
	5710	142	12.45
UNII-3	5755	151	12.48
	5795	159	12.53
UNII-4	5835	167	12.60
	5875	175	12.95

5GHz WIFI (40MHz 802.11be SISO ANT H)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-1	5190	38	13.28
	5230	46	13.25
UNII-2A	5270	54	12.95
	5310	62	12.84
UNII-2C	5510	102	12.35
	5590	118	12.29
	5630	126	12.21
	5710	142	12.93
UNII-3	5755	151	12.64
	5795	159	12.73
UNII-4	5835	167	12.88
	5875	175	13.16

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Table 10-106
5 GHz WLAN Measured P_{Limit} Average RF Power for DSI = 1 (Head) – Ant E

5GHz WIFI (80MHz 802.11ac SISO ANT E)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-1	5210	42	11.41
UNII-2A	5290	58	12.22
UNII-2C	5530	106	11.57
	5610	122	12.65
	5690	138	12.91
UNII-3	5775	155	12.86
UNII-4	5885	171	13.14

5GHz WIFI (80MHz 802.11ax SISO ANT E)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-1	5210	42	11.23
UNII-2A	5290	58	11.52
UNII-2C	5530	106	11.53
	5610	122	12.09
	5690	138	12.23
UNII-3	5775	155	12.51
UNII-4	5885	171	12.11

5GHz WIFI (80MHz 802.11be SISO ANT E)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-1	5210	42	11.45
UNII-2A	5290	58	11.69
UNII-2C	5530	106	11.54
	5610	122	12.11
	5690	138	12.31
UNII-3	5775	155	12.48
UNII-4	5885	171	12.15

5GHz WIFI (40MHz 802.11n SISO ANT E)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-1	5190	38	12.67
	5230	46	13.01
UNII-2A	5270	54	13.12
	5310	62	13.23
UNII-2C	5510	102	13.47
	5590	118	13.48
	5630	126	13.15
	5710	142	13.44
UNII-3	5755	151	13.75
	5795	159	13.80
UNII-4	5835	167	13.88
	5875	175	13.90

5GHz WIFI (40MHz 802.11n SISO ANT H)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-1	5190	38	13.44
	5230	46	13.28
UNII-2A	5270	54	13.13
	5310	62	13.05
UNII-2C	5510	102	12.56
	5590	118	12.40
	5630	126	12.38
	5710	142	12.85
UNII-3	5755	151	12.83
	5795	159	12.94
UNII-4	5835	167	12.97
	5875	175	13.29

5GHz WIFI (40MHz 802.11ac SISO ANT E)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-1	5190	38	12.63
	5230	46	13.00
UNII-2A	5270	54	12.95
	5310	62	13.10
UNII-2C	5510	102	13.38
	5590	118	13.46
	5630	126	13.05
	5710	142	13.34
UNII-3	5755	151	13.60
	5795	159	13.76
UNII-4	5835	167	13.78
	5875	175	13.95

5GHz WIFI (40MHz 802.11ax SISO ANT E)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-1	5190	38	12.16
	5230	46	12.50
UNII-2A	5270	54	12.59
	5310	62	12.74
UNII-2C	5510	102	12.92
	5590	118	13.04
	5630	126	12.60
	5710	142	12.99
UNII-3	5755	151	13.28
	5795	159	13.31
UNII-4	5835	167	13.41
	5875	175	13.74

5GHz WIFI (40MHz 802.11be SISO ANT E)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-1	5190	38	12.52
	5230	46	13.06
UNII-2A	5270	54	13.09
	5310	62	13.25
UNII-2C	5510	102	13.41
	5590	118	13.54
	5630	126	13.19
	5710	142	13.29
UNII-3	5755	151	13.51
	5795	159	13.62
UNII-4	5835	167	13.94
	5875	175	13.46

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Table 10-107
5 GHz WLAN Measured P_{Limit} Average RF Power for DSI = 1 (Head) – MIMO

5GHz WIFI (80MHz 802.11ac MIMO)					
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]		
			ANT1	ANT2	MIMO
UNII-1	5210	42	10.30	11.85	14.15
UNII-2A	5290	58	12.49	12.98	15.75
UNII-2C	5530	106	10.83	11.48	14.18
	5610	122	12.31	12.68	15.51
	5690	138	12.22	12.98	15.62
UNII-3	5775	155	12.31	13.10	15.73
UNII-4	5885	171	12.80	13.22	16.02

5GHz WIFI (40MHz 802.11n MIMO)					
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]		
			ANT1	ANT2	MIMO
UNII-1	5190	38	13.51	12.72	16.14
	5230	46	13.31	12.98	16.16
UNII-2A	5270	54	13.22	13.06	16.15
	5310	62	13.04	13.21	16.14
UNII-2C	5510	102	12.53	13.47	16.04
	5590	118	12.43	13.58	16.05
	5630	126	12.34	13.16	15.78
	5710	142	12.82	13.48	16.17
UNII-3	5755	151	12.83	13.75	16.32
	5795	159	12.86	13.90	16.42
UNII-4	5835	167	12.95	13.94	16.48
	5875	175	13.25	13.99	16.65

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Table 10-108
5 GHz WLAN Measured P_{Limit} Average RF Power for DSI = 0 (Body-worn, Hotspot or Phablet) – Ant H

5GHz WIFI (20MHz 802.11a SISO ANT H)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-1	5180	36	16.58
	5200	40	16.56
	5220	44	16.44
	5240	48	16.48
UNII-2A	5260	52	16.65
	5280	56	16.69
	5300	60	16.37
	5320	64	16.42
UNII-2C	5500	100	16.51
	5600	120	16.29
	5620	124	16.31
	5720	144	16.69
UNII-3	5745	149	16.69
	5785	157	16.87
	5825	165	16.97
UNII-4	5845	169	16.89
	5865	173	16.88
	5885	177	16.89

5GHz WIFI (20MHz 802.11n SISO ANT H)				
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**	**Target**
UNII-1	5180	36	16.47	16.0
	5200	40	16.40	16.0
	5220	44	16.34	16.0
	5240	48	16.43	16.0
UNII-2A	5260	52	16.43	16.0
	5280	56	16.29	16.0
	5300	60	16.00	16.0
	5320	64	16.11	16.0
UNII-2C	5500	100	16.50	16.0
	5600	120	16.08	16.0
	5620	124	16.21	16.0
	5720	144	16.41	16.0
UNII-3	5745	149	16.26	16.0
	5785	157	16.13	16.0
	5825	165	16.00	16.0
UNII-4	5845	169	16.49	16.0
	5865	173	16.33	16.0
	5885	177	16.05	16.0

5GHz WIFI (20MHz 802.11ac SISO ANT H)				
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**	**Target**
UNII-1	5180	36	16.40	16.0
	5200	40	16.38	16.0
	5220	44	16.34	16.0
	5240	48	16.31	16.0
UNII-2A	5260	52	16.34	16.0
	5280	56	16.20	16.0
	5300	60	16.02	16.0
	5320	64	16.11	16.0
UNII-2C	5500	100	16.47	16.0
	5600	120	16.14	16.0
	5620	124	16.07	16.0
	5720	144	16.46	16.0
UNII-3	5745	149	16.24	16.0
	5785	157	16.23	16.0
	5825	165	16.49	16.0
UNII-4	5845	169	16.40	16.0
	5865	173	16.37	16.0
	5885	177	16.05	16.0

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5GHz WIFI (20MHz 802.11ax SISO ANT H)				
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]	Target
UNII-1	5180	36	15.16	15.0
	5200	40	15.33	15.0
	5220	44	15.22	15.0
	5240	48	15.01	15.0
UNII-2A	5260	52	15.45	15.0
	5280	56	15.02	15.0
	5300	60	15.44	15.0
	5320	64	15.46	15.0
UNII-2C	5500	100	15.07	15.0
	5620	124	15.54	15.0
	5640	128	15.48	15.0
	5720	144	15.05	15.0
UNII-3	5745	149	15.34	15.0
	5785	157	15.28	15.0
	5825	165	15.18	15.0
UNII-4	5845	169	15.24	15.0
	5865	173	15.28	15.0
	5885	177	15.36	15.0
5GHz WIFI (20MHz 802.11be SISO ANT H)				
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]	Target
UNII-1	5180	36	15.12	15.0
	5200	40	15.29	15.0
	5220	44	15.18	15.0
	5240	48	15.01	15.0
UNII-2A	5260	52	15.41	15.0
	5280	56	15.04	15.0
	5300	60	15.40	15.0
	5320	64	15.42	15.0
UNII-2C	5500	100	15.03	15.0
	5600	120	15.01	15.0
	5620	124	15.50	15.0
	5720	144	15.01	15.0
UNII-3	5745	149	15.30	15.0
	5785	157	15.24	15.0
	5825	165	15.14	15.0
UNII-4	5845	169	15.20	15.0
	5865	173	15.24	15.0
	5885	177	15.32	15.0

Table 10-109

5 GHz WLAN Measured P_{Limit} Average RF Power for DSI = 0 (Body-worn, Hotspot or Phablet) – Ant E

5GHz WIFI (20MHz 802.11a SISO ANT E)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5180	36	16.58
	5200	40	16.76
	5220	44	16.88
	5240	48	16.68
UNII-2A	5260	52	16.80
	5280	56	16.81
	5300	60	16.94
	5320	64	16.73
UNII-2C	5500	100	16.83
	5600	120	16.79
	5620	124	16.72
	5720	144	16.98
UNII-3	5745	149	16.48
	5785	157	16.55
	5825	165	16.63
UNII-4	5845	169	16.68
	5865	173	16.63
	5885	177	16.72

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5GHz WIFI (20MHz 802.11n SISO ANT E)				5GHz WIFI (20MHz 802.11ax SISO ANT E)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]	Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5180	36	16.20	UNII-1	5180	36	15.01
	5200	40	16.32		5200	40	15.06
	5220	44	16.31		5220	44	15.09
	5240	48	16.01		5240	48	15.34
UNII-2A	5260	52	16.39	UNII-2A	5260	52	15.49
	5280	56	16.04		5280	56	15.32
	5300	60	16.32		5300	60	15.14
	5320	64	16.16		5320	64	15.39
UNII-2C	5500	100	16.16	UNII-2C	5500	100	15.02
	5600	120	16.39		5600	120	15.08
	5620	124	16.29		5620	124	15.49
	5720	144	16.15		5720	144	15.46
UNII-3	5745	149	16.28	UNII-3	5745	149	15.15
	5785	157	16.40		5785	157	15.11
	5825	165	16.01		5825	165	15.01
UNII-4	5845	169	16.04	UNII-4	5845	169	15.41
	5865	173	16.25		5865	173	15.49
	5885	177	16.37		5885	177	15.30
5GHz WIFI (20MHz 802.11ac SISO ANT E)				5GHz WIFI (20MHz 802.11be SISO ANT E)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]	Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5180	36	16.18	UNII-1	5180	36	15.47
	5200	40	16.36		5200	40	15.56
	5220	44	16.36		5220	44	15.08
	5240	48	16.06		5240	48	15.31
UNII-2A	5260	52	16.24	UNII-2A	5260	52	15.48
	5280	56	16.50		5280	56	15.24
	5300	60	16.44		5300	60	15.13
	5320	64	16.05		5320	64	15.39
UNII-2C	5500	100	16.03	UNII-2C	5500	100	15.01
	5600	120	16.29		5600	120	15.04
	5620	124	16.06		5620	124	15.43
	5720	144	16.10		5720	144	15.47
UNII-3	5745	149	16.44	UNII-3	5745	149	15.14
	5785	157	16.26		5785	157	15.04
	5825	165	16.26		5825	165	15.41
UNII-4	5845	169	16.07	UNII-4	5845	169	15.41
	5865	173	16.15		5865	173	15.51
	5885	177	16.40		5885	177	15.30

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Table 10-110
5 GHz WLAN Measured P_{Limit} Average RF Power for DSI = 0 (Body-worn, Hotspot or Phablet) – MIMO

5GHz WIFI (20MHz 802.11a MIMO)					
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]		
			ANT H	ANT E	MIMO
UNII-1	5180	36	16.78	16.79	19.80
	5200	40	16.81	16.78	19.80
	5220	44	16.73	16.94	19.84
	5240	48	16.74	16.98	19.87
UNII-2A	5260	52	16.86	16.69	19.79
	5280	56	16.89	16.76	19.83
	5300	60	16.62	16.85	19.75
	5320	64	16.61	16.69	19.66
UNII-2C	5500	100	16.60	16.96	19.79
	5600	120	16.43	16.74	19.60
	5620	124	16.38	16.71	19.56
	5720	144	16.70	16.98	19.85
UNII-3	5745	149	16.01	16.51	19.28
	5785	157	16.09	16.62	19.37
	5825	165	16.27	16.63	19.46
UNII-4	5845	169	16.43	16.61	19.53
	5865	173	16.30	16.71	19.52
	5885	177	16.33	16.73	19.54

Table 10-111
6 GHz WLAN Measured P_{Limit} Average RF Power for DSI = 1 (Head) – Ant H

6GHz WIFI (80MHz 802.11ax SISO ANT H)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-5	5985	7	9.67
	6305	71	9.35
	6385	87	9.51
UNII-6	6465	103	9.23
UNII-7	6545	119	9.71
	6705	151	9.45
	6785	167	9.59
	6865	183	9.71
UNII-8	6945	199	9.83
	7025	215	9.76

6GHz WIFI (80MHz 802.11be SISO ANT H)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-5	5985	7	9.67
	6145	39	9.41
	6305	71	9.33
	6385	87	9.12
UNII-6	6465	103	9.06
UNII-7	6545	119	9.27
	6705	151	9.19
	6785	167	9.47
	6865	183	9.21
UNII-8	6945	199	9.36
	7025	215	9.32

Table 10-112
6 GHz WLAN Measured P_{Limit} Average RF Power for DSI = 1 (Head) – Ant E

6GHz WIFI (80MHz 802.11ax SISO ANT E)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-5	5985	7	9.38
	6305	71	9.85
	6385	87	9.71
UNII-6	6465	103	9.95
UNII-7	6545	119	9.29
	6705	151	9.91
	6785	167	9.88
	6865	183	9.44
UNII-8	6945	199	9.86
	7025	215	9.54

6GHz WIFI (80MHz 802.11be SISO ANT E)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-5	5985	7	9.30
	6145	39	9.16
	6305	71	9.36
	6385	87	9.28
UNII-6	6465	103	9.25
UNII-7	6545	119	9.48
	6705	151	9.26
	6785	167	9.29
	6865	183	9.07
UNII-8	6945	199	9.02
	7025	215	9.31

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Table 10-113
6 GHz WLAN Measured P_{Limit} Average RF Power for DSI = 1 (Head) – MIMO

6GHz WIFI (80MHz 802.11ax MIMO)					
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]		
			ANT1	ANT2	MIMO
UNII-5	5985	7	9.39	9.73	12.57
	6145	39	8.79	9.78	12.32
	6305	71	8.11	9.58	11.92
	6385	87	8.45	9.48	12.01
UNII-6	6465	103	8.87	9.64	12.28
UNII-7	6545	119	9.38	9.63	12.52
	6705	151	9.37	9.61	12.50
	6785	167	9.63	9.49	12.57
	6865	183	9.45	8.88	12.18
UNII-8	6945	199	9.48	9.13	12.32
	7025	215	9.52	9.32	12.43

Table 10-114
6 GHz WLAN Measured P_{max} Average RF Power for DSI = 0 (Body-worn or Phablet) – Ant H

6GHz WIFI (80MHz 802.11ax SISO ANT H)				6GHz WIFI (80MHz 802.11ax SISO ANT H)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]	Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-5	5985	7	10.53	UNII-6	6465	103	10.58
	6305	71	10.90	UNII-8	6945	199	10.52
UNII-7	6705	151	10.80		7025	215	10.74

6GHz WIFI (80MHz 802.11be SISO ANT H)				6GHz WIFI (80MHz 802.11be SISO ANT H)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]	Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-5	5985	7	10.53	UNII-6	6465	103	10.54
	6305	71	10.43	UNII-8	6945	199	10.48
UNII-7	6705	151	10.10		7025	215	10.70

Table 10-115
6 GHz WLAN Measured P_{max} Average RF Power for DSI = 0 (Body-worn or Phablet) – Ant E

6GHz WIFI (80MHz 802.11ax SISO ANT E)				6GHz WIFI (80MHz 802.11ax SISO ANT E)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]	Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-5	5985	7	10.78	UNII-6	6465	103	10.92
	6305	71	11.10	UNII-8	6945	199	10.92
UNII-7	6705	151	10.68		7025	215	10.99

6GHz WIFI (80MHz 802.11be SISO ANT E)				6GHz WIFI (80MHz 802.11be SISO ANT E)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]	Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-5	5985	7	10.20	UNII-6	6465	103	10.98
	6305	71	11.01	UNII-8	6945	199	10.98
UNII-7	6705	151	11.04		7025	215	10.99

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Table 10-116
6 GHz WLAN Measured P_{max} Average RF Power for DSI = 0 (Body-worn or Phablet) – MIMO

6GHz WIFI (80MHz 802.11ax MIMO)					
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]		
			ANT1	ANT2	MIMO
UNII-5	5985	7	10.85	9.85	13.39
	6305	71	9.52	11.20	13.45
UNII-7	6705	151	11.28	10.23	13.80
6GHz WIFI (80MHz 802.11ax MIMO)					
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]		
			ANT1	ANT2	MIMO
UNII-6	6465	103	9.04	10.88	13.07
UNII-8	6945	199	9.42	10.98	13.28
	7025	215	9.49	10.99	13.31

Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02:

- Power measurements were performed for the transmission mode configuration with the highest maximum output power specified for production units.
- For transmission modes with the same maximum output power specification, powers were measured for the largest channel bandwidth, lowest order modulation and lowest data rate.
- For transmission modes with identical maximum specified output power, channel bandwidth, modulation and data rates, power measurements were required for all identical configurations.
- For each transmission mode configuration, powers were measured for the highest and lowest channels; and at the mid-band channel(s) when there were at least 3 channels supported. For configurations with multiple mid-band channels, due to an even number of channels, both channels were measured.

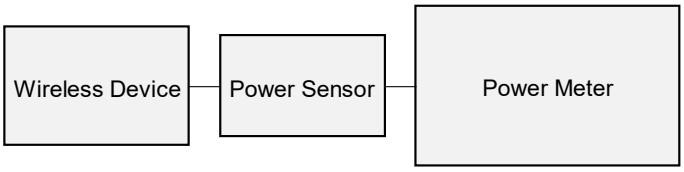

Figure 10-7
Power Measurement Setup

10.6 Bluetooth Conducted Powers

Table 10-117
Bluetooth LE Measured P_{Limit} Average RF Power for DSI = 1 (Head) – Ant H

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Bluetooth Mode	Peak Conducted Power	
				[dBm]	[mW]
2402	1 Mbps	0	LE	12.45	17.567
2440	1 Mbps	19	LE	11.56	14.335
2480	1 Mbps	39	LE	11.12	12.936

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Table 10-118
Bluetooth LE Measured P_{Limit} Average RF Power for DSI = 1 (Head) – Ant J

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Bluetooth Mode	Peak Conducted Power	
				[dBm]	[mW]
2402	1 Mbps	0	LE	11.57	14.355
2440	1 Mbps	19	LE	11.32	13.536
2480	1 Mbps	39	LE	10.77	11.940

Table 10-119
Bluetooth LE Measured for P_{Max} Average RF Power for DSI = 0 (Body-worn or Phablet) and P_{Limit} Average RF Power for DSI = 1 (Head) – MIMO

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Bluetooth Mode	ANT H Peak Conducted Power		ANT J Peak Conducted Power		Dual Peak Conducted Power	
				[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]
2402	1 Mbps	0	LE	12.35	17.179	11.92	15.560	15.15	32.739
2440	1 Mbps	19	LE	11.39	13.772	11.67	14.689	14.54	28.461
2480	1 Mbps	39	LE	10.98	12.531	11.22	13.243	14.11	25.775

Table 10-120
Bluetooth LE Measured P_{Max} Average RF Power for DSI = 0 (Body-worn, Hotspot or Phablet) – Ant H

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Bluetooth Mode	Peak Conducted Power	
				[dBm]	[mW]
2402	1 Mbps	0	LE	18.39	69.024
2440	1 Mbps	19	LE	18.11	64.714
2480	1 Mbps	39	LE	17.65	58.210

Table 10-121
Bluetooth LE Measured P_{Max} Average RF Power for DSI = 0 (Body-worn, Hotspot or Phablet) – Ant J

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Bluetooth Mode	Peak Conducted Power	
				[dBm]	[mW]
2402	1 Mbps	0	LE	17.11	51.404
2440	1 Mbps	19	LE	18.02	63.387
2480	1 Mbps	39	LE	17.89	61.518

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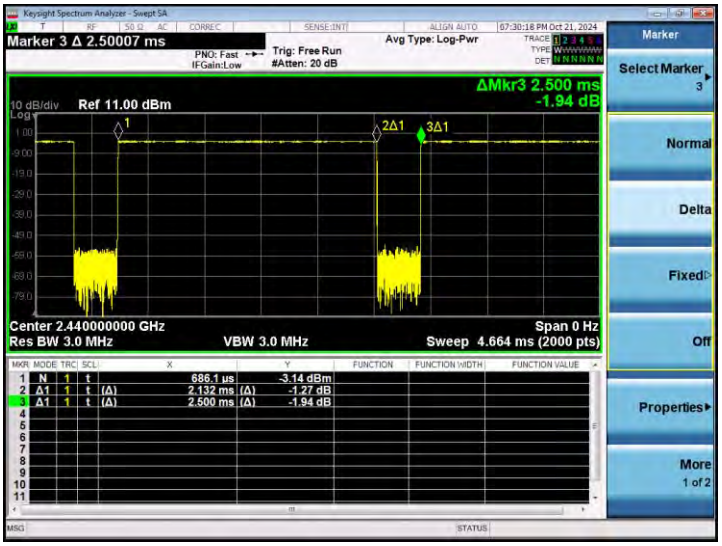
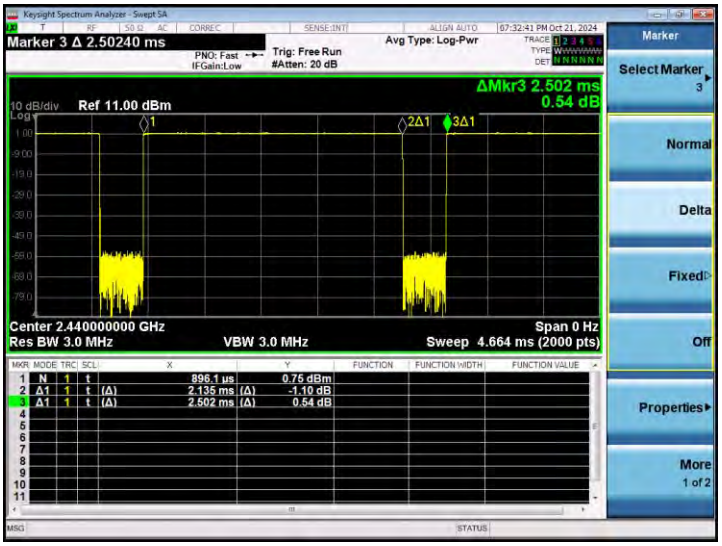
Figure 10-8
Bluetooth LE Antenna H Transmission Plot



Equation 10-1
Bluetooth LE Antenna H Duty Cycle Calculation

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{2.132ms}{2.500ms} * 100\% = 85.28\%$$

Figure 10-9
Bluetooth LE Antenna J Transmission Plot



Equation 10-2
Bluetooth LE Antenna J Duty Cycle Calculation

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{2.135ms}{2.502ms} * 100\% = 85.33\%$$

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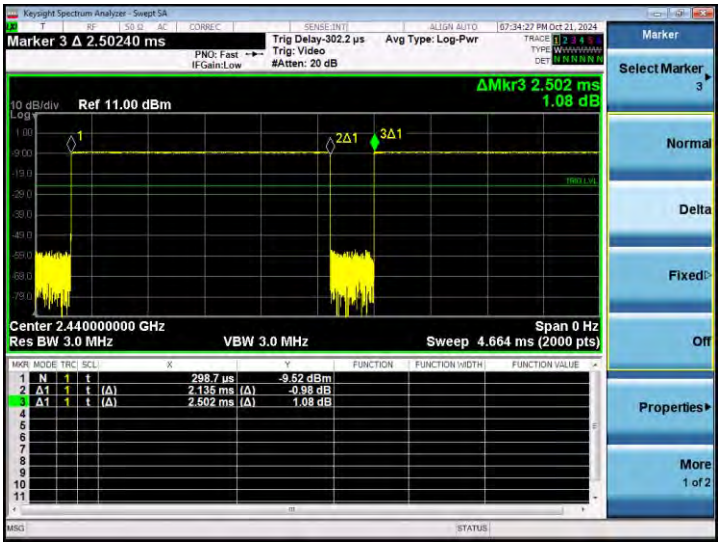
Figure 10-10
Bluetooth LE MIMO Transmission Plot



Equation 10-3
Bluetooth LE MIMO Duty Cycle Calculation

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{2.135ms}{2.502ms} * 100\% = 85.33\%$$

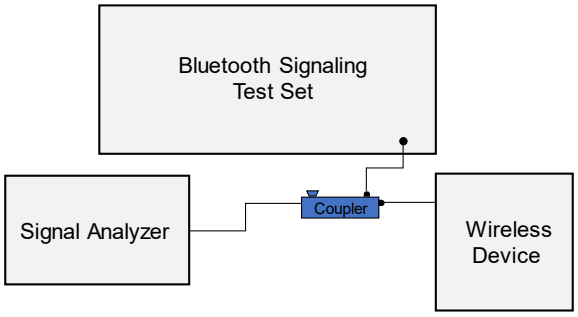


Figure 10-11
Power Measurement Setup

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11 SYSTEM VERIFICATION

11.1 Tissue Verification

Table 11-1
Measured Head Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (°C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
10/02/2024	30 Head	24.8	4	0.716	57.318	0.750	55.000	-4.53%	4.21%
			6	0.716	55.954	0.750	55.000	-4.53%	1.73%
			12	0.717	53.466	0.750	55.000	-4.40%	-2.79%
			13	0.717	53.354	0.750	55.000	-4.40%	-2.99%
			14	0.717	53.297	0.750	55.000	-4.40%	-3.10%
			30	0.719	52.625	0.750	55.000	-4.13%	-4.32%
			60	0.722	52.049	0.753	54.325	-4.12%	-4.19%
			65	0.723	51.921	0.753	54.213	-3.98%	-4.23%
			150	0.751	50.187	0.760	52.300	-1.18%	-4.04%
09/02/2024	750 Head	21.4	680	0.882	41.325	0.888	42.305	-0.68%	-2.32%
			695	0.887	41.266	0.889	42.227	-0.22%	-2.28%
			700	0.889	41.248	0.889	42.201	0.00%	-2.26%
			710	0.892	41.221	0.890	42.149	0.22%	-2.20%
			725	0.896	41.178	0.891	42.071	0.56%	-2.12%
			750	0.903	41.086	0.894	41.942	1.01%	-2.04%
			770	0.910	41.005	0.895	41.838	1.68%	-1.99%
			785	0.917	40.961	0.896	41.760	2.34%	-1.91%
			800	0.923	40.927	0.897	41.682	2.90%	-1.81%
09/04/2024	750 Head	21.0	680	0.882	40.675	0.888	42.305	-0.68%	-3.85%
			695	0.887	40.623	0.889	42.227	-0.22%	-3.80%
			700	0.889	40.610	0.889	42.201	0.00%	-3.77%
			710	0.892	40.595	0.890	42.149	0.22%	-3.69%
			725	0.898	40.556	0.891	42.071	0.79%	-3.60%
			750	0.906	40.464	0.894	41.942	1.34%	-3.52%
			770	0.912	40.381	0.895	41.838	1.90%	-3.48%
			785	0.917	40.333	0.896	41.760	2.34%	-3.42%
			800	0.922	40.295	0.897	41.682	2.79%	-3.33%
09/05/2024	750 Head	23.0	680	0.889	41.845	0.888	42.305	0.11%	-1.09%
			695	0.894	41.798	0.889	42.227	0.56%	-1.02%
			700	0.895	41.780	0.889	42.201	0.67%	-1.00%
			710	0.899	41.748	0.890	42.149	1.01%	-0.95%
			725	0.904	41.700	0.891	42.071	1.46%	-0.88%
			750	0.912	41.633	0.894	41.942	2.01%	-0.74%
			770	0.920	41.579	0.895	41.838	2.79%	-0.62%
			785	0.925	41.537	0.896	41.760	3.24%	-0.53%
			800	0.931	41.486	0.897	41.682	3.79%	-0.47%
09/06/2024	750 Head	21.0	680	0.869	40.810	0.888	42.305	-2.14%	-3.53%
			695	0.874	40.761	0.889	42.227	-1.69%	-3.47%
			710	0.879	40.711	0.890	42.149	-1.24%	-3.41%
			725	0.885	40.662	0.891	42.071	-0.67%	-3.35%
			750	0.892	40.600	0.894	41.942	-0.22%	-3.20%
			770	0.899	40.553	0.895	41.838	0.45%	-3.07%
			785	0.903	40.519	0.896	41.760	0.78%	-2.97%
			800	0.909	40.481	0.897	41.682	1.34%	-2.88%
09/08/2024	750 Head	22.6	680	0.875	42.496	0.888	42.305	-1.46%	0.45%
			695	0.880	42.453	0.889	42.227	-1.01%	0.54%
			710	0.885	42.407	0.890	42.149	-0.56%	0.61%
			725	0.891	42.366	0.891	42.071	0.00%	0.70%
			750	0.900	42.302	0.894	41.942	0.67%	0.86%
			770	0.907	42.245	0.895	41.838	1.34%	0.97%
			785	0.912	42.202	0.896	41.760	1.79%	1.06%
			800	0.918	42.155	0.897	41.682	2.34%	1.13%
09/12/2024	750 Head	20.7	680	0.867	40.319	0.888	42.305	-2.36%	-4.69%
			695	0.873	40.266	0.889	42.227	-1.80%	-4.64%
			700	0.875	40.251	0.889	42.201	-1.57%	-4.62%
			710	0.879	40.222	0.890	42.149	-1.24%	-4.57%
			725	0.885	40.178	0.891	42.071	-0.67%	-4.50%
			750	0.894	40.096	0.894	41.942	0.00%	-4.40%
			770	0.900	40.020	0.895	41.838	0.56%	-4.35%
			785	0.906	39.971	0.896	41.760	1.12%	-4.28%
			800	0.911	39.928	0.897	41.682	1.56%	-4.21%
09/20/2024	750 Head	21.0	680	0.863	42.145	0.888	42.305	-2.82%	-0.38%
			695	0.868	42.090	0.889	42.227	-2.36%	-0.32%
			700	0.869	42.068	0.889	42.201	-2.25%	-0.32%
			710	0.873	42.035	0.890	42.149	-1.91%	-0.27%
			725	0.878	41.985	0.891	42.071	-1.46%	-0.20%
			750	0.886	41.931	0.894	41.942	-0.89%	-0.03%
			770	0.892	41.892	0.895	41.838	-0.34%	0.13%
			785	0.897	41.873	0.896	41.760	0.11%	0.27%
			800	0.904	41.827	0.897	41.682	0.78%	0.39%
10/02/2024	750 Head	21.4	680	0.871	41.388	0.888	42.305	-1.91%	-2.17%
			695	0.876	41.337	0.889	42.227	-1.46%	-2.11%
			700	0.878	41.321	0.889	42.201	-1.24%	-2.09%
			710	0.881	41.289	0.890	42.149	-1.01%	-2.04%
			725	0.887	41.243	0.891	42.071	-0.45%	-1.97%
			750	0.896	41.168	0.894	41.942	0.22%	-1.85%
			770	0.903	41.110	0.895	41.838	0.89%	-1.74%
			785	0.908	41.065	0.896	41.760	1.34%	-1.66%
			800	0.914	41.022	0.897	41.682	1.90%	-1.58%
09/05/2024	835 Head	23.0	815	0.937	41.442	0.898	41.594	4.34%	-0.37%
			820	0.939	41.431	0.899	41.578	4.45%	-0.35%
			835	0.945	41.398	0.900	41.500	5.00%	-0.25%
			850	0.950	41.359	0.916	41.500	3.71%	-0.34%
09/06/2024	835 Head	21.0	815	0.915	40.438	0.898	41.594	1.89%	-2.78%
			820	0.917	40.416	0.899	41.578	2.00%	-2.79%
			835	0.923	40.352	0.900	41.500	2.56%	-2.77%
			850	0.928	40.300	0.916	41.500	1.31%	-2.89%
09/08/2024	835 Head	22.6	815	0.924	42.105	0.898	41.594	2.90%	1.23%
			820	0.926	42.091	0.899	41.578	3.00%	1.23%
			835	0.932	42.051	0.900	41.500	3.56%	1.33%
			850	0.937	42.005	0.916	41.500	2.29%	1.22%
09/09/2024	835 Head	20.7	815	0.915	40.170	0.898	41.594	1.89%	-3.42%
			820	0.917	40.162	0.899	41.578	2.00%	-3.41%
			835	0.923	40.138	0.900	41.500	2.56%	-3.28%
			850	0.929	40.097	0.916	41.500	1.42%	-3.38%
09/10/2024	835 Head	21.5	815	0.927	41.062	0.898	41.594	3.23%	-1.28%
			820	0.928	41.046	0.899	41.578	3.23%	-1.28%
			835	0.934	40.998	0.900	41.500	3.78%	-1.21%
			850	0.940	40.956	0.916	41.500	2.62%	-1.31%
09/12/2024	835 Head	19.4	815	0.904	40.941	0.898	41.594	0.67%	-1.57%
			820	0.906	40.928	0.899	41.578	0.78%	-1.56%
			835	0.912	40.883	0.900	41.500	1.33%	-1.49%
			850	0.917	40.834	0.916	41.500	0.11%	-1.60%
09/13/2024	835 Head	21.5	815	0.910	42.620	0.898	41.594	1.34%	2.47%
			820	0.912	42.607	0.899	41.578	1.45%	2.47%
			835	0.917	42.568	0.900	41.500	1.89%	2.57%
			850	0.923	42.528	0.916	41.500	0.76%	2.48%
09/19/2024	835 Head	20.3	815	0.909	43.085	0.898	41.594	1.22%	3.58%
			820	0.911	43.071	0.899	41.578	1.33%	3.59%
			835	0.917	43.035	0.900	41.500	1.89%	3.70%
			850	0.923	42.992	0.916	41.500	0.76%	3.60%
10/14/2024	1640 Head	21.8	1610	1.228	40.587	1.290	40.300	-4.81%	0.71%
			1620	1.233	40.570	1.296	40.284	-4.86%	0.71%
			1640	1.244	40.542	1.307	40.253	-4.82%	0.72%
			1650	1.249	40.526	1.313	40.237	-4.87%	0.72%
10/23/2024	1640 Head	22.0	1610	1.229	40.020	1.290	40.300	-4.73%	-0.69%
			1620	1.234	40.000	1.296	40.284	-4.78%	-0.70%
			1640	1.244	39.966	1.307	40.253	-4.82%	-0.71%
			1650	1.250	39.950	1.313	40.237	-4.80%	-0.71%

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Table 11-2
Measured Head Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (°C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	%dev σ	%dev ε
09/03/2024	1750 Head	21.3	1700	1.323	41.494	1.343	40.145	-1.49%	3.36%
			1705	1.326	41.487	1.345	40.141	-1.41%	3.35%
			1710	1.329	41.480	1.348	40.136	-1.41%	3.35%
			1720	1.335	41.462	1.354	40.126	-1.40%	3.33%
			1745	1.351	41.417	1.368	40.087	-1.24%	3.32%
			1750	1.354	41.406	1.371	40.079	-1.24%	3.32%
			1770	1.366	41.377	1.383	40.047	-1.23%	3.32%
			1790	1.378	41.343	1.394	40.016	-1.15%	3.32%
09/03/2024	1750 Head	20.4	1700	1.314	40.428	1.343	40.145	-2.16%	0.70%
			1705	1.317	40.420	1.345	40.141	-2.08%	0.70%
			1710	1.319	40.410	1.348	40.136	-2.15%	0.68%
			1720	1.325	40.391	1.354	40.126	-2.14%	0.66%
			1745	1.341	40.340	1.368	40.087	-1.97%	0.63%
			1750	1.344	40.331	1.371	40.079	-1.97%	0.63%
			1770	1.356	40.302	1.383	40.047	-1.95%	0.64%
			1790	1.368	40.274	1.394	40.016	-1.87%	0.64%
09/05/2024	1750 Head	21.0	1700	1.313	39.619	1.343	40.145	-2.23%	-1.31%
			1705	1.316	39.612	1.345	40.141	-2.16%	-1.32%
			1710	1.319	39.603	1.348	40.136	-2.15%	-1.33%
			1720	1.325	39.583	1.354	40.126	-2.14%	-1.35%
			1745	1.341	39.530	1.368	40.087	-1.97%	-1.39%
			1750	1.344	39.520	1.371	40.079	-1.97%	-1.39%
			1770	1.356	39.486	1.383	40.047	-1.95%	-1.40%
			1790	1.367	39.459	1.394	40.016	-1.94%	-1.39%
09/18/2024	1750 Head	23.2	1700	1.334	38.989	1.343	40.145	-0.67%	-2.88%
			1705	1.336	38.981	1.345	40.141	-0.67%	-2.89%
			1710	1.339	38.975	1.348	40.136	-0.67%	-2.89%
			1720	1.345	38.961	1.354	40.126	-0.65%	-2.90%
			1745	1.357	38.924	1.368	40.087	-0.80%	-2.90%
			1750	1.360	38.915	1.371	40.079	-0.80%	-2.90%
			1770	1.370	38.867	1.383	40.047	-0.94%	-2.95%
			1790	1.381	38.822	1.394	40.016	-0.93%	-2.98%
09/19/2024	1750 Head	21.0	1700	1.322	40.171	1.343	40.145	-1.56%	0.06%
			1705	1.325	40.164	1.345	40.141	-1.49%	0.06%
			1710	1.328	40.157	1.348	40.136	-1.48%	0.05%
			1720	1.335	40.142	1.354	40.126	-1.40%	0.04%
			1745	1.352	40.101	1.368	40.087	-1.17%	0.03%
			1750	1.355	40.091	1.371	40.079	-1.17%	0.03%
			1770	1.367	40.060	1.383	40.047	-1.15%	0.03%
			1790	1.378	40.025	1.394	40.016	-1.15%	0.02%
09/30/2024	1750 Head	21.8	1700	1.290	39.617	1.343	40.145	-3.95%	-1.32%
			1705	1.292	39.610	1.345	40.141	-3.94%	-1.32%
			1710	1.295	39.600	1.348	40.136	-3.93%	-1.34%
			1720	1.300	39.578	1.354	40.126	-3.99%	-1.37%
			1745	1.313	39.506	1.368	40.087	-4.02%	-1.45%
			1750	1.316	39.492	1.371	40.079	-4.01%	-1.45%
			1770	1.326	39.447	1.383	40.047	-4.12%	-1.50%
			1790	1.337	39.426	1.394	40.016	-4.09%	-1.47%
09/03/2024	1900 Head	20.4	1850	1.403	40.179	1.400	40.000	0.21%	0.45%
			1860	1.409	40.161	1.400	40.000	0.64%	0.40%
			1880	1.421	40.127	1.400	40.000	1.50%	0.32%
			1900	1.434	40.097	1.400	40.000	2.43%	0.24%
			1905	1.438	40.091	1.400	40.000	2.71%	0.23%
			1910	1.441	40.085	1.400	40.000	2.93%	0.21%
			1920	1.447	40.073	1.400	40.000	3.36%	0.18%
09/03/2024	1900 Head	21.4	1850	1.396	38.270	1.400	40.000	-0.29%	-4.32%
			1860	1.402	38.245	1.400	40.000	0.14%	-4.39%
			1880	1.415	38.205	1.400	40.000	1.07%	-4.49%
			1900	1.429	38.166	1.400	40.000	2.07%	-4.54%
			1905	1.432	38.164	1.400	40.000	2.29%	-4.54%
			1910	1.435	38.164	1.400	40.000	2.50%	-4.54%
			1920	1.441	38.160	1.400	40.000	2.93%	-4.55%
09/03/2024	1900 Head	21.3	1850	1.413	41.252	1.400	40.000	0.93%	3.13%
			1860	1.420	41.237	1.400	40.000	1.43%	3.09%
			1880	1.433	41.205	1.400	40.000	2.36%	3.01%
			1900	1.448	41.173	1.400	40.000	3.29%	2.93%
			1905	1.449	41.167	1.400	40.000	3.50%	2.92%
			1910	1.452	41.161	1.400	40.000	3.71%	2.90%
			1920	1.458	41.149	1.400	40.000	4.14%	2.87%
09/04/2024	1900 Head	21.9	1850	1.359	41.576	1.400	40.000	-2.93%	3.94%
			1860	1.365	41.566	1.400	40.000	-2.50%	3.92%
			1880	1.378	41.542	1.400	40.000	-1.57%	3.88%
			1900	1.391	41.522	1.400	40.000	-0.64%	3.81%
			1905	1.394	41.516	1.400	40.000	-0.43%	3.80%
			1910	1.397	41.514	1.400	40.000	-0.21%	3.79%
			1920	1.403	41.505	1.400	40.000	0.21%	3.75%
09/05/2024	1900 Head	21.0	1850	1.400	39.356	1.400	40.000	0.00%	-1.61%
			1860	1.406	39.343	1.400	40.000	0.43%	-1.64%
			1880	1.420	39.322	1.400	40.000	1.43%	-1.69%
			1900	1.433	39.294	1.400	40.000	2.36%	-1.77%
			1905	1.436	39.285	1.400	40.000	2.57%	-1.79%
			1910	1.439	39.276	1.400	40.000	2.79%	-1.81%
			1920	1.445	39.257	1.400	40.000	3.21%	-1.86%
09/05/2024	1900 Head	20.0	1850	1.378	40.906	1.400	40.000	-1.57%	2.27%
			1860	1.385	40.892	1.400	40.000	-1.07%	2.23%
			1880	1.398	40.862	1.400	40.000	-0.14%	2.16%
			1900	1.411	40.832	1.400	40.000	0.79%	2.08%
			1905	1.415	40.824	1.400	40.000	1.07%	2.06%
			1910	1.418	40.816	1.400	40.000	1.29%	2.04%
			1920	1.424	40.802	1.400	40.000	1.71%	2.01%
09/11/2024	1900 Head	19.0	1850	1.394	39.936	1.400	40.000	-0.43%	-0.15%
			1860	1.400	39.925	1.400	40.000	0.00%	-0.19%
			1880	1.413	39.907	1.400	40.000	0.93%	-0.23%
			1900	1.425	39.882	1.400	40.000	1.79%	-0.30%
			1905	1.428	39.874	1.400	40.000	2.00%	-0.31%
			1910	1.432	39.867	1.400	40.000	2.29%	-0.33%
			1920	1.438	39.852	1.400	40.000	2.71%	-0.37%
09/02/2024	2450 Head	24.9	2300	1.718	39.770	1.670	39.500	2.87%	0.68%
			2310	1.727	39.729	1.679	39.480	2.86%	0.63%
			2320	1.738	39.699	1.687	39.460	3.02%	0.58%
			2400	1.826	39.438	1.756	39.289	3.99%	0.38%
			2450	1.882	39.241	1.800	39.200	4.56%	0.10%
			2480	1.915	39.152	1.833	39.162	4.47%	-0.03%
			2500	1.934	39.088	1.855	39.136	4.26%	-0.12%
			2510	1.943	39.046	1.866	39.123	4.13%	-0.20%
			2535	1.971	38.944	1.893	39.092	4.12%	-0.38%
			2550	1.990	38.898	1.909	39.073	4.24%	-0.48%
			2560	2.003	38.856	1.920	39.060	4.32%	-0.52%
			2600	2.047	38.715	1.964	39.009	4.23%	-0.75%
			2650	2.102	38.520	2.018	38.945	4.16%	-1.09%
			2680	2.140	38.397	2.051	38.907	4.34%	-1.31%
			2700	2.162	38.330	2.073	38.882	4.29%	-1.42%

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Table 11-3
Measured Head Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (°C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
09/02/2024	2450 Head	21.0	2300	1.714	37.988	1.670	39.500	2.63%	-3.83%
			2310	1.720	37.968	1.679	39.480	2.44%	-3.83%
			2320	1.727	37.948	1.687	39.460	2.37%	-3.83%
			2400	1.782	37.825	1.756	39.289	1.48%	-3.73%
			2450	1.818	37.757	1.800	39.200	1.00%	-3.68%
			2480	1.840	37.715	1.833	39.162	0.38%	-3.69%
			2500	1.855	37.680	1.855	39.136	0.00%	-3.72%
			2510	1.863	37.662	1.866	39.123	-0.16%	-3.73%
			2535	1.884	37.628	1.893	39.092	-0.48%	-3.75%
			2550	1.897	37.608	1.909	39.073	-0.63%	-3.75%
			2560	1.906	37.593	1.920	39.060	-0.73%	-3.76%
			2600	1.939	37.523	1.964	39.009	-1.27%	-3.81%
			2650	1.981	37.440	2.018	38.945	-1.83%	-3.86%
			2680	2.004	37.386	2.051	38.907	-2.29%	-3.91%
			2700	2.019	37.355	2.073	38.882	-2.60%	-3.93%
09/04/2024	2450 Head	24.9	2300	1.713	38.661	1.670	39.500	2.57%	-2.12%
			2310	1.724	38.628	1.679	39.480	2.68%	-2.16%
			2320	1.736	38.596	1.687	39.460	2.90%	-2.18%
			2400	1.821	38.333	1.756	39.289	3.70%	-2.43%
			2450	1.877	38.159	1.800	39.200	4.28%	-2.66%
			2480	1.909	38.040	1.833	39.162	4.15%	-2.87%
			2500	1.931	37.962	1.855	39.136	4.10%	-3.00%
			2510	1.942	37.924	1.866	39.123	4.07%	-3.06%
			2535	1.969	37.842	1.893	39.092	4.01%	-3.20%
			2550	1.984	37.789	1.909	39.073	3.93%	-3.29%
			2560	1.994	37.750	1.920	39.060	3.85%	-3.35%
			2600	2.040	37.587	1.964	39.009	3.87%	-3.65%
			2650	2.098	37.410	2.018	38.945	3.96%	-3.94%
			2680	2.131	37.291	2.051	38.907	3.90%	-4.15%
			2700	2.152	37.207	2.073	38.882	3.81%	-4.31%
09/04/2024	2450 Head	21.5	2300	1.664	39.793	1.670	39.500	-0.36%	0.74%
			2310	1.675	39.764	1.679	39.480	-0.24%	0.72%
			2320	1.686	39.736	1.687	39.460	-0.06%	0.70%
			2400	1.776	39.425	1.756	39.289	1.14%	0.35%
			2450	1.833	39.268	1.800	39.200	1.83%	0.17%
			2480	1.868	39.138	1.833	39.162	1.91%	-0.06%
			2500	1.891	39.050	1.855	39.136	1.94%	-0.22%
			2510	1.903	39.013	1.866	39.123	1.98%	-0.28%
			2535	1.934	38.933	1.893	39.092	2.17%	-0.41%
			2550	1.951	38.888	1.909	39.073	2.20%	-0.47%
			2560	1.963	38.851	1.920	39.060	2.24%	-0.54%
			2600	2.008	38.676	1.964	39.009	2.24%	-0.85%
			2650	2.070	38.485	2.018	38.945	2.58%	-1.18%
			2680	2.105	38.363	2.051	38.907	2.63%	-1.40%
			2700	2.124	38.283	2.073	38.882	2.46%	-1.54%
09/04/2024	2450 Head	21.4	2300	1.670	38.462	1.670	39.500	0.00%	-2.63%
			2310	1.676	38.446	1.679	39.480	-0.18%	-2.62%
			2320	1.683	38.430	1.687	39.460	-0.24%	-2.61%
			2400	1.740	38.337	1.756	39.289	-0.91%	-2.42%
			2450	1.777	38.271	1.800	39.200	-1.28%	-2.37%
			2480	1.801	38.234	1.833	39.162	-1.75%	-2.37%
			2500	1.817	38.204	1.855	39.136	-2.05%	-2.38%
			2510	1.825	38.188	1.866	39.123	-2.20%	-2.39%
			2535	1.844	38.151	1.893	39.092	-2.59%	-2.41%
			2550	1.858	38.131	1.909	39.073	-2.67%	-2.41%
			2560	1.867	38.117	1.920	39.060	-2.76%	-2.41%
			2600	1.898	38.057	1.964	39.009	-3.36%	-2.44%
			2650	1.938	37.975	2.018	38.945	-3.96%	-2.49%
			2680	1.962	37.926	2.051	38.907	-4.34%	-2.52%
			2700	1.976	37.894	2.073	38.882	-4.68%	-2.54%
09/08/2024	2450 Head	24.9	2300	1.728	40.056	1.670	39.500	3.47%	1.41%
			2310	1.738	40.020	1.679	39.480	3.51%	1.37%
			2320	1.749	39.983	1.687	39.460	3.68%	1.33%
			2400	1.835	39.698	1.756	39.289	4.50%	1.04%
			2450	1.887	39.533	1.800	39.200	4.83%	0.85%
			2480	1.919	39.409	1.833	39.162	4.69%	0.63%
			2500	1.942	39.341	1.855	39.136	4.69%	0.52%
			2510	1.954	39.311	1.866	39.123	4.72%	0.48%
			2535	1.980	39.226	1.893	39.092	4.60%	0.34%
			2550	1.996	39.170	1.909	39.073	4.56%	0.25%
			2560	2.007	39.130	1.920	39.060	4.53%	0.18%
			2600	2.055	38.990	1.964	39.009	4.63%	-0.05%
			2650	2.109	38.825	2.018	38.945	4.51%	-0.31%
			2680	2.143	38.698	2.051	38.907	4.49%	-0.54%
			2700	2.166	38.622	2.073	38.882	4.49%	-0.67%
09/09/2024	2450 Head	24.6	2300	1.655	39.230	1.670	39.500	-0.90%	-0.68%
			2310	1.667	39.197	1.679	39.480	-0.71%	-0.72%
			2320	1.677	39.161	1.687	39.460	-0.59%	-0.76%
			2400	1.767	38.826	1.756	39.289	0.63%	-1.18%
			2450	1.821	38.633	1.800	39.200	1.17%	-1.45%
			2480	1.857	38.499	1.833	39.162	1.31%	-1.69%
			2500	1.879	38.418	1.855	39.136	1.29%	-1.83%
			2510	1.891	38.386	1.866	39.123	1.34%	-1.88%
			2535	1.918	38.302	1.893	39.092	1.32%	-2.02%
			2550	1.935	38.242	1.909	39.073	1.36%	-2.13%
			2560	1.945	38.199	1.920	39.060	1.30%	-2.20%
			2600	1.991	38.023	1.964	39.009	1.37%	-2.53%
			2650	2.049	37.845	2.018	38.945	1.54%	-2.82%
			2680	2.082	37.716	2.051	38.907	1.51%	-3.06%
			2700	2.105	37.634	2.073	38.882	1.54%	-3.21%
09/13/2024	2450 Head	24.5	2300	1.678	38.902	1.670	39.500	0.48%	-1.51%
			2310	1.690	38.872	1.679	39.480	0.66%	-1.54%
			2320	1.701	38.838	1.687	39.460	0.83%	-1.58%
			2400	1.793	38.516	1.756	39.289	2.11%	-1.97%
			2450	1.850	38.341	1.800	39.200	2.78%	-2.19%
			2480	1.883	38.194	1.833	39.162	2.73%	-2.47%
			2500	1.909	38.122	1.855	39.136	2.91%	-2.59%
			2510	1.921	38.088	1.866	39.123	2.95%	-2.65%
			2535	1.951	37.999	1.893	39.092	3.06%	-2.80%
			2550	1.967	37.940	1.909	39.073	3.04%	-2.90%
			2560	1.978	37.892	1.920	39.060	3.02%	-2.99%
			2600	2.026	37.724	1.964	39.009	3.16%	-3.29%
			2650	2.086	37.530	2.018	38.945	3.37%	-3.63%
			2680	2.118	37.401	2.051	38.907	3.27%	-3.87%
			2700	2.141	37.312	2.073	38.882	3.28%	-4.04%
09/18/2024	2450 Head	21.8	2300	1.683	38.489	1.670	39.500	0.78%	-2.56%
			2310	1.694	38.462	1.679	39.480	0.89%	-2.58%
			2320	1.706	38.431	1.687	39.460	1.13%	-2.61%
			2400	1.791	38.132	1.756	39.289	1.99%	-2.94%
			2450	1.846	37.955	1.800	39.200	2.56%	-3.18%
			2480	1.876	37.837	1.833	39.162	2.35%	-3.38%
			2500	1.898	37.769	1.855	39.136	2.32%	-3.49%
			2510	1.910	37.734	1.866	39.123	2.36%	-3.55%
			2535	1.938	37.647	1.893	39.092	2.38%	-3.70%
			2550	1.953	37.589	1.909	39.073	2.30%	-3.80%
			2560	1.963	37.548	1.920	39.060	2.24%	-3.87%
			2600	2.007	37.385	1.964	39.009	2.19%	-4.16%
			2650	2.062	37.221	2.018	38.945	2.18%	-4.43%
			2680	2.095	37.106	2.051	38.907	2.15%	-4.63%
			2700	2.117	37.030	2.073	38.882	2.12%	-4.76%

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Table 11-4
Measured Head Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (°C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
09/23/2024	2450 Head	20.7	2300	1.713	38.903	1.670	39.500	2.57%	-1.51%
			2310	1.721	38.888	1.679	39.480	2.50%	-1.50%
			2320	1.728	38.872	1.687	39.460	2.43%	-1.49%
			2400	1.790	38.753	1.756	39.289	1.94%	-1.36%
			2450	1.829	38.669	1.800	39.200	1.61%	-1.35%
			2480	1.853	38.615	1.833	39.162	1.09%	-1.40%
			2500	1.869	38.583	1.855	39.136	0.75%	-1.41%
			2510	1.877	38.566	1.866	39.123	0.59%	-1.42%
			2535	1.897	38.522	1.893	39.092	0.21%	-1.48%
			2550	1.910	38.497	1.909	39.073	0.05%	-1.47%
			2560	1.918	38.481	1.920	39.060	-0.10%	-1.48%
			2600	1.951	38.417	1.964	39.009	-0.66%	-1.52%
			2650	1.995	38.335	2.018	38.945	-1.14%	-1.57%
			2680	2.019	38.287	2.051	38.907	-1.56%	-1.59%
			2700	2.035	38.257	2.073	38.882	-1.83%	-1.61%
09/23/2024	2450 Head	20.7	2300	1.713	38.903	1.670	39.500	2.57%	-1.51%
			2310	1.721	38.888	1.679	39.480	2.50%	-1.50%
			2320	1.728	38.872	1.687	39.460	2.43%	-1.49%
			2400	1.790	38.753	1.756	39.289	1.94%	-1.36%
			2450	1.829	38.669	1.800	39.200	1.61%	-1.35%
			2480	1.853	38.615	1.833	39.162	1.09%	-1.40%
			2500	1.869	38.583	1.855	39.136	0.75%	-1.41%
			2510	1.877	38.566	1.866	39.123	0.59%	-1.42%
			2535	1.897	38.522	1.893	39.092	0.21%	-1.48%
			2550	1.910	38.497	1.909	39.073	0.05%	-1.47%
			2560	1.918	38.481	1.920	39.060	-0.10%	-1.48%
			2600	1.951	38.417	1.964	39.009	-0.66%	-1.52%
			2650	1.995	38.335	2.018	38.945	-1.14%	-1.57%
			2680	2.019	38.287	2.051	38.907	-1.56%	-1.59%
			2700	2.035	38.257	2.073	38.882	-1.83%	-1.61%
10/02/2024	2450 Head	20.9	2300	1.731	38.407	1.670	39.500	3.65%	-2.77%
			2310	1.738	38.393	1.679	39.480	3.51%	-2.75%
			2320	1.746	38.378	1.687	39.460	3.50%	-2.74%
			2400	1.808	38.271	1.756	39.289	2.96%	-2.59%
			2450	1.849	38.190	1.800	39.200	2.72%	-2.58%
			2480	1.873	38.142	1.833	39.162	2.18%	-2.60%
			2500	1.890	38.099	1.855	39.136	1.89%	-2.65%
			2510	1.899	38.078	1.866	39.123	1.77%	-2.67%
			2535	1.921	38.029	1.893	39.092	1.48%	-2.72%
			2550	1.933	38.003	1.909	39.073	1.26%	-2.74%
			2560	1.942	37.988	1.920	39.060	1.15%	-2.75%
			2600	1.974	37.908	1.964	39.009	0.51%	-2.82%
			2650	2.016	37.810	2.018	38.945	-0.10%	-2.89%
			2680	2.039	37.762	2.051	38.907	-0.59%	-2.94%
			2700	2.055	37.720	2.073	38.882	-0.87%	-2.99%
10/02/2024	2450 Head	24.8	2300	1.708	38.691	1.670	39.500	2.28%	-2.05%
			2310	1.719	38.664	1.679	39.480	2.38%	-2.07%
			2320	1.730	38.633	1.687	39.460	2.55%	-2.10%
			2400	1.816	38.315	1.756	39.289	3.42%	-2.48%
			2450	1.867	38.152	1.800	39.200	3.72%	-2.67%
			2480	1.899	38.022	1.833	39.162	3.60%	-2.91%
			2500	1.923	37.954	1.855	39.136	3.67%	-3.02%
			2510	1.934	37.924	1.866	39.123	3.64%	-3.06%
			2535	1.961	37.842	1.893	39.092	3.59%	-3.20%
			2550	1.976	37.788	1.909	39.073	3.51%	-3.29%
			2560	1.986	37.747	1.920	39.060	3.44%	-3.36%
			2600	2.031	37.592	1.964	39.009	3.41%	-3.63%
			2650	2.084	37.425	2.018	38.945	3.27%	-3.90%
			2680	2.116	37.315	2.051	38.907	3.17%	-4.09%
			2700	2.139	37.234	2.073	38.882	3.18%	-4.24%
10/07/2024	2450 Head	24.5	2300	1.695	38.815	1.670	39.500	1.50%	-1.73%
			2310	1.708	38.781	1.679	39.480	1.73%	-1.77%
			2320	1.719	38.743	1.687	39.460	1.90%	-1.82%
			2400	1.810	38.410	1.756	39.289	3.08%	-2.21%
			2450	1.868	38.242	1.800	39.200	3.78%	-2.44%
			2480	1.901	38.110	1.833	39.162	3.71%	-2.69%
			2500	1.925	38.033	1.855	39.136	3.77%	-2.82%
			2510	1.937	37.993	1.866	39.123	3.80%	-2.89%
			2535	1.967	37.895	1.893	39.092	3.91%	-3.06%
			2550	1.984	37.836	1.909	39.073	3.93%	-3.17%
			2560	1.998	37.792	1.920	39.060	3.96%	-3.25%
			2600	2.042	37.626	1.964	39.009	3.97%	-3.55%
			2650	2.102	37.425	2.018	38.945	4.16%	-3.90%
			2680	2.136	37.298	2.051	38.907	4.14%	-4.14%
			2700	2.158	37.215	2.073	38.882	4.10%	-4.29%
10/14/2024	2450 Head	21.5	2300	1.671	40.258	1.670	39.500	0.06%	1.92%
			2310	1.679	40.245	1.679	39.480	0.00%	1.94%
			2320	1.687	40.229	1.687	39.460	0.00%	1.95%
			2400	1.748	40.121	1.756	39.289	-0.46%	2.12%
			2450	1.788	40.041	1.800	39.200	-0.67%	2.15%
			2480	1.813	39.995	1.833	39.162	-1.09%	2.13%
			2500	1.829	39.959	1.855	39.136	-1.40%	2.10%
			2510	1.837	39.942	1.866	39.123	-1.55%	2.09%
			2535	1.859	39.899	1.893	39.092	-1.80%	2.06%
			2550	1.872	39.874	1.909	39.073	-1.94%	2.05%
			2560	1.880	39.858	1.920	39.060	-2.08%	2.04%
			2600	1.914	39.798	1.964	39.009	-2.55%	2.02%
			2650	1.957	39.717	2.018	38.945	-3.02%	1.98%
			2680	1.981	39.662	2.051	38.907	-3.41%	1.94%
			2700	1.997	39.630	2.073	38.882	-3.67%	1.92%
09/02/2024	3600 Head	19.6	3300	2.818	39.592	2.708	38.157	-3.32%	3.76%
			3350	2.867	39.508	2.759	38.100	-3.33%	3.70%
			3450	2.766	39.333	2.861	37.986	-3.32%	3.55%
			3500	2.807	39.256	2.913	37.929	-3.64%	3.50%
			3550	2.860	39.207	2.964	37.871	-3.51%	3.53%
			3560	2.869	39.188	2.974	37.860	-3.53%	3.51%
			3600	2.905	39.118	3.015	37.814	-3.65%	3.45%
			3650	2.952	39.026	3.066	37.757	-3.72%	3.36%
			3690	2.989	38.941	3.107	37.711	-3.80%	3.26%
			3700	2.997	38.922	3.117	37.700	-3.85%	3.24%
			3750	3.049	38.819	3.169	37.643	-3.79%	3.12%
			3900	3.207	38.643	3.323	37.471	-3.49%	3.13%
			3930	3.238	38.578	3.353	37.437	-3.43%	3.05%
			4100	3.413	38.273	3.528	37.243	-3.26%	2.77%
			4150	3.468	38.148	3.579	37.186	-3.10%	2.59%
09/03/2024	3600 Head	20.3	3300	2.802	39.485	2.708	38.157	-3.51%	3.48%
			3350	2.852	39.401	2.759	38.100	-3.88%	3.41%
			3450	2.743	39.221	2.861	37.986	-4.12%	3.25%
			3500	2.791	39.140	2.913	37.929	-4.19%	3.19%
			3550	2.836	39.048	2.964	37.871	-4.32%	3.11%
			3560	2.847	39.031	2.974	37.860	-4.27%	3.09%
			3600	2.888	38.973	3.015	37.814	-4.21%	3.07%
			3650	2.935	38.908	3.066	37.757	-4.27%	3.05%
			3690	2.971	38.818	3.107	37.711	-4.38%	2.94%
			3700	2.983	38.799	3.117	37.700	-4.30%	2.92%
			3750	3.043	38.710	3.169	37.643	-3.98%	2.83%
			3900	3.184	38.510	3.323	37.471	-4.18%	2.77%
			3930	3.216	38.448	3.353	37.437	-4.09%	2.70%
			4100	3.398	38.187	3.528	37.243	-3.68%	2.53%
			4150	3.450	38.085	3.579	37.186	-3.60%	2.42%
09/09/2024	3600 Head	21.5	3300	2.598	38.776	2.708	38.157	-4.06%	1.62%
			3350	2.647	38.687	2.759	38.100	-4.06%	1.54%
			3450	2.739	38.502	2.861	37.986	-4.26%	1.38%
			3500	2.786	38.424	2.913	37.929	-4.36%	1.31%
			3550	2.832	38.332	2.964	37.871	-4.45%	1.22%
			3560	2.842	38.313	2.974	37.860	-4.44%	1.20%
			3600	2.883	38.261	3.015	37.814	-4.38%	1.18%
			3650	2.927	38.172	3.066	37.757	-4.53%	1.10%
			3690	2.965	38.097	3.107	37.711	-4.57%	1.02%
			3700	2.976	38.077	3.117	37.700	-4.52%	1.00%
			3750	3.022	38.027	3.169	37.643	-4.32%	1.02%
			3900	3.179	37.769	3.323	37.471	-4.33%	0.80%
			3930	3.208	37.716	3.353	37.437	-4.32%	0.75%
			4100	3.390	37.440	3.528	37.243	-3.91%	0.53%
			4150	3.439	37.342	3.579	37.186	-3.91%	0.42%
10/09/2024	3600 Head	19.3	3300	2.823	38.582	2.708	38.157	-3.14%	1.11%
			3350	2.871	38.476	2.759	38.100	-3.19%	0.99%
			3450	2.759	38.301	2.861	37.986	-3.57%	0.83%
			3500	2.805	38.201	2.913	37.929	-3.71%	0.72%
			3550	2.857	38.112	2.964	37.871	-3.61%	0.64%
			3560	2.866	38.090	2.974	37.860	-3.63%	0.61%
			3600	2.901	38.028	3.015	37.814	-3.78%	0.57%
			3650	2.955	37.948	3.066	37.757	-3.62%	0.50%
			3690	2.988	37.886	3.107	37.711	-3.83%	0.46%
			3700	2.998	37.865	3.117	37.700	-3.82%	0.44%
			3750	3.047	37.747	3.169	37.643	-3.85%	0.28%
			3900	3.200	37.522	3.323	37.471	-3.70%	0.14%
			3930	3.231	37.457	3.353	37.437	-3.64%	0.05%
			4100	3.416	37.167	3.528	37.243	-3.17%	-0.15%
			4150	3.468	37.078	3.579	37.186	-3.38%	-0.29%

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Table 11-5
Measured Head Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (°C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
09/02/2024	5200-5800 Head	21.1	5180	4.489	35.422	4.635	36.009	-3.15%	-1.63%
			5190	4.500	35.406	4.645	35.998	-3.12%	-1.64%
			5200	4.509	35.387	4.655	35.986	-3.14%	-1.66%
			5210	4.521	35.360	4.666	35.975	-3.11%	-1.68%
			5220	4.535	35.349	4.676	35.963	-3.02%	-1.71%
			5240	4.559	35.309	4.696	35.940	-2.92%	-1.78%
			5250	4.569	35.294	4.706	35.929	-2.91%	-1.77%
			5260	4.579	35.280	4.717	35.917	-2.93%	-1.77%
			5270	4.590	35.260	4.727	35.906	-2.90%	-1.80%
			5280	4.602	35.239	4.737	35.894	-2.85%	-1.82%
			5290	4.612	35.223	4.748	35.883	-2.86%	-1.84%
			5300	4.622	35.208	4.758	35.871	-2.86%	-1.85%
			5310	4.634	35.194	4.768	35.860	-2.81%	-1.88%
			5320	4.645	35.173	4.778	35.849	-2.78%	-1.89%
			5500	4.839	34.844	4.983	35.643	-2.50%	-2.24%
			5510	4.851	34.817	4.973	35.632	-2.45%	-2.29%
			5520	4.864	34.792	4.983	35.620	-2.39%	-2.32%
			5530	4.874	34.782	4.994	35.609	-2.40%	-2.32%
			5540	4.887	34.773	5.004	35.597	-2.34%	-2.31%
			5550	4.899	34.759	5.014	35.586	-2.29%	-2.32%
			5560	4.911	34.740	5.024	35.574	-2.25%	-2.34%
			5580	4.933	34.697	5.045	35.551	-2.22%	-2.40%
			5600	4.958	34.663	5.065	35.529	-2.11%	-2.44%
			5610	4.972	34.646	5.076	35.518	-2.05%	-2.45%
			5620	4.984	34.639	5.086	35.506	-2.01%	-2.45%
			5640	5.005	34.606	5.106	35.483	-1.98%	-2.47%
			5660	5.027	34.560	5.127	35.460	-1.95%	-2.54%
			5670	5.040	34.539	5.137	35.449	-1.89%	-2.57%
			5680	5.054	34.517	5.147	35.437	-1.81%	-2.60%
			5690	5.069	34.502	5.158	35.426	-1.73%	-2.61%
			5700	5.083	34.465	5.168	35.414	-1.64%	-2.60%
			5710	5.091	34.489	5.178	35.403	-1.68%	-2.58%
			5720	5.099	34.483	5.188	35.391	-1.72%	-2.57%
			5745	5.123	34.427	5.214	35.363	-1.75%	-2.65%
			5750	5.130	34.413	5.219	35.357	-1.71%	-2.67%
			5755	5.136	34.403	5.224	35.351	-1.68%	-2.68%
			5765	5.150	34.380	5.234	35.340	-1.60%	-2.72%
			5775	5.162	34.362	5.245	35.329	-1.58%	-2.74%
			5785	5.169	34.343	5.255	35.317	-1.64%	-2.76%
			5795	5.179	34.335	5.265	35.305	-1.63%	-2.75%
			5805	5.190	34.326	5.275	35.294	-1.61%	-2.74%
			5825	5.214	34.296	5.296	35.271	-1.55%	-2.76%
			5835	5.223	34.271	5.305	35.230	-1.55%	-2.72%
			5845	5.235	34.240	5.315	35.210	-1.51%	-2.73%
			5850	5.241	34.234	5.320	35.200	-1.48%	-2.74%
			5855	5.247	34.222	5.325	35.197	-1.46%	-2.77%
			5875	5.267	34.190	5.347	35.183	-1.50%	-2.82%
			5885	5.276	34.176	5.357	35.177	-1.52%	-2.84%
			5905	5.302	34.134	5.379	35.163	-1.43%	-2.93%
09/09/2024	5200-5800 Head	21.0	5180	4.493	35.275	4.635	36.009	-3.06%	-2.04%
			5190	4.504	35.255	4.645	35.998	-3.04%	-2.06%
			5200	4.514	35.237	4.655	35.986	-3.03%	-2.08%
			5210	4.527	35.216	4.666	35.975	-2.98%	-2.11%
			5220	4.538	35.195	4.676	35.963	-2.95%	-2.14%
			5240	4.560	35.156	4.696	35.940	-2.90%	-2.18%
			5250	4.572	35.148	4.706	35.929	-2.85%	-2.17%
			5260	4.583	35.132	4.717	35.917	-2.84%	-2.19%
			5270	4.594	35.108	4.727	35.906	-2.81%	-2.22%
			5280	4.605	35.086	4.737	35.894	-2.79%	-2.25%
			5290	4.616	35.071	4.748	35.883	-2.78%	-2.26%
			5300	4.627	35.055	4.758	35.871	-2.75%	-2.27%
			5310	4.638	35.030	4.768	35.860	-2.77%	-2.31%
			5320	4.648	35.008	4.778	35.849	-2.76%	-2.35%
			5500	4.841	34.716	4.983	35.643	-2.86%	-2.60%
			5510	4.851	34.697	4.973	35.632	-2.45%	-2.62%
			5520	4.862	34.681	4.983	35.620	-2.43%	-2.64%
			5530	4.874	34.662	4.994	35.609	-2.40%	-2.66%
			5540	4.887	34.638	5.004	35.597	-2.34%	-2.69%
			5550	4.897	34.616	5.014	35.586	-2.33%	-2.73%
			5560	4.908	34.607	5.024	35.574	-2.32%	-2.72%
			5580	4.934	34.577	5.045	35.551	-2.20%	-2.74%
			5600	4.954	34.529	5.065	35.529	-2.19%	-2.81%
			5610	4.963	34.505	5.076	35.518	-2.23%	-2.85%
			5620	4.976	34.474	5.086	35.506	-2.16%	-2.91%
			5640	5.002	34.428	5.106	35.483	-2.04%	-2.97%
			5660	5.031	34.412	5.127	35.460	-1.87%	-2.96%
			5670	5.041	34.395	5.137	35.449	-1.87%	-2.97%
			5680	5.049	34.377	5.147	35.437	-1.90%	-2.99%
			5690	5.058	34.350	5.158	35.426	-1.98%	-3.04%
			5700	5.068	34.321	5.168	35.414	-1.93%	-3.09%
			5710	5.082	34.295	5.178	35.403	-1.85%	-3.13%
			5720	5.098	34.275	5.188	35.391	-1.73%	-3.15%
			5745	5.129	34.260	5.214	35.363	-1.63%	-3.12%
			5750	5.133	34.253	5.219	35.357	-1.65%	-3.12%
			5755	5.138	34.247	5.224	35.351	-1.65%	-3.12%
			5765	5.148	34.220	5.234	35.340	-1.68%	-3.17%
			5775	5.155	34.200	5.245	35.329	-1.72%	-3.20%
			5785	5.168	34.187	5.255	35.317	-1.66%	-3.20%
			5795	5.184	34.170	5.265	35.305	-1.54%	-3.19%
			5805	5.195	34.164	5.275	35.294	-1.52%	-3.20%
			5825	5.218	34.137	5.296	35.271	-1.47%	-3.22%
			5835	5.233	34.130	5.305	35.230	-1.36%	-3.12%
			5845	5.244	34.115	5.315	35.210	-1.34%	-3.11%
			5850	5.248	34.101	5.320	35.200	-1.35%	-3.12%
			5855	5.250	34.089	5.325	35.197	-1.42%	-3.16%
			5875	5.269	34.044	5.347	35.183	-1.46%	-3.24%
			5885	5.283	34.024	5.357	35.177	-1.38%	-3.25%
			5905	5.304	34.006	5.379	35.163	-1.39%	-3.29%
10/28/2024	5200-5800 Head	20.2	5150	4.704	36.031	4.608	36.050	2.08%	-0.05%
			5160	4.714	36.008	4.618	36.040	2.08%	-0.09%
			5170	4.725	35.998	4.629	36.030	2.07%	-0.09%
			5180	4.737	35.998	4.635	36.009	2.20%	-0.06%
			5190	4.749	35.973	4.645	35.998	2.24%	-0.07%
			5200	4.756	35.961	4.655	35.986	2.17%	-0.10%
			5210	4.764	35.938	4.666	35.975	2.10%	-0.10%
			5220	4.777	35.922	4.676	35.963	2.16%	-0.11%
			5240	4.807	35.882	4.696	35.940	2.36%	-0.22%
			5250	4.818	35.830	4.706	35.929	2.38%	-0.28%
			5260	4.830	35.811	4.717	35.917	2.40%	-0.30%
			5270	4.843	35.784	4.727	35.906	2.45%	-0.34%
			5280	4.854	35.749	4.737	35.894	2.47%	-0.45%
			5290	4.861	35.726	4.748	35.883	2.38%	-0.44%
			5300	4.869	35.721	4.758	35.871	2.33%	-0.42%
			5310	4.884	35.725	4.768	35.860	2.43%	-0.39%
			5320	4.899	35.712	4.778	35.849	2.53%	-0.38%
			5500	5.115	35.320	4.983	35.643	3.06%	-0.91%
			5510	5.129	35.306	4.973	35.632	3.14%	-0.91%
			5520	5.139	35.290	4.983	35.620	3.13%	-0.93%
			5530	5.147	35.281	4.994	35.609	3.06%	-0.92%
			5540	5.160	35.272	5.004	35.597	3.12%	-0.91%
			5550	5.180	35.242	5.014	35.586	3.31%	-0.97%
			5560	5.192	35.207	5.024	35.574	3.34%	-1.03%
			5580	5.205	35.173	5.045	35.551	3.17%	-1.06%
			5600	5.228	35.140	5.065	35.529	3.22%	-1.07%
			5610	5.237	35.136	5.076	35.518	3.17%	-1.08%
			5620	5.245	35.132	5.086	35.506	3.13%	-1.05%
			5640	5.267	35.150	5.106	35.483	3.15%	-1.05%
			5660	5.288	35.040	5.127	35.460	3.14%	-1.18%
			5670	5.302	35.009	5.137	35.449	3.21%	-1.24%
			5680	5.317	34.978	5.147	35.437	3.30%	-1.30%
			5690	5.331	34.954	5.158	35.426	3.35%	-1.33%
			5700	5.342	34.940	5.168	35.414	3.37%	-1.34%
			5710	5.352	34.931	5.178	35.403	3.36%	-1.33%
			5720	5.361	34.915	5.188	35.391	3.33%	-1.34%
			5745	5.388	34.817	5.214	35.363	3.30%	-1.54%
			5750	5.394	34.803	5.219	35.357	3.35%	-1.57%
			5755	5.405	34.786	5.224	35.351	3.46%	-1.59%
			5765	5.427	34.751	5.234	35.340	3.69%	-1.67%
			5775	5.439	34.710	5.245	35.329	3.70%	-1.75%
			5785	5.444	34.685	5.255	35.317	3.60%	-1.79%
			5795	5.449	34.685	5.265	35.305	3.49%	-1.76%
			5800	5.453	34.682	5.270	35.300	3.47%	-1.75%
			5800	5.453	34.682	5.270	35.300	3.47%	-1.75%
			5805	5.460	34.669	5.275	35.294	3.51%	-1.77%
			5825	5.484	34.593	5.296	35.271	3.55%	-1.92%
			5835	5.498	34.588	5.305	35.230	3.64%	-1.82%
			5845	5.521	34.589	5.315	35.210	3.88%	-1.76%
			5850	5.537	34.575	5.320	35.200	4.08%	-1.78%
			5855	5.552	34.551	5.325	35.197	4.26%	-1.84%
			5865	5.571	34.486	5.336	35.190	4.40%	-2.00%
			5865	5.571	34.486	5.336	35.190	4.40%	-2.00%
			5865	5.571	34.486	5.336	35.190	4.40%	-2.00%
			5865	5.571	34.486	5.336	35.190	4.40%	-2.00%
			5875	5.575	34.439	5.347	35.183	4.26%	-2.11%
			5885	5.575	34.437	5.357	35.177	4.07%	-2.09%
			5905	5.558	34.422	5.379	35.163	4.07%	-2.11%

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Table 11-6
Measured Head Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (°C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
09/09/2024	6000 Head	22.8	5935	5.235	35.504	5.411	35.143	-3.25%	1.03%
			5970	5.249	35.520	5.448	35.120	-3.65%	1.14%
			5985	5.253	35.444	5.464	35.110	-3.86%	0.95%
			6000	5.259	35.249	5.480	35.100	-4.03%	0.42%
			6025	5.324	35.203	5.510	35.070	-3.38%	0.38%
			6065	5.362	35.215	5.557	35.022	-3.51%	0.55%
			6075	5.353	35.173	5.569	35.010	-3.88%	0.47%
			6085	5.364	35.148	5.580	34.998	-3.87%	0.43%
			6185	5.501	35.029	5.698	34.878	-3.46%	0.43%
			6275	5.631	34.850	5.805	34.770	-3.00%	0.23%
			6285	5.627	34.866	5.816	34.758	-3.25%	0.31%
			6305	5.655	34.832	5.840	34.734	-3.17%	0.28%
			6345	5.716	34.761	5.887	34.686	-2.90%	0.22%
			6475	5.876	34.542	6.041	34.530	-2.73%	0.03%
			6485	5.903	34.547	6.052	34.518	-2.46%	0.08%
			6500	5.905	34.539	6.070	34.500	-2.72%	0.11%
			6505	5.897	34.538	6.076	34.494	-2.95%	0.13%
			6545	5.936	34.351	6.122	34.446	-3.04%	-0.28%
			6665	6.058	34.197	6.265	34.302	-3.30%	-0.31%
			6675	6.086	34.159	6.273	34.290	-2.98%	-0.38%
			6685	6.111	34.128	6.285	34.278	-2.77%	-0.44%
			6715	6.146	34.186	6.319	34.242	-2.74%	-0.16%
			6785	6.212	33.928	6.400	34.158	-2.94%	-0.67%
			6825	6.280	33.952	6.447	34.110	-2.59%	-0.46%
			6985	6.407	33.770	6.633	33.918	-3.41%	-0.44%
			6995	6.400	33.704	6.644	33.906	-3.67%	-0.60%
			7000	6.405	33.660	6.650	33.900	-3.68%	-0.71%
			7005	6.413	33.616	6.656	33.894	-3.65%	-0.82%
			7025	6.465	33.490	6.680	33.870	-3.22%	-1.12%
09/23/2024	6000 Head	20.0	5935	5.192	35.362	5.411	35.143	-4.05%	0.62%
			5970	5.226	35.288	5.448	35.120	-4.07%	0.48%
			5985	5.248	35.243	5.464	35.110	-3.95%	0.38%
			6000	5.268	35.206	5.480	35.100	-3.87%	0.30%
			6025	5.300	35.171	5.510	35.070	-3.81%	0.29%
			6065	5.340	35.102	5.557	35.022	-3.90%	0.23%
			6075	5.353	35.081	5.569	35.010	-3.88%	0.20%
			6085	5.369	35.055	5.580	34.998	-3.78%	0.16%
			6185	5.485	34.907	5.698	34.878	-3.74%	0.08%
			6275	5.607	34.722	5.805	34.770	-3.41%	-0.14%
			6285	5.615	34.707	5.816	34.758	-3.46%	-0.15%
			6305	5.642	34.682	5.840	34.734	-3.39%	-0.15%
			6345	5.700	34.636	5.887	34.686	-3.18%	-0.14%
			6475	5.839	34.430	6.041	34.530	-3.34%	-0.29%
			6485	5.847	34.400	6.052	34.518	-3.39%	-0.34%
			6500	5.864	34.349	6.070	34.500	-3.39%	-0.44%
			6505	5.871	34.335	6.076	34.494	-3.37%	-0.46%
			6545	5.936	34.280	6.122	34.446	-3.04%	-0.48%
			6665	6.074	34.055	6.265	34.302	-3.05%	-0.72%
			6675	6.082	34.050	6.273	34.290	-3.04%	-0.70%
			6685	6.085	34.042	6.285	34.278	-3.18%	-0.69%
			6715	6.102	33.987	6.319	34.242	-3.43%	-0.74%
			6785	6.200	33.890	6.400	34.158	-3.13%	-0.78%
			6825	6.227	33.794	6.447	34.110	-3.41%	-0.93%
			6985	6.437	33.510	6.633	33.918	-2.95%	-1.20%
			6995	6.441	33.508	6.644	33.906	-3.06%	-1.17%
			7000	6.443	33.506	6.650	33.900	-3.11%	-1.16%
			7005	6.447	33.505	6.656	33.894	-3.14%	-1.15%
			7025	6.472	33.457	6.680	33.870	-3.11%	-1.22%
			7500	7.091	32.650	7.240	33.300	-2.06%	-1.95%
			7980	7.644	31.859	7.816	32.724	-2.20%	-2.64%
10/09/2024	6000 Head	20.9	5935	5.442	36.377	5.411	35.143	0.57%	3.51%
			5970	5.466	36.357	5.448	35.120	0.33%	3.52%
			5985	5.485	36.282	5.464	35.110	0.38%	3.34%
			6000	5.518	36.202	5.480	35.100	0.69%	3.14%
			6025	5.586	36.146	5.510	35.070	1.38%	3.07%
			6065	5.620	36.163	5.557	35.022	1.13%	3.26%
			6075	5.623	36.140	5.569	35.010	0.97%	3.23%
			6085	5.629	36.099	5.580	34.998	0.88%	3.15%
			6185	5.761	35.925	5.698	34.878	1.11%	3.00%
			6275	5.887	35.773	5.805	34.770	1.41%	2.88%
			6285	5.897	35.752	5.816	34.758	1.39%	2.86%
			6305	5.909	35.711	5.840	34.734	1.18%	2.81%
			6345	5.974	35.604	5.887	34.686	1.48%	2.65%
			6475	6.143	35.375	6.041	34.530	1.69%	2.45%
			6485	6.154	35.379	6.052	34.518	1.69%	2.49%
			6500	6.166	35.376	6.070	34.500	1.58%	2.54%
			6505	6.170	35.365	6.076	34.494	1.55%	2.53%
			6545	6.208	35.203	6.122	34.446	1.40%	2.20%
			6665	6.358	35.009	6.265	34.302	1.48%	2.06%
			6675	6.371	34.969	6.273	34.290	1.56%	1.98%
			6685	6.386	34.960	6.285	34.278	1.61%	1.99%
			6715	6.431	34.988	6.319	34.242	1.77%	2.18%
			6785	6.486	34.754	6.400	34.158	1.34%	1.74%
			6825	6.563	34.775	6.447	34.110	1.80%	1.95%
			6985	6.715	34.548	6.633	33.918	1.24%	1.86%
			6995	6.715	34.482	6.644	33.906	1.07%	1.70%
			7000	6.718	34.447	6.650	33.900	1.02%	1.61%
			7005	6.722	34.419	6.656	33.894	0.99%	1.55%
			7025	6.752	34.325	6.680	33.870	1.08%	1.34%
			7500	7.352	33.423	7.240	33.300	1.55%	0.37%
			7980	7.979	32.797	7.816	32.724	2.09%	0.22%
			8000	8.009	32.919	7.840	32.700	2.16%	0.67%

The above measured tissue parameters were used in the DASY software. The DASY software was used to perform interpolation to determine the dielectric parameters at the SAR test device frequencies (per KDB Publication 865664 D01v01r04 and IEEE 1528-2013 6.6.1.2. The tissue parameters listed in the SAR test plots may slightly differ from the table above due to significant digit rounding in the software.

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11.2 SAR Test System Verification

Prior to SAR assessment, the system is verified to ±10% of the SAR measurement on the reference dipole at the time of calibration by the calibration facility. Full system validation status and result summary can be found in SAR System Validation Appendix.

Table 11-7
System Verification Results – Head

SAR System	Tissue Frequency (MHz)	Tissue Type	Date	Amb. Temp. (C)	Liquid Temp. (C)	Input Power (W)	Source SN	Probe SN	DAE	Measured SAR 1g (W/kg)	1W Target SAR 1g (W/kg)	1W Normalized SAR 1g (W/kg)	Deviation 1g (%)	Measured SAR 10g (W/kg)	1W Target SAR 10g (W/kg)	1W Normalized SAR 10g (W/kg)	Deviation 10g (%)	Measured 4cm2 APD (W/m2)	1W Target 4cm2 APD (W/m2)	1W Normalized 4cm2 APD	Deviation 4cm2 APD (%)
AM14	13	HEAD	10/02/2024	21.5	23.0	1.00	1004	7308	534	0.54	0.58	0.54	-6.23%	0.33	0.36	0.33	-6.18%	N/A	N/A	N/A	N/A
AM4	750	HEAD	09/02/2024	21.1	20.9	0.20	1057	7357	1582	1.76	8.51	8.80	3.41%	1.17	5.58	5.85	4.84%	N/A	N/A	N/A	N/A
AM4	750	HEAD	09/04/2024	23.8	21.6	0.20	1057	7357	1582	1.81	8.51	9.05	6.35%	1.19	5.58	5.95	6.63%	N/A	N/A	N/A	N/A
J	750	HEAD	09/05/2024	25.0	23.0	0.20	1161	7406	1677	1.72	8.44	8.60	1.90%	1.13	5.51	5.65	2.54%	N/A	N/A	N/A	N/A
AM4	750	HEAD	09/06/2024	23.5	21.2	0.20	1057	7357	1582	1.79	8.51	8.95	5.17%	1.18	5.58	5.90	5.73%	N/A	N/A	N/A	N/A
J	750	HEAD	09/08/2024	23.9	22.6	0.20	1161	7406	1677	1.60	8.44	8.00	-5.21%	1.05	5.51	5.25	-4.72%	N/A	N/A	N/A	N/A
AM4	750	HEAD	09/12/2024	22.0	21.0	0.20	1057	7357	1582	1.80	8.51	9.00	5.76%	1.19	5.58	5.95	6.63%	N/A	N/A	N/A	N/A
AM4	750	HEAD	09/20/2024	22.3	21.0	0.20	1097	7357	1582	1.66	8.27	8.30	0.36%	1.11	5.38	5.55	3.16%	N/A	N/A	N/A	N/A
J	750	HEAD	10/02/2024	23.5	23.2	0.20	1054	7406	1677	1.64	8.52	8.20	-3.76%	1.07	5.60	5.35	-4.46%	N/A	N/A	N/A	N/A
J	835	HEAD	09/05/2024	25.0	23.0	0.20	4d133	7406	1677	2.03	9.94	10.15	2.11%	1.32	6.49	6.60	1.69%	N/A	N/A	N/A	N/A
AM4	835	HEAD	09/06/2024	23.5	21.2	0.20	4d040	7357	1582	2.02	9.79	10.10	3.17%	1.33	6.38	6.65	4.23%	N/A	N/A	N/A	N/A
J	835	HEAD	09/08/2024	23.9	22.6	0.20	4d132	7406	1677	1.97	9.84	9.85	0.10%	1.28	6.40	6.40	0.00%	N/A	N/A	N/A	N/A
AM4	835	HEAD	09/09/2024	21.6	21.0	0.20	4d040	7357	1582	2.03	9.79	10.15	3.68%	1.33	6.38	6.65	4.23%	N/A	N/A	N/A	N/A
K3	835	HEAD	09/10/2024	23.0	21.5	0.20	4d119	7491	1532	2.06	9.96	10.30	3.41%	1.35	6.48	6.75	4.17%	N/A	N/A	N/A	N/A
K3	835	HEAD	09/12/2024	19.4	19.8	0.20	4d119	7491	1532	2.08	9.96	10.40	4.42%	1.37	6.48	6.85	5.71%	N/A	N/A	N/A	N/A
K4	835	HEAD	09/13/2024	22.6	21.5	0.20	4d119	7565	1466	2.04	9.96	10.20	2.41%	1.33	6.48	6.65	2.62%	N/A	N/A	N/A	N/A
K3	835	HEAD	09/19/2024	22.1	20.0	0.20	4d119	7491	1532	2.10	9.96	10.50	5.42%	1.39	6.48	6.95	7.25%	N/A	N/A	N/A	N/A
G	1640	HEAD	10/14/2024	23.3	22.0	0.10	321	7570	1530	3.48	34.50	34.80	0.87%	1.91	18.50	19.10	3.24%	N/A	N/A	N/A	N/A
G	1640	HEAD	10/23/2024	23.1	22.3	22.00	321	7570	1530	3.54	34.50	35.40	2.61%	1.95	18.50	19.50	5.41%	N/A	N/A	N/A	N/A
C	1750	HEAD	09/03/2024	22.4	22.0	0.10	1150	7659	1407	3.70	36.90	37.00	0.27%	1.98	19.40	19.80	2.06%	N/A	N/A	N/A	N/A
O	1750	HEAD	09/03/2024	21.7	20.4	0.10	1148	3914	728	3.79	37.20	37.90	1.88%	2.03	19.40	20.30	4.64%	N/A	N/A	N/A	N/A
O	1750	HEAD	09/05/2024	22.0	21.0	0.10	1150	3914	728	3.78	36.90	37.80	2.44%	2.03	19.40	20.30	4.64%	N/A	N/A	N/A	N/A
E	1750	HEAD	09/18/2024	24.3	23.2	0.10	1148	7409	1334	3.87	37.20	38.70	4.03%	2.05	19.40	20.50	5.67%	N/A	N/A	N/A	N/A
K4	1750	HEAD	09/19/2024	23.0	21.0	0.10	1051	7565	1466	3.49	37.00	34.90	-5.68%	1.86	19.50	18.60	-4.62%	N/A	N/A	N/A	N/A
P	1750	HEAD	09/30/2024	21.7	22.0	0.10	1150	7718	665	3.74	36.90	37.40	1.36%	2.03	19.40	20.30	4.64%	N/A	N/A	N/A	N/A
E	1900	HEAD	09/03/2024	23.6	22.0	0.10	Sd148	7409	1334	4.30	40.10	43.00	7.23%	2.23	21.00	22.30	6.19%	N/A	N/A	N/A	N/A
C	1900	HEAD	09/03/2024	22.4	22.0	0.10	Sd148	7659	1407	4.11	40.10	41.10	2.49%	2.13	21.00	21.30	1.43%	N/A	N/A	N/A	N/A
S	1900	HEAD	09/04/2024	22.5	21.9	21.90	Sd148	7803	1583	4.05	40.10	40.50	1.00%	2.12	21.00	21.20	0.95%	N/A	N/A	N/A	N/A
O	1900	HEAD	09/05/2024	22.0	21.0	0.10	Sd148	3914	728	4.30	40.10	43.00	7.23%	2.22	21.00	22.20	5.71%	N/A	N/A	N/A	N/A
P	1900	HEAD	09/05/2024	21.0	20.0	0.10	Sd148	7718	665	4.21	40.10	42.10	4.99%	2.22	21.00	22.20	5.71%	N/A	N/A	N/A	N/A
K4	1900	HEAD	09/11/2024	19.2	19.0	0.10	Sd141	7565	1466	3.87	40.30	38.70	-3.97%	2.00	21.00	20.00	-4.76%	N/A	N/A	N/A	N/A
AM8	2300	HEAD	09/02/2024	22.1	23.8	0.10	1064	7427	467	5.06	49.30	50.60	2.64%	2.40	23.80	24.00	0.84%	N/A	N/A	N/A	N/A
AM8	2300	HEAD	09/04/2024	23.3	23.2	0.10	1064	7427	467	4.86	49.30	48.60	-1.42%	2.29	23.80	22.90	-3.78%	N/A	N/A	N/A	N/A
AM8	2300	HEAD	09/08/2024	20.5	23.0	0.10	1038	7427	467	4.96	49.10	49.60	1.02%	2.32	23.70	23.20	-2.11%	N/A	N/A	N/A	N/A
AM13	2300	HEAD	09/09/2024	21.1	22.7	0.10	1038	7682	1683	4.83	49.10	48.30	-1.63%	2.25	23.70	22.50	-5.06%	N/A	N/A	N/A	N/A
AM13	2300	HEAD	10/07/2024	22.1	22.9	0.10	1064	7682	1683	4.78	49.30	47.80	-3.04%	2.24	23.80	22.40	-5.88%	N/A	N/A	N/A	N/A
AM8	2450	HEAD	09/02/2024	22.1	23.8	0.10	750	7427	467	5.26	52.60	52.60	0.00%	2.39	24.50	23.90	-2.45%	N/A	N/A	N/A	N/A
K2	2450	HEAD	09/02/2024	21.4	21.0	0.10	945	7637	1652	5.57	53.40	55.70	4.31%	2.59	25.10	25.90	3.19%	N/A	N/A	N/A	N/A
AM13	2450	HEAD	09/04/2024	23.0	23.0	0.10	855	7682	1683	5.10	52.40	51.00	-2.67%	2.30	24.60	23.00	-6.50%	N/A	N/A	N/A	N/A
K2	2450	HEAD	09/04/2024	20.9	21.4	0.10	945	7637	1652	5.14	53.40	51.40	-3.75%	2.41	25.10	24.10	-3.98%	N/A	N/A	N/A	N/A
AM8	2450	HEAD	09/18/2024	22.0	21.8	0.10	750	7427	467	5.26	52.60	52.60	0.00%	2.37	24.50	23.70	-3.27%	N/A	N/A	N/A	N/A
K2	2450	HEAD	09/23/2024	20.8	20.7	0.10	945	7637	1652	5.14	53.40	51.40	-3.75%	2.39	25.10	23.90	-4.78%	N/A	N/A	N/A	N/A
K3	2450	HEAD	10/14/2024	22.0	21.5	0.10	882	7558	1364	5.51	53.00	55.10	3.96%	2.59	24.90	25.90	4.02%	N/A	N/A	N/A	N/A
AM8	2600	HEAD	09/02/2024	22.1	23.8	0.10	1042	7427	467	5.54	55.80	55.40	-0.72%	2.42	24.90	24.20	-2.81%	N/A	N/A	N/A	N/A
K2	2600	HEAD	09/02/2024	21.4	21.0	0.10	1009	7637	1652	5.77	56.60	57.70	1.94%	2.60	25.50	26.00	1.96%	N/A	N/A	N/A	N/A
AM13	2600	HEAD	09/04/2024	23.0	23.0	0.10	1069	7682	1683	5.63	56.20	56.30	0.18%	2.45	25.50	24.50	-3.92%	N/A	N/A	N/A	N/A
AM 13	2600	HEAD	09/13/2024	23.0	24.0	0.10	1042	7682	1683	5.41	55.80	54.10	-3.05%	2.37	24.90	23.70	-4.82%	N/A	N/A	N/A	N/A
AM8	2600	HEAD	09/18/2024	22.0	21.8	0.10	1042	7427	467	5.29	55.80	52.90	-5.20%	2.30	24.90	23.00	-7.63%	N/A	N/A	N/A	N/A
K2	2600	HEAD	09/23/2024	20.8	20.7	0.10	1009	7637	1652	5.30	56.60	53.00	-6.36%	2.38	25.50	23.80	-6.67%	N/A	N/A	N/A	N/A
AM16	2600	HEAD	10/02/2024	21.0	23.0	0.10	1042	7552	1676	5.59	55.80	55.90	0.18%	2.43	24.90	24.30	-2.41%	N/A	N/A	N/A	N/A
K2	2600	HEAD	10/02/2024	20.9	20.9	0.10	1009	7640	1645	5.62	56.60	56.20	-0.71%	2.53	25.50	25.30	-0.78%	N/A	N/A	N/A	N/A
K4	3500	HEAD	09/02/2024	20.4	20.1	0.10	1068	7565	1466	6.37	65.30	63.70	-2.45%	2.42	24.70	24.20	-2.02%	N/A	N/A	N/A	N/A
H	3500	HEAD	09/03/2024	23.5	21.7	0.10	1059	7488	1415	6.39	64.90	63.90	-1.54%	2.47	24.70	24.70	0.00%	N/A	N/A	N/A	N/A
H	3500	HEAD	09/09/2024	22.1	20.6	0.10	1097	7488	1415	6.43	65.40	64.30	-1.68%	2.47	24.70	24.70	0.00%	N/A	N/A	N/A	N/A
L	3500	HEAD	10/09/2024	21.3	20.0	0.10	1097	7660	1678	6.39	65.40	63.90	-2.29%	2.45	24.70	24.50	-0.81%	N/A	N/A	N/A	N/A
K4	3700	HEAD	09/02/2024	20.4	20.1	0.10	1029	7565	1466	6.59	67.30	65.90	-2.08%	2.43	24.50	24.30	-0.82%	N/A	N/A	N/A	N/A
H	3700	HEAD	09/03/2024	23.5	21.7	0.10	1018	7488	1415	6.59	65.10	65.90	1.23%	2.46	23.90	24.60	2.93%	N/A	N/A	N/A	N/A
H	3700	HEAD	09/09/2024	22.1	20.6	0.10	1067	7488	1415	6.67	66.90	66.70	-0.30%	2.48	24.30	24.80	2.06%	N/A	N/A	N/A	N/A
L	3700	HEAD	10/09/2024	21.3	20.0	0.10	1018	7660	1678	6.52	65.10	65.20	0.15%	2.43	23.90	24.30	1.67%	N/A	N/A	N/A	N/A
H	3900	HEAD	09/03/2024	23.5	21.7	0.10	1056	7488	1415	6.88	68.20	68.80	0.88%	2.44	23.80	24.40	2.52%	N/A	N/A	N/A	N/A
H	3900	HEAD	09/09/2024	22.1	20.6	0.10	1056	7488	1415	6.92	68.20	69.20	1.47%	2.44	23.80	24.40	2.52%	N/A	N/A	N/A	N/A
K6	5250	HEAD	09/02/2024	21.5	21.1	0.05	1237	7402	1502	3.90	80.10	78.00	-2.62%	1.11	22.90	22.20	-3.06%	N/A	N/A	N/A	N/A
K6	5250	HEAD	09/09/2024	21.2	21.0	0.05	1237	7402	1502	3.82	80.10	76.40	-4.62%	1.10	22.90	22.00	-3.93%	N/A	N/A	N/A	N/A
K6	5250	HEAD	10/28/2024	20.4	20.2	0.05	1237	7402	1502	3.86	80.10	77.20	-3.62%	1.10	22.90	22.00	-3.93%	N/A	N/A	N/A	N/A
K6	5600	HEAD	09/02/2024	21.5	21.1	0.05	1237	7402	1502	3.85	82.00	77.00	-6.10%	1.08	23.30	21.60	-7.30%	N/A	N/A	N/A	N/A
K6	5600	HEAD	09/09/2024	21.2	21.0	0.05	1237	7402	1502	3.82	82.00	76.40	-6.83%	1.09	23.30	21.80	-6.44%	N/A	N/A	N/A	N/A
K6	5600	HEAD	10/28/2024	20.4	20.2	0.05	1237	7402	1502	4.08	82.00	81.60	-0.49%	1.15	23.30	23.00	-1.29%	N/A	N/A	N/A	N/A
K6	5750	HEAD	09/02/2024	21.5	21.1	0.05	1237	7402	1502	3.96	79.20	79.20	0.00%	1.13	22.50	22.60	0.44%	N/A	N/A	N/A	N/A
K6	5750	HEAD	09/09/2024	21.2	21.0	0.05	1237	7402	1502	3.98	79.20	79.60	0.51%	1.14	22.50	22.80	1.33%	N/A	N/A	N/A	N/A
K6	5750	HEAD	10/28/2024	20.4	20.2	0.05	1237	7402	1502	4.02	79.20	80.40	1.52%	1.15	22.50	23.00	2.22%	N/A	N/A	N/A	N/A
K6	5850	HEAD	09/02/2024	21.5	21.1	0.05	1237	7402	1502	3.81	80.40	76.20	-5.22%	1.08	22.80	21.60	-5.26%	N/A	N/A	N/A	N/A
K6	5850	HEAD	09/09/2024	21.2	21.0	0.05	1237	7402	1502	4.02	80.40	80.40	0.00%	1.15	22.80	23.00	0.88%	N/A	N/A	N/A	N/A
K6	5850	HEAD	10/28/2024	20.4	20.2	0.05	1237	7402	1502	3.98	80.40	79.60	-1.00%	1.14	22.80	22.80	0.00%	N/A	N/A	N/A	N/A
R	6500	HEAD	09/09/2024	22.2	22.8	0.03	1111	7527	1272	7.55	291.00	302.00	3.78%	1.38	53.50	55.20	3.18%	33.50	1300.00	1340.00	3.08%
AM7	6500	HEAD	09/23/2024	20.4	20.0	0.03	1019	7421	604	7.17	293.00	286.80	-2.12%	1.32	54.10	52.80	-2.40%	32.20	1320.00	1288.00	-2.42%
R	8000	HEAD	10/09/2024	21.3	20.9	0.03	1007	7527	1272	6.59	269.00	263.60	-2.01%	1.12	45.30	44.80	-1.10%	27.10	1110.00	1084.00	-2.34%

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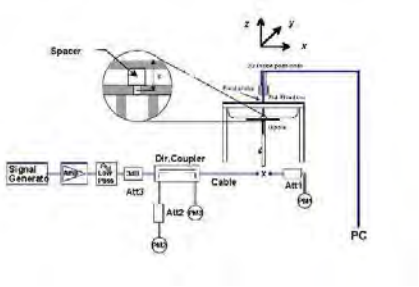

Figure 11-1
System Verification Setup Diagram

Figure 11-2
System Verification Setup Photo

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11.3 Power Density Test System Verification

The system was verified to be within ±0.66 dB of the power density targets on the calibration certificate according to the test system specification in the user's manual and calibration facility recommendation. The 0.66 dB deviation threshold represents the expanded uncertainty for system performance checks using SPEAG's mmWave verification sources. The same spatial resolution and measurement region used in the source calibration was applied during the system check.

The measured power density distribution of verification source was also confirmed through visual inspection to have no noticeable differences, both spatially (shape) and numerically (level) from the distribution provided by the manufacturer, per November 2017 TCBC Workshop Notes.

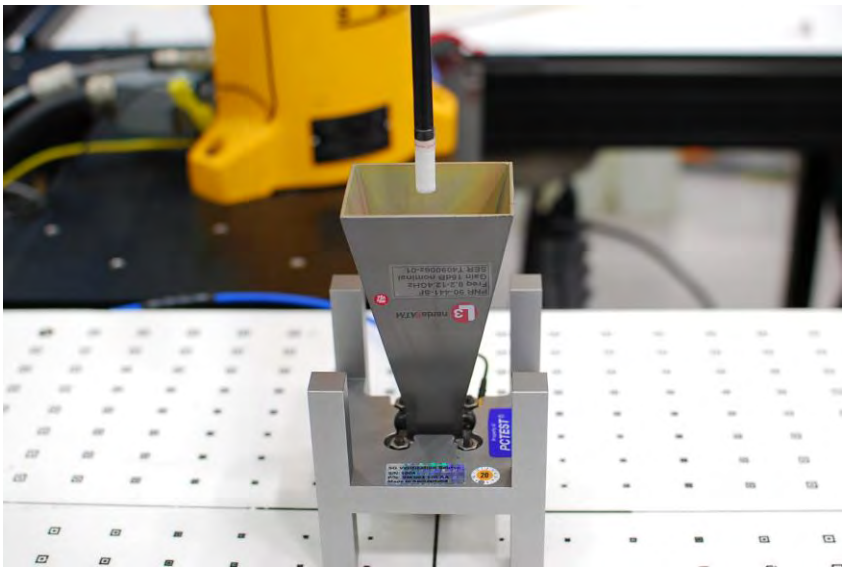

Figure 11-3
System Verification Setup Photo

Table 11-8
10 GHz Verifications

System	Frequency (GHz)	Date	Source S/N	Probe S/N	Prad (mW)	Normal psPD (W/m² over 4 cm²)		Deviation (dB)	Total psPD (W/m² over 4 cm²)		Deviation (dB)
						Measured	Target		Measured	Target	
Q	10	09/15/2024	1002	9622	93.3	59.90	54.60	0.40	60.30	54.90	0.41
R	10	10/14/2024	1002	9421	93.3	47.20	54.60	-0.63	47.40	54.90	-0.64

Note: A **10 mm distance spacing** was used from the reference horn antenna aperture to the probe element.

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12 SAR DATA SUMMARY

12.1 GSM 850 Standalone SAR

Table 12-1

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	GSM 850	GSM	A	1267M	1:8.3	0.01	836.60	190	33.5	32.90	Right Cheek	0	0.107	1.148	0.123	0.478	0.299		33.4		
Head	GSM 850	GSM	A	1267M	1:8.3	0.01	836.60	190	33.5	32.90	Right Tilt	0	0.052	1.148	0.060	0.232	0.145		36.5	33.4	30.2
Head	GSM 850	GSM	A	1267M	1:8.3	-0.05	836.60	190	33.5	32.90	Left Cheek	0	0.099	1.148	0.114	0.442	0.276		33.7		
Head	GSM 850	GSM	A	1267M	1:8.3	0.00	836.60	190	33.5	32.90	Left Tilt	0	0.060	1.148	0.069	0.268	0.168		35.9		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-2

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	GSM 850	GSM	E	1261M	1:8.3	0.00	848.80	251	31.0	29.90	Right Cheek	0	0.360	1.288	0.464	0.464	0.290		25.1		
Head	GSM 850	GSM	E	1261M	1:8.3	0.09	848.80	251	31.0	29.90	Right Tilt	0	0.332	1.288	0.428	0.428	0.268		25.4	24.3	20.8
Head	GSM 850	GSM	E	1261M	1:8.3	0.00	848.80	251	31.0	29.90	Left Cheek	0	0.431	1.288	0.555	0.555	0.347	A1	24.3		
Head	GSM 850	GSM	E	1261M	1:8.3	0.00	848.80	251	31.0	29.90	Left Tilt	0	0.406	1.288	0.523	0.523	0.327		24.6		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-3

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	GPRS 850	GPRS 3 Tx Slots	A	1267M	1:2.76	-0.04	848.80	251	30.5	29.38	Back	10	0.241	1.294	0.312	0.802	0.501		31.1		
Hotspot	GPRS 850	GPRS 3 Tx Slots	A	1267M	1:2.76	-0.06	848.80	251	30.5	29.38	Front	10	0.141	1.294	0.182	0.469	0.293		33.4		
Hotspot	GPRS 850	GPRS 3 Tx Slots	A	1267M	1:2.76	0.03	848.80	251	30.5	29.38	Bottom	10	0.058	1.294	0.075	0.193	0.121		37.3	31.1	30.2
Hotspot	GPRS 850	GPRS 3 Tx Slots	A	1267M	1:2.76	0.03	848.80	251	30.5	29.38	Right	10	0.136	1.294	0.176	0.452	0.283		33.6		
Hotspot	GPRS 850	GPRS 3 Tx Slots	A	1267M	1:2.76	-0.04	848.80	251	30.5	29.38	Left	10	0.080	1.294	0.104	0.266	0.166		35.9		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-4

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	GPRS 850	GPRS 3 Tx Slots	E	1261M	1:2.76	-0.06	848.80	251	30.5	28.92	Back	10	0.374	1.439	0.538	0.914	0.571	A2	28.7		
Hotspot	GPRS 850	GPRS 3 Tx Slots	E	1261M	1:2.76	-0.19	848.80	251	30.5	28.92	Front	10	0.361	1.439	0.519	0.882	0.551		28.9	28.4	28.4
Hotspot	GPRS 850	GPRS 3 Tx Slots	E	1261M	1:2.76	-0.01	848.80	251	30.5	28.92	Top	10	0.402	1.439	0.578	0.982	0.614	A3	28.4		
Hotspot	GPRS 850	GPRS 3 Tx Slots	E	1261M	1:2.76	-0.08	848.80	251	30.5	28.92	Right	10	0.241	1.439	0.347	0.589	0.368		30.6		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram								

12.2 GSM 1900 Standalone SAR

Table 12-5

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	GSM 1900	GSM	A	1298M	1:8.3	-0.05	1880.00	661	31.0	29.90	Right Cheek	0	0.052	1.288	0.067	0.279	0.174		33.5		
Head	GSM 1900	GSM	A	1298M	1:8.3	0.04	1880.00	661	31.0	29.90	Right Tilt	0	0.030	1.288	0.039	0.161	0.101		35.9		
Head	GSM 1900	GSM	A	1298M	1:8.3	0.02	1880.00	661	31.0	29.90	Left Cheek	0	0.083	1.288	0.107	0.446	0.279	A4	31.5	31.5	28.0
Head	GSM 1900	GSM	A	1298M	1:8.3	-0.09	1880.00	661	31.0	29.90	Left Tilt	0	0.045	1.288	0.058	0.242	0.151		34.1		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-6

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	GPRS 1900	GPRS 4 Tx Slots	A	1298M	1:2.076	0.08	1880.00	661	22.0	20.79	Back	10	0.230	1.321	0.304	0.304	0.190	A5	23.9		
Hotspot	GPRS 1900	GPRS 4 Tx Slots	A	1298M	1:2.076	-0.04	1880.00	661	22.0	20.79	Front	10	0.215	1.321	0.284	0.284	0.178		24.2		
Hotspot	GPRS 1900	GPRS 4 Tx Slots	A	1298M	1:2.076	0.00	1880.00	661	22.0	20.79	Bottom	10	0.430	1.321	0.568	0.568	0.355	A6	21.2		
Hotspot	GPRS 1900	GPRS 4 Tx Slots	A	1298M	1:2.076	-0.05	1880.00	661	22.0	20.79	Right	10	0.034	1.321	0.045	0.045	0.028		32.2	21.2	17.8
Hotspot	GPRS 1900	GPRS 4 Tx Slots	A	1298M	1:2.076	0.06	1880.00	661	22.0	20.79	Left	10	0.042	1.321	0.055	0.055	0.034		31.3		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram								

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12.3 UMTS 850 Standalone SAR

Table 12-7

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	UMTS 850	RMC	A	1267M	1:1	0.01	846.60	4233	25.0	24.94	Right Cheek	0	0	0.172	1.014	0.174	0.527	0.329		32.5	32.5	29.8
Head	UMTS 850	RMC	A	1267M	1:1	0.02	846.60	4233	25.0	24.94	Right Tilt	0	0	0.082	1.014	0.083	0.251	0.157		35.8		
Head	UMTS 850	RMC	A	1267M	1:1	-0.02	846.60	4233	25.0	24.94	Left Cheek	0	1	0.138	1.014	0.140	0.423	0.264		33.5		
Head	UMTS 850	RMC	A	1267M	1:1	0.04	846.60	4233	25.0	24.94	Left Tilt	0	0	0.052	1.014	0.053	0.159	0.099		37.7		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-8

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	UMTS 850	RMC	E	1298M	1:1	0.02	846.60	4233	22.0	21.16	Right Cheek	0	0.539	1.213	0.654	0.654	0.409		23.8	22.9	21.0
Head	UMTS 850	RMC	E	1298M	1:1	0.01	846.60	4233	22.0	21.16	Right Tilt	0	0.481	1.213	0.583	0.583	0.364		24.3		
Head	UMTS 850	RMC	E	1298M	1:1	0.01	846.60	4233	22.0	21.16	Left Cheek	0	0.659	1.213	0.799	0.799	0.499	A7	22.9		
Head	UMTS 850	RMC	E	1298M	1:1	-0.01	846.60	4233	22.0	21.16	Left Tilt	0	0.630	1.213	0.764	0.764	0.478		23.1		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-9

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	UMTS 850	RMC	A	1267M	1:1	0.01	846.60	4233	25.0	24.94	Back	10	0	0.325	1.014	0.330	0.657	0.411	A8	29.8	29.8	28.0
Hotspot	UMTS 850	RMC	A	1267M	1:1	-0.03	846.60	4233	25.0	24.94	Front	10	0	0.176	1.014	0.178	0.356	0.223		32.4		
Hotspot	UMTS 850	RMC	A	1267M	1:1	0.00	846.60	4233	25.0	24.94	Bottom	10	0	0.080	1.014	0.081	0.162	0.101		35.9		
Hotspot	UMTS 850	RMC	A	1267M	1:1	-0.02	846.60	4233	25.0	24.94	Right	10	0	0.176	1.014	0.178	0.356	0.223		32.4		
Hotspot	UMTS 850	RMC	A	1267M	1:1	0.06	846.60	4233	25.0	24.94	Left	10	0	0.112	1.014	0.114	0.227	0.142		34.4		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-10

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	UMTS 850	RMC	E	1267M	1:1	-0.12	846.60	4233	25.0	24.23	Back	10	0.312	1.194	0.373	0.564	0.353		29.2	28.7	26.8
Hotspot	UMTS 850	RMC	E	1267M	1:1	-0.04	846.60	4233	25.0	24.23	Front	10	0.333	1.194	0.398	0.602	0.376		29.0		
Hotspot	UMTS 850	RMC	E	1267M	1:1	0.02	846.60	4233	25.0	24.23	Top	10	0.352	1.194	0.420	0.636	0.398	A9	28.7		
Hotspot	UMTS 850	RMC	E	1267M	1:1	-0.03	846.60	4233	25.0	24.23	Right	10	0.206	1.194	0.246	0.372	0.233		31.0		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram								

12.4 UMTS 1750 Standalone SAR

Table 12-11

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	UMTS 1750	RMC	A	1298M	1:1	0.13	1712.40	1312	23.5	23.45	Right Cheek	0	33	0.088	1.012	0.089	0.229	0.143		34.0	31.0	27.6
Head	UMTS 1750	RMC	A	1298M	1:1	-0.09	1712.40	1312	23.5	23.45	Right Tilt	0	33	0.073	1.012	0.074	0.190	0.119		34.8		
Head	UMTS 1750	RMC	A	1298M	1:1	0.02	1712.40	1312	23.5	23.45	Left Cheek	0	11	0.172	1.012	0.174	0.447	0.279	A10	31.0		
Head	UMTS 1750	RMC	A	1298M	1:1	-0.01	1712.40	1312	23.5	23.45	Left Tilt	0	11	0.074	1.012	0.075	0.192	0.120		34.7		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-12

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	UMTS 1750	RMC	A	1298M	1:1	0.01	1712.40	1312	19.0	18.85	Back	10	11	0.519	1.035	0.537	0.537	0.336	A11	21.6	18.7	18.0
Hotspot	UMTS 1750	RMC	A	1298M	1:1	0.01	1712.40	1312	19.0	18.85	Front	10	11	0.379	1.035	0.392	0.392	0.245		23.0		
Hotspot	UMTS 1750	RMC	A	1298M	1:1	0.02	1712.40	1312	19.0	18.85	Bottom	10	11	0.809	1.035	0.837	0.837	0.523		19.7		
Hotspot	UMTS 1750	RMC	A	1298M	1:1	0.00	1732.40	1412	19.0	18.23	Bottom	10	11	0.843	1.194	1.007	1.007	0.629		18.9		
Hotspot	UMTS 1750	RMC	A	1298M	1:1	0.01	1752.60	1513	19.0	18.28	Bottom	10	11	0.896	1.180	1.057	1.057	0.661	A12	18.7		
Hotspot	UMTS 1750	RMC	A	1298M	1:1	0.01	1752.60	1513	19.0	18.23	Bottom	10	11	0.859	1.180	1.017	1.017	0.632		18.9		
Hotspot	UMTS 1750	RMC	A	1298M	1:1	0.01	1712.40	1312	19.0	18.85	Right	10	33	0.088	1.035	0.091	0.091	0.057		29.4		
Hotspot	UMTS 1750	RMC	A	1298M	1:1	-0.01	1712.40	1312	19.0	18.85	Left	10	33	0.071	1.035	0.073	0.073	0.046		30.3		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram								

Note: Blue entry represents variability measurement

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12.5 UMTS 1900 Standalone SAR

Table 12-13

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	UMTS 1900	RMC	A	1298M	1:1	-0.04	1880.00	9400	24.5	23.98	Right Cheek	0	1	0.110	1.127	0.124	0.265	0.166		33.5	31.2	27.8
Head	UMTS 1900	RMC	A	1298M	1:1	-0.01	1880.00	9400	24.5	23.98	Right Tilt	0	1	0.051	1.127	0.057	0.123	0.077		36.9		
Head	UMTS 1900	RMC	A	1298M	1:1	0.07	1880.00	9400	24.5	23.98	Left Cheek	0	1	0.188	1.127	0.212	0.453	0.283	A13	31.2		
Head	UMTS 1900	RMC	A	1298M	1:1	-0.03	1880.00	9400	24.5	23.98	Left Tilt	0	1	0.065	1.127	0.073	0.157	0.098		35.8		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Head 1.6 W/kg (mW/g) averaged over 1 gram											

Table 12-14

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	UMTS 1900	RMC	A	1298M	1:1	0.01	1880.00	9400	18.5	18.43	Back	10	3	0.389	1.016	0.395	0.395	0.247	A14	22.5	20.0	17.5
Hotspot	UMTS 1900	RMC	A	1298M	1:1	0.00	1880.00	9400	18.5	18.43	Front	10	17	0.319	1.016	0.324	0.324	0.203		23.3		
Hotspot	UMTS 1900	RMC	A	1298M	1:1	0.00	1880.00	9400	18.5	18.43	Bottom	10	3	0.695	1.016	0.706	0.706	0.441	A15	20.0		
Hotspot	UMTS 1900	RMC	A	1298M	1:1	0.07	1880.00	9400	18.5	18.43	Right	10	0	0.043	1.016	0.044	0.044	0.028		32.0		
Hotspot	UMTS 1900	RMC	A	1298M	1:1	0.03	1880.00	9400	18.5	18.43	Left	10	1	0.050	1.016	0.051	0.051	0.032		31.4		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Body 1.6 W/kg (mW/g) averaged over 1 gram											

12.6 LTE Band 71 Standalone SAR

Table 12-15

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 71	20	QPSK	A	1278M	1:1	0.02	680.50	133297	0.0	25.0	24.46	1	50	Right Cheek	0	0	0.134	1.132	0.152	0.491	0.307		33.1		
Head	LTE Band 71	20	QPSK	A	1296M	1:1	0.06	680.50	133297	1.0	24.0	23.34	50	50	Right Cheek	0	0	0.084	1.164	0.098	0.398	0.249		34.0		
Head	LTE Band 71	20	QPSK	A	1296M	1:1	0.01	680.50	133297	0.0	25.0	24.46	1	50	Right Tilt	0	13	0.065	1.132	0.074	0.238	0.149		36.3		
Head	LTE Band 71	20	QPSK	A	1296M	1:1	0.03	680.50	133297	1.0	24.0	23.34	50	50	Right Tilt	0	13	0.037	1.164	0.043	0.175	0.109		37.6	33.1	30.1
Head	LTE Band 71	20	QPSK	A	1285M	1:1	0.05	680.50	133297	0.0	25.0	24.46	1	50	Left Cheek	0	11	0.107	1.132	0.121	0.392	0.245		34.1		
Head	LTE Band 71	20	QPSK	A	1285M	1:1	0.09	680.50	133297	1.0	24.0	23.34	50	50	Left Cheek	0	11	0.082	1.164	0.095	0.389	0.243		34.2		
Head	LTE Band 71	20	QPSK	A	1302M	1:1	0.15	680.50	133297	0.0	25.0	24.46	1	50	Left Tilt	0	11	0.066	1.132	0.075	0.242	0.151		36.2		
Head	LTE Band 71	20	QPSK	A	1302M	1:1	0.20	680.50	133297	1.0	24.0	23.34	50	50	Left Tilt	0	11	0.050	1.164	0.058	0.237	0.148		36.3		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Head 1.6 W/kg (mW/g) averaged over 1 gram											

Table 12-16

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 71	20	QPSK	E	1288M	1:1	0.03	680.50	133297	0.0	19.0	17.46	1	50	Right Cheek	0	0.203	1.426	0.289	0.289	0.181		24.3		
Head	LTE Band 71	20	QPSK	E	1288M	1:1	-0.17	680.50	133297	0.0	19.0	17.44	50	50	Right Cheek	0	0.201	1.432	0.288	0.288	0.180		24.4		
Head	LTE Band 71	20	QPSK	E	1288M	1:1	0.05	680.50	133297	0.0	19.0	17.46	1	50	Right Tilt	0	0.175	1.426	0.250	0.250	0.156		25.0		
Head	LTE Band 71	20	QPSK	E	1288M	1:1	-0.04	680.50	133297	0.0	19.0	17.44	50	50	Right Tilt	0	0.204	1.432	0.292	0.292	0.183		24.3		
Head	LTE Band 71	20	QPSK	E	1302M	1:1	-0.01	680.50	133297	0.0	19.0	17.46	1	50	Left Cheek	0	0.292	1.426	0.416	0.416	0.260	A16	22.8	22.8	18.0
Head	LTE Band 71	20	QPSK	E	1302M	1:1	0.19	680.50	133297	0.0	19.0	17.44	50	50	Left Cheek	0	0.269	1.432	0.385	0.385	0.241		23.1		
Head	LTE Band 71	20	QPSK	E	1302M	1:1	0.13	680.50	133297	0.0	19.0	17.46	1	50	Left Tilt	0	0.256	1.426	0.365	0.365	0.228		23.3		
Head	LTE Band 71	20	QPSK	E	1302M	1:1	0.21	680.50	133297	0.0	19.0	17.44	50	50	Left Tilt	0	0.238	1.432	0.341	0.341	0.213		23.6		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 12-17

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 71	20	QPSK	A	1296M	1:1	-0.14	680.50	133297	0.0	25.0	24.46	1	50	Back	10	0	0.374	1.132	0.423	0.993	0.621	A17	28.7		
Body-worn/Hotspot	LTE Band 71	20	QPSK	A	1296M	1:1	0.03	680.50	133297	1.0	24.0	23.34	50	50	Back	10	0	0.269	1.164	0.313	0.924	0.578		29.0		
Hotspot	LTE Band 71	20	QPSK	A	1302M	1:1	-0.15	680.50	133297	0.0	25.0	24.46	1	50	Front	10	0	0.192	1.132	0.217	0.510	0.319		31.6		
Hotspot	LTE Band 71	20	QPSK	A	1302M	1:1	-0.01	680.50	133297	1.0	24.0	23.34	50	50	Front	10	0	0.151	1.164	0.176	0.519	0.324		31.5		
Hotspot	LTE Band 71	20	QPSK	A	1302M	1:1	0.09	680.50	133297	0.0	25.0	24.46	1	50	Bottom	10	0	0.130	1.132	0.147	0.345	0.216		33.3	28.7	28.7
Hotspot	LTE Band 71	20	QPSK	A	1302M	1:1	0.09	680.50	133297	1.0	24.0	23.34	50	50	Bottom	10	0	0.107	1.164	0.125	0.368	0.230		33.0		
Hotspot	LTE Band 71	20	QPSK	A	1296M	1:1	-0.13	680.50	133297	0.0	25.0	24.46	1	50	Right	10	0	0.190	1.132	0.215	0.504	0.315		31.6		
Hotspot	LTE Band 71	20	QPSK	A	1296M	1:1	-0.16	680.50	133297	1.0	24.0	23.34	50	50	Right	10	0	0.134	1.164	0.156	0.460	0.288		32.0		
Hotspot	LTE Band 71	20	QPSK	A	1302M	1:1	-0.13	680.50	133297	0.0	25.0	24.46	1	50	Left	10	0	0.171	1.132	0.194	0.454	0.284		32.1		
Hotspot	LTE Band 71	20	QPSK	A	1302M	1:1	0.06	680.50	133297	1.0	24.0	23.34	50	50	Left	10	0	0.114	1.164	0.133	0.392	0.245		32.7		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram										

Table 12-18

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 71	20	QPSK	E	1296M	1:1	0.00	680.50	133297	0.0	25.0	23.92	1	50	Back	10	0.320	1.282	0.410	0.898	0.561		28.8		
Body-worn/Hotspot	LTE Band 71	20	QPSK	E	1296M	1:1	0.01	680.50	133297	1.0	24.0	22.78	50	50	Back	10	0.271	1.324	0.359	0.989	0.618		28.4		
Hotspot	LTE Band 71	20	QPSK	E	1302M	1:1	-0.01	680.50	133297	0.0	25.0	23.92	1	50	Front	10	0.318	1.282	0.408	0.892	0.558		28.8		
Hotspot	LTE Band 71	20	QPSK	E	1302M	1:1	0.02	680.50	133297	1.0	24.0	22.78	50	50	Front	10	0.237	1.324	0.314	0.865	0.541		29.0	28.4	28.4
Hotspot	LTE Band 71	20	QPSK	E	1296M	1:1	0.00	680.50	133297	0.0	25.0	23.92	1	50	Top	10	0.301	1.282	0.386	0.844	0.528		29.1		
Hotspot	LTE Band 71	20	QPSK	E	1296M	1:1	-0.11	680.50	133297	1.0	24.0	22.78	50	50	Top	10	0.210	1.324	0.278	0.766	0.479		29.5		
Hotspot	LTE Band 71	20	QPSK	E	1296M	1:1	0.02	680.50	133297	0.0	25.0	23.92	1	50	Right	10	0.282	1.282	0.362	0.791	0.494		29.4		
Hotspot	LTE Band 71	20	QPSK	E	1296M	1:1	-0.01	680.50	133297	1.0	24.0	22.78	50	50	Right	10	0.212	1.324	0.281	0.773	0.483		29.5		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram										

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12.7 LTE Band 12 Standalone SAR

Table 12-19

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 12	10	QPSK	A	1288M	1:1	0.05	707.50	23095	0.0	25.3	24.83	1	0	Right Cheek	0	1	0.139	1.114	0.155	0.490	0.306		33.3		
Head	LTE Band 12	10	QPSK	A	1296M	1:1	0.06	707.50	23095	1.0	24.3	23.88	25	25	Right Cheek	0	1	0.099	1.102	0.109	0.434	0.271		33.9		
Head	LTE Band 12	10	QPSK	A	1296M	1:1	0.04	707.50	23095	0.0	25.3	24.83	1	0	Right Tilt	0	22	0.054	1.114	0.060	0.190	0.119		37.5		
Head	LTE Band 12	10	QPSK	A	1296M	1:1	0.01	707.50	23095	1.0	24.3	23.88	25	25	Right Tilt	0	22	0.047	1.102	0.052	0.206	0.129		37.1	33.3	30.3
Head	LTE Band 12	10	QPSK	A	1285M	1:1	0.03	707.50	23095	0.0	25.3	24.83	1	0	Left Cheek	0	1	0.111	1.114	0.124	0.391	0.244		34.3		
Head	LTE Band 12	10	QPSK	A	1285M	1:1	0.07	707.50	23095	1.0	24.3	23.88	25	25	Left Cheek	0	1	0.080	1.102	0.088	0.351	0.219		34.8		
Head	LTE Band 12	10	QPSK	A	1320M	1:1	-0.02	707.50	23095	0.0	25.3	24.83	1	0	Left Tilt	0	1	0.077	1.114	0.086	0.271	0.169		35.9		
Head	LTE Band 12	10	QPSK	A	1320M	1:1	0.09	707.50	23095	1.0	24.3	23.88	25	25	Left Tilt	0	1	0.061	1.102	0.067	0.267	0.167		36.0		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Head 1.6 W/kg (mW/g) averaged over 1 gram											

Table 12-20

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 12	10	QPSK	E	1288M	1:1	0.07	707.50	23095	0.0	22.0	20.60	1	0	Right Cheek	0	0.482	1.380	0.665	0.665	0.416		23.7		
Head	LTE Band 12	10	QPSK	E	1288M	1:1	0.02	707.50	23095	0.0	22.0	20.62	25	0	Right Cheek	0	0.455	1.374	0.625	0.625	0.391		24.0		
Head	LTE Band 12	10	QPSK	E	1288M	1:1	0.06	707.50	23095	0.0	22.0	20.60	1	0	Right Tilt	0	0.376	1.380	0.519	0.519	0.324		24.8		
Head	LTE Band 12	10	QPSK	E	1288M	1:1	0.03	707.50	23095	0.0	22.0	20.62	25	0	Right Tilt	0	0.374	1.374	0.514	0.514	0.321		24.8		
Head	LTE Band 12	10	QPSK	E	1302M	1:1	-0.02	707.50	23095	0.0	22.0	20.60	1	0	Left Cheek	0	0.625	1.380	0.863	0.863	0.539	A18	22.6	22.6	21.0
Head	LTE Band 12	10	QPSK	E	1302M	1:1	0.06	707.50	23095	0.0	22.0	20.62	25	0	Left Cheek	0	0.589	1.374	0.809	0.809	0.506		22.9		
Head	LTE Band 12	10	QPSK	E	1302M	1:1	0.06	707.50	23095	0.0	22.0	20.58	50	0	Left Cheek	0	0.567	1.387	0.786	0.786	0.491		23.0		
Head	LTE Band 12	10	QPSK	E	1302M	1:1	0.11	707.50	23095	0.0	22.0	20.60	1	0	Left Tilt	0	0.533	1.380	0.736	0.736	0.460		23.3		
Head	LTE Band 12	10	QPSK	E	1302M	1:1	0.16	707.50	23095	0.0	22.0	20.62	25	0	Left Tilt	0	0.544	1.374	0.747	0.747	0.467		23.2		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Head 1.6 W/kg (mW/g) averaged over 1 gram											

Table 12-21

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 12	10	QPSK	A	1296M	1:1	0.00	707.50	23095	0.0	25.3	24.83	1	0	Back	10	1	0.337	1.114	0.375	0.988	0.618		29.5		
Body-worn/Hotspot	LTE Band 12	10	QPSK	A	1296M	1:1	0.05	707.50	23095	1.0	24.3	23.88	25	25	Back	10	1	0.267	1.102	0.294	0.974	0.609		29.6		
Hotspot	LTE Band 12	10	QPSK	A	1302M	1:1	0.03	707.50	23095	0.0	25.3	24.83	1	0	Front	10	1	0.202	1.114	0.225	0.592	0.370		31.7		
Hotspot	LTE Band 12	10	QPSK	A	1302M	1:1	0.00	707.50	23095	1.0	24.3	23.88	25	25	Front	10	1	0.157	1.102	0.173	0.573	0.358		31.9		
Hotspot	LTE Band 12	10	QPSK	A	1302M	1:1	0.02	707.50	23095	0.0	25.3	24.83	1	0	Bottom	10	1	0.156	1.114	0.174	0.457	0.286		32.8		
Hotspot	LTE Band 12	10	QPSK	A	1302M	1:1	0.16	707.50	23095	1.0	24.3	23.88	25	25	Bottom	10	1	0.118	1.102	0.130	0.430	0.269		33.1	29.5	29.5
Hotspot	LTE Band 12	10	QPSK	A	1296M	1:1	0.00	707.50	23095	0.0	25.3	24.83	1	0	Right	10	1	0.140	1.114	0.156	0.410	0.256		33.3		
Hotspot	LTE Band 12	10	QPSK	A	1296M	1:1	0.02	707.50	23095	1.0	24.3	23.88	25	25	Right	10	1	0.107	1.102	0.118	0.390	0.244		33.5		
Hotspot	LTE Band 12	10	QPSK	A	1302M	1:1	-0.01	707.50	23095	0.0	25.3	24.83	1	0	Left	10	1	0.162	1.114	0.180	0.475	0.297		32.7		
Hotspot	LTE Band 12	10	QPSK	A	1302M	1:1	-0.05	707.50	23095	1.0	24.3	23.88	25	25	Left	10	1	0.130	1.102	0.143	0.474	0.296		32.7		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram											

Table 12-22

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 12	10	QPSK	E	1296M	1:1	0.07	707.50	23095	0.0	25.3	24.39	1	0	Back	10	0.421	1.233	0.519	0.945	0.591	A19	28.1		
Body-worn/Hotspot	LTE Band 12	10	QPSK	E	1296M	1:1	0.10	707.50	23095	1.0	24.3	23.25	25	25	Back	10	0.339	1.274	0.432	0.989	0.618		27.9		
Hotspot	LTE Band 12	10	QPSK	E	1302M	1:1	-0.06	707.50	23095	0.0	25.3	24.39	1	0	Front	10	0.315	1.233	0.388	0.707	0.442		29.4		
Hotspot	LTE Band 12	10	QPSK	E	1302M	1:1	-0.04	707.50	23095	1.0	24.3	23.25	25	25	Front	10	0.312	1.274	0.397	0.910	0.569		28.3		
Hotspot	LTE Band 12	10	QPSK	E	1296M	1:1	-0.02	707.50	23095	0.0	25.3	24.39	1	0	Top	10	0.400	1.233	0.493	0.898	0.561		28.3		
Hotspot	LTE Band 12	10	QPSK	E	1296M	1:1	-0.02	707.50	23095	1.0	24.3	23.25	25	25	Top	10	0.342	1.274	0.436	0.998	0.624		27.9		
Hotspot	LTE Band 12	10	QPSK	E	1296M	1:1	0.05	707.50	23095	0.0	25.3	24.39	1	0	Right	10	0.337	1.233	0.416	0.756	0.473		29.1	27.9	27.9
Hotspot	LTE Band 12	10	QPSK	E	1296M	1:1	-0.04	707.50	23095	1.0	24.3	23.25	25	25	Right	10	0.271	1.274	0.345	0.791	0.494		28.9		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram											

12.8 LTE Band 13 Standalone SAR

Table 12-23

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 13	10	QPSK	A	1296M	1:1	0.06	782.00	23230	0.0	25.0	24.09	1	49	Right Cheek	0	11	0.135	1.233	0.166	0.526	0.329		32.7		
Head	LTE Band 13	10	QPSK	A	1296M	1:1	0.06	782.00	23230	1.0	24.0	23.17	25	12	Right Cheek	0	11	0.098	1.211	0.119	0.472	0.295		33.2		
Head	LTE Band 13	10	QPSK	A	1296M	1:1	0.02	782.00	23230	0.0	25.0	24.09	1	49	Right Tilt	0	11	0.061	1.233	0.075	0.238	0.149		36.2		
Head	LTE Band 13	10	QPSK	A	1296M	1:1	0.03	782.00	23230	1.0	24.0	23.17	25	12	Right Tilt	0	11	0.053	1.211	0.064	0.255	0.159		35.9		
Head	LTE Band 13	10	QPSK	A	1302M	1:1	0.07	782.00	23230	0.0	25.0	24.09	1	49	Left Cheek	0	0	0.108	1.233	0.133	0.421	0.263		33.7		
Head	LTE Band 13	10	QPSK	A	1302M	1:1	0.01	782.00	23230	1.0	24.0	23.17	25	12	Left Cheek	0	0	0.090	1.211	0.109	0.434	0.271		33.6		
Head	LTE Band 13	10	QPSK	A	1302M	1:1	0.09	782.00	23230	0.0	25.0	24.09	1	49	Left Tilt	0	0	0.069	1.233	0.085	0.269	0.168		35.7		
Head	LTE Band 13	10	QPSK	A	1302M	1:1	0.05	782.00	23230	1.0	24.0	23.17	25	12	Left Tilt	0	0	0.046	1.211	0.056	0.222	0.139		36.5		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Head 1.6 W/kg (mW/g) averaged over 1 gram											

Table 12-24

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 13	10	QPSK	E	1302M	1:1	0.12	782.00	23230	0.0	22.0	20.34	1	0	Right Cheek	0	0.564	1.466	0.827	0.827	0.517		22.8		
Head	LTE Band 13	10	QPSK	E	1302M	1:1	-0.03	782.00	23230	0.0	22.0	20.30	25	12	Right Cheek	0	0.585	1.479	0.865	0.865	0.541		22.6		
Head	LTE Band 13	10	QPSK	E	1302M	1:1	-0.02	782.00	23230	0.0	22.0	20.24	50	0	Right Cheek	0	0.584	1.500	0.876	0.876	0.548		22.5		
Head	LTE Band 13	10	QPSK	E	1302M	1:1	-0.01	782.00	23230	0.0	22.0	20.34	1	0	Right Tilt	0	0.482	1.466	0.707	0.707	0.442		23.5		
Head	LTE Band 13	10	QPSK	E	1302M	1:1	-0.05	782.00	23230	0.0	22.0	20.30	25	12	Right Tilt	0	0.524	1.479	0.775	0.775	0.484		23.1		
Head	LTE Band 13	10	QPSK	E	1302M	1:1	0.04	782.00	23230	0.0	22.0	20.34	1	0	Left Cheek	0	0.742	1.466	1.088	1.088	0.680		21.6	21.5	21.0
Head	LTE Band 13	10	QPSK	E	1302M	1:1	0.07	782.00	23230	0.0	22.0	20.30	25	12	Left Cheek	0	0.754	1.479	1.115	1.115	0.697	A20	21.5		
Head	LTE Band 13	10	QPSK	E	1302M	1:1	0.13	782.00	23230	0.0	22.0	20.24	50	0	Left Cheek	0	0.743	1.500	1.115	1.115	0.697		21.5		
Head	LTE Band 13	10	QPSK	E	1302M	1:1	0.18	782.00	23230	0.0	22.0	20.34	1	0	Left Tilt	0	0.747	1.466	1.095	1.095	0.684		21.6		
Head	LTE Band 13	10	QPSK	E	1302M	1:1	0.14	782.00	23230	0.0	22.0	20.30	25	12	Left Tilt	0	0.711	1.479	1.052	1.052	0.658		21.7		
Head	LTE Band 13	10	QPSK	E	1302M	1:1	0.11	782.00	23230	0.0	22.0	20.24	50	0	Left Tilt	0	0.743	1.500	1.115	1.115	0.697		21.5		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Head 1.6 W/kg (mW/g) averaged over 1 gram											

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Table 12-25

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 13	10	QPSK	A	1296M	1:1	0.21	782.00	23230	0.0	25.0	24.09	1	49	Back	10	0	0.360	1.233	0.444	0.994	0.621		28.5	28.5	28.5
Body-worn/Hotspot	LTE Band 13	10	QPSK	A	1296M	1:1	-0.10	782.00	23230	1.0	24.0	23.17	25	12	Back	10	0	0.261	1.211	0.316	0.891	0.557		29.0		
Hotspot	LTE Band 13	10	QPSK	A	1302M	1:1	-0.15	782.00	23230	0.0	25.0	24.09	1	49	Front	10	0	0.228	1.233	0.281	0.630	0.394		30.5		
Hotspot	LTE Band 13	10	QPSK	A	1302M	1:1	0.10	782.00	23230	1.0	24.0	23.17	25	12	Front	10	0	0.170	1.211	0.206	0.580	0.363		30.8		
Hotspot	LTE Band 13	10	QPSK	A	1302M	1:1	0.02	782.00	23230	0.0	25.0	24.09	1	49	Bottom	10	0	0.082	1.233	0.101	0.226	0.141		34.9		
Hotspot	LTE Band 13	10	QPSK	A	1302M	1:1	0.03	782.00	23230	1.0	24.0	23.17	25	12	Bottom	10	0	0.059	1.211	0.071	0.201	0.126		35.4		
Hotspot	LTE Band 13	10	QPSK	A	1296M	1:1	-0.14	782.00	23230	0.0	25.0	24.09	1	49	Right	10	1	0.177	1.233	0.218	0.489	0.306		31.6		
Hotspot	LTE Band 13	10	QPSK	A	1296M	1:1	-0.06	782.00	23230	1.0	24.0	23.17	25	12	Right	10	11	0.129	1.211	0.156	0.440	0.275		32.0		
Hotspot	LTE Band 13	10	QPSK	A	1302M	1:1	-0.08	782.00	23230	0.0	25.0	24.09	1	49	Left	10	0	0.159	1.233	0.196	0.439	0.274		32.0		
Hotspot	LTE Band 13	10	QPSK	A	1302M	1:1	-0.04	782.00	23230	1.0	24.0	23.17	25	12	Left	10	0	0.127	1.211	0.154	0.433	0.271		32.1		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram											

Table 12-26

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 13	10	QPSK	E	1296M	1:1	-0.05	782.00	23230	0.0	25.0	23.43	1	25	Back	10	0.473	1.435	0.679	0.895	0.559	A21	26.6		
Body-worn/Hotspot	LTE Band 13	10	QPSK	E	1296M	1:1	-0.03	782.00	23230	1.0	24.0	22.53	25	12	Back	10	0.347	1.403	0.487	0.808	0.505		27.1		
Hotspot	LTE Band 13	10	QPSK	E	1302M	1:1	-0.07	782.00	23230	0.0	25.0	23.43	1	25	Front	10	0.481	1.435	0.690	0.910	0.569		26.6		
Hotspot	LTE Band 13	10	QPSK	E	1302M	1:1	0.02	782.00	23230	1.0	24.0	22.53	25	12	Front	10	0.370	1.403	0.519	0.861	0.538		26.8	26.2	26.2
Hotspot	LTE Band 13	10	QPSK	E	1296M	1:1	-0.03	782.00	23230	0.0	25.0	23.43	1	25	Top	10	0.526	1.435	0.755	0.995	0.622	A22	26.2		
Hotspot	LTE Band 13	10	QPSK	E	1296M	1:1	-0.07	782.00	23230	1.0	24.0	22.53	25	12	Top	10	0.422	1.403	0.592	0.982	0.614		26.2		
Hotspot	LTE Band 13	10	QPSK	E	1296M	1:1	-0.03	782.00	23230	0.0	25.0	23.43	1	25	Right	10	0.403	1.435	0.578	0.762	0.476		27.3		
Hotspot	LTE Band 13	10	QPSK	E	1296M	1:1	-0.03	782.00	23230	1.0	24.0	22.53	25	12	Right	10	0.322	1.403	0.452	0.750	0.469		27.4		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram										

12.9 LTE Band 14 Standalone SAR

Table 12-27

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 14	10	QPSK	A	1278M	1:1	0.01	793.00	23330	0.0	25.3	24.85	1	49	Right Cheek	0	0	0.164	1.109	0.182	0.525	0.328		32.7		
Head	LTE Band 14	10	QPSK	A	1296M	1:1	0.01	793.00	23330	1.0	24.3	23.65	25	12	Right Cheek	0	0	0.117	1.161	0.136	0.493	0.308		32.9		
Head	LTE Band 14	10	QPSK	A	1296M	1:1	0.02	793.00	23330	0.0	25.3	24.85	1	49	Right Tilt	0	0	0.076	1.109	0.084	0.243	0.152		36.0		
Head	LTE Band 14	10	QPSK	A	1296M	1:1	0.04	793.00	23330	1.0	24.3	23.65	25	12	Right Tilt	0	0	0.061	1.161	0.071	0.257	0.161		35.7	32.7	29.9
Head	LTE Band 14	10	QPSK	A	1302M	1:1	0.04	793.00	23330	0.0	25.3	24.85	1	49	Left Cheek	0	0	0.107	1.109	0.119	0.342	0.214		34.5		
Head	LTE Band 14	10	QPSK	A	1302M	1:1	0.03	793.00	23330	1.0	24.3	23.65	25	12	Left Cheek	0	0	0.090	1.161	0.104	0.380	0.238		34.1		
Head	LTE Band 14	10	QPSK	A	1302M	1:1	-0.16	793.00	23330	0.0	25.3	24.85	1	49	Left Tilt	0	0	0.067	1.109	0.074	0.214	0.134		36.5		
Head	LTE Band 14	10	QPSK	A	1302M	1:1	0.08	793.00	23330	1.0	24.3	23.65	25	12	Left Tilt	0	0	0.057	1.161	0.066	0.240	0.150		36.0		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 12-28

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 14	10	QPSK	E	1302M	1:1	0.05	793.00	23330	0.0	22.0	20.45	1	49	Right Cheek	0	0.595	1.429	0.850	0.850	0.531		22.7		
Head	LTE Band 14	10	QPSK	E	1302M	1:1	-0.04	793.00	23330	0.0	22.0	20.46	25	25	Right Cheek	0	0.601	1.426	0.857	0.857	0.536		22.6		
Head	LTE Band 14	10	QPSK	E	1302M	1:1	-0.03	793.00	23330	0.0	22.0	20.43	50	0	Right Cheek	0	0.595	1.435	0.854	0.854	0.534		22.6		
Head	LTE Band 14	10	QPSK	E	1302M	1:1	-0.01	793.00	23330	0.0	22.0	20.45	1	49	Right Tilt	0	0.553	1.429	0.790	0.790	0.494		23.0		
Head	LTE Band 14	10	QPSK	E	1302M	1:1	-0.02	793.00	23330	0.0	22.0	20.46	25	25	Right Tilt	0	0.559	1.426	0.797	0.797	0.498		22.9		
Head	LTE Band 14	10	QPSK	E	1302M	1:1	-0.01	793.00	23330	0.0	22.0	20.45	1	49	Left Cheek	0	0.755	1.429	1.079	1.079	0.674		21.6	21.3	21.0
Head	LTE Band 14	10	QPSK	E	1302M	1:1	0.06	793.00	23330	0.0	22.0	20.46	25	25	Left Cheek	0	0.787	1.426	1.122	1.122	0.701		21.5		
Head	LTE Band 14	10	QPSK	E	1302M	1:1	0.05	793.00	23330	0.0	22.0	20.43	50	0	Left Cheek	0	0.797	1.435	1.144	1.144	0.715		21.4		
Head	LTE Band 14	10	QPSK	E	1302M	1:1	0.14	793.00	23330	0.0	22.0	20.45	1	49	Left Tilt	0	0.776	1.429	1.109	1.109	0.693		21.5		
Head	LTE Band 14	10	QPSK	E	1302M	1:1	0.15	793.00	23330	0.0	22.0	20.46	25	25	Left Tilt	0	0.761	1.426	1.085	1.085	0.678		21.6		
Head	LTE Band 14	10	QPSK	E	1302M	1:1	0.04	793.00	23330	0.0	22.0	20.43	50	0	Left Tilt	0	0.806	1.435	1.157	1.157	0.723	A23	21.3		
Head	LTE Band 14	10	QPSK	E	1302M	1:1	0.12	793.00	23330	0.0	22.0	20.43	50	0	Left Tilt	0	0.793	1.435	1.049	1.049	0.666		21.7		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Head 1.6 W/kg (mW/g) averaged over 1 gram										

Note: Blue entry represents variability measurement

Table 12-29

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 14	10	QPSK	A	1296M	1:1	-0.08	793.00	23330	0.0	25.3	24.85	1	49	Back	10	0	0.379	1.109	0.420	0.941	0.588		29.0		
Body-worn/Hotspot	LTE Band 14	10	QPSK	A	1296M	1:1	-0.09	793.00	23330	1.0	24.3	23.65	25	12	Back	10	0	0.303	1.161	0.352	0.992	0.620		28.8		
Hotspot	LTE Band 14	10	QPSK	A	1302M	1:1	-0.04	793.00	23330	0.0	25.3	24.85	1	49	Front	10	0	0.252	1.109	0.279	0.626	0.391		30.8		
Hotspot	LTE Band 14	10	QPSK	A	1302M	1:1	-0.03	793.00	23330	1.0	24.3	23.65	25	12	Front	10	0	0.199	1.161	0.231	0.651	0.407		30.6		
Hotspot	LTE Band 14	10	QPSK	A	1302M	1:1	-0.11	793.00	23330	0.0	25.3	24.85	1	49	Bottom	10	0	0.106	1.109	0.118	0.263	0.164		34.5	28.8	28.8
Hotspot	LTE Band 14	10	QPSK	A	1302M	1:1	-0.06	793.00	23330	1.0	24.3	23.65	25	12	Bottom	10	0	0.085	1.161	0.099	0.278	0.174		34.3		
Hotspot	LTE Band 14	10	QPSK	A	1296M	1:1	0.00	793.00	23330	0.0	25.3	24.85	1	49	Right	10	0	0.237	1.109	0.263	0.588	0.368		31.1		
Hotspot	LTE Band 14	10	QPSK	A	1296M	1:1	-0.08	793.00	23330	1.0	24.3	23.65	25	12	Right	10	4	0.141	1.161	0.164	0.461	0.288		32.1		
Hotspot	LTE Band 14	10	QPSK	A	1302M	1:1	0.11	793.00	23330	0.0	25.3	24.85	1	49	Left	10	0	0.166	1.109	0.184	0.412	0.258		32.6		
Hotspot	LTE Band 14	10	QPSK	A	1302M	1:1	-0.10	793.00	23330	1.0	24.3	23.65	25	12	Left	10	0	0.141	1.161	0.164	0.461	0.288		32.1		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram										

Table 12-30

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 14	10	QPSK	E	1296M	1:1	0.07	793.00	23330	0.0	25.3	24.16	1	25	Back	10	0.521	1.300	0.677	0.873	0.546	A24	26.9		
Body-worn/Hotspot	LTE Band 14	10	QPSK	E	1296M	1:1	-0.04	793.00	23330	1.0	24.3	22.99	25	12	Back	10	0.412	1.352	0.557	0.904	0.565		26.8		
Hotspot	LTE Band 14	10	QPSK	E	1302M	1:1	-0.19	793.00	23330	0.0	25.3	24.16	1	25	Front	10	0.556	1.300	0.723	0.931	0.582		26.7		
Hotspot	LTE Band 14	10	QPSK	E	1302M	1:1	-0.02	793.00	23330	1.0	24.3	22.99	25	12	Front	10	0.436	1.352	0.589	0.956	0.598		26.5		
Hotspot	LTE Band 14	10	QPSK	E	1296M	1:1	0.03	793.00	23330	0.0	25.3	24.16	1	25	Top	10	0.549	1.300	0.714	0.920	0.575		26.7	26.4	26.4
Hotspot	LTE Band 14	10	QPSK	E	1296M	1:1	0.03	793.00	23330	1.0	24.3	22.99	25	12	Top	10	0.434	1.352	0.587	0.952	0.595		26.6		
Hotspot	LTE Band 14	10	QPSK	E	1296M	1:1	0.04	793.00	23330	0.0	25.3	24.16	1	25	Right	10	0.570	1.300	0.741	0.955	0.597	A25	26.6		
Hotspot	LTE Band 14	10	QPSK	E	1296M	1:1	-0.07	793.00	23330	1.0	24.3	22.99	25	12	Right	10	0.456	1.352	0.617	1.000	0.625		26.4		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram										

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12.10 LTE Band 26 (Cell) Standalone SAR

Table 12-31

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 26	15	QPSK	A	1296M	1:1	0.02	831.50	26865	0.0	25.0	24.46	1	36	Right Cheek	0	0	0.140	1.132	0.158	0.479	0.299		32.9		
Head	LTE Band 26	15	QPSK	A	1296M	1:1	0.08	831.50	26865	1.0	24.0	23.17	36	18	Right Cheek	0	0	0.112	1.211	0.136	0.516	0.323		32.6		
Head	LTE Band 26	15	QPSK	A	1296M	1:1	0.06	831.50	26865	0.0	25.0	24.46	1	36	Right Tilt	0	0	0.069	1.132	0.078	0.236	0.148		36.0		
Head	LTE Band 26	15	QPSK	A	1296M	1:1	-0.15	831.50	26865	1.0	24.0	23.17	36	18	Right Tilt	0	11	0.040	1.211	0.048	0.184	0.115		37.1	32.6	29.8
Head	LTE Band 26	15	QPSK	A	1278M	1:1	0.04	831.50	26865	0.0	25.0	24.46	1	36	Left Cheek	0	11	0.131	1.132	0.148	0.448	0.280		33.2		
Head	LTE Band 26	15	QPSK	A	1278M	1:1	0.03	831.50	26865	1.0	24.0	23.17	36	18	Left Cheek	0	11	0.090	1.211	0.109	0.414	0.259		33.6		
Head	LTE Band 26	15	QPSK	A	1278M	1:1	0.01	831.50	26865	0.0	25.0	24.46	1	36	Left Tilt	0	11	0.078	1.132	0.088	0.267	0.167		35.5		
Head	LTE Band 26	15	QPSK	A	1278M	1:1	-0.03	831.50	26865	1.0	24.0	23.17	36	18	Left Tilt	0	11	0.056	1.211	0.068	0.258	0.161		35.6		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																		Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-32

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 26	15	QPSK	E	1288M	1:1	0.08	831.50	26865	0.0	22.0	20.26	1	36	Right Cheek	0	0.592	1.493	0.884	0.884	0.553		22.5		
Head	LTE Band 26	15	QPSK	E	1288M	1:1	-0.09	831.50	26865	0.0	22.0	20.35	36	18	Right Cheek	0	0.604	1.462	0.883	0.883	0.552		22.5		
Head	LTE Band 26	15	QPSK	E	1288M	1:1	-0.07	831.50	26865	0.0	22.0	20.20	75	0	Right Cheek	0	0.598	1.514	0.905	0.905	0.566		22.4		
Head	LTE Band 26	15	QPSK	E	1288M	1:1	0.06	831.50	26865	0.0	22.0	20.26	1	36	Right Tilt	0	0.487	1.493	0.727	0.727	0.454		23.3		
Head	LTE Band 26	15	QPSK	E	1288M	1:1	-0.21	831.50	26865	0.0	22.0	20.35	36	18	Right Tilt	0	0.462	1.462	0.675	0.675	0.422		23.7		
Head	LTE Band 26	15	QPSK	E	1302M	1:1	0.13	831.50	26865	0.0	22.0	20.26	1	36	Left Cheek	0	0.674	1.493	1.006	1.006	0.629	A26	21.9	21.9	21.0
Head	LTE Band 26	15	QPSK	E	1302M	1:1	0.05	831.50	26865	0.0	22.0	20.35	36	18	Left Cheek	0	0.647	1.462	0.946	0.946	0.591		22.2		
Head	LTE Band 26	15	QPSK	E	1302M	1:1	0.09	831.50	26865	0.0	22.0	20.20	75	0	Left Cheek	0	0.653	1.514	0.989	0.989	0.618		22.0		
Head	LTE Band 26	15	QPSK	E	1302M	1:1	0.02	831.50	26865	0.0	22.0	20.26	1	36	Left Tilt	0	0.638	1.493	0.953	0.953	0.596		22.2		
Head	LTE Band 26	15	QPSK	E	1302M	1:1	0.06	831.50	26865	0.0	22.0	20.35	36	18	Left Tilt	0	0.622	1.462	0.909	0.909	0.568		22.4		
Head	LTE Band 26	15	QPSK	E	1302M	1:1	0.07	831.50	26865	0.0	22.0	20.20	75	0	Left Tilt	0	0.632	1.514	0.957	0.957	0.598		22.1		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																	Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-33

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 26	15	QPSK	A	1296M	1:1	-0.12	831.50	26865	0.0	25.0	24.46	1	36	Back	10	0	0.293	1.132	0.332	0.796	0.498		29.7		
Body-worn/Hotspot	LTE Band 26	15	QPSK	A	1296M	1:1	-0.17	831.50	26865	1.0	24.0	23.17	36	18	Back	10	1	0.227	1.211	0.275	0.830	0.519		29.6		
Hotspot	LTE Band 26	15	QPSK	A	1285M	1:1	0.07	831.50	26865	0.0	25.0	24.46	1	36	Front	10	0	0.134	1.132	0.152	0.364	0.228		33.1		
Hotspot	LTE Band 26	15	QPSK	A	1285M	1:1	0.02	831.50	26865	1.0	24.0	23.17	36	18	Front	10	0	0.114	1.211	0.138	0.417	0.261		32.6		
Hotspot	LTE Band 26	15	QPSK	A	1285M	1:1	0.02	831.50	26865	0.0	25.0	24.46	1	36	Bottom	10	0	0.059	1.132	0.067	0.160	0.100		36.7	29.6	28.8
Hotspot	LTE Band 26	15	QPSK	A	1285M	1:1	-0.02	831.50	26865	1.0	24.0	23.17	36	18	Bottom	10	0	0.046	1.211	0.056	0.168	0.105		36.5		
Hotspot	LTE Band 26	15	QPSK	A	1296M	1:1	-0.15	831.50	26865	0.0	25.0	24.46	1	36	Right	10	0	0.125	1.132	0.142	0.340	0.213		33.4		
Hotspot	LTE Band 26	15	QPSK	A	1296M	1:1	0.08	831.50	26865	1.0	24.0	23.17	36	18	Right	10	0	0.098	1.211	0.119	0.358	0.224		33.2		
Hotspot	LTE Band 26	15	QPSK	A	1285M	1:1	0.03	831.50	26865	0.0	25.0	24.46	1	36	Left	10	0	0.106	1.132	0.120	0.288	0.180		34.2		
Hotspot	LTE Band 26	15	QPSK	A	1285M	1:1	0.03	831.50	26865	1.0	24.0	23.17	36	18	Left	10	0	0.089	1.211	0.108	0.325	0.203		33.6		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																		Body 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-34

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 26	15	QPSK	E	1296M	1:1	-0.11	831.50	26865	0.0	25.0	23.67	1	36	Back	10	0.546	1.358	0.741	0.978	0.611	A27	26.2		
Body-worn/Hotspot	LTE Band 26	15	QPSK	E	1296M	1:1	-0.05	831.50	26865	1.0	24.0	22.59	36	18	Back	10	0.423	1.384	0.585	0.971	0.607		26.3		
Hotspot	LTE Band 26	15	QPSK	E	1296M	1:1	-0.03	831.50	26865	0.0	25.0	23.67	1	36	Front	10	0.504	1.358	0.684	0.903	0.564		26.6		
Hotspot	LTE Band 26	15	QPSK	E	1296M	1:1	0.05	831.50	26865	1.0	24.0	22.59	36	18	Front	10	0.381	1.384	0.527	0.875	0.547		26.7	26.2	26.2
Hotspot	LTE Band 26	15	QPSK	E	1296M	1:1	-0.04	831.50	26865	0.0	25.0	23.67	1	36	Top	10	0.527	1.358	0.716	0.944	0.590		26.4		
Hotspot	LTE Band 26	15	QPSK	E	1296M	1:1	-0.01	831.50	26865	1.0	24.0	22.59	36	18	Top	10	0.411	1.384	0.569	0.944	0.590		26.4		
Hotspot	LTE Band 26	15	QPSK	E	1296M	1:1	0.01	831.50	26865	0.0	25.0	23.67	1	36	Right	10	0.476	1.358	0.646	0.853	0.533		26.8		
Hotspot	LTE Band 26	15	QPSK	E	1296M	1:1	0.05	831.50	26865	1.0	24.0	22.59	36	18	Right	10	0.361	1.384	0.500	0.829	0.518		27.0		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																	Body 1.6 W/kg (mW/g) averaged over 1 gram								

12.11 LTE Band 66 (AWS) Standalone SAR

Table 12-35

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 66	20	QPSK	A	1266M	1:1	0.11	1720.00	132072	0.0	24.5	23.80	1	50	Right Cheek	0	56	0.115	1.175	0.135	0.257	0.161		33.1		
Head	LTE Band 66	20	QPSK	A	1266M	1:1	0.19	1720.00	132072	1.0	23.5	22.80	50	0	Right Cheek	0	56	0.084	1.175	0.099	0.237	0.148		33.5		
Head	LTE Band 66	20	QPSK	A	1266M	1:1	0.05	1720.00	132072	0.0	24.5	23.80	1	50	Right Tilt	0	56	0.096	1.175	0.113	0.215	0.134		33.9		
Head	LTE Band 66	20	QPSK	A	1266M	1:1	-0.02	1720.00	132072	1.0	23.5	22.80	50	0	Right Tilt	0	56	0.075	1.175	0.088	0.211	0.132		34.0		
Head	LTE Band 66	20	QPSK	A	1252M	1:1	-0.08	1720.00	132072	0.0	24.5	23.80	1	50	Left Cheek	0	56	0.200	1.175	0.235	0.448	0.280		30.7	30.7	27.3
Head	LTE Band 66	20	QPSK	A	1252M	1:1	0.02	1720.00	132072	1.0	23.5	22.80	50	0	Left Cheek	0	56	0.143	1.175	0.168	0.403	0.252		31.2		
Head	LTE Band 66	20	QPSK	A	1252M	1:1	0.12	1720.00	132072	0.0	24.5	23.80	1	50	Left Tilt	0	56	0.079	1.175	0.093	0.177	0.111		34.8		
Head	LTE Band 66	20	QPSK	A	1252M	1:1	0.05	1720.00	132072	1.0	23.5	22.80	50	0	Left Tilt	0	56	0.059	1.175	0.069	0.166	0.104		35.0		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																		Head 1.6 W/kg (mW/g) averaged over 1 gram								

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Table 12-36

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 66	20	QPSK	F	1263M	1:1	-0.02	1720.00	132072	0.0	17.0	15.88	1	0	Right Cheek	0	0.673	1.294	0.871	0.871	0.544		17.5	17.0	16.0
Head	LTE Band 66	20	QPSK	F	1263M	1:1	0.08	1745.00	132322	0.0	17.0	15.66	1	50	Right Cheek	0	0.542	1.361	0.738	0.738	0.461		18.3		
Head	LTE Band 66	20	QPSK	F	1263M	1:1	0.11	1770.00	132572	0.0	17.0	15.82	1	0	Right Cheek	0	0.539	1.312	0.707	0.707	0.442		18.5		
Head	LTE Band 66	20	QPSK	F	1263M	1:1	0.01	1720.00	132072	0.0	17.0	15.90	50	0	Right Cheek	0	0.680	1.288	0.876	0.876	0.548		17.5		
Head	LTE Band 66	20	QPSK	F	1263M	1:1	0.06	1745.00	132322	0.0	17.0	15.60	50	0	Right Cheek	0	0.557	1.380	0.769	0.769	0.481		18.1		
Head	LTE Band 66	20	QPSK	F	1263M	1:1	0.03	1770.00	132572	0.0	17.0	15.67	50	0	Right Cheek	0	0.545	1.358	0.740	0.740	0.463		18.3		
Head	LTE Band 66	20	QPSK	F	1263M	1:1	0.08	1720.00	132072	0.0	17.0	15.83	100	0	Right Cheek	0	0.585	1.309	0.766	0.766	0.479		18.1		
Head	LTE Band 66	20	QPSK	F	1263M	1:1	0.03	1720.00	132072	0.0	17.0	15.88	1	0	Right Tilt	0	0.740	1.294	0.958	0.958	0.599		17.1		
Head	LTE Band 66	20	QPSK	F	1263M	1:1	0.04	1745.00	132322	0.0	17.0	15.66	1	50	Right Tilt	0	0.695	1.361	0.946	0.946	0.591		17.2		
Head	LTE Band 66	20	QPSK	F	1263M	1:1	0.05	1770.00	132572	0.0	17.0	15.82	1	0	Right Tilt	0	0.647	1.312	0.849	0.849	0.531		17.7		
Head	LTE Band 66	20	QPSK	F	1263M	1:1	0.00	1720.00	132072	0.0	17.0	15.90	50	0	Right Tilt	0	0.748	1.288	0.963	0.963	0.602	A28	17.1		
Head	LTE Band 66	20	QPSK	F	1263M	1:1	0.03	1745.00	132322	0.0	17.0	15.60	50	0	Right Tilt	0	0.698	1.380	0.963	0.963	0.602		17.1		
Head	LTE Band 66	20	QPSK	F	1263M	1:1	0.04	1770.00	132572	0.0	17.0	15.67	50	0	Right Tilt	0	0.669	1.358	0.909	0.909	0.568		17.4		
Head	LTE Band 66	20	QPSK	F	1263M	1:1	0.05	1720.00	132072	0.0	17.0	15.83	100	0	Right Tilt	0	0.747	1.309	0.978	0.978	0.611		17.0		
Head	LTE Band 66	20	QPSK	F	1252M	1:1	0.01	1720.00	132072	0.0	17.0	15.88	1	0	Left Cheek	0	0.468	1.294	0.606	0.606	0.379		19.1		
Head	LTE Band 66	20	QPSK	F	1252M	1:1	-0.01	1720.00	132072	0.0	17.0	15.90	50	0	Left Cheek	0	0.482	1.288	0.621	0.621	0.388		19.0		
Head	LTE Band 66	20	QPSK	F	1252M	1:1	0.01	1720.00	132072	0.0	17.0	15.88	1	0	Left Tilt	0	0.556	1.294	0.719	0.719	0.449		18.4		
Head	LTE Band 66	20	QPSK	F	1252M	1:1	-0.01	1720.00	132072	0.0	17.0	15.90	50	0	Left Tilt	0	0.541	1.288	0.697	0.697	0.436		18.5		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																	Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-37

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 66	20	QPSK	A	1252M	1:1	0.08	1720.00	132072	0.0	19.5	18.92	1	0	Back	10	55	0.528	1.143	0.604	0.604	0.378	A29	21.6		
Body-worn/Hotspot	LTE Band 66	20	QPSK	A	1252M	1:1	-0.01	1720.00	132072	0.0	19.5	18.82	50	0	Back	10	55	0.517	1.169	0.604	0.604	0.378		21.6		
Hotspot	LTE Band 66	20	QPSK	A	1252M	1:1	-0.19	1720.00	132072	0.0	19.5	18.92	1	0	Front	10	33	0.400	1.143	0.457	0.457	0.286		22.8		
Hotspot	LTE Band 66	20	QPSK	A	1252M	1:1	0.18	1720.00	132072	0.0	19.5	18.82	50	0	Front	10	33	0.391	1.169	0.457	0.457	0.286		22.8		
Hotspot	LTE Band 66	20	QPSK	A	1252M	1:1	-0.03	1720.00	132072	0.0	19.5	18.92	1	0	Bottom	10	55	0.735	1.143	0.840	0.840	0.525		20.2		
Hotspot	LTE Band 66	20	QPSK	A	1252M	1:1	0.00	1745.00	132322	0.0	19.5	18.43	1	0	Bottom	10	55	0.737	1.279	0.943	0.943	0.589		19.7		
Hotspot	LTE Band 66	20	QPSK	A	1252M	1:1	0.02	1770.00	132572	0.0	19.5	18.57	1	0	Bottom	10	55	0.783	1.239	0.970	0.970	0.606	A30	19.6		
Hotspot	LTE Band 66	20	QPSK	A	1252M	1:1	-0.01	1720.00	132072	0.0	19.5	18.82	50	0	Bottom	10	55	0.733	1.169	0.857	0.857	0.536		20.1	19.6	18.5
Hotspot	LTE Band 66	20	QPSK	A	1252M	1:1	-0.03	1745.00	132322	0.0	19.5	18.55	50	0	Bottom	10	55	0.775	1.245	0.965	0.965	0.603		19.6		
Hotspot	LTE Band 66	20	QPSK	A	1252M	1:1	0.01	1770.00	132572	0.0	19.5	18.53	50	0	Bottom	10	33	0.738	1.250	0.923	0.923	0.577		19.8		
Hotspot	LTE Band 66	20	QPSK	A	1252M	1:1	0.01	1720.00	132072	0.0	19.5	18.77	100	0	Bottom	10	55	0.752	1.183	0.890	0.890	0.556		20.0		
Hotspot	LTE Band 66	20	QPSK	A	1252M	1:1	0.06	1720.00	132072	0.0	19.5	18.92	1	0	Right	10	56	0.090	1.143	0.103	0.103	0.064		29.3		
Hotspot	LTE Band 66	20	QPSK	A	1252M	1:1	0.03	1720.00	132072	0.0	19.5	18.82	50	0	Right	10	56	0.085	1.169	0.099	0.099	0.062		29.5		
Hotspot	LTE Band 66	20	QPSK	A	1252M	1:1	-0.10	1720.00	132072	0.0	19.5	18.92	1	0	Left	10	33	0.107	1.143	0.122	0.122	0.076		28.6		
Hotspot	LTE Band 66	20	QPSK	A	1252M	1:1	0.01	1720.00	132072	0.0	19.5	18.82	50	0	Left	10	33	0.107	1.169	0.125	0.125	0.078		28.5		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																		Body 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-38

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/hotspot	LTE Band 66	20	QPSK	F	1263M	1:1	-0.08	1720.00	132072	0.0	21.0	20.20	1	50	Back	10	0.307	1.202	0.369	0.369	0.231		25.3		
Body-worn/hotspot	LTE Band 66	20	QPSK	F	1263M	1:1	-0.04	1720.00	132072	0.0	21.0	20.23	50	0	Back	10	0.327	1.194	0.390	0.390	0.244		25.0		
Hotspot	LTE Band 66	20	QPSK	F	1263M	1:1	0.10	1720.00	132072	0.0	21.0	20.20	1	50	Front	10	0.224	1.202	0.269	0.269	0.168		26.6		
Hotspot	LTE Band 66	20	QPSK	F	1263M	1:1	0.14	1720.00	132072	0.0	21.0	20.23	50	0	Front	10	0.228	1.194	0.272	0.272	0.170		26.6	22.7	20.0
Hotspot	LTE Band 66	20	QPSK	F	1263M	1:1	0.02	1720.00	132072	0.0	21.0	20.20	1	50	Top	10	0.552	1.202	0.664	0.664	0.415		22.7		
Hotspot	LTE Band 66	20	QPSK	F	1263M	1:1	0.03	1720.00	132072	0.0	21.0	20.23	50	0	Top	10	0.540	1.194	0.645	0.645	0.403		22.9		
Hotspot	LTE Band 66	20	QPSK	F	1263M	1:1	-0.06	1720.00	132072	0.0	21.0	20.20	1	50	Left	10	0.172	1.202	0.207	0.207	0.129		27.8		
Hotspot	LTE Band 66	20	QPSK	F	1263M	1:1	-0.03	1720.00	132072	0.0	21.0	20.23	50	0	Left	10	0.176	1.194	0.210	0.210	0.131		27.7		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																		Body 1.6 W/kg (mW/g) averaged over 1 gram								

12.12 LTE Band 25 (PCS) Standalone SAR

Table 12-39

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 25	20	QPSK	A	1266M	1:1	0.04	1860.00	26140	0.0	24.5	24.25	1	0	Right Cheek	0	0	0.099	1.059	0.105	0.282	0.176		34.2		
Head	LTE Band 25	20	QPSK	A	1266M	1:1	-0.12	1860.00	26140	1.0	23.5	23.12	50	25	Right Cheek	0	0	0.075	1.091	0.082	0.277	0.173		34.3		
Head	LTE Band 25	20	QPSK	A	1266M	1:1	-0.04	1860.00	26140	0.0	24.5	24.25	1	0	Right Tilt	0	0	0.064	1.059	0.068	0.182	0.114		36.1		
Head	LTE Band 25	20	QPSK	A	1266M	1:1	0.09	1860.00	26140	1.0	23.5	23.12	50	25	Right Tilt	0	0	0.040	1.091	0.044	0.148	0.093		37.0	32.2	28.8
Head	LTE Band 25	20	QPSK	A	1252M	1:1	0.03	1860.00	26140	0.0	24.5	24.25	1	0	Left Cheek	0	1	0.157	1.059	0.166	0.448	0.280		32.2		
Head	LTE Band 25	20	QPSK	A	1252M	1:1	-0.04	1860.00	26140	1.0	23.5	23.12	50	25	Left Cheek	0	1	0.119	1.091	0.130	0.440	0.275		32.3		
Head	LTE Band 25	20	QPSK	A	1252M	1:1	-0.04	1860.00	26140	0.0	24.5	24.25	1	0	Left Tilt	0	1	0.049	1.059	0.052	0.140	0.088		37.3		
Head	LTE Band 25	20	QPSK	A	1252M	1:1	0.11	1860.00	26140	1.0	23.5	23.12	50	25	Left Tilt	0	1	0.045	1.091	0.049	0.166	0.104		36.5		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																		Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-40

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 25	20	QPSK	F	1263M	1:1	-0.07	1860.00	26140	0.0	19.0	18.21	1	0	Right Cheek	0	0.892	1.199	1.070	1.070	0.669		18.7		
Head	LTE Band 25	20	QPSK	F	1263M	1:1	0.03	1882.50	26365	0.0	19.0	18.13	1	50	Right Cheek	0	0.850	1.222	1.039	1.039	0.649		18.8		
Head	LTE Band 25	20	QPSK	F	1263M	1:1	-0.11	1905.00	26590	0.0	19.0	18.19	1	0	Right Cheek	0	0.827	1.205	0.997	0.997	0.623		19.0		
Head	LTE Band 25	20	QPSK	F	1263M	1:1	-0.01	1860.00	26140	0.0	19.0	18.19	50	25	Right Cheek	0	0.869	1.205	1.047	1.047	0.654		18.7		
Head	LTE Band 25	20	QPSK	F	1263M	1:1	0.02	1882.50	26365	0.0	19.0	18.16	50	25	Right Cheek	0	0.873	1.213	1.059	1.059	0.662		18.7		
Head	LTE Band 25	20	QPSK	F	1263M	1:1	-0.02	1905.00	26590	0.0	19.0	18.02	50	0	Right Cheek	0	0.821	1.253	1.029	1.029	0.643		18.8		
Head	LTE Band 25	20	QPSK	F	1263M	1:1	0.05	1882.50	26365	0.0	19.0	18.17	100	0	Right Cheek	0	0.838	1.211	1.015	1.015	0.634		18.9		
Head	LTE Band 25	20	QPSK	F	1263M	1:1	0.02	1860.00	26140	0.0	19.0	18.21	1	0	Right Tilt	0	0.918	1.199	1.101	1.101	0.688	A31	18.5		
Head	LTE Band 25	20	QPSK	F	1263M	1:1	0.05	1860.00	26140	0.0	19.0	18.21	1	0	Right Tilt	0	0.884	1.199	1.060	1.060	0.663		18.7	18.5	18.0
Head	LTE Band 25	20	QPSK	F	1263M	1:1	-0.02	1882.50	26365	0.0	19.0	18.13	1	50	Right Tilt	0	0.872	1.222	1.066	1.066	0.666		18.7		
Head	LTE Band 25	20	QPSK	F	1263M	1:1	0.00	1905.00	26590	0.0	19.0	18.19	1	0	Right Tilt	0	0.836	1.205	1.007	1.007	0.629		18.9		
Head	LTE Band 25	20	QPSK	F	1263M	1:1	-0.02	1860.00	26140	0.0	19.0	18.19	50	25	Right Tilt	0	0.897	1.205	1.081	1.081	0.676		18.6		
Head	LTE Band 25	20	QPSK	F	1263M	1:1	0.02	1882.50	26365	0.0	19.0	18.16	50	25	Right Tilt	0	0.890	1.213	1.080	1.080	0.675		18.6		
Head	LTE Band 25	20	QPSK	F	1263M	1:1	0.04	1905.00	26590	0.0	19.0	18.02	50	0	Right Tilt	0	0.858	1.253	1.075	1.075	0.672		18.6		
Head	LTE Band 25	20	QPSK	F	1263M	1:1	-0.02	1882.50	26365	0.0	19.0	18.17	100	0	Right Tilt	0	0.885	1.211	1.072	1.072	0.670		18.7		
Head	LTE Band 25	20	QPSK	F	1252M	1:1	0.06	1860.00	26140	0.0	19.0	18.21	1	0	Left Cheek	0	0.483	1.199	0.579	0.579	0.362		21.3		
Head	LTE Band 25	20	QPSK	F	1252M	1:1	0.00	1860.00	26140	0.0	19.0	18.19	50	25	Left Cheek	0	0.493	1.205	0.594	0.594	0.371		21.2		
Head	LTE Band 25	20	QPSK	F	1252M	1:1	0.04	1860.00	26140	0.0	19.0	18.21	1	0	Left Tilt	0	0.506	1.199	0.607	0.607	0.379		21.1		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																		Head 1.6 W/kg (mW/g) averaged over 1 gram								

Note: Blue entry represents variability measurement

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Table 12-41

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 25	20	QPSK	A	1252M	1:1	0.04	1860.00	26140	0.0	19.0	18.44	1	0	Back	10	0	0.353	1.138	0.402	0.402	0.251	A32	22.9		
Body-worn/Hotspot	LTE Band 25	20	QPSK	A	1252M	1:1	-0.02	1860.00	26140	0.0	19.0	18.38	50	25	Back	10	0	0.343	1.153	0.395	0.395	0.247		23.0		
Hotspot	LTE Band 25	20	QPSK	A	1252M	1:1	-0.02	1860.00	26140	0.0	19.0	18.44	1	0	Front	10	1	0.332	1.138	0.378	0.378	0.236		23.2		
Hotspot	LTE Band 25	20	QPSK	A	1252M	1:1	-0.18	1860.00	26140	0.0	19.0	18.38	50	25	Front	10	1	0.321	1.153	0.370	0.370	0.231		23.3		
Hotspot	LTE Band 25	20	QPSK	A	1252M	1:1	0.05	1860.00	26140	0.0	19.0	18.44	1	0	Bottom	10	0	0.623	1.138	0.709	0.709	0.443		20.4	20.4	18.0
Hotspot	LTE Band 25	20	QPSK	A	1252M	1:1	-0.01	1860.00	26140	0.0	19.0	18.38	50	25	Bottom	10	0	0.611	1.153	0.704	0.704	0.440		20.5		
Hotspot	LTE Band 25	20	QPSK	A	1252M	1:1	0.09	1860.00	26140	0.0	19.0	18.44	1	0	Right	10	0	0.063	1.138	0.072	0.072	0.045		30.4		
Hotspot	LTE Band 25	20	QPSK	A	1252M	1:1	0.18	1860.00	26140	0.0	19.0	18.38	50	25	Right	10	0	0.056	1.153	0.065	0.065	0.041		30.8		
Hotspot	LTE Band 25	20	QPSK	A	1252M	1:1	-0.19	1860.00	26140	0.0	19.0	18.44	1	0	Left	10	0	0.062	1.138	0.071	0.071	0.044		30.5		
Hotspot	LTE Band 25	20	QPSK	A	1252M	1:1	0.02	1860.00	26140	0.0	19.0	18.38	50	25	Left	10	0	0.054	1.153	0.062	0.062	0.039		31.0		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram											

Table 12-42

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 25	20	QPSK	F	1263M	1:1	-0.05	1882.50	26365	0.0	21.0	20.23	1	0	Back	10	0.321	1.194	0.383	0.383	0.239		25.1		
Body-worn/Hotspot	LTE Band 25	20	QPSK	F	1263M	1:1	-0.03	1882.50	26365	0.0	21.0	20.17	50	25	Back	10	0.320	1.211	0.388	0.388	0.243		25.1		
Hotspot	LTE Band 25	20	QPSK	F	1263M	1:1	-0.06	1882.50	26365	0.0	21.0	20.23	1	0	Front	10	0.227	1.194	0.271	0.271	0.169		26.6		
Hotspot	LTE Band 25	20	QPSK	F	1263M	1:1	-0.13	1882.50	26365	0.0	21.0	20.17	50	25	Front	10	0.222	1.211	0.269	0.269	0.168		26.7		
Hotspot	LTE Band 25	20	QPSK	F	1263M	1:1	-0.03	1860.00	26140	0.0	21.0	20.20	1	50	Top	10	0.631	1.202	0.758	0.758	0.474		22.1		
Hotspot	LTE Band 25	20	QPSK	F	1263M	1:1	0.00	1882.50	26365	0.0	21.0	20.23	1	0	Top	10	0.682	1.194	0.814	0.814	0.509	A33	21.8	21.8	20.0
Hotspot	LTE Band 25	20	QPSK	F	1263M	1:1	-0.01	1905.00	26590	0.0	21.0	19.96	1	0	Top	10	0.589	1.271	0.749	0.749	0.468		22.2		
Hotspot	LTE Band 25	20	QPSK	F	1263M	1:1	-0.02	1882.50	26365	0.0	21.0	20.17	50	25	Top	10	0.648	1.211	0.785	0.785	0.491		22.0		
Hotspot	LTE Band 25	20	QPSK	F	1263M	1:1	-0.01	1860.00	26140	0.0	21.0	20.15	100	0	Top	10	0.641	1.216	0.779	0.779	0.487		22.0		
Hotspot	LTE Band 25	20	QPSK	F	1263M	1:1	-0.08	1882.50	26365	0.0	21.0	20.23	1	0	Left	10	0.169	1.194	0.202	0.202	0.126		27.9		
Hotspot	LTE Band 25	20	QPSK	F	1263M	1:1	0.03	1882.50	26365	0.0	21.0	20.17	50	25	Left	10	0.158	1.211	0.191	0.191	0.119		28.1		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram										

12.13 LTE Band 30 Standalone SAR

Table 12-43

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 30	10	QPSK	A	1278M	1:1	0.01	2310.00	27710	0.0	23.5	23.21	1	25	Right Cheek	0	0.007	1.069	0.007	0.101	0.063		44.7		
Head	LTE Band 30	10	QPSK	A	1278M	1:1	-0.20	2310.00	27710	1.0	22.5	22.07	25	0	Right Cheek	0	0.009	1.104	0.010	0.169	0.106		42.5		
Head	LTE Band 30	10	QPSK	A	1278M	1:1	0.04	2310.00	27710	0.0	23.5	23.21	1	25	Right Tilt	0	0.012	1.069	0.013	0.173	0.108		42.4		
Head	LTE Band 30	10	QPSK	A	1278M	1:1	0.02	2310.00	27710	1.0	22.5	22.07	25	0	Right Tilt	0	0.012	1.104	0.013	0.225	0.141		41.2		
Head	LTE Band 30	10	QPSK	A	1278M	1:1	0.03	2310.00	27710	0.0	23.5	23.21	1	25	Left Cheek	0	0.016	1.069	0.017	0.231	0.144		41.1	38.4	34.8
Head	LTE Band 30	10	QPSK	A	1278M	1:1	0.01	2310.00	27710	1.0	22.5	22.07	25	0	Left Cheek	0	0.012	1.104	0.013	0.225	0.141		41.2		
Head	LTE Band 30	10	QPSK	A	1278M	1:1	0.03	2310.00	27710	0.0	23.5	23.21	1	25	Left Tilt	0	0.030	1.069	0.032	0.433	0.271		38.4		
Head	LTE Band 30	10	QPSK	A	1278M	1:1	0.05	2310.00	27710	1.0	22.5	22.07	25	0	Left Tilt	0	0.023	1.104	0.025	0.431	0.269		38.4		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 12-44

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 30	10	QPSK	F	1278M	1:1	0.20	2310.00	27710	0.0	17.5	16.56	1	49	Right Cheek	0	0.827	1.242	1.027	1.027	0.642		17.3		
Head	LTE Band 30	10	QPSK	F	1278M	1:1	-0.01	2310.00	27710	0.0	17.5	16.60	25	0	Right Cheek	0	0.828	1.230	1.018	1.018	0.636		17.4		
Head	LTE Band 30	10	QPSK	F	1278M	1:1	0.04	2310.00	27710	0.0	17.5	16.55	50	0	Right Cheek	0	0.855	1.245	1.064	1.064	0.665	A34	17.2		
Head	LTE Band 30	10	QPSK	F	1278M	1:1	0.03	2310.00	27710	0.0	17.5	16.55	50	0	Right Cheek	0	0.831	1.245	1.035	1.035	0.647		17.3		
Head	LTE Band 30	10	QPSK	F	1278M	1:1	0.18	2310.00	27710	0.0	17.5	16.56	1	49	Right Tilt	0	0.801	1.242	0.995	0.995	0.622		17.5		
Head	LTE Band 30	10	QPSK	F	1278M	1:1	0.01	2310.00	27710	0.0	17.5	16.60	25	0	Right Tilt	0	0.749	1.230	0.921	0.921	0.576		17.8	17.2	16.5
Head	LTE Band 30	10	QPSK	F	1278M	1:1	0.00	2310.00	27710	0.0	17.5	16.55	50	0	Right Tilt	0	0.758	1.245	0.944	0.944	0.590		17.7		
Head	LTE Band 30	10	QPSK	F	1278M	1:1	0.03	2310.00	27710	0.0	17.5	16.56	1	49	Left Cheek	0	0.529	1.242	0.657	0.657	0.411		19.3		
Head	LTE Band 30	10	QPSK	F	1278M	1:1	0.01	2310.00	27710	0.0	17.5	16.60	25	0	Left Cheek	0	0.532	1.230	0.654	0.654	0.409		19.3		
Head	LTE Band 30	10	QPSK	F	1278M	1:1	0.02	2310.00	27710	0.0	17.5	16.56	1	49	Left Tilt	0	0.829	1.242	1.030	1.030	0.644		17.3		
Head	LTE Band 30	10	QPSK	F	1278M	1:1	0.01	2310.00	27710	0.0	17.5	16.60	25	0	Left Tilt	0	0.823	1.230	1.012	1.012	0.633		17.4		
Head	LTE Band 30	10	QPSK	F	1278M	1:1	0.02	2310.00	27710	0.0	17.5	16.55	50	0	Left Tilt	0	0.772	1.245	0.961	0.961	0.601		17.6		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Head 1.6 W/kg (mW/g) averaged over 1 gram										

Note: Blue entry represents variability measurement

Table 12-45

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 30	10	QPSK	A	1302M	1:1	0.01	2310.00	27710	0.0	20.0	19.52	1	25	Back	10	0.223	1.117	0.249	0.249	0.156		26.0		
Body-worn/Hotspot	LTE Band 30	10	QPSK	A	1302M	1:1	0.00	2310.00	27710	0.0	20.0	19.41	25	0	Back	10	0.223	1.146	0.256	0.256	0.160		25.9		
Hotspot	LTE Band 30	10	QPSK	A	1285M	1:1	0.01	2310.00	27710	0.0	20.0	19.52	1	25	Front	10	0.209	1.117	0.233	0.233	0.146		26.3		
Hotspot	LTE Band 30	10	QPSK	A	1285M	1:1	0.16	2310.00	27710	0.0	20.0	19.41	25	0	Front	10	0.204	1.146	0.234	0.234	0.146		26.3		
Hotspot	LTE Band 30	10	QPSK	A	1285M	1:1	0.03	2310.00	27710	0.0	20.0	19.52	1	25	Bottom	10	0.540	1.117	0.603	0.603	0.377	A35	22.1		
Hotspot	LTE Band 30	10	QPSK	A	1285M	1:1	0.00	2310.00	27710	0.0	20.0	19.41	25	0	Bottom	10	0.533	1.146	0.611	0.611	0.382		22.1		
Hotspot	LTE Band 30	10	QPSK	A	1285M	1:1	0.05	2310.00	27710	0.0	20.0	19.52	1	25	Right	10	0.083	1.117	0.093	0.093	0.058		30.3		
Hotspot	LTE Band 30	10	QPSK	A	1285M	1:1	-0.11	2310.00	27710	0.0	20.0	19.41	25	0	Right	10	0.083	1.146	0.095	0.095	0.059		30.2		
Hotspot	LTE Band 30	10	QPSK	A	1285M	1:1	-0.13	2310.00	27710	0.0	20.0	19.52	1	25	Left	10	0.080	1.117	0.089	0.089	0.056		30.4		
Hotspot	LTE Band 30	10	QPSK	A	1285M	1:1	0.10	2310.00	27710	0.0	20.0	19.41	25	0	Left	10	0.077	1.146	0.088	0.088	0.055		30.5		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram										

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Table 12-46

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 30	10	QPSK	F	1285M	1:1	0.12	2310.00	27710	0.0	19.0	18.19	1	25	Back	10	0.245	1.205	0.295	0.295	0.184	A36	24.2	22.3	18.0
Body-worn/Hotspot	LTE Band 30	10	QPSK	F	1285M	1:1	-0.14	2310.00	27710	0.0	19.0	18.17	25	12	Back	10	0.245	1.211	0.297	0.297	0.186		24.2		
Hotspot	LTE Band 30	10	QPSK	F	1285M	1:1	0.05	2310.00	27710	0.0	19.0	18.19	1	25	Front	10	0.189	1.205	0.228	0.228	0.143		25.4		
Hotspot	LTE Band 30	10	QPSK	F	1285M	1:1	-0.10	2310.00	27710	0.0	19.0	18.17	25	12	Front	10	0.187	1.211	0.226	0.226	0.141		25.4		
Hotspot	LTE Band 30	10	QPSK	F	1285M	1:1	0.09	2310.00	27710	0.0	19.0	18.19	1	25	Top	10	0.378	1.205	0.455	0.455	0.284		22.4		
Hotspot	LTE Band 30	10	QPSK	F	1285M	1:1	-0.01	2310.00	27710	0.0	19.0	18.17	25	12	Top	10	0.379	1.211	0.459	0.459	0.287		22.3		
Hotspot	LTE Band 30	10	QPSK	F	1285M	1:1	-0.10	2310.00	27710	0.0	19.0	18.19	1	25	Left	10	0.036	1.205	0.043	0.043	0.027		32.6		
Hotspot	LTE Band 30	10	QPSK	F	1285M	1:1	0.09	2310.00	27710	0.0	19.0	18.17	25	12	Left	10	0.035	1.211	0.042	0.042	0.026		32.7		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram										

12.14 LTE Band 7 Standalone SAR

Table 12-47

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 7	20	QPSK	B	1278M	1:1	0.05	2510.00	20850	0.0	24.0	23.68	1	50	Right Cheek	0	0.026	1.076	0.028	0.147	0.092		39.5	34.6	31.2
Head	LTE Band 7	20	QPSK	B	1278M	1:1	-0.15	2510.00	20850	1.0	23.0	22.93	50	0	Right Cheek	0	0.023	1.016	0.023	0.154	0.096		39.3		
Head	LTE Band 7	20	QPSK	B	1278M	1:1	-0.06	2510.00	20850	0.0	24.0	23.68	1	50	Right Tilt	0	0.010	1.076	0.011	0.056	0.035		43.6		
Head	LTE Band 7	20	QPSK	B	1278M	1:1	-0.03	2510.00	20850	1.0	23.0	22.93	50	0	Right Tilt	0	0.009	1.016	0.009	0.060	0.038		43.3		
Head	LTE Band 7	20	QPSK	B	1278M	1:1	0.02	2510.00	20850	0.0	24.0	23.68	1	50	Left Cheek	0	0.072	1.076	0.077	0.407	0.254		35.1		
Head	LTE Band 7	20	QPSK	B	1278M	1:1	0.08	2510.00	20850	1.0	23.0	22.93	50	0	Left Cheek	0	0.067	1.016	0.068	0.450	0.281		34.6		
Head	LTE Band 7	20	QPSK	B	1278M	1:1	-0.07	2510.00	20850	0.0	24.0	23.68	1	50	Left Tilt	0	0.027	1.076	0.029	0.153	0.096		39.3		
Head	LTE Band 7	20	QPSK	B	1278M	1:1	0.15	2510.00	20850	1.0	23.0	22.93	50	0	Left Tilt	0	0.019	1.016	0.019	0.128	0.080		40.1		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 12-48

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 7	20	QPSK	F	1278M	1:1	0.02	2510.00	20850	0.0	16.5	16.18	1	0	Right Cheek	0	0.570	1.076	0.613	0.613	0.383		18.6	18.1	15.5
Head	LTE Band 7	20	QPSK	F	1278M	1:1	0.00	2510.00	20850	0.0	16.5	16.19	50	0	Right Cheek	0	0.569	1.074	0.611	0.611	0.382		18.6		
Head	LTE Band 7	20	QPSK	F	1278M	1:1	-0.01	2510.00	20850	0.0	16.5	16.18	1	0	Right Tilt	0	0.631	1.076	0.679	0.679	0.424	A37	18.1		
Head	LTE Band 7	20	QPSK	F	1278M	1:1	-0.03	2510.00	20850	0.0	16.5	16.19	50	0	Right Tilt	0	0.630	1.074	0.677	0.677	0.423		18.1		
Head	LTE Band 7	20	QPSK	F	1294M	1:1	0.01	2510.00	20850	0.0	16.5	16.18	1	0	Left Cheek	0	0.261	1.076	0.281	0.281	0.176		22.0		
Head	LTE Band 7	20	QPSK	F	1294M	1:1	0.04	2510.00	20850	0.0	16.5	16.19	50	0	Left Cheek	0	0.264	1.074	0.284	0.284	0.178		21.9		
Head	LTE Band 7	20	QPSK	F	1294M	1:1	0.08	2510.00	20850	0.0	16.5	16.18	1	0	Left Tilt	0	0.410	1.076	0.441	0.441	0.276		20.0		
Head	LTE Band 7	20	QPSK	F	1294M	1:1	0.04	2510.00	20850	0.0	16.5	16.19	50	0	Left Tilt	0	0.409	1.074	0.439	0.439	0.274		20.0		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 12-49

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 7	20	QPSK	B	1302M	1:1	-0.10	2510.00	20850	0.0	20.0	19.69	1	50	Back	10	0.221	1.074	0.237	0.237	0.148		26.2	25.8	19.0
Body-worn/Hotspot	LTE Band 7	20	QPSK	B	1302M	1:1	0.09	2510.00	20850	0.0	20.0	19.73	50	0	Back	10	0.215	1.064	0.229	0.229	0.143		26.4		
Hotspot	LTE Band 7	20	QPSK	B	1302M	1:1	-0.04	2510.00	20850	0.0	20.0	19.69	1	50	Front	10	0.138	1.074	0.148	0.148	0.093		28.2		
Hotspot	LTE Band 7	20	QPSK	B	1302M	1:1	0.09	2510.00	20850	0.0	20.0	19.73	50	0	Front	10	0.134	1.064	0.143	0.143	0.089		28.4		
Hotspot	LTE Band 7	20	QPSK	B	1285M	1:1	-0.05	2510.00	20850	0.0	20.0	19.69	1	50	Bottom	10	0.183	1.074	0.197	0.197	0.123		27.0		
Hotspot	LTE Band 7	20	QPSK	B	1285M	1:1	0.03	2510.00	20850	0.0	20.0	19.73	50	0	Bottom	10	0.181	1.064	0.193	0.193	0.121		27.1		
Hotspot	LTE Band 7	20	QPSK	B	1285M	1:1	-0.04	2510.00	20850	0.0	20.0	19.69	1	50	Left	10	0.244	1.074	0.262	0.262	0.164		25.8		
Hotspot	LTE Band 7	20	QPSK	B	1285M	1:1	-0.04	2510.00	20850	0.0	20.0	19.73	50	0	Left	10	0.239	1.064	0.254	0.254	0.159		25.9		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram										

Table 12-50

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 7	20	QPSK	F	1285M	1:1	-0.06	2535.00	21100	0.0	18.0	16.95	1	50	Back	10	0.275	1.274	0.350	0.350	0.219		22.5	21.2	17.0
Body-worn/Hotspot	LTE Band 7	20	QPSK	F	1285M	1:1	0.07	2535.00	21100	0.0	18.0	16.95	50	0	Back	10	0.278	1.274	0.354	0.354	0.221	A38	22.5		
Hotspot	LTE Band 7	20	QPSK	F	1285M	1:1	0.14	2535.00	21100	0.0	18.0	16.95	1	50	Front	10	0.184	1.274	0.234	0.234	0.146		24.3		
Hotspot	LTE Band 7	20	QPSK	F	1285M	1:1	0.17	2535.00	21100	0.0	18.0	16.95	50	0	Front	10	0.182	1.274	0.232	0.232	0.145		24.3		
Hotspot	LTE Band 7	20	QPSK	F	1285M	1:1	0.05	2535.00	21100	0.0	18.0	16.95	1	50	Top	10	0.369	1.274	0.470	0.470	0.294	A39	21.2		
Hotspot	LTE Band 7	20	QPSK	F	1285M	1:1	-0.05	2535.00	21100	0.0	18.0	16.95	50	0	Top	10	0.354	1.274	0.451	0.451	0.282		21.4		
Hotspot	LTE Band 7	20	QPSK	F	1285M	1:1	0.03	2535.00	21100	0.0	18.0	16.95	1	50	Left	10	0.041	1.274	0.052	0.052	0.033		30.8		
Hotspot	LTE Band 7	20	QPSK	F	1285M	1:1	-0.01	2535.00	21100	0.0	18.0	16.95	50	0	Left	10	0.041	1.274	0.052	0.052	0.033		30.8		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram										

12.15 LTE Band 41 Standalone SAR

Table 12-51

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 41	20	QPSK	B	1294M	1:1.58	-0.02	2636.50	41055	0.0	21.4	21.32	1	0	Right Cheek	0	0.011	1.019	0.011	0.011	0.007		38.9	36.1	18.4
Head	LTE Band 41	20	QPSK	B	1294M	1:1.58	0.04	2636.50	41055	0.0	21.4	21.38	50	0	Right Cheek	0	0.008	1.005	0.008	0.008	0.005		40.3		
Head	LTE Band 41	20	QPSK	B	1294M	1:1.58	0.03	2636.50	41055	0.0	21.4	21.32	1	0	Right Tilt	0	0.005	1.019	0.005	0.005	0.003		42.3		
Head	LTE Band 41	20	QPSK	B	1294M	1:1.58	0.01	2636.50	41055	0.0	21.4	21.38	50	0	Right Tilt	0	0.004	1.005	0.004	0.004	0.003		43.3		
Head	LTE Band 41	20	QPSK	B	1294M	1:1.58	0.18	2636.50	41055	0.0	21.4	21.32	1	0	Left Cheek	0	0.020	1.019	0.020	0.020	0.013		36.3		
Head	LTE Band 41	20	QPSK	B	1294M	1:1.58	0.04	2636.50	41055	0.0	21.4	21.38	50	0	Left Cheek	0	0.021	1.005	0.021	0.021	0.013		36.1		
Head	LTE Band 41	20	QPSK	B	1294M	1:1.58	0.01	2636.50	41055	0.0	21.4	21.32	1	0	Left Tilt	0	0.003	1.019	0.003	0.003	0.002		44.5		
Head	LTE Band 41	20	QPSK	B	1294M	1:1.58	0.03	2636.50	41055	0.0	21.4	21.38	50	0	Left Tilt	0	0.004	1.005	0.004	0.004	0.003		43.3		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Head 1.6 W/kg (mW/g) averaged over 1 gram										

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Table 12-52

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 41	20	QPSK	F	1294M	1:1.58	-0.06	2506.00	39750	0.0	17.5	16.82	1	99	Right Cheek	0	0.372	1.169	0.435	0.435	0.272	A40	19.1	19.1	14.5
Head	LTE Band 41	20	QPSK	F	1294M	1:1.58	-0.02	2506.00	39750	0.0	17.5	16.80	50	50	Right Cheek	0	0.364	1.175	0.428	0.428	0.268		19.2		
Head	LTE Band 41	20	QPSK	F	1294M	1:1.58	0.00	2506.00	39750	0.0	17.5	16.82	1	99	Right Tilt	0	0.371	1.169	0.434	0.434	0.271		19.1		
Head	LTE Band 41	20	QPSK	F	1294M	1:1.58	0.00	2506.00	39750	0.0	17.5	16.80	50	50	Right Tilt	0	0.365	1.175	0.429	0.429	0.268		19.1		
Head	LTE Band 41	20	QPSK	F	1294M	1:1.58	-0.04	2506.00	39750	0.0	17.5	16.82	1	99	Left Cheek	0	0.129	1.169	0.151	0.151	0.094		23.7		
Head	LTE Band 41	20	QPSK	F	1294M	1:1.58	0.08	2506.00	39750	0.0	17.5	16.80	50	50	Left Cheek	0	0.127	1.175	0.149	0.149	0.093		23.7		
Head	LTE Band 41	20	QPSK	F	1294M	1:1.58	0.01	2506.00	39750	0.0	17.5	16.82	1	99	Left Tilt	0	0.197	1.169	0.230	0.230	0.144		21.8		
Head	LTE Band 41	20	QPSK	F	1294M	1:1.58	0.02	2506.00	39750	0.0	17.5	16.80	50	50	Left Tilt	0	0.192	1.175	0.226	0.226	0.141		21.9		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																	Head 1.6 W/kg (mW/g) averaged over 1 gram									

Table 12-53

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 41	20	QPSK	B	1294M	1:1.58	-0.03	2636.50	41055	0.0	22.0	21.84	1	0	Back	10	0.193	1.038	0.200	0.200	0.125	A41	27.0	26.1	19.0
Body-worn/Hotspot	LTE Band 41	20	QPSK	B	1294M	1:1.58	-0.02	2636.50	41055	0.0	22.0	21.90	50	0	Back	10	0.192	1.023	0.196	0.196	0.123		27.0		
Hotspot	LTE Band 41	20	QPSK	B	1294M	1:1.58	0.07	2636.50	41055	0.0	22.0	21.84	1	0	Front	10	0.100	1.038	0.104	0.104	0.065		29.8		
Hotspot	LTE Band 41	20	QPSK	B	1294M	1:1.58	0.02	2636.50	41055	0.0	22.0	21.90	50	0	Front	10	0.100	1.023	0.102	0.102	0.064		29.9		
Hotspot	LTE Band 41	20	QPSK	B	1294M	1:1.58	0.03	2636.50	41055	0.0	22.0	21.84	1	0	Bottom	10	0.170	1.038	0.176	0.176	0.110		27.5		
Hotspot	LTE Band 41	20	QPSK	B	1294M	1:1.58	0.00	2636.50	41055	0.0	22.0	21.90	50	0	Bottom	10	0.173	1.023	0.177	0.177	0.111		27.5		
Hotspot	LTE Band 41	20	QPSK	B	1294M	1:1.58	-0.02	2636.50	41055	0.0	22.0	21.84	1	0	Left	10	0.237	1.038	0.246	0.246	0.154	A42	26.1		
Hotspot	LTE Band 41	20	QPSK	B	1294M	1:1.58	0.06	2636.50	41055	0.0	22.0	21.90	50	0	Left	10	0.234	1.023	0.239	0.239	0.149		26.2		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																	Body 1.6 W/kg (mW/g) averaged over 1 gram									

Table 12-54

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 41	20	QPSK	F	1294M	1:1.58	-0.08	2506.00	39750	0.0	19.0	18.33	1	99	Back	10	0.112	1.167	0.131	0.131	0.082		25.8	25.5	16.0
Body-worn/Hotspot	LTE Band 41	20	QPSK	F	1294M	1:1.58	0.00	2506.00	39750	0.0	19.0	18.32	50	50	Back	10	0.119	1.169	0.139	0.139	0.087		25.5		
Hotspot	LTE Band 41	20	QPSK	F	1294M	1:1.58	0.18	2506.00	39750	0.0	19.0	18.33	1	99	Front	10	0.080	1.167	0.093	0.093	0.058		27.3		
Hotspot	LTE Band 41	20	QPSK	F	1294M	1:1.58	-0.05	2506.00	39750	0.0	19.0	18.32	50	50	Front	10	0.085	1.169	0.099	0.099	0.062		27.0		
Hotspot	LTE Band 41	20	QPSK	F	1294M	1:1.58	0.05	2506.00	39750	0.0	19.0	18.33	1	99	Top	10	0.101	1.167	0.118	0.118	0.074		26.3		
Hotspot	LTE Band 41	20	QPSK	F	1294M	1:1.58	0.05	2506.00	39750	0.0	19.0	18.32	50	50	Top	10	0.112	1.169	0.131	0.131	0.082		25.8		
Hotspot	LTE Band 41	20	QPSK	F	1294M	1:1.58	0.03	2506.00	39750	0.0	19.0	18.33	1	99	Left	10	0.015	1.167	0.018	0.018	0.011		34.5		
Hotspot	LTE Band 41	20	QPSK	F	1294M	1:1.58	0.08	2506.00	39750	0.0	19.0	18.32	50	50	Left	10	0.015	1.169	0.018	0.018	0.011		34.5		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																	Body 1.6 W/kg (mW/g) averaged over 1 gram									

12.16 LTE Band 48 Standalone SAR

Table 12-55

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Add'l Info	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 48	20	QPSK	F	1252M	1:1.58	0.06	3690.00	56640	0.0	15.5	15.31	1	50	Right Cheek	0	N/A	0.422	1.045	0.441	0.441	0.276		17.0	16.0	12.5
Head	LTE Band 48	20	QPSK	F	1252M	1:1.58	0.11	3690.00	56640	0.0	15.5	15.34	50	25	Right Cheek	0	N/A	0.431	1.038	0.447	0.447	0.279		17.0		
Head	LTE Band 48	20	QPSK	F	1252M	1:1.58	0.06	3690.00	56640	0.0	15.5	15.31	1	50	Right Tilt	0	N/A	0.496	1.045	0.518	0.518	0.324		16.3		
Head	LTE Band 48	20	QPSK	F	1252M	1:1.58	-0.05	3690.00	56640	0.0	15.5	15.34	50	25	Right Tilt	0	N/A	0.506	1.038	0.525	0.525	0.328		16.3		
Head	LTE Band 48	20	QPSK	F	1252M	1:1.58	-0.02	3690.00	56640	0.0	15.5	15.21	50	0	Right Tilt	0	N/A	0.505	1.069	0.540	0.540	0.338		16.1		
Head	LTE Band 48	20	QPSK	F	1263M	1:1.58	0.04	3690.00	56640	0.0	15.5	15.31	1	50	Left Cheek	0	N/A	0.244	1.045	0.255	0.255	0.159		19.4		
Head	LTE Band 48	20	QPSK	F	1263M	1:1.58	-0.04	3690.00	56640	0.0	15.5	15.34	50	25	Left Cheek	0	N/A	0.251	1.038	0.261	0.261	0.163		19.3		
Head	LTE Band 48	20	QPSK	F	1263M	1:1.58	0.04	3690.00	56640	0.0	15.5	15.31	1	50	Left Tilt	0	N/A	0.326	1.045	0.341	0.341	0.213		18.1		
Head	LTE Band 48	20	QPSK	F	1263	1:1.58	0.03	3690.00	56640	0.0	15.5	15.34	50	25	Left Tilt	0	N/A	0.337	1.038	0.350	0.350	0.219		18.0		
Head	LTE Band 48	20	QPSK	F	1252M	1:1.58	-0.02	3690.00	56640	0.0	15.5	15.42	50	0	Right Tilt	0	ULCA 48C	0.545	1.019	0.555	0.555	0.347	A43	16.0		
		20						3670.20	56442				50	50												
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																		Head 1.6 W/kg (mW/g) averaged over 1 gram									

Table 12-56

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Add'l Info	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 48	20	QPSK	F	1252M	1:1.58	0.05	3646.70	56207	0.0	19.5	19.45	1	99	Back	10	N/A	0.225	1.012	0.228	0.228	0.143		23.9	22.5	16.5
Body-worn/Hotspot	LTE Band 48	20	QPSK	F	1252M	1:1.58	-0.01	3646.70	56207	0.0	19.5	19.50	50	25	Back	10	N/A	0.235	1.000	0.235	0.235	0.147	A44	23.8		
Hotspot	LTE Band 48	20	QPSK	F	1263M	1:1.58	0.01	3646.70	56207	0.0	19.5	19.45	1	99	Front	10	N/A	0.182	1.012	0.184	0.184	0.115		24.8		
Hotspot	LTE Band 48	20	QPSK	F	1263M	1:1.58	-0.01	3646.70	56207	0.0	19.5	19.50	50	25	Front	10	N/A	0.187	1.000	0.187	0.187	0.117		24.7		
Hotspot	LTE Band 48	20	QPSK	F	1252M	1:1.58	0.01	3646.70	56207	0.0	19.5	19.45	1	99	Top	10	N/A	0.301	1.012	0.305	0.305	0.191		22.6		
Hotspot	LTE Band 48	20	QPSK	F	1252M	1:1.58	-0.03	3646.70	56207	0.0	19.5	19.50	50	25	Top	10	N/A	0.315	1.000	0.315	0.315	0.197	A45	22.5		
Hotspot	LTE Band 48	20	QPSK	F	1252M	1:1.58	0.09	3646.70	56207	0.0	19.5	19.42	50	0	Top	10	N/A	0.310	1.019	0.316	0.316	0.198		22.5		
Hotspot	LTE Band 48	20	QPSK	F	1263M	1:1.58	-0.10	3646.70	56207	0.0	19.5	19.45	1	99	Left	10	N/A	0.069	1.012	0.070	0.070	0.044		29.0		
Hotspot	LTE Band 48	20	QPSK	F	1263M	1:1.58	-0.12	3646.70	56207	0.0	19.5	19.50	50	25	Left	10	N/A	0.068	1.000	0.068	0.068	0.043		29.1		
Hotspot	LTE Band 48	20	QPSK	F	1252M	1:1.58	0.02	3646.70	56207	0.0	19.5	19.45	50	0	Top	10	ULCA 48C	0.313	1.012	0.317	0.317	0.198		22.5		
		20						3626.90	56009				50	50												
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																		Body 1.6 W/kg (mW/g) averaged over 1 gram									

12.17 NR Band n71 Standalone SAR

Table 12-57

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n71	35	QPSK	A	1266M	1:1	0.01	680.50	136100	DFT-s-OFDM	0.0	25.0	24.40	1	94	Right Cheek	0	0	0.106	1.148	0.122	0.485	0.303		34.1	33.8	31.0
Head	NR Band n71	35	QPSK	A	1266M	1:1	0.04	680.50	136100	DFT-s-OFDM	0.0	25.0	24.29	90	49	Right Cheek	0	0	0.100	1.178	0.130	0.516	0.323		33.8		
Head	NR Band n71	35	QPSK	A	1266M	1:1	-0.02	680.50	136100	CP-OFDM	1.5	23.5	22.70	1	1	Right Cheek	0	0	0.066	1.202	0.079	0.446	0.279		34.5		
Head	NR Band n71	35	QPSK	A	1288M	1:1	-0.03	680.50	136100	DFT-s-OFDM	0.0	25.0	24.40	1	94	Right Tilt	0	0	0.019	1.148	0.022	0.087	0.054		41.6		
Head	NR Band n71	35	QPSK	A	1288M	1:1	0.07	680.50	136100	DFT-s-OFDM	0.0	25.0	24.29	90	49	Right Tilt	0	0	0.017	1.178	0.020	0.080	0.050		41.9		
Head	NR Band n71	35	QPSK	A	1288M	1:1	0.00	680.50	136100	DFT-s-OFDM	0.0	25.0	24.40	1	94	Left Cheek	0	0	0.034	1.148	0.039	0.155	0.097		39.0		
Head	NR Band n71	35	QPSK	A	1288M	1:1	-0.07	680.50	136100	DFT-s-OFDM	0.0	25.0	24.29	90	49	Left Cheek	0	0	0.037	1.178	0.044	0.173	0.108		38.6		
Head	NR Band n71	35	QPSK	A	1288M	1:1	-0.07	680.50	136100	DFT-s-OFDM	0.0	25.0	24.40	1	94	Left Tilt	0	0	0.015	1.148	0.017	0.069	0.043		42.6		
Head	NR Band n71	35	QPSK	A	1288M	1:1	0.02	680.50	136100	DFT-s-OFDM	0.0	25.0	24.29	90	49	Left Tilt	0	0	0.015	1.178	0.018	0.070	0.044		42.5		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																			Head 1.6 W/kg (mW/g) averaged over 1 gram									

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Table 12-58

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n71	35	QPSK	E	1255M	1:1	-0.01	680.50	136100	DFT-s-OFDM	0.0	19.0	17.63	1	186	Right Cheek	0	0.154	1.371	0.211	0.211	0.132		25.7		
Head	NR Band n71	35	QPSK	E	1255M	1:1	0.00	680.50	136100	DFT-s-OFDM	0.0	19.0	17.59	90	49	Right Cheek	0	0.202	1.384	0.280	0.280	0.175		24.5		
Head	NR Band n71	35	QPSK	E	1255M	1:1	-0.02	680.50	136100	DFT-s-OFDM	0.0	19.0	17.63	1	186	Right Tilt	0	0.133	1.371	0.182	0.182	0.114		26.3		
Head	NR Band n71	35	QPSK	E	1255M	1:1	-0.03	680.50	136100	DFT-s-OFDM	0.0	19.0	17.59	90	49	Right Tilt	0	0.161	1.384	0.223	0.223	0.139		25.5		
Head	NR Band n71	35	QPSK	E	1255M	1:1	0.00	680.50	136100	DFT-s-OFDM	0.0	19.0	17.63	1	186	Left Cheek	0	0.193	1.371	0.265	0.265	0.166		24.7	23.3	18.0
Head	NR Band n71	35	QPSK	E	1255M	1:1	0.00	680.50	136100	DFT-s-OFDM	0.0	19.0	17.59	90	49	Left Cheek	0	0.259	1.384	0.358	0.358	0.224	A46	23.4		
Head	NR Band n71	35	QPSK	E	1255M	1:1	-0.15	680.50	136100	CP-OFDM	0.0	19.0	17.35	1	1	Left Cheek	0	0.249	1.462	0.364	0.364	0.228		23.3		
Head	NR Band n71	35	QPSK	E	1255M	1:1	0.02	680.50	136100	DFT-s-OFDM	0.0	19.0	17.63	1	186	Left Tilt	0	0.178	1.371	0.244	0.244	0.153		25.1		
Head	NR Band n71	35	QPSK	E	1255M	1:1	-0.02	680.50	136100	DFT-s-OFDM	0.0	19.0	17.59	90	49	Left Tilt	0	0.215	1.384	0.298	0.298	0.186		24.2		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																		Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-59

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n71	35	QPSK	A	1255M	1:1	0.03	680.50	136100	DFT-s-OFDM	0.0	25.0	24.40	1	94	Back	10	0	0.331	1.148	0.380	0.831	0.519		29.2		
Body-worn/Hotspot	NR Band n71	35	QPSK	A	1255M	1:1	0.04	680.50	136100	DFT-s-OFDM	0.0	25.0	24.29	90	49	Back	10	11	0.308	1.178	0.363	0.793	0.496		29.4		
Body-worn/Hotspot	NR Band n71	35	QPSK	A	1255M	1:1	-0.18	680.50	136100	CP-OFDM	1.5	23.5	22.70	1	1	Back	10	11	0.150	1.202	0.180	0.557	0.348		30.9		
Hotspot	NR Band n71	35	QPSK	A	1288M	1:1	-0.04	680.50	136100	DFT-s-OFDM	0.0	25.0	24.40	1	94	Front	10	0	0.068	1.148	0.078	0.171	0.107		36.0		
Hotspot	NR Band n71	35	QPSK	A	1288M	1:1	-0.01	680.50	136100	DFT-s-OFDM	0.0	25.0	24.29	90	49	Front	10	0	0.069	1.178	0.081	0.178	0.111		35.9		
Hotspot	NR Band n71	35	QPSK	A	1288M	1:1	0.05	680.50	136100	DFT-s-OFDM	0.0	25.0	24.40	1	94	Bottom	10	0	0.041	1.148	0.047	0.103	0.064		38.2	29.2	28.4
Hotspot	NR Band n71	35	QPSK	A	1288M	1:1	-0.06	680.50	136100	DFT-s-OFDM	0.0	25.0	24.29	90	49	Bottom	10	0	0.042	1.178	0.049	0.108	0.068		38.0		
Hotspot	NR Band n71	35	QPSK	A	1288M	1:1	-0.07	680.50	136100	DFT-s-OFDM	0.0	25.0	24.40	1	94	Right	10	0	0.050	1.148	0.057	0.126	0.079		37.4		
Hotspot	NR Band n71	35	QPSK	A	1288M	1:1	-0.03	680.50	136100	DFT-s-OFDM	0.0	25.0	24.29	90	49	Right	10	0	0.049	1.178	0.058	0.126	0.079		37.3		
Hotspot	NR Band n71	35	QPSK	A	1288M	1:1	-0.03	680.50	136100	DFT-s-OFDM	0.0	25.0	24.40	1	94	Left	10	0	0.056	1.148	0.064	0.141	0.088		36.9		
Hotspot	NR Band n71	35	QPSK	A	1288M	1:1	-0.03	680.50	136100	DFT-s-OFDM	0.0	25.0	24.29	90	49	Left	10	0	0.065	1.178	0.077	0.167	0.104		36.1		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																			Body 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-60

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n71	35	QPSK	E	1255M	1:1	0.12	680.50	136100	DFT-s-OFDM	0.0	25.0	24.07	1	186	Back	10	0.415	1.239	0.514	0.914	0.571		27.8		
Body-worn/Hotspot	NR Band n71	35	QPSK	E	1255M	1:1	-0.12	680.50	136100	DFT-s-OFDM	0.0	25.0	23.94	90	49	Back	10	0.438	1.276	0.559	0.994	0.621	A47	27.5		
Body-worn/Hotspot	NR Band n71	35	QPSK	E	1255M	1:1	-0.01	680.50	136100	CP-OFDM	1.5	23.5	22.20	1	1	Back	10	0.268	1.349	0.362	0.908	0.568		27.9		
Hotspot	NR Band n71	35	QPSK	E	1255M	1:1	0.03	680.50	136100	DFT-s-OFDM	0.0	25.0	24.07	1	186	Front	10	0.283	1.239	0.351	0.623	0.389		29.5		
Hotspot	NR Band n71	35	QPSK	E	1255M	1:1	-0.11	680.50	136100	DFT-s-OFDM	0.0	25.0	23.94	90	49	Front	10	0.302	1.276	0.385	0.686	0.429		29.1	27.5	27.5
Hotspot	NR Band n71	35	QPSK	E	1255M	1:1	0.07	680.50	136100	DFT-s-OFDM	0.0	25.0	24.07	1	186	Top	10	0.310	1.239	0.384	0.683	0.427		29.1		
Hotspot	NR Band n71	35	QPSK	E	1255M	1:1	-0.02	680.50	136100	DFT-s-OFDM	0.0	25.0	23.94	90	49	Top	10	0.329	1.276	0.420	0.747	0.467		28.7		
Hotspot	NR Band n71	35	QPSK	E	1255M	1:1	-0.06	680.50	136100	DFT-s-OFDM	0.0	25.0	24.07	1	186	Right	10	0.318	1.239	0.394	0.701	0.438		29.0		
Hotspot	NR Band n71	35	QPSK	E	1255M	1:1	-0.03	680.50	136100	DFT-s-OFDM	0.0	25.0	23.94	90	49	Right	10	0.333	1.276	0.425	0.756	0.473		28.7		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																			Body 1.6 W/kg (mW/g) averaged over 1 gram								

12.18 NR Band n12 Standalone SAR

Table 12-61

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n12	15	QPSK	A	1252M	1:1	0.09	707.50	141500	DFT-s-OFDM	0.0	25.3	24.71	1	1	Right Cheek	0	1	0.108	1.146	0.124	0.481	0.301		34.3		
Head	NR Band n12	15	QPSK	A	1252M	1:1	-0.03	707.50	141500	DFT-s-OFDM	0.0	25.3	24.48	36	22	Right Cheek	0	1	0.106	1.208	0.128	0.498	0.311		34.2		
Head	NR Band n12	15	QPSK	A	1252M	1:1	-0.04	707.50	141500	CP-OFDM	1.5	23.8	23.53	1	1	Right Cheek	0	1	0.076	1.064	0.081	0.444	0.278		34.7		
Head	NR Band n12	15	QPSK	A	1288M	1:1	0.01	707.50	141500	DFT-s-OFDM	0.0	25.3	24.71	1	1	Right Tilt	0	0	0.030	1.146	0.034	0.134	0.084		39.9		
Head	NR Band n12	15	QPSK	A	1288M	1:1	0.04	707.50	141500	DFT-s-OFDM	0.0	25.3	24.48	36	22	Right Tilt	0	0	0.023	1.208	0.028	0.108	0.068		40.8	34.2	31.2
Head	NR Band n12	15	QPSK	A	1288M	1:1	-0.19	707.50	141500	DFT-s-OFDM	0.0	25.3	24.71	1	1	Left Cheek	0	0	0.041	1.146	0.047	0.183	0.114		38.5		
Head	NR Band n12	15	QPSK	A	1288M	1:1	-0.12	707.50	141500	DFT-s-OFDM	0.0	25.3	24.48	36	22	Left Cheek	0	0	0.042	1.208	0.051	0.197	0.123		38.2		
Head	NR Band n12	15	QPSK	A	1288M	1:1	0.19	707.50	141500	DFT-s-OFDM	0.0	25.3	24.71	1	1	Left Tilt	0	0	0.022	1.146	0.025	0.098	0.061		41.2		
Head	NR Band n12	15	QPSK	A	1288M	1:1	0.16	707.50	141500	DFT-s-OFDM	0.0	25.3	24.48	36	22	Left Tilt	0	0	0.023	1.208	0.028	0.108	0.068		40.8		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																			Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-62

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n12	15	QPSK	E	1255M	1:1	0.08	707.50	141500	DFT-s-OFDM	0.0	22.0	20.79	1	1	Right Cheek	0	0.476	1.321	0.629	0.629	0.393		24.0		
Head	NR Band n12	15	QPSK	E	1255M	1:1	0.02	707.50	141500	DFT-s-OFDM	0.0	22.0	20.91	36	22	Right Cheek	0	0.480	1.285	0.617	0.617	0.386		24.0		
Head	NR Band n12	15	QPSK	E	1255M	1:1	-0.01	707.50	141500	DFT-s-OFDM	0.0	22.0	20.79	1	1	Right Tilt	0	0.387	1.321	0.511	0.511	0.319		24.9		
Head	NR Band n12	15	QPSK	E	1255M	1:1	-0.04	707.50	141500	DFT-s-OFDM	0.0	22.0	20.91	36	22	Right Tilt	0	0.398	1.285	0.511	0.511	0.319		24.9		
Head	NR Band n12	15	QPSK	E	1255M	1:1	0.11	707.50	141500	DFT-s-OFDM	0.0	22.0	20.79	1	1	Left Cheek	0	0.599	1.321	0.791	0.791	0.494		23.0	22.9	21.0
Head	NR Band n12	15	QPSK	E	1255M	1:1	-0.02	707.50	141500	DFT-s-OFDM	0.0	22.0	20.91	36	22	Left Cheek	0	0.596	1.285	0.766	0.766	0.479		23.1		
Head	NR Band n12	15	QPSK	E	1255M	1:1	0.10	707.50	141500	CP-OFDM	0.0	22.0	20.90	1	1	Left Cheek	0	0.630	1.288	0.811	0.811	0.507	A48	22.9		
Head	NR Band n12	15	QPSK	E	1255M	1:1	0.03	707.50	141500	DFT-s-OFDM	0.0	22.0	20.79	1	1	Left Tilt	0	0.539	1.321	0.712	0.712	0.445		23.4		
Head	NR Band n12	15	QPSK	E	1255M	1:1	0.05	707.50	141500	DFT-s-OFDM	0.0	22.0	20.91	36	22	Left Tilt	0	0.550	1.285	0.707	0.707	0.442		23.5		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																			Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-63

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n12	15	QPSK	A	1252M	1:1	-0.03	707.50	141500	DFT-s-OFDM	0.0	25.3	24.71	1	1	Back	10	1	0.358	1.146	0.410	0.877	0.548		29.1		
Body-worn/Hotspot	NR Band n12	15	QPSK	A	1252M	1:1	0.03	707.50	141500	DFT-s-OFDM	0.0	25.3	24.48	36	22	Back	10	1	0.383	1.208	0.463	0.989	0.618		28.6		
Body-worn/Hotspot	NR Band n12	15	QPSK	A	1252M	1:1	-0.04	707.50	141500	CP-OFDM	1.5	23.8	23.53	1	1	Back	10	1	0.260	1.064	0.277	0.836	0.523		29.3		
Hotspot	NR Band n12	15	QPSK	A	1288M	1:1	0.04	707.50	141500	DFT-s-OFDM	0.0	25.3	24.71	1	1	Front	10	1	0.079	1.146	0.091	0.193	0.121		35.7		
Hotspot	NR Band n12	15	QPSK	A	1288M	1:1	0.00	707.50	141500	DFT-s-OFDM	0.0	25.3	24.48	36	22	Front	10	1	0.079	1.208	0.095	0.204	0.128		35.5		
Hotspot	NR Band n12	15	QPSK	A	1288M	1:1	0.07	707.50	141500	DFT-s-OFDM	0.0	25.3	24.71	1	1	Bottom	10	1	0.054	1.146	0.062	0.132	0.083		37.3		
Hotspot	NR Band n12	15	QPSK	A	1288M	1:1	-0.08	707.50	141500	DFT-s-OFDM	0.0	25.3	24.48	36	22	Bottom	10	1	0.058	1.208	0.070	0.150	0.094		36.8		
Hotspot	NR Band n12	15	QPSK	A	1288M	1:1	0.14	707.50	141500	DFT-s-OFDM	0.0	25.3	24.71	1	1	Right	10	0	0.054	1.146	0.062	0.132	0.083		37.3		
Hotspot	NR Band n12	15	QPSK	A	1288M	1:1	-0.06	707.50	141500	DFT-s-OFDM	0.0	25.3	24.48	36	22	Right	10	0	0.054	1.208	0.065	0.139	0.087		37.1		
Hotspot	NR Band n12	15	QPSK	A	1288M	1:1	-0.01	707.50	141500	DFT-s-OFDM	0.0	25.3	24.71	1	1	Left	10	0	0.057	1.146	0.065	0.140	0.088		37.1		
Hotspot	NR Band n12	15	QPSK	A	1288M	1:1	-0.01	707.50	141500	DFT-s-OFDM	0.0	25.3	24.48	36	22	Left	10	0	0.051	1.208	0.062	0.132	0.083		37.4		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																			Body 1.6 W/kg (mW/g) averaged over 1 gram								

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Table 12-64

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n12	15	QPSK	E	1255M	1:1	-0.11	707.50	141500	DFT-s-OFDM	0.0	25.3	24.37	1	40	Back	10	0.347	1.239	0.430	0.838	0.524		28.9		
Body-worn/Hotspot	NR Band n12	15	QPSK	E	1255M	1:1	-0.09	707.50	141500	DFT-s-OFDM	0.0	25.3	24.18	36	22	Back	10	0.357	1.294	0.462	0.901	0.563	A49	28.6		
Body-worn/Hotspot	NR Band n12	15	QPSK	E	1255M	1:1	0.01	707.50	141500	CP-OFDM	1.5	23.8	22.61	1	1	Back	10	0.256	1.315	0.337	0.727	0.579		28.5		
Hotspot	NR Band n12	15	QPSK	E	1255M	1:1	0.02	707.50	141500	DFT-s-OFDM	0.0	25.3	24.37	1	40	Front	10	0.300	1.239	0.372	0.725	0.453		29.5		
Hotspot	NR Band n12	15	QPSK	E	1255M	1:1	-0.04	707.50	141500	DFT-s-OFDM	0.0	25.3	24.18	36	22	Front	10	0.295	1.294	0.382	0.744	0.465		29.4	28.5	28.2
Hotspot	NR Band n12	15	QPSK	E	1255M	1:1	-0.02	707.50	141500	DFT-s-OFDM	0.0	25.3	24.37	1	40	Top	10	0.246	1.239	0.305	0.594	0.371		30.4		
Hotspot	NR Band n12	15	QPSK	E	1255M	1:1	-0.02	707.50	141500	DFT-s-OFDM	0.0	25.3	24.18	36	22	Top	10	0.228	1.294	0.295	0.575	0.359		30.6		
Hotspot	NR Band n12	15	QPSK	E	1255M	1:1	-0.16	707.50	141500	DFT-s-OFDM	0.0	25.3	24.37	1	40	Right	10	0.295	1.239	0.366	0.712	0.445		29.6		
Hotspot	NR Band n12	15	QPSK	E	1255M	1:1	-0.03	707.50	141500	DFT-s-OFDM	0.0	25.3	24.18	36	22	Right	10	0.297	1.294	0.384	0.749	0.468		29.4		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																		Body 1.6 W/kg (mW/g) averaged over 1 gram								

12.19 NR Band n14 Standalone SAR

Table 12-65

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n14	10	QPSK	A	1288M	1:1	0.00	793.00	158600	DFT-s-OFDM	0.0	25.0	24.32	1	26	Right Cheek	0	0	0.053	1.169	0.062	0.516	0.323		37.0		
Head	NR Band n14	10	QPSK	A	1288M	1:1	-0.03	793.00	158600	DFT-s-OFDM	0.0	25.0	24.23	25	14	Right Cheek	0	0	0.053	1.194	0.063	0.526	0.329		36.9		
Head	NR Band n14	10	QPSK	A	1288M	1:1	-0.15	793.00	158600	CP-OFDM	1.5	23.5	22.76	1	1	Right Cheek	0	0	0.033	1.186	0.039	0.460	0.288		37.5		
Head	NR Band n14	10	QPSK	A	1288M	1:1	0.09	793.00	158600	DFT-s-OFDM	0.0	25.0	24.32	1	26	Right Tilt	0	0	0.020	1.169	0.023	0.195	0.122		41.3		
Head	NR Band n14	10	QPSK	A	1288M	1:1	0.04	793.00	158600	DFT-s-OFDM	0.0	25.0	24.23	25	14	Right Tilt	0	0	0.019	1.194	0.023	0.189	0.118		41.4	36.9	34.2
Head	NR Band n14	10	QPSK	A	1288M	1:1	0.02	793.00	158600	DFT-s-OFDM	0.0	25.0	24.32	1	26	Left Cheek	0	0	0.026	1.169	0.030	0.253	0.158		40.1		
Head	NR Band n14	10	QPSK	A	1288M	1:1	-0.05	793.00	158600	DFT-s-OFDM	0.0	25.0	24.23	25	14	Left Cheek	0	0	0.026	1.194	0.031	0.258	0.161		40.0		
Head	NR Band n14	10	QPSK	A	1288M	1:1	0.12	793.00	158600	DFT-s-OFDM	0.0	25.0	24.32	1	26	Left Tilt	0	0	0.016	1.169	0.019	0.156	0.098		42.2		
Head	NR Band n14	10	QPSK	A	1288M	1:1	-0.12	793.00	158600	DFT-s-OFDM	0.0	25.0	24.23	25	14	Left Tilt	0	0	0.016	1.194	0.019	0.159	0.099		42.1		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																			Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-66

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n14	10	QPSK	E	1255M	1:1	0.06	793.00	158600	DFT-s-OFDM	0.0	22.0	20.55	1	26	Right Cheek	0	0.571	1.396	0.797	0.797	0.498		22.9		
Head	NR Band n14	10	QPSK	E	1278M	1:1	0.02	793.00	158600	DFT-s-OFDM	0.0	22.0	20.44	25	0	Right Cheek	0	0.567	1.432	0.812	0.812	0.508		22.9		
Head	NR Band n14	10	QPSK	E	1255M	1:1	0.00	793.00	158600	DFT-s-OFDM	0.0	22.0	20.40	50	0	Right Cheek	0	0.567	1.445	0.819	0.819	0.512		22.8		
Head	NR Band n14	10	QPSK	E	1255M	1:1	-0.08	793.00	158600	DFT-s-OFDM	0.0	22.0	20.55	1	26	Right Tilt	0	0.521	1.396	0.727	0.727	0.454		23.3		
Head	NR Band n14	10	QPSK	E	1255M	1:1	-0.02	793.00	158600	DFT-s-OFDM	0.0	22.0	20.44	25	0	Right Tilt	0	0.488	1.432	0.699	0.699	0.437		23.5		
Head	NR Band n14	10	QPSK	E	1255M	1:1	-0.02	793.00	158600	DFT-s-OFDM	0.0	22.0	20.55	1	26	Left Cheek	0	0.685	1.396	0.956	0.956	0.598		22.1		
Head	NR Band n14	10	QPSK	E	1255M	1:1	-0.01	793.00	158600	DFT-s-OFDM	0.0	22.0	20.44	25	0	Left Cheek	0	0.706	1.432	1.011	1.011	0.632		21.9	21.7	21.0
Head	NR Band n14	10	QPSK	E	1255M	1:1	0.01	793.00	158600	DFT-s-OFDM	0.0	22.0	20.40	50	0	Left Cheek	0	0.720	1.445	1.040	1.040	0.650		21.8		
Head	NR Band n14	10	QPSK	E	1255M	1:1	0.08	793.00	158600	DFT-s-OFDM	0.0	22.0	20.55	1	26	Left Tilt	0	0.653	1.396	0.912	0.912	0.570		22.4		
Head	NR Band n14	10	QPSK	E	1255M	1:1	-0.08	793.00	158600	DFT-s-OFDM	0.0	22.0	20.44	25	0	Left Tilt	0	0.652	1.432	0.934	0.934	0.584		22.2		
Head	NR Band n14	10	QPSK	E	1255M	1:1	-0.08	793.00	158600	DFT-s-OFDM	0.0	22.0	20.40	50	0	Left Tilt	0	0.727	1.445	1.051	1.051	0.657	A50	21.7		
Head	NR Band n14	10	QPSK	E	1255M	1:1	-0.02	793.00	158600	CP-OFDM	0.0	22.0	20.51	1	1	Left Tilt	0	0.706	1.409	0.995	0.995	0.622		22.0		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																			Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-67

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n14	10	QPSK	A	1278M	1:1	0.09	793.00	158600	DFT-s-OFDM	0.0	25.0	24.32	1	26	Back	10	33	0.049	1.169	0.057	0.134	0.084		37.4		
Body-worn/Hotspot	NR Band n14	10	QPSK	A	1278M	1:1	-0.04	793.00	158600	DFT-s-OFDM	0.0	25.0	24.23	25	14	Back	10	33	0.048	1.194	0.057	0.134	0.084		37.4		
Hotspot	NR Band n14	10	QPSK	A	1278M	1:1	-0.08	793.00	158600	DFT-s-OFDM	0.0	25.0	24.32	1	26	Front	10	0	0.089	1.169	0.104	0.244	0.153		34.8		
Hotspot	NR Band n14	10	QPSK	A	1278M	1:1	-0.02	793.00	158600	DFT-s-OFDM	0.0	25.0	24.23	25	14	Front	10	1	0.090	1.194	0.107	0.252	0.158		34.6		
Hotspot	NR Band n14	10	QPSK	A	1278M	1:1	-0.07	793.00	158600	DFT-s-OFDM	0.0	25.0	24.32	1	26	Bottom	10	1	0.038	1.169	0.044	0.104	0.065		38.5		
Hotspot	NR Band n14	10	QPSK	A	1278M	1:1	-0.06	793.00	158600	DFT-s-OFDM	0.0	25.0	24.23	25	14	Bottom	10	1	0.038	1.194	0.045	0.106	0.066		38.4	33.7	28.7
Hotspot	NR Band n14	10	QPSK	A	1278M	1:1	-0.17	793.00	158600	DFT-s-OFDM	0.0	25.0	24.32	1	26	Right	10	1	0.108	1.169	0.126	0.296	0.185		33.9		
Hotspot	NR Band n14	10	QPSK	A	1278M	1:1	0.03	793.00	158600	DFT-s-OFDM	0.0	25.0	24.23	25	14	Right	10	1	0.106	1.194	0.127	0.297	0.186		33.9		
Hotspot	NR Band n14	10	QPSK	A	1278M	1:1	0.14	793.00	158600	CP-OFDM	1.5	23.5	22.76	1	1	Right	10	0	0.080	1.186	0.095	0.314	0.196		33.7		
Hotspot	NR Band n14	10	QPSK	A	1278M	1:1	-0.17	793.00	158600	DFT-s-OFDM	0.0	25.0	24.32	1	26	Left	10	0	0.060	1.169	0.070	0.165	0.103		36.5		
Hotspot	NR Band n14	10	QPSK	A	1278M	1:1	0.00	793.00	158600	DFT-s-OFDM	0.0	25.0	24.23	25	14	Left	10	0	0.061	1.194	0.073	0.171	0.107		36.3		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																			Body 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-68

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n14	10	QPSK	E	1255M	1:1	-0.04	793.00	158600	DFT-s-OFDM	0.0	25.0	23.73	1	1	Back	10	0.467	1.340	0.626	0.947	0.592		27.0		
Body-worn/Hotspot	NR Band n14	10	QPSK	E	1255M	1:1	-0.04	793.00	158600	DFT-s-OFDM	0.0	25.0	23.82	25	14	Back	10	0.502	1.312	0.659	0.997	0.623	A51	26.8		
Body-worn/Hotspot	NR Band n14	10	QPSK	E	1255M	1:1	-0.12	793.00	158600	CP-OFDM	1.5	23.5	22.29	1	1	Back	10	0.315	1.321	0.416	0.890	0.556		27.3		
Hotspot	NR Band n14	10	QPSK	E	1255M	1:1	-0.11	793.00	158600	DFT-s-OFDM	0.0	25.0	23.73	1	1	Front	10	0.401	1.340	0.537	0.813	0.508		27.6		
Hotspot	NR Band n14	10	QPSK	E	1255M	1:1	-0.03	793.00	158600	DFT-s-OFDM	0.0	25.0	23.82	25	14	Front	10	0.416	1.312	0.546	0.826	0.516		27.6	26.8	26.8
Hotspot	NR Band n14	10	QPSK	E	1255M	1:1	0.02	793.00	158600	DFT-s-OFDM	0.0	25.0	23.73	1	1	Top	10	0.411	1.340	0.551	0.834	0.521		27.5		
Hotspot	NR Band n14	10	QPSK	E	1255M	1:1	-0.01	793.00	158600	DFT-s-OFDM	0.0	25.0	23.82	25	14	Top	10	0.440	1.312	0.577	0.874	0.546		27.3		
Hotspot	NR Band n14	10	QPSK	E	1255M	1:1	-0.01	793.00	158600	DFT-s-OFDM	0.0	25.0	23.73	1	1	Right	10	0.453	1.340	0.607	0.919	0.574		27.1		
Hotspot	NR Band n14	10	QPSK	E	1255M	1:1	-0.02	793.00	158600	DFT-s-OFDM	0.0	25.0	23.82	25	14	Right	10	0.455	1.312	0.597	0.904	0.565		27.2		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																			Body 1.6 W/kg (mW/g) averaged over 1 gram								

12.20 NR Band n26 Standalone SAR

Table 12-69

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n26	20	QPSK	A	1288M	1:1	-0.17	831.50	166300	DFT-s-OFDM	0.0	25.0	24.00	1	104	Right Cheek	0	0	0.059	1.259	0.074	0.526	0.329		36.2		
Head	NR Band n26	20	QPSK	A	1288M	1:1	-0.03	831.50	166300	DFT-s-OFDM	0.0	25.0	23.95	50	28	Right Cheek	0	0	0.055	1.274	0.070	0.496	0.310		36.5		
Head	NR Band n26	20	QPSK	A	1288M	1:1	0.03	831.50	166300	CP-OFDM	1.5	23.5	22.54	1	1	Right Cheek	0	0	0.034	1.247	0.042	0.424	0.265		37.2		
Head	NR Band n26	20	QPSK	A	1288M	1:1	0.01	831.50	166300	DFT-s-OFDM	0.0	25.0	24.00	1	104	Right Tilt	0	0	0.024	1.259	0.030	0.214	0.134		40.1		
Head	NR Band n26	20	QPSK	A	1288M	1:1	-0.12	831.50	166300	DFT-s-OFDM	0.0	25.0	23.95	50	28	Right Tilt	0	0	0.025	1.274	0.032	0.225	0.141		39.9		
Head	NR Band n26	20	QPSK	A	1288M	1:1	-0.18	831.50	166300	DFT-s-OFDM	0.0	25.0	24.00	1	104	Left Cheek	0	0	0.037	1.259	0.047	0.330	0.206		38.3		
Head	NR Band n26	20	QPSK	A	1288M	1:1	-0.03	831.50	166300	DFT-s-OFDM	0.0	25.0	23.95	50	28	Left Cheek	0	0	0.044	1.274	0.056	0.397	0.248		37.5		
Head	NR Band n26	20	QPSK	A	1288M	1:1	0.09	831.50	166300	DFT-s-OFDM	0.0	25.0	24.00	1	104	Left Tilt	0	0	0.019	1.259	0.024	0.169	0.106		41.2		
Head	NR Band n26	20	QPSK	A	1288M	1:1	-0.03	831.50	166300	DFT-s-OFDM	0.0	25.0	23.95	50	28	Left Tilt	0	0	0.029	1.274	0.037	0.261	0.163		39.3		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																			Head 1.6 W/kg (mW/g) averaged over 1 gram								

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Table 12-70

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n26	20	QPSK	E	1255M	1:1	-0.02	831.50	166300	DFT-s-OFDM	0.0	22.0	20.33	1	1	Right Cheek	0	0.600	1.469	0.881	0.881	0.551		22.5		
Head	NR Band n26	20	QPSK	E	1255M	1:1	-0.02	831.50	166300	DFT-s-OFDM	0.0	22.0	20.28	50	28	Right Cheek	0	0.586	1.486	0.871	0.871	0.544		22.6		
Head	NR Band n26	20	QPSK	E	1255M	1:1	-0.19	831.50	166300	DFT-s-OFDM	0.0	22.0	20.21	100	0	Right Cheek	0	0.574	1.510	0.867	0.867	0.542		22.6		
Head	NR Band n26	20	QPSK	E	1255M	1:1	0.13	831.50	166300	DFT-s-OFDM	0.0	22.0	20.33	1	1	Right Tilt	0	0.582	1.469	0.855	0.855	0.534		22.6		
Head	NR Band n26	20	QPSK	E	1255M	1:1	0.01	831.50	166300	DFT-s-OFDM	0.0	22.0	20.28	50	28	Right Tilt	0	0.567	1.486	0.843	0.843	0.527		22.7		
Head	NR Band n26	20	QPSK	E	1255M	1:1	0.00	831.50	166300	DFT-s-OFDM	0.0	22.0	20.21	100	0	Right Tilt	0	0.563	1.510	0.850	0.850	0.531		22.7		
Head	NR Band n26	20	QPSK	E	1255M	1:1	0.06	831.50	166300	DFT-s-OFDM	0.0	22.0	20.33	1	1	Left Cheek	0	0.716	1.469	1.052	1.052	0.658		21.7	21.4	21.0
Head	NR Band n26	20	QPSK	E	1255M	1:1	0.01	831.50	166300	DFT-s-OFDM	0.0	22.0	20.28	50	28	Left Cheek	0	0.670	1.486	0.996	0.996	0.623		22.0		
Head	NR Band n26	20	QPSK	E	1255M	1:1	0.03	831.50	166300	DFT-s-OFDM	0.0	22.0	20.21	100	0	Left Cheek	0	0.752	1.510	1.136	1.136	0.710	AS2	21.4		
Head	NR Band n26	20	QPSK	E	1255M	1:1	-0.06	831.50	166300	CP-OFDM	0.0	22.0	20.28	1	1	Left Cheek	0	0.740	1.486	1.100	1.100	0.688		21.5		
Head	NR Band n26	20	QPSK	E	1255M	1:1	-0.09	831.50	166300	DFT-s-OFDM	0.0	22.0	20.33	1	1	Left Tilt	0	0.645	1.469	0.948	0.948	0.593		22.2		
Head	NR Band n26	20	QPSK	E	1255M	1:1	0.03	831.50	166300	DFT-s-OFDM	0.0	22.0	20.28	50	28	Left Tilt	0	0.641	1.486	0.953	0.953	0.596		22.2		
Head	NR Band n26	20	QPSK	E	1255M	1:1	-0.14	831.50	166300	DFT-s-OFDM	0.0	22.0	20.21	100	0	Left Tilt	0	0.694	1.510	1.048	1.048	0.655		21.7		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																		Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-71

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n26	20	QPSK	A	1288M	1:1	0.00	831.50	166300	DFT-s-OFDM	0.0	25.0	24.00	1	104	Back	10	0	0.295	1.259	0.371	0.676	0.423		29.3		
Body-worn/Hotspot	NR Band n26	20	QPSK	A	1288M	1:1	-0.01	831.50	166300	DFT-s-OFDM	0.0	25.0	23.95	50	28	Back	10	0	0.286	1.274	0.364	0.663	0.414		29.3		
Body-worn/Hotspot	NR Band n26	20	QPSK	A	1288M	1:1	-0.04	831.50	166300	CP-OFDM	1.5	23.5	22.54	1	1	Back	10	1	0.073	1.247	0.091	0.234	0.146		33.9		
Hotspot	NR Band n26	20	QPSK	A	1288M	1:1	-0.08	831.50	166300	DFT-s-OFDM	0.0	25.0	24.00	1	104	Front	10	1	0.058	1.259	0.073	0.133	0.083		36.3		
Hotspot	NR Band n26	20	QPSK	A	1288M	1:1	-0.17	831.50	166300	DFT-s-OFDM	0.0	25.0	23.95	50	28	Front	10	1	0.060	1.274	0.076	0.139	0.087		36.1		
Hotspot	NR Band n26	20	QPSK	A	1288M	1:1	-0.18	831.50	166300	DFT-s-OFDM	0.0	25.0	24.00	1	104	Bottom	10	1	0.023	1.259	0.029	0.053	0.033		40.3	29.3	27.6
Hotspot	NR Band n26	20	QPSK	A	1288M	1:1	-0.12	831.50	166300	DFT-s-OFDM	0.0	25.0	23.95	50	28	Bottom	10	1	0.023	1.274	0.029	0.053	0.033		40.3		
Hotspot	NR Band n26	20	QPSK	A	1288M	1:1	-0.06	831.50	166300	DFT-s-OFDM	0.0	25.0	24.00	1	104	Right	10	1	0.063	1.259	0.079	0.144	0.090		36.0		
Hotspot	NR Band n26	20	QPSK	A	1288M	1:1	-0.10	831.50	166300	DFT-s-OFDM	0.0	25.0	23.95	50	28	Right	10	1	0.067	1.274	0.085	0.155	0.097		35.6		
Hotspot	NR Band n26	20	QPSK	A	1288M	1:1	0.03	831.50	166300	DFT-s-OFDM	0.0	25.0	24.00	1	104	Left	10	1	0.051	1.259	0.064	0.117	0.073		36.9		
Hotspot	NR Band n26	20	QPSK	A	1288M	1:1	0.06	831.50	166300	DFT-s-OFDM	0.0	25.0	23.95	50	28	Left	10	1	0.054	1.274	0.069	0.125	0.078		36.6		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																			Body 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-72

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n26	20	QPSK	E	1255M	1:1	0.01	831.50	166300	DFT-s-OFDM	0.0	25.0	23.56	1	104	Back	10	0.530	1.393	0.738	0.888	0.555		26.3		
Body-worn/Hotspot	NR Band n26	20	QPSK	E	1255M	1:1	-0.03	831.50	166300	DFT-s-OFDM	0.0	25.0	23.53	50	28	Back	10	0.580	1.403	0.814	0.978	0.611	AS3	25.8		
Body-worn/Hotspot	NR Band n26	20	QPSK	E	1255M	1:1	-0.08	831.50	166300	DFT-s-OFDM	1.0	24.0	22.57	100	0	Back	10	0.440	1.390	0.612	0.926	0.579		26.1		
Body-worn/Hotspot	NR Band n26	20	QPSK	E	1255M	1:1	0.05	831.50	166300	CP-OFDM	1.5	23.5	22.07	1	1	Back	10	0.386	1.390	0.537	0.911	0.569		26.2		
Hotspot	NR Band n26	20	QPSK	E	1255M	1:1	-0.11	831.50	166300	DFT-s-OFDM	0.0	25.0	23.56	1	104	Front	10	0.481	1.393	0.670	0.806	0.504		26.7	25.8	25.8
Hotspot	NR Band n26	20	QPSK	E	1255M	1:1	0.01	831.50	166300	DFT-s-OFDM	0.0	25.0	23.53	50	28	Front	10	0.528	1.403	0.741	0.891	0.557		26.3		
Hotspot	NR Band n26	20	QPSK	E	1255M	1:1	-0.04	831.50	166300	DFT-s-OFDM	0.0	25.0	23.56	1	104	Top	10	0.328	1.393	0.457	0.549	0.343		28.4		
Hotspot	NR Band n26	20	QPSK	E	1255M	1:1	0.02	831.50	166300	DFT-s-OFDM	0.0	25.0	23.53	50	28	Top	10	0.259	1.403	0.363	0.437	0.273		29.3		
Hotspot	NR Band n26	20	QPSK	E	1255M	1:1	-0.03	831.50	166300	DFT-s-OFDM	0.0	25.0	23.56	1	104	Right	10	0.377	1.393	0.525	0.631	0.394		27.7		
Hotspot	NR Band n26	20	QPSK	E	1255M	1:1	0.02	831.50	166300	DFT-s-OFDM	0.0	25.0	23.53	50	28	Right	10	0.444	1.403	0.623	0.749	0.468		27.0		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																			Body 1.6 W/kg (mW/g) averaged over 1 gram								

12.21 NR Band n70 Standalone SAR

Table 12-73

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n70	15	QPSK	A	1266M	1:1	-0.06	1702.50	340500	DFT-s-OFDM	0.0	24.0	23.46	1	77	Right Cheek	0	55	0.069	1.132	0.078	0.220	0.138		35.0		
Head	NR Band n70	15	QPSK	A	1266M	1:1	0.18	1702.50	340500	DFT-s-OFDM	0.0	24.0	23.54	36	22	Right Cheek	0	55	0.065	1.112	0.072	0.204	0.128		35.4		
Head	NR Band n70	15	QPSK	A	1266M	1:1	0.00	1702.50	340500	DFT-s-OFDM	0.0	24.0	23.46	1	77	Right Tilt	0	55	0.051	1.132	0.058	0.163	0.102		36.3		
Head	NR Band n70	15	QPSK	A	1266M	1:1	0.00	1702.50	340500	DFT-s-OFDM	0.0	24.0	23.54	36	22	Right Tilt	0	55	0.051	1.112	0.057	0.160	0.100		36.4		
Head	NR Band n70	15	QPSK	A	1266M	1:1	0.04	1702.50	340500	DFT-s-OFDM	0.0	24.0	23.46	1	77	Left Cheek	0	55	0.139	1.132	0.157	0.444	0.278		32.0	32.0	28.5
Head	NR Band n70	15	QPSK	A	1266M	1:1	0.02	1702.50	340500	DFT-s-OFDM	0.0	24.0	23.54	36	22	Left Cheek	0	55	0.133	1.112	0.148	0.417	0.261		32.3		
Head	NR Band n70	15	QPSK	A	1266M	1:1	0.04	1702.50	340500	CP-OFDM	1.5	22.5	22.11	1	1	Left Cheek	0	55	0.091	1.094	0.100	0.396	0.248		32.5		
Head	NR Band n70	15	QPSK	A	1247M	1:1	0.08	1702.50	340500	DFT-s-OFDM	0.0	24.0	23.46	1	77	Left Tilt	0	11	0.050	1.132	0.057	0.160	0.100		36.4		
Head	NR Band n70	15	QPSK	A	1247M	1:1	0.05	1702.50	340500	DFT-s-OFDM	0.0	24.0	23.54	36	22	Left Tilt	0	11	0.052	1.112	0.058	0.163	0.102		36.3		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																			Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-74

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n70	15	QPSK	F	1263M	1:1	-0.01	1702.50	340500	DFT-s-OFDM	0.0	17.0	16.42	1	77	Right Cheek	0	0.642	1.143	0.734	0.734	0.459		18.3		
Head	NR Band n70	15	QPSK	F	1263M	1:1	-0.03	1702.50	340500	DFT-s-OFDM	0.0	17.0	16.32	36	22	Right Cheek	0	0.643	1.169	0.752	0.752	0.470		18.2		
Head	NR Band n70	15	QPSK	F	1263M	1:1	-0.07	1702.50	340500	CP-OFDM	0.0	17.0	16.26	1	1	Right Cheek	0	0.653	1.186	0.774	0.774	0.484	AS4	18.1		
Head	NR Band n70	15	QPSK	F	1263M	1:1	0.05	1702.50	340500	DFT-s-OFDM	0.0	17.0	16.42	1	77	Right Tilt	0	0.592	1.143	0.677	0.677	0.423		18.6		
Head	NR Band n70	15	QPSK	F	1263M	1:1	0.00	1702.50	340500	DFT-s-OFDM	0.0	17.0	16.32	36	22	Right Tilt	0	0.600	1.169	0.701	0.701	0.438		18.5	18.1	16.0
Head	NR Band n70	15	QPSK	F	1243M	1:1	-0.02	1702.50	340500	DFT-s-OFDM	0.0	17.0	16.42	1	77	Left Cheek	0	0.343	1.143	0.392	0.392	0.245		21.0		
Head	NR Band n70	15	QPSK	F	1243M	1:1	0.01	1702.50	340500	DFT-s-OFDM	0.0	17.0	16.32	36	22	Left Cheek	0	0.351	1.169	0.410	0.410	0.256		20.8		
Head	NR Band n70	15	QPSK	F	1255M	1:1	0.02	1702.50	340500	DFT-s-OFDM	0.0	17.0	16.42	1	77	Left Tilt	0	0.468	1.143	0.535	0.535	0.334		19.7		
Head	NR Band n70	15	QPSK	F	1255M	1:1	0.00	1702.50	340500	DFT-s-OFDM	0.0	17.0	16.32	36	22	Left Tilt	0	0.488	1.169	0.570	0.570	0.356		19.4		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																			Head 1.6 W/kg (mW/g) averaged over 1 gram								

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Table 12-75

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n70	15	QPSK	A	1266M	1:1	-0.13	1702.50	340500	DFT-s-OFDM	0.0	20.0	19.25	1	77	Back	10	55	0.420	1.189	0.499	0.499	0.312	A55	23.0		
Body-worn/Hotspot	NR Band n70	15	QPSK	A	1266M	1:1	-0.11	1702.50	340500	DFT-s-OFDM	0.0	20.0	19.30	36	0	Back	10	55	0.400	1.175	0.470	0.470	0.294		23.2		
Hotspot	NR Band n70	15	QPSK	A	1263M	1:1	0.02	1702.50	340500	DFT-s-OFDM	0.0	20.0	19.25	1	77	Front	10	55	0.230	1.189	0.273	0.273	0.171		25.6		
Hotspot	NR Band n70	15	QPSK	A	1263M	1:1	0.04	1702.50	340500	DFT-s-OFDM	0.0	20.0	19.30	36	0	Front	10	55	0.210	1.175	0.247	0.247	0.154		26.0		
Hotspot	NR Band n70	15	QPSK	A	1266M	1:1	-0.05	1702.50	340500	DFT-s-OFDM	0.0	20.0	19.25	1	77	Bottom	10	55	0.799	1.189	0.950	0.950	0.594	A56	20.2		
Hotspot	NR Band n70	15	QPSK	A	1266M	1:1	-0.05	1702.50	340500	DFT-s-OFDM	0.0	20.0	19.30	36	0	Bottom	10	55	0.746	1.175	0.877	0.877	0.548		20.5		
Hotspot	NR Band n70	15	QPSK	A	1266M	1:1	0.01	1702.50	340500	DFT-s-OFDM	0.0	20.0	19.23	75	0	Bottom	10	55	0.784	1.194	0.936	0.936	0.585		20.2	20.2	19.0
Hotspot	NR Band n70	15	QPSK	A	1266M	1:1	-0.01	1702.50	340500	CP-OFDM	0.0	20.0	19.35	1	1	Bottom	10	55	0.738	1.161	0.857	0.857	0.536		20.6		
Hotspot	NR Band n70	15	QPSK	A	1263M	1:1	0.01	1702.50	340500	DFT-s-OFDM	0.0	20.0	19.25	1	77	Right	10	55	0.026	1.189	0.031	0.031	0.019		35.1		
Hotspot	NR Band n70	15	QPSK	A	1263M	1:1	0.15	1702.50	340500	DFT-s-OFDM	0.0	20.0	19.30	36	0	Right	10	55	0.021	1.175	0.025	0.025	0.016		36.0		
Hotspot	NR Band n70	15	QPSK	A	1263M	1:1	-0.01	1702.50	340500	DFT-s-OFDM	0.0	20.0	19.25	1	77	Left	10	55	0.068	1.189	0.081	0.081	0.051		30.9		
Hotspot	NR Band n70	15	QPSK	A	1263M	1:1	-0.01	1702.50	340500	DFT-s-OFDM	0.0	20.0	19.30	36	0	Left	10	55	0.069	1.175	0.081	0.081	0.051		30.9		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																			Body 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-76

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n70	15	QPSK	F	1263M	1:1	0.02	1702.50	340500	DFT-s-OFDM	0.0	20.0	19.39	1	40	Back	10	0.234	1.151	0.269	0.269	0.168		25.6		
Body-worn/Hotspot	NR Band n70	15	QPSK	F	1263M	1:1	-0.02	1702.50	340500	DFT-s-OFDM	0.0	20.0	19.29	36	22	Back	10	0.248	1.178	0.292	0.292	0.183		25.3		
Hotspot	NR Band n70	15	QPSK	F	1243M	1:1	0.03	1702.50	340500	DFT-s-OFDM	0.0	20.0	19.39	1	40	Front	10	0.266	1.151	0.306	0.306	0.191		25.1		
Hotspot	NR Band n70	15	QPSK	F	1243M	1:1	-0.04	1702.50	340500	DFT-s-OFDM	0.0	20.0	19.29	36	22	Front	10	0.272	1.178	0.320	0.320	0.200		24.9		
Hotspot	NR Band n70	15	QPSK	F	1243M	1:1	0.08	1702.50	340500	DFT-s-OFDM	0.0	20.0	19.39	1	40	Top	10	0.470	1.151	0.541	0.541	0.338		22.6	22.5	19.0
Hotspot	NR Band n70	15	QPSK	F	1243M	1:1	0.11	1702.50	340500	DFT-s-OFDM	0.0	20.0	19.29	36	22	Top	10	0.476	1.178	0.561	0.561	0.351		22.5		
Hotspot	NR Band n70	15	QPSK	F	1263M	1:1	0.03	1702.50	340500	CP-OFDM	0.0	20.0	19.44	1	1	Top	10	0.464	1.138	0.528	0.528	0.330		22.7		
Hotspot	NR Band n70	15	QPSK	F	1243M	1:1	-0.03	1702.50	340500	DFT-s-OFDM	0.0	20.0	19.39	1	40	Left	10	0.148	1.151	0.170	0.170	0.106		27.6		
Hotspot	NR Band n70	15	QPSK	F	1243M	1:1	0.02	1702.50	340500	DFT-s-OFDM	0.0	20.0	19.29	36	22	Left	10	0.151	1.178	0.178	0.178	0.111		27.5		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																		Body 1.6 W/kg (mW/g) averaged over 1 gram								

12.22 NR Band n66 Standalone SAR

Table 12-77

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n66	45	QPSK	A	1266M	1:1	0.08	1745.00	349000	DFT-s-OFDM	0.0	24.5	23.62	1	1	Right Cheek	0	11	0.089	1.225	0.109	0.181	0.113		34.1		
Head	NR Band n66	45	QPSK	A	1266M	1:1	0.21	1745.00	349000	DFT-s-OFDM	0.0	24.5	23.29	120	61	Right Cheek	0	11	0.099	1.321	0.131	0.217	0.136		33.3		
Head	NR Band n66	45	QPSK	A	1266M	1:1	0.04	1745.00	349000	DFT-s-OFDM	0.0	24.5	23.62	1	1	Right Tilt	0	11	0.070	1.225	0.086	0.142	0.089		35.1		
Head	NR Band n66	45	QPSK	A	1266M	1:1	0.04	1745.00	349000	DFT-s-OFDM	0.0	24.5	23.29	120	61	Right Tilt	0	11	0.061	1.321	0.081	0.134	0.084		35.4		
Head	NR Band n66	45	QPSK	A	1266M	1:1	0.01	1745.00	349000	DFT-s-OFDM	0.0	24.5	23.62	1	1	Left Cheek	0	56	0.184	1.225	0.225	0.374	0.234		30.9	30.1	26.7
Head	NR Band n66	45	QPSK	A	1266M	1:1	0.07	1745.00	349000	DFT-s-OFDM	0.0	24.5	23.29	120	61	Left Cheek	0	56	0.205	1.321	0.271	0.450	0.281		30.1		
Head	NR Band n66	45	QPSK	A	1266M	1:1	-0.01	1745.00	349000	CP-OFDM	1.5	23.0	22.20	1	1	Left Cheek	0	56	0.133	1.202	0.160	0.375	0.234		30.9		
Head	NR Band n66	45	QPSK	A	1266M	1:1	-0.10	1745.00	349000	DFT-s-OFDM	0.0	24.5	23.62	1	1	Left Tilt	0	56	0.056	1.225	0.069	0.114	0.071		36.1		
Head	NR Band n66	45	QPSK	A	1266M	1:1	-0.20	1745.00	349000	DFT-s-OFDM	0.0	24.5	23.29	120	61	Left Tilt	0	56	0.069	1.321	0.091	0.151	0.094		34.9		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																			Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-78

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n66	45	QPSK	F	1263M	1:1	-0.01	1745.00	349000	DFT-s-OFDM	0.0	17.0	16.29	1	1	Right Cheek	0	0.644	1.178	0.759	0.759	0.474		18.2		
Head	NR Band n66	45	QPSK	F	1263M	1:1	-0.01	1745.00	349000	DFT-s-OFDM	0.0	17.0	16.15	120	0	Right Cheek	0	0.637	1.216	0.775	0.775	0.484		18.1		
Head	NR Band n66	45	QPSK	F	1263M	1:1	-0.01	1745.00	349000	CP-OFDM	0.0	17.0	16.30	1	1	Right Cheek	0	0.660	1.175	0.776	0.776	0.485	A57	18.1		
Head	NR Band n66	45	QPSK	F	1263M	1:1	0.00	1745.00	349000	DFT-s-OFDM	0.0	17.0	16.29	1	1	Right Tilt	0	0.589	1.178	0.694	0.694	0.434		18.5		
Head	NR Band n66	45	QPSK	F	1263M	1:1	0.01	1745.00	349000	DFT-s-OFDM	0.0	17.0	16.15	120	0	Right Tilt	0	0.583	1.216	0.709	0.709	0.443		18.4	18.1	16.0
Head	NR Band n66	45	QPSK	F	1243M	1:1	-0.07	1745.00	349000	DFT-s-OFDM	0.0	17.0	16.29	1	1	Left Cheek	0	0.348	1.178	0.410	0.410	0.256		20.8		
Head	NR Band n66	45	QPSK	F	1243M	1:1	-0.01	1745.00	349000	DFT-s-OFDM	0.0	17.0	16.15	120	0	Left Cheek	0	0.339	1.216	0.412	0.412	0.258		20.8		
Head	NR Band n66	45	QPSK	F	1255M	1:1	0.04	1745.00	349000	DFT-s-OFDM	0.0	17.0	16.29	1	1	Left Tilt	0	0.501	1.178	0.590	0.590	0.369		19.2		
Head	NR Band n66	45	QPSK	F	1255M	1:1	-0.02	1745.00	349000	DFT-s-OFDM	0.0	17.0	16.15	120	0	Left Tilt	0	0.495	1.216	0.602	0.602	0.376		19.2		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																		Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-79

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n66	45	QPSK	A	1266M	1:1	0.00	1745.00	349000	DFT-s-OFDM	0.0	19.5	18.58	1	1	Back	10	55	0.476	1.236	0.588	0.588	0.368		21.8		
Body-worn/Hotspot	NR Band n66	45	QPSK	A	1266M	1:1	-0.11	1745.00	349000	DFT-s-OFDM	0.0	19.5	18.48	120	0	Back	10	55	0.493	1.265	0.624	0.624	0.390	A58	21.5		
Hotspot	NR Band n66	45	QPSK	A	1190M	1:1	-0.11	1745.00	349000	DFT-s-OFDM	0.0	19.5	18.58	1	1	Front	10	55	0.319	1.236	0.394	0.394	0.246		23.5		
Hotspot	NR Band n66	45	QPSK	A	1190M	1:1	-0.10	1745.00	349000	DFT-s-OFDM	0.0	19.5	18.48	120	0	Front	10	55	0.328	1.265	0.415	0.415	0.259		23.3		
Hotspot	NR Band n66	45	QPSK	A	1266M	1:1	0.01	1745.00	349000	DFT-s-OFDM	0.0	19.5	18.58	1	1	Bottom	10	55	0.831	1.236	1.027	1.027	0.642		19.3		
Hotspot	NR Band n66	45	QPSK	A	1266M	1:1	-0.02	1745.00	349000	DFT-s-OFDM	0.0	19.5	18.48	120	0	Bottom	10	55	0.855	1.265	1.082	1.082	0.676		19.1	19.1	18.5
Hotspot	NR Band n66	45	QPSK	A	1266M	1:1	0.00	1745.00	349000	DFT-s-OFDM	0.0	19.5	18.38	240	0	Bottom	10	55	0.833	1.294	1.078	1.078	0.674		19.1		
Hotspot	NR Band n66	45	QPSK	A	1266M	1:1	-0.01	1745.00	349000	CP-OFDM	0.0	19.5	18.74	1	1	Bottom	10	55	0.871	1.191	1.037	1.037	0.648	A59	19.3		
Hotspot	NR Band n66	45	QPSK	A	1190M	1:1	0.08	1745.00	349000	DFT-s-OFDM	0.0	19.5	18.58	1	1	Right	10	55	0.079	1.236	0.098	0.098	0.061		29.6		
Hotspot	NR Band n66	45	QPSK	A	1190M	1:1	0.04	1745.00	349000	DFT-s-OFDM	0.0	19.5	18.48	120	0	Right	10	55	0.077	1.265	0.097	0.097	0.061		29.6		
Hotspot	NR Band n66	45	QPSK	A	1190M	1:1	0.04	1745.00	349000	DFT-s-OFDM	0.0	19.5	18.58	1	1	Left	10	55	0.085	1.236	0.105	0.105	0.066		29.2		
Hotspot	NR Band n66	45	QPSK	A	1190M	1:1	0.02	1745.00	349000	DFT-s-OFDM	0.0	19.5	18.48	120	0	Left	10	55	0.088	1.265	0.111	0.111	0.069		29.0		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																			Body 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-80

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n66	45	QPSK	F	1243M	1:1	0.04	1745.00	349000	DFT-s-OFDM	0.0	21.0	20.17	1	1	Back	10	0.272	1.211	0.329	0.329	0.206		25.8		
Body-worn/Hotspot	NR Band n66	45	QPSK	F	1243M	1:1	0.08	1745.00	349000	DFT-s-OFDM	0.0	21.0	20.21	120	61	Back	10	0.276	1.199	0.331	0.331	0.207		25.8		
Hotspot	NR Band n66	45	QPSK	F	1243M	1:1	-0.02	1745.00	349000	DFT-s-OFDM	0.0	21.0	20.17	1	1	Front	10	0.263	1.211	0.318	0.318	0.199		25.9		
Hotspot	NR Band n66	45	QPSK	F	1243M	1:1	-0.02	1745.00	349000	DFT-s-OFDM	0.0	21.0	20.21	120	61	Front	10	0.260	1.199	0.312	0.312	0.195		26.0		
Hotspot	NR Band n66	45	QPSK	F	1243M	1:1	-0.02	1745.00	349000	DFT-s-OFDM	0.0	21.0	20.17	1	1	Top	10	0.539	1.211	0.653	0.653	0.408		22.8	22.7	20.0
Hotspot	NR Band n66	45	QPSK	F	1243M	1:1	0.00	1745.00	349000	DFT-s-OFDM	0.0	21.0	20.21	120	61	Top	10	0.555	1.199	0.665	0.665	0.416		22.7		
Hotspot	NR Band n66	45	QPSK	F	1243M	1:1	-0.07	1745.00	349000	CP-OFDM	0.0	21.0	20.25	1	1	Top	10	0.562	1.189	0.668	0.668	0.418		22.7		
Hotspot	NR Band n66	45	QPSK	F	1243M	1:1	0.05	1745.00	349000	DFT-s-OFDM	0.0	21.0	20.17	1	1	Left	10	0.156	1.211	0.189	0.189	0.118		28.2		
Hotspot	NR Band n66	45	QPSK	F	1243M	1:1	-0.02	1745.00	349000	DFT-s-OFDM	0.0	21.0	20.21	120	61	Left	10	0.128	1.199	0.153	0.153	0.096		29.1		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																			Body 1.6 W/kg (mW/g) averaged over 1 gram								

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12.23 NR Band n25 Standalone SAR

Table 12-81

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n25	40	QPSK	A	1266M	1:1	-0.03	1882.50	376500	DFT-s-OFDM	0.0	24.5	23.77	1	108	Right Cheek	0	0	0.097	1.183	0.115	0.257	0.161		33.9		
Head	NR Band n25	40	QPSK	A	1266M	1:1	0.11	1882.50	376500	DFT-s-OFDM	0.0	24.5	23.65	108	54	Right Cheek	0	0	0.096	1.216	0.117	0.261	0.163		33.8		
Head	NR Band n25	40	QPSK	A	1266M	1:1	0.00	1882.50	376500	DFT-s-OFDM	0.0	24.5	23.77	1	108	Right Tilt	0	1	0.045	1.183	0.053	0.119	0.074		37.2		
Head	NR Band n25	40	QPSK	A	1266M	1:1	0.08	1882.50	376500	DFT-s-OFDM	0.0	24.5	23.65	108	54	Right Tilt	0	1	0.048	1.216	0.058	0.131	0.082		36.8		
Head	NR Band n25	40	QPSK	A	1266M	1:1	0.02	1882.50	376500	DFT-s-OFDM	0.0	24.5	23.77	1	108	Left Cheek	0	1	0.166	1.183	0.196	0.440	0.275		31.5	31.4	28.0
Head	NR Band n25	40	QPSK	A	1266M	1:1	0.00	1882.50	376500	DFT-s-OFDM	0.0	24.5	23.65	108	54	Left Cheek	0	1	0.164	1.216	0.199	0.447	0.279		31.5		
Head	NR Band n25	40	QPSK	A	1266M	1:1	0.03	1882.50	376500	CP-OFDM	1.5	23.0	22.38	1	1	Left Cheek	0	1	0.124	1.153	0.143	0.452	0.283		31.4		
Head	NR Band n25	40	QPSK	A	1266M	1:1	-0.16	1882.50	376500	DFT-s-OFDM	0.0	24.5	23.77	1	108	Left Tilt	0	1	0.031	1.183	0.037	0.082	0.051		38.8		
Head	NR Band n25	40	QPSK	A	1266M	1:1	-0.06	1882.50	376500	DFT-s-OFDM	0.0	24.5	23.65	108	54	Left Tilt	0	1	0.033	1.216	0.040	0.090	0.056		38.4		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Head 1.6 W/kg (mW/g) averaged over 1 gram											

Table 12-82

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n25	40	QPSK	F	1266M	1:1	0.02	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.28	1	108	Right Cheek	0	0.729	1.180	0.860	0.860	0.538		19.6		
Head	NR Band n25	40	QPSK	F	1266M	1:1	0.06	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.20	108	0	Right Cheek	0	0.779	1.202	0.936	0.936	0.585		19.2		
Head	NR Band n25	40	QPSK	F	1266M	1:1	0.00	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.17	216	0	Right Cheek	0	0.765	1.211	0.926	0.926	0.579		19.3		
Head	NR Band n25	40	QPSK	F	1266M	1:1	-0.05	1882.50	376500	CP-OFDM	0.0	19.0	18.21	1	1	Right Cheek	0	0.821	1.199	0.984	0.984	0.615	A60	19.0		
Head	NR Band n25	40	QPSK	F	1266M	1:1	-0.01	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.28	1	108	Right Tilt	0	0.722	1.180	0.852	0.852	0.533		19.6		
Head	NR Band n25	40	QPSK	F	1266M	1:1	0.02	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.20	108	0	Right Tilt	0	0.766	1.202	0.921	0.921	0.576		19.3	19.0	18.0
Head	NR Band n25	40	QPSK	F	1266M	1:1	0.00	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.17	216	0	Right Tilt	0	0.768	1.211	0.930	0.930	0.581		19.3		
Head	NR Band n25	40	QPSK	F	1266M	1:1	-0.04	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.28	1	108	Left Cheek	0	0.468	1.180	0.552	0.552	0.345		21.5		
Head	NR Band n25	40	QPSK	F	1266M	1:1	0.00	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.20	108	0	Left Cheek	0	0.488	1.202	0.587	0.587	0.367		21.3		
Head	NR Band n25	40	QPSK	F	1266M	1:1	0.01	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.28	1	108	Left Tilt	0	0.619	1.180	0.730	0.730	0.456		20.3		
Head	NR Band n25	40	QPSK	F	1266M	1:1	0.07	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.20	108	0	Left Tilt	0	0.633	1.202	0.761	0.761	0.476		20.1		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 12-83

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n25	40	QPSK	A	1266M	1:1	-0.11	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.10	1	108	Back	10	0	0.305	1.230	0.375	0.375	0.234		23.2		
Body-worn/Hotspot	NR Band n25	40	QPSK	A	1266M	1:1	-0.12	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.09	108	54	Back	10	0	0.325	1.233	0.401	0.401	0.251	A61	22.9		
Hotspot	NR Band n25	40	QPSK	A	1190M	1:1	-0.09	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.10	1	108	Front	10	0	0.429	1.230	0.528	0.528	0.330		21.7		
Hotspot	NR Band n25	40	QPSK	A	1190M	1:1	-0.12	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.09	108	54	Front	10	0	0.454	1.233	0.560	0.560	0.350		21.5		
Hotspot	NR Band n25	40	QPSK	A	1266M	1:1	-0.06	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.10	1	108	Bottom	10	0	0.691	1.230	0.850	0.850	0.531		19.7		
Hotspot	NR Band n25	40	QPSK	A	1266M	1:1	-0.06	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.09	108	54	Bottom	10	0	0.736	1.233	0.907	0.907	0.567		19.4		
Hotspot	NR Band n25	40	QPSK	A	1266M	1:1	-0.02	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.01	216	0	Bottom	10	0	0.718	1.256	0.902	0.902	0.564		19.4		
Hotspot	NR Band n25	40	QPSK	A	1266M	1:1	-0.11	1882.50	376500	CP-OFDM	0.0	19.0	18.24	1	1	Bottom	10	0	0.696	1.191	0.829	0.829	0.518		19.8		
Hotspot	NR Band n25	40	QPSK	A	1190M	1:1	0.04	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.10	1	108	Right	10	0	0.044	1.230	0.054	0.054	0.034		31.6		
Hotspot	NR Band n25	40	QPSK	A	1190M	1:1	0.08	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.09	108	54	Right	10	0	0.052	1.233	0.064	0.064	0.040		30.9		
Hotspot	NR Band n25	40	QPSK	A	1190M	1:1	0.04	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.10	1	108	Left	10	0	0.043	1.230	0.053	0.053	0.033		31.7		
Hotspot	NR Band n25	40	QPSK	A	1190M	1:1	0.07	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.09	108	54	Left	10	0	0.047	1.233	0.058	0.058	0.036		31.3		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram										

Table 12-84

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n25	40	QPSK	F	1243M	1:1	-0.03	1882.50	376500	DFT-s-OFDM	0.0	21.0	20.31	1	108	Back	10	0.255	1.172	0.299	0.299	0.187		26.2		
Body-worn/Hotspot	NR Band n25	40	QPSK	F	1243M	1:1	0.00	1882.50	376500	DFT-s-OFDM	0.0	21.0	20.25	108	54	Back	10	0.261	1.189	0.310	0.310	0.194		26.0		
Hotspot	NR Band n25	40	QPSK	F	1243M	1:1	0.00	1882.50	376500	DFT-s-OFDM	0.0	21.0	20.31	1	108	Front	10	0.236	1.172	0.277	0.277	0.173		26.5		
Hotspot	NR Band n25	40	QPSK	F	1243M	1:1	-0.11	1882.50	376500	DFT-s-OFDM	0.0	21.0	20.25	108	54	Front	10	0.246	1.189	0.292	0.292	0.183		26.3		
Hotspot	NR Band n25	40	QPSK	F	1243M	1:1	0.00	1882.50	376500	DFT-s-OFDM	0.0	21.0	20.31	1	108	Top	10	0.759	1.172	0.890	0.890	0.556		21.5		
Hotspot	NR Band n25	40	QPSK	F	1243M	1:1	0.00	1882.50	376500	DFT-s-OFDM	0.0	21.0	20.25	108	54	Top	10	0.799	1.189	0.950	0.950	0.594		21.2		
Hotspot	NR Band n25	40	QPSK	F	1243M	1:1	-0.04	1882.50	376500	DFT-s-OFDM	0.0	21.0	20.24	216	0	Top	10	0.812	1.191	0.967	0.967	0.604		21.1		
Hotspot	NR Band n25	40	QPSK	F	1243M	1:1	0.00	1882.50	376500	CP-OFDM	0.0	21.0	20.39	1	1	Top	10	0.850	1.151	0.978	0.978	0.611	A62	21.0	21.0	20.0
Hotspot	NR Band n25	40	QPSK	F	1243M	1:1	-0.03	1882.50	376500	DFT-s-OFDM	0.0	21.0	20.31	1	108	Left	10	0.143	1.172	0.168	0.168	0.105		28.7		
Hotspot	NR Band n25	40	QPSK	F	1243M	1:1	0.02	1882.50	376500	DFT-s-OFDM	0.0	21.0	20.25	108	54	Left	10	0.144	1.189	0.171	0.171	0.107		28.6		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram										

12.24 NR Band n30 Standalone SAR

Table 12-85

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n30	10	QPSK	A	1278M	1:1	-0.01	2310.00	462000	DFT-s-OFDM	0.0	23.5	22.91	1	1	Right Cheek	0	0.021	1.146	0.024	0.332	0.208		39.6		
Head	NR Band n30	10	QPSK	A	1278M	1:1	0.03	2310.00	462000	DFT-s-OFDM	0.0	23.5	22.81	25	14	Right Cheek	0	0.021	1.172	0.025	0.340	0.213		39.5		
Head	NR Band n30	10	QPSK	A	1278M	1:1	0.08	2310.00	462000	DFT-s-OFDM	0.0	23.5	22.91	1	1	Right Tilt	0	0.018	1.146	0.021	0.285	0.178		40.3		
Head	NR Band n30	10	QPSK	A	1278M	1:1	0.17	2310.00	462000	DFT-s-OFDM	0.0	23.5	22.81	25	14	Right Tilt	0	0.020	1.172	0.023	0.324	0.203		39.7		
Head	NR Band n30	10	QPSK	A	1278M	1:1	-0.01	2310.00	462000	DFT-s-OFDM	0.0	23.5	22.91	1	1	Left Cheek	0	0.016	1.146	0.018	0.253	0.158		40.8	38.4	34.9
Head	NR Band n30	10	QPSK	A	1278M	1:1	-0.04	2310.00	462000	DFT-s-OFDM	0.0	23.5	22.81	25	14	Left Cheek	0	0.019	1.172	0.022	0.307	0.192		40.0		
Head	NR Band n30	10	QPSK	A	1278M	1:1	0.00	2310.00	462000	DFT-s-OFDM	0.0	23.5	22.91	1	1	Left Tilt	0	0.025	1.146	0.029	0.395	0.247		38.9		
Head	NR Band n30	10	QPSK	A	1278M	1:1	0.03	2310.00	462000	DFT-s-OFDM	0.0	23.5	22.81	25	14	Left Tilt	0	0.027	1.172	0.032	0.437	0.273		38.4		
Head	NR Band n30	10	QPSK	A	1278M	1:1	-0.09	2310.00	462000	CP-OFDM	1.5	22.0	21.48	1	1	Left Tilt	0	0.018	1.127	0.020	0.396	0.248		38.9		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Head 1.6 W/kg (mW/g) averaged over 1 gram										

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Table 12-86

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n30	10	QPSK	F	1278M	1:1	0.19	2310.00	462000	DFT-s-OFDM	0.0	17.5	16.53	1	50	Right Cheek	0	0.679	1.250	0.849	0.849	0.531		18.2		
Head	NR Band n30	10	QPSK	F	1278M	1:1	0.04	2310.00	462000	DFT-s-OFDM	0.0	17.5	16.41	25	14	Right Cheek	0	0.721	1.285	0.926	0.926	0.579		17.8		
Head	NR Band n30	10	QPSK	F	1278M	1:1	0.03	2310.00	462000	DFT-s-OFDM	0.0	17.5	16.32	50	0	Right Cheek	0	0.703	1.312	0.922	0.922	0.576		17.8		
Head	NR Band n30	10	QPSK	F	1278M	1:1	0.01	2310.00	462000	DFT-s-OFDM	0.0	17.5	16.53	1	50	Right Tilt	0	0.732	1.250	0.915	0.915	0.572	A63	17.8		
Head	NR Band n30	10	QPSK	F	1278M	1:1	-0.01	2310.00	462000	DFT-s-OFDM	0.0	17.5	16.41	25	14	Right Tilt	0	0.713	1.285	0.916	0.916	0.573		17.8		
Head	NR Band n30	10	QPSK	F	1278M	1:1	-0.01	2310.00	462000	DFT-s-OFDM	0.0	17.5	16.32	50	0	Right Tilt	0	0.711	1.312	0.933	0.933	0.583		17.8	17.8	16.5
Head	NR Band n30	10	QPSK	F	1278M	1:1	-0.07	2310.00	462000	CP-OFDM	0.0	17.5	16.30	1	1	Right Tilt	0	0.696	1.318	0.917	0.917	0.573		17.8		
Head	NR Band n30	10	QPSK	F	1278M	1:1	0.05	2310.00	462000	DFT-s-OFDM	0.0	17.5	16.53	1	50	Left Cheek	0	0.400	1.250	0.500	0.500	0.313		20.5		
Head	NR Band n30	10	QPSK	F	1278M	1:1	0.02	2310.00	462000	DFT-s-OFDM	0.0	17.5	16.41	25	14	Left Cheek	0	0.397	1.285	0.510	0.510	0.319		20.4		
Head	NR Band n30	10	QPSK	F	1278M	1:1	0.00	2310.00	462000	DFT-s-OFDM	0.0	17.5	16.53	1	50	Left Tilt	0	0.511	1.250	0.639	0.639	0.399		19.4		
Head	NR Band n30	10	QPSK	F	1278M	1:1	0.00	2310.00	462000	DFT-s-OFDM	0.0	17.5	16.41	25	14	Left Tilt	0	0.513	1.285	0.659	0.659	0.412		19.3		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																		Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-87

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n30	10	QPSK	A	1285M	1:1	-0.01	2310.00	462000	DFT-s-OFDM	0.0	20.0	19.26	1	1	Back	10	0.210	1.186	0.249	0.249	0.156	A64	26.0		
Body-worn/Hotspot	NR Band n30	10	QPSK	A	1285M	1:1	0.04	2310.00	462000	DFT-s-OFDM	0.0	20.0	19.22	25	0	Back	10	0.210	1.197	0.251	0.251	0.157		25.9		
Hotspot	NR Band n30	10	QPSK	A	1285M	1:1	0.00	2310.00	462000	DFT-s-OFDM	0.0	20.0	19.26	1	1	Front	10	0.185	1.186	0.219	0.219	0.137		26.5		
Hotspot	NR Band n30	10	QPSK	A	1285M	1:1	0.02	2310.00	462000	DFT-s-OFDM	0.0	20.0	19.22	25	0	Front	10	0.159	1.197	0.190	0.190	0.119		27.2		
Hotspot	NR Band n30	10	QPSK	A	1285M	1:1	-0.03	2310.00	462000	DFT-s-OFDM	0.0	20.0	19.26	1	1	Bottom	10	0.488	1.186	0.579	0.579	0.362	A65	22.3		
Hotspot	NR Band n30	10	QPSK	A	1285M	1:1	0.05	2310.00	462000	DFT-s-OFDM	0.0	20.0	19.22	25	0	Bottom	10	0.481	1.197	0.576	0.576	0.360		22.3	22.3	19.0
Hotspot	NR Band n30	10	QPSK	A	1285M	1:1	-0.05	2310.00	462000	CP-OFDM	0.0	20.0	19.29	1	1	Bottom	10	0.482	1.178	0.568	0.568	0.355		22.4		
Hotspot	NR Band n30	10	QPSK	A	1285M	1:1	-0.10	2310.00	462000	DFT-s-OFDM	0.0	20.0	19.26	1	1	Right	10	0.086	1.186	0.102	0.102	0.064		29.9		
Hotspot	NR Band n30	10	QPSK	A	1285M	1:1	-0.04	2310.00	462000	DFT-s-OFDM	0.0	20.0	19.22	25	0	Right	10	0.085	1.197	0.102	0.102	0.064		29.9		
Hotspot	NR Band n30	10	QPSK	A	1285M	1:1	0.00	2310.00	462000	DFT-s-OFDM	0.0	20.0	19.26	1	1	Left	10	0.072	1.186	0.085	0.085	0.053		30.6		
Hotspot	NR Band n30	10	QPSK	A	1285M	1:1	0.03	2310.00	462000	DFT-s-OFDM	0.0	20.0	19.22	25	0	Left	10	0.073	1.197	0.087	0.087	0.054		30.5		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																		Body 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-88

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n30	10	QPSK	F	1285M	1:1	0.02	2310.00	462000	DFT-s-OFDM	0.0	19.0	18.09	1	50	Back	10	0.205	1.233	0.253	0.253	0.158		24.9		
Body-worn/Hotspot	NR Band n30	10	QPSK	F	1285M	1:1	-0.03	2310.00	462000	DFT-s-OFDM	0.0	19.0	17.93	25	27	Back	10	0.209	1.279	0.267	0.267	0.167		24.7		
Hotspot	NR Band n30	10	QPSK	F	1285M	1:1	0.00	2310.00	462000	DFT-s-OFDM	0.0	19.0	18.09	1	50	Front	10	0.187	1.233	0.231	0.231	0.144		25.3		
Hotspot	NR Band n30	10	QPSK	F	1285M	1:1	-0.11	2310.00	462000	DFT-s-OFDM	0.0	19.0	17.93	25	27	Front	10	0.185	1.279	0.237	0.237	0.148		25.2		
Hotspot	NR Band n30	10	QPSK	F	1285M	1:1	0.01	2310.00	462000	DFT-s-OFDM	0.0	19.0	18.09	1	50	Top	10	0.378	1.233	0.466	0.466	0.291		22.3	22.3	18.0
Hotspot	NR Band n30	10	QPSK	F	1285M	1:1	0.00	2310.00	462000	DFT-s-OFDM	0.0	19.0	17.93	25	27	Top	10	0.338	1.279	0.432	0.432	0.270		22.6		
Hotspot	NR Band n30	10	QPSK	F	1285M	1:1	0.06	2310.00	462000	CP-OFDM	0.0	19.0	18.00	1	1	Top	10	0.312	1.259	0.393	0.393	0.246		23.0		
Hotspot	NR Band n30	10	QPSK	F	1285M	1:1	-0.05	2310.00	462000	DFT-s-OFDM	0.0	19.0	18.09	1	50	Left	10	0.030	1.233	0.037	0.037	0.023		33.3		
Hotspot	NR Band n30	10	QPSK	F	1285M	1:1	0.02	2310.00	462000	DFT-s-OFDM	0.0	19.0	17.93	25	27	Left	10	0.031	1.279	0.040	0.040	0.025		33.0		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																		Body 1.6 W/kg (mW/g) averaged over 1 gram								

12.25 NR Band n7 Standalone SAR

Table 12-89

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n7	50	QPSK	B	1278M	1:1	-0.02	2535.00	507000	DFT-s-OFDM	0.0	24.0	23.35	1	268	Right Cheek	0	0.035	1.161	0.041	0.190	0.119		37.9		
Head	NR Band n7	50	QPSK	B	1278M	1:1	-0.13	2535.00	507000	DFT-s-OFDM	0.0	24.0	23.28	135	68	Right Cheek	0	0.041	1.180	0.048	0.226	0.141		37.1		
Head	NR Band n7	50	QPSK	B	1278M	1:1	-0.03	2535.00	507000	DFT-s-OFDM	0.0	24.0	23.35	1	268	Right Tilt	0	0.037	1.161	0.043	0.201	0.126		37.6		
Head	NR Band n7	50	QPSK	B	1278M	1:1	0.03	2535.00	507000	DFT-s-OFDM	0.0	24.0	23.28	135	68	Right Tilt	0	0.047	1.180	0.055	0.259	0.162		36.5		
Head	NR Band n7	50	QPSK	B	1278M	1:1	0.20	2535.00	507000	DFT-s-OFDM	0.0	24.0	23.35	1	268	Left Cheek	0	0.064	1.161	0.074	0.348	0.218		35.2	34.2	30.7
Head	NR Band n7	50	QPSK	B	1278M	1:1	0.04	2535.00	507000	DFT-s-OFDM	0.0	24.0	23.28	135	68	Left Cheek	0	0.067	1.180	0.079	0.370	0.231		35.0		
Head	NR Band n7	50	QPSK	B	1278M	1:1	0.01	2535.00	507000	CP-OFDM	1.5	22.5	21.89	1	1	Left Cheek	0	0.058	1.151	0.067	0.441	0.276		34.2		
Head	NR Band n7	50	QPSK	B	1278M	1:1	0.00	2535.00	507000	DFT-s-OFDM	0.0	24.0	23.35	1	268	Left Tilt	0	0.021	1.161	0.024	0.114	0.071		40.1		
Head	NR Band n7	50	QPSK	B	1278M	1:1	0.01	2535.00	507000	DFT-s-OFDM	0.0	24.0	23.28	135	68	Left Tilt	0	0.030	1.180	0.035	0.166	0.104		38.5		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																		Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-90

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n7	50	QPSK	F	1278M	1:1	0.03	2535.00	507000	DFT-s-OFDM	0.0	16.5	15.90	1	1	Right Cheek	0	0.593	1.148	0.681	0.681	0.426		18.1		
Head	NR Band n7	50	QPSK	F	1278M	1:1	-0.01	2535.00	507000	DFT-s-OFDM	0.0	16.5	15.78	135	0	Right Cheek	0	0.616	1.180	0.727	0.727	0.454		17.8		
Head	NR Band n7	50	QPSK	F	1278M	1:1	-0.02	2535.00	507000	DFT-s-OFDM	0.0	16.5	15.90	1	1	Right Tilt	0	0.626	1.148	0.719	0.719	0.449		17.9		
Head	NR Band n7	50	QPSK	F	1278M	1:1	0.07	2535.00	507000	DFT-s-OFDM	0.0	16.5	15.78	135	0	Right Tilt	0	0.661	1.180	0.780	0.780	0.488		17.5		
Head	NR Band n7	50	QPSK	F	1278M	1:1	0.08	2535.00	507000	CP-OFDM	0.0	16.5	15.97	1	1	Right Tilt	0	0.675	1.130	0.763	0.763	0.477	A66	17.6	17.5	15.5
Head	NR Band n7	50	QPSK	F	1302M	1:1	0.02	2535.00	507000	DFT-s-OFDM	0.0	16.5	15.90	1	1	Left Cheek	0	0.262	1.148	0.301	0.301	0.188		21.7		
Head	NR Band n7	50	QPSK	F	1278M	1:1	0.00	2535.00	507000	DFT-s-OFDM	0.0	16.5	15.78	135	0	Left Cheek	0	0.270	1.180	0.319	0.319	0.199		21.4		
Head	NR Band n7	50	QPSK	F	1278M	1:1	-0.02	2535.00	507000	DFT-s-OFDM	0.0	16.5	15.90	1	1	Left Tilt	0	0.430	1.148	0.494	0.494	0.309		19.5		
Head	NR Band n7	50	QPSK	F	1278M	1:1	-0.11	2535.00	507000	DFT-s-OFDM	0.0	16.5	15.78	135	0	Left Tilt	0	0.460	1.180	0.543	0.543	0.339		19.1		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																		Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-91

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n7	50	QPSK	B	1278M	1:1	-0.10	2535.00	507000	DFT-s-OFDM	0.0	20.0	19.30	1	268	Back	10	0.197	1.175	0.231	0.231	0.144		26.3		
Body-worn/Hotspot	NR Band n7	50	QPSK	B	1278M	1:1	0.03	2535.00	507000	DFT-s-OFDM	0.0	20.0	19.29	135	68	Back	10	0.188	1.178	0.221	0.221	0.138		26.5		
Body-worn/Hotspot	NR Band n7	50	QPSK	B	1278M	1:1	0.04	2535.00	507000	CP-OFDM	0.0	20.0	19.34	1	1	Back	10	0.173	1.164	0.201	0.201	0.126		26.9		
Hotspot	NR Band n7	50	QPSK	B	1278M	1:1	0.03	2535.00	507000	DFT-s-OFDM	0.0	20.0	19.30	1	268	Front	10	0.099	1.175	0.116	0.116	0.073		29.3		
Hotspot	NR Band n7	50	QPSK	B	1278M	1:1	-0.03	2535.00	507000	DFT-s-OFDM	0.0	20.0	19.29	135	68	Front	10	0.110	1.178	0.130	0.130	0.081		28.8		
Hotspot	NR Band n7	50	QPSK	B	1278M	1:1	0.00	2535.00	507000	DFT-s-OFDM	0.0	20.0	19.30	1	268	Bottom	10	0.125	1.175	0.147	0.147	0.092		28.3		
Hotspot	NR Band n7	50	QPSK	B	1278M	1:1	-0.02	2535.00	507000	DFT-s-OFDM	0.0	20.0	19.29	135	68	Bottom	10	0.148	1.178	0.174	0.174	0.109		27.5		
Hotspot	NR Band n7	50	QPSK	B	1278M	1:1	-0.05	2535.00	507000	DFT-s-OFDM	0.0	20.0	19.30	1	268	Left	10	0.145	1.175	0.170	0.170	0.106		27.6		
Hotspot	NR Band n7	50	QPSK	B	1278M	1:1	0.13	2535.00	507000	DFT-s-OFDM	0.0	20.0	19.29	135	68	Left	10	0.172	1.178	0.203	0.203	0.127		26.9		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																		Body 1.6 W/kg (mW/g) averaged over 1 gram								

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Table 12-92

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n7	50	QPSK	F	1278M	1:1	-0.15	2535.00	507000	DFT-s-OFDM	0.0	18.0	17.21	1	1	Back	10	0.200	1.199	0.240	0.240	0.150	A67	24.1		
Body-worn/Hotspot	NR Band n7	50	QPSK	F	1278M	1:1	0.09	2535.00	507000	DFT-s-OFDM	0.0	18.0	17.24	135	135	Back	10	0.182	1.191	0.217	0.217	0.136		24.6		
Hotspot	NR Band n7	50	QPSK	F	1278M	1:1	-0.04	2535.00	507000	DFT-s-OFDM	0.0	18.0	17.21	1	1	Front	10	0.106	1.199	0.127	0.127	0.079		26.9		
Hotspot	NR Band n7	50	QPSK	F	1278M	1:1	-0.07	2535.00	507000	DFT-s-OFDM	0.0	18.0	17.24	135	135	Front	10	0.104	1.191	0.124	0.124	0.078		27.0		
Hotspot	NR Band n7	50	QPSK	F	1278M	1:1	-0.08	2535.00	507000	DFT-s-OFDM	0.0	18.0	17.21	1	1	Top	10	0.383	1.199	0.459	0.459	0.287	A68	21.3	21.3	17.0
Hotspot	NR Band n7	50	QPSK	F	1278M	1:1	-0.08	2535.00	507000	CP-OFDM	0.0	18.0	17.30	1	1	Top	10	0.380	1.191	0.453	0.453	0.283		21.4		
Hotspot	NR Band n7	50	QPSK	F	1278M	1:1	-0.04	2535.00	507000	CP-OFDM	0.0	18.0	17.30	1	1	Top	10	0.380	1.175	0.447	0.447	0.279		21.5		
Hotspot	NR Band n7	50	QPSK	F	1278M	1:1	-0.12	2535.00	507000	DFT-s-OFDM	0.0	18.0	17.21	1	1	Left	10	0.045	1.199	0.054	0.054	0.034		30.6		
Hotspot	NR Band n7	50	QPSK	F	1278M	1:1	0.02	2535.00	507000	DFT-s-OFDM	0.0	18.0	17.24	135	135	Left	10	0.049	1.191	0.058	0.058	0.036		30.3		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																	Body 1.6 W/kg (mW/g) averaged over 1 gram									

12.26 NR Band n41 Standalone SAR

Table 12-93

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Path #	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n41	100	B	1	1294M	1:1	0.12	2592.99	518598	CW/SRS	18.5	18.19	Right Cheek	0	0.002	1.074	0.002	0.002	0.001		45.1		
Head	NR Band n41	100	B	1	1294M	1:1	-0.10	2592.99	518598	CW/SRS	18.5	18.19	Right Tilt	0	0.001	1.074	0.001	0.001	0.001		48.1	34.9	17.5
Head	NR Band n41	100	B	1	1294M	1:1	-0.19	2592.99	518598	CW/SRS	18.5	18.19	Left Cheek	0	0.021	1.074	0.023	0.023	0.014		34.9		
Head	NR Band n41	100	B	1	1294M	1:1	0.06	2592.99	518598	CW/SRS	18.5	18.19	Left Tilt	0	0.001	1.074	0.001	0.001	0.001		48.1		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 12-94

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Path #	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n41	100	QPSK	B	2	1298M	1:1	-0.11	2592.99	518598	DFT-s-OFDM	0.0	25.0	25.00	1	1	Right Cheek	0	0.051	1.000	0.051	0.051	0.032		37.9		
Head	NR Band n41	100	QPSK	B	2	1298M	1:1	0.01	2592.99	518598	DFT-s-OFDM	0.0	25.0	24.92	135	0	Right Cheek	0	0.037	1.019	0.038	0.038	0.024		39.2		
Head	NR Band n41	100	QPSK	B	2	1298M	1:1	-0.08	2592.99	518598	DFT-s-OFDM	0.0	25.0	25.00	1	1	Right Tilt	0	0.046	1.000	0.046	0.046	0.029		38.3		
Head	NR Band n41	100	QPSK	B	2	1298M	1:1	0.01	2592.99	518598	DFT-s-OFDM	0.0	25.0	24.92	135	0	Right Tilt	0	0.031	1.019	0.032	0.032	0.020		40.0		
Head	NR Band n41	100	QPSK	B	2	1298M	1:1	0.02	2592.99	518598	DFT-s-OFDM	0.0	25.0	25.00	1	1	Left Cheek	0	0.081	1.000	0.081	0.081	0.051		35.9	35.5	24.0
Head	NR Band n41	100	QPSK	B	2	1298M	1:1	-0.06	2592.99	518598	DFT-s-OFDM	0.0	25.0	24.92	135	0	Left Cheek	0	0.072	1.019	0.073	0.073	0.046		36.3		
Head	NR Band n41	100	QPSK	B	2	1298M	1:1	-0.12	2592.99	518598	CP-OFDM	0.0	25.0	24.90	1	1	Left Cheek	0	0.086	1.023	0.088	0.088	0.055		35.5		
Head	NR Band n41	100	QPSK	B	2	1298M	1:1	0.09	2592.99	518598	DFT-s-OFDM	0.0	25.0	25.00	1	1	Left Tilt	0	0.035	1.000	0.035	0.035	0.022		39.5		
Head	NR Band n41	100	QPSK	B	2	1298M	1:1	-0.14	2592.99	518598	DFT-s-OFDM	0.0	25.0	24.92	135	0	Left Tilt	0	0.029	1.019	0.030	0.030	0.019		40.2		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																	Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 12-95

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Path #	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n41	100	D	1	1294M	1:1	0.06	2592.99	518598	CW/SRS	15.0	14.54	Right Cheek	0	0.000	1.112	0.000	0.000	0.000		54.5		
Head	NR Band n41	100	D	1	1294M	1:1	0.08	2592.99	518598	CW/SRS	15.0	14.54	Right Tilt	0	0.000	1.112	0.000	0.000	0.000		54.5	54.5	14.0
Head	NR Band n41	100	D	1	1294M	1:1	0.01	2592.99	518598	CW/SRS	15.0	14.54	Left Cheek	0	0.000	1.112	0.000	0.000	0.000		54.5		
Head	NR Band n41	100	D	1	1294M	1:1	0.04	2592.99	518598	CW/SRS	15.0	14.54	Left Tilt	0	0.000	1.112	0.000	0.000	0.000		54.5		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 12-96

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Path #	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n41	100	E	1	1294M	1:1	0.03	2592.99	518598	CW/SRS	17.0	16.73	Right Cheek	0	0.304	1.064	0.323	0.323	0.202		21.9		
Head	NR Band n41	100	E	1	1294M	1:1	0.05	2592.99	518598	CW/SRS	17.0	16.73	Right Tilt	0	0.292	1.064	0.311	0.311	0.194		22.0	19.0	16.0
Head	NR Band n41	100	E	1	1294M	1:1	-0.16	2592.99	518598	CW/SRS	17.0	16.73	Left Cheek	0	0.583	1.064	0.620	0.620	0.388	A69	19.0		
Head	NR Band n41	100	E	1	1294M	1:1	0.05	2592.99	518598	CW/SRS	17.0	16.73	Left Tilt	0	0.533	1.064	0.567	0.567	0.354		19.4		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 12-97

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Path #	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n41	100	QPSK	F	1	1294M	1:1	0.03	2592.99	518598	DFT-s-OFDM	0.0	14.5	14.45	1	1	Right Cheek	0	0.330	1.012	0.334	0.334	0.209		19.2		
Head	NR Band n41	100	QPSK	F	1	1294M	1:1	0.02	2592.99	518598	DFT-s-OFDM	0.0	14.5	14.34	135	69	Right Cheek	0	0.312	1.038	0.324	0.324	0.203		19.3		
Head	NR Band n41	100	QPSK	F	1	1294M	1:1	-0.02	2592.99	518598	CP-OFDM	0.0	14.5	14.33	1	1	Right Cheek	0	0.338	1.040	0.352	0.352	0.220		19.0		
Head	NR Band n41	100	QPSK	F	1	1294M	1:1	-0.05	2592.99	518598	DFT-s-OFDM	0.0	14.5	14.45	1	1	Right Tilt	0	0.300	1.012	0.304	0.304	0.190		19.6		
Head	NR Band n41	100	QPSK	F	1	1294M	1:1	0.06	2592.99	518598	DFT-s-OFDM	0.0	14.5	14.34	135	69	Right Tilt	0	0.321	1.038	0.333	0.333	0.208		19.2	19.0	13.5
Head	NR Band n41	100	QPSK	F	1	1294M	1:1	0.04	2592.99	518598	DFT-s-OFDM	0.0	14.5	14.45	1	1	Left Cheek	0	0.176	1.012	0.178	0.178	0.111		21.9		
Head	NR Band n41	100	QPSK	F	1	1294M	1:1	0.10	2592.99	518598	DFT-s-OFDM	0.0	14.5	14.34	135	69	Left Cheek	0	0.156	1.038	0.162	0.162	0.101		22.4		
Head	NR Band n41	100	QPSK	F	1	1294M	1:1	-0.02	2592.99	518598	DFT-s-OFDM	0.0	14.5	14.45	1	1	Left Tilt	0	0.227	1.012	0.230	0.230	0.144		20.8		
Head	NR Band n41	100	QPSK	F	1	1294M	1:1	0.03	2592.99	518598	DFT-s-OFDM	0.0	14.5	14.34	135	69	Left Tilt	0	0.210	1.038	0.218	0.218	0.136		21.1		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																	Head 1.6 W/kg (mW/g) averaged over 1 gram										

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Table 12-98

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Path #	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n41	100	B	1	1294M	1:1	0.05	2592.99	518598	CW/SRS	20.0	19.72	Back	10	0.200	1.067	0.213	0.213	0.133		26.7	25.4	19.0
Hotspot	NR Band n41	100	B	1	1294M	1:1	-0.20	2592.99	518598	CW/SRS	20.0	19.72	Front	10	0.156	1.067	0.166	0.166	0.104		27.7		
Hotspot	NR Band n41	100	B	1	1294M	1:1	-0.11	2592.99	518598	CW/SRS	20.0	19.72	Bottom	10	0.187	1.067	0.200	0.200	0.125		27.0		
Hotspot	NR Band n41	100	B	1	1294M	1:1	-0.09	2592.99	518598	CW/SRS	20.0	19.72	Left	10	0.266	1.067	0.284	0.284	0.178	A70	25.4		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram										

Table 12-99

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Path #	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n41	100	QPSK	B	2	1298M	1:1	-0.07	2592.99	518598	DFT-s-OFDM	0.0	21.0	20.86	1	1	Back	10	0.225	1.033	0.232	0.232	0.145	A71	27.3	26.5	20.0
Body-worn/Hotspot	NR Band n41	100	QPSK	B	2	1298M	1:1	0.02	2592.99	518598	DFT-s-OFDM	0.0	21.0	20.82	135	0	Back	10	0.202	1.042	0.210	0.210	0.131		27.7		
Hotspot	NR Band n41	100	QPSK	B	2	1298M	1:1	0.02	2592.99	518598	DFT-s-OFDM	0.0	21.0	20.86	1	1	Front	10	0.152	1.033	0.157	0.157	0.098		29.0		
Hotspot	NR Band n41	100	QPSK	B	2	1298M	1:1	-0.03	2592.99	518598	DFT-s-OFDM	0.0	21.0	20.82	135	0	Front	10	0.145	1.042	0.151	0.151	0.094		29.2		
Hotspot	NR Band n41	100	QPSK	B	2	1298M	1:1	0.05	2592.99	518598	DFT-s-OFDM	0.0	21.0	20.86	1	1	Bottom	10	0.217	1.033	0.224	0.224	0.140		27.4		
Hotspot	NR Band n41	100	QPSK	B	2	1298M	1:1	0.02	2592.99	518598	DFT-s-OFDM	0.0	21.0	20.82	135	0	Bottom	10	0.230	1.042	0.240	0.240	0.150		27.2		
Hotspot	NR Band n41	100	QPSK	B	2	1298M	1:1	0.00	2592.99	518598	DFT-s-OFDM	0.0	21.0	20.86	1	1	Left	10	0.262	1.033	0.271	0.271	0.169		26.6		
Hotspot	NR Band n41	100	QPSK	B	2	1298M	1:1	0.00	2592.99	518598	DFT-s-OFDM	0.0	21.0	20.82	135	0	Left	10	0.241	1.042	0.251	0.251	0.157		26.9		
Hotspot	NR Band n41	100	QPSK	B	2	1298M	1:1	0.04	2592.99	518598	CP-OFDM	0.0	21.0	20.77	1	1	Left	10	0.262	1.054	0.276	0.276	0.173		26.5		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																	Body 1.6 W/kg (mW/g) averaged over 1 gram										

Table 12-100

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Path #	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n41	100	D	1	1294M	1:1	-0.08	2592.99	518598	CW/SRS	16.5	16.01	Back	10	0.082	1.119	0.092	0.092	0.058		26.8	26.8	15.5
Hotspot	NR Band n41	100	D	1	1294M	1:1	0.05	2592.99	518598	CW/SRS	16.5	16.01	Front	10	0.008	1.119	0.009	0.009	0.006		36.9		
Hotspot	NR Band n41	100	D	1	1294M	1:1	-0.01	2592.99	518598	CW/SRS	16.5	16.01	Bottom	10	0.021	1.119	0.023	0.023	0.014		32.7		
Hotspot	NR Band n41	100	D	1	1294M	1:1	0.01	2592.99	518598	CW/SRS	16.5	16.01	Right	10	0.000	1.119	0.000	0.000	0.000		56.0		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram										

Table 12-101

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Path #	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n41	100	E	1	1294M	1:1	0.06	2592.99	518598	CW/SRS	18.5	18.24	Back	10	0.126	1.062	0.134	0.134	0.084		27.2	27.2	17.5
Hotspot	NR Band n41	100	E	1	1294M	1:1	0.03	2592.99	518598	CW/SRS	18.5	18.24	Front	10	0.119	1.062	0.126	0.126	0.079		27.4		
Hotspot	NR Band n41	100	E	1	1294M	1:1	-0.07	2592.99	518598	CW/SRS	18.5	18.24	Top	10	0.115	1.062	0.122	0.122	0.076		27.6		
Hotspot	NR Band n41	100	E	1	1294M	1:1	-0.05	2592.99	518598	CW/SRS	18.5	18.24	Right	10	0.104	1.062	0.110	0.110	0.069		28.0		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram										

Table 12-102

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Path #	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n41	100	QPSK	F	1	1294M	1:1	0.03	2592.99	518598	DFT-s-OFDM	0.0	17.5	17.42	1	1	Back	10	0.139	1.019	0.142	0.142	0.089		25.9	23.1	16.5
Body-worn/Hotspot	NR Band n41	100	QPSK	F	1	1294M	1:1	0.03	2592.99	518598	DFT-s-OFDM	0.0	17.5	17.32	135	69	Back	10	0.122	1.042	0.127	0.127	0.079		26.4		
Hotspot	NR Band n41	100	QPSK	F	1	1294M	1:1	-0.06	2592.99	518598	DFT-s-OFDM	0.0	17.5	17.42	1	1	Front	10	0.105	1.019	0.107	0.107	0.067		27.2		
Hotspot	NR Band n41	100	QPSK	F	1	1294M	1:1	-0.08	2592.99	518598	DFT-s-OFDM	0.0	17.5	17.32	135	69	Front	10	0.095	1.042	0.099	0.099	0.062		27.5		
Hotspot	NR Band n41	100	QPSK	F	1	1294M	1:1	-0.03	2592.99	518598	DFT-s-OFDM	0.0	17.5	17.42	1	1	Top	10	0.249	1.019	0.254	0.254	0.159		23.4		
Hotspot	NR Band n41	100	QPSK	F	1	1294M	1:1	-0.05	2592.99	518598	DFT-s-OFDM	0.0	17.5	17.32	135	69	Top	10	0.243	1.042	0.253	0.253	0.158		23.4		
Hotspot	NR Band n41	100	QPSK	F	1	1294M	1:1	-0.01	2592.99	518598	CP-OFDM	0.0	17.5	17.24	1	1	Top	10	0.258	1.062	0.274	0.274	0.171		23.1		
Hotspot	NR Band n41	100	QPSK	F	1	1294M	1:1	-0.02	2592.99	518598	DFT-s-OFDM	0.0	17.5	17.42	1	1	Left	10	0.029	1.019	0.030	0.030	0.019		32.7		
Hotspot	NR Band n41	100	QPSK	F	1	1294M	1:1	0.00	2592.99	518598	DFT-s-OFDM	0.0	17.5	17.32	135	69	Left	10	0.014	1.042	0.015	0.015	0.009		35.8		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																	Body 1.6 W/kg (mW/g) averaged over 1 gram										

12.27 NR Band n48 Standalone SAR

Table 12-103

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n48	40	C	1298M	1:1	0.05	3679.98	645332	CW/SRS	10.0	9.51	Right Cheek	0	0.000	1.119	0.000	0.000	0.000		49.5	29.9	9.0
Head	NR Band n48	40	C	1298M	1:1	0.01	3679.98	645332	CW/SRS	10.0	9.51	Right Tilt	0	0.002	1.119	0.002	0.002	0.001		36.4		
Head	NR Band n48	40	C	1298M	1:1	0.08	3679.98	645332	CW/SRS	10.0	9.51	Left Cheek	0	0.009	1.119	0.010	0.010	0.006		29.9		
Head	NR Band n48	40	C	1298M	1:1	0.09	3679.98	645332	CW/SRS	10.0	9.51	Left Tilt	0	0.001	1.119	0.001	0.001	0.001		39.5		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 12-104

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n48	40	D	1298M	1:1	0.03	3624.99	641666	CW/SRS	8.5	8.29	Right Cheek	0	0.000	1.050	0.000	0.000	0.000		48.2	48.2	7.5
Head	NR Band n48	40	D	1298M	1:1	0.02	3624.99	641666	CW/SRS	8.5	8.29	Right Tilt	0	0.000	1.050	0.000	0.000	0.000		48.2		
Head	NR Band n48	40	D	1298M	1:1	0.06	3624.99	641666	CW/SRS	8.5	8.29	Left Cheek	0	0.000	1.050	0.000	0.000	0.000		48.2		
Head	NR Band n48	40	D	1298M	1:1	-0.15	3624.99	641666	CW/SRS	8.5	8.29	Left Tilt	0	0.000	1.050	0.000	0.000	0.000		48.2		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Head 1.6 W/kg (mW/g) averaged over 1 gram										

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Table 12-105

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n48	40	QPSK	F	1298M	1:1	0.01	3570.00	638000	DFT-s-OFDM	0.0	15.0	14.23	1	104	Right Cheek	0	0.582	1.194	0.695	0.695	0.434		16.5		
Head	NR Band n48	40	QPSK	F	1298M	1:1	-0.06	3624.99	641666	DFT-s-OFDM	0.0	15.0	14.51	1	1	Right Cheek	0	0.570	1.119	0.638	0.638	0.399		16.9		
Head	NR Band n48	40	QPSK	F	1298M	1:1	-0.02	3679.98	645332	DFT-s-OFDM	0.0	15.0	14.45	1	104	Right Cheek	0	0.610	1.135	0.692	0.692	0.433		16.5		
Head	NR Band n48	40	QPSK	F	1298M	1:1	0.00	3570.00	638000	DFT-s-OFDM	0.0	15.0	14.18	50	28	Right Cheek	0	0.591	1.208	0.714	0.714	0.446		16.4		
Head	NR Band n48	40	QPSK	F	1298M	1:1	-0.02	3624.99	641666	DFT-s-OFDM	0.0	15.0	14.54	50	28	Right Cheek	0	0.562	1.112	0.625	0.625	0.391		17.0		
Head	NR Band n48	40	QPSK	F	1298M	1:1	-0.04	3679.98	645332	DFT-s-OFDM	0.0	15.0	14.46	50	56	Right Cheek	0	0.617	1.132	0.698	0.698	0.436	A72	16.5		
Head	NR Band n48	40	QPSK	F	1298M	1:1	-0.01	3624.99	641666	DFT-s-OFDM	0.0	15.0	14.47	100	0	Right Cheek	0	0.554	1.130	0.626	0.626	0.391		17.0		
Head	NR Band n48	40	QPSK	F	1298M	1:1	0.01	3624.99	641666	CP-OFDM	0.0	15.0	14.49	1	1	Right Cheek	0	0.568	1.125	0.639	0.639	0.399		16.9		
Head	NR Band n48	40	QPSK	F	1298M	1:1	0.05	3570.00	638000	DFT-s-OFDM	0.0	15.0	14.23	1	104	Right Tilt	0	0.562	1.194	0.671	0.671	0.419		16.7		
Head	NR Band n48	40	QPSK	F	1298M	1:1	-0.03	3624.99	641666	DFT-s-OFDM	0.0	15.0	14.51	1	1	Right Tilt	0	0.564	1.119	0.631	0.631	0.394		16.9	16.4	14.0
Head	NR Band n48	40	QPSK	F	1298M	1:1	-0.01	3679.98	645332	DFT-s-OFDM	0.0	15.0	14.45	1	104	Right Tilt	0	0.600	1.135	0.681	0.681	0.426		16.6		
Head	NR Band n48	40	QPSK	F	1298M	1:1	0.00	3570.00	638000	DFT-s-OFDM	0.0	15.0	14.18	50	28	Right Tilt	0	0.597	1.208	0.721	0.721	0.451		16.4		
Head	NR Band n48	40	QPSK	F	1298M	1:1	0.02	3624.99	641666	DFT-s-OFDM	0.0	15.0	14.54	50	28	Right Tilt	0	0.552	1.112	0.614	0.614	0.384		17.1		
Head	NR Band n48	40	QPSK	F	1298M	1:1	0.09	3679.98	645332	DFT-s-OFDM	0.0	15.0	14.46	50	56	Right Tilt	0	0.606	1.132	0.686	0.686	0.429		16.6		
Head	NR Band n48	40	QPSK	F	1298M	1:1	0.00	3624.99	641666	DFT-s-OFDM	0.0	15.0	14.47	100	0	Right Tilt	0	0.553	1.130	0.625	0.625	0.391		17.0		
Head	NR Band n48	40	QPSK	F	1298M	1:1	-0.05	3624.99	641666	DFT-s-OFDM	0.0	15.0	14.51	1	1	Left Cheek	0	0.177	1.119	0.198	0.198	0.124		22.0		
Head	NR Band n48	40	QPSK	F	1298M	1:1	-0.02	3624.99	641666	DFT-s-OFDM	0.0	15.0	14.54	50	28	Left Cheek	0	0.167	1.112	0.186	0.186	0.116		22.3		
Head	NR Band n48	40	QPSK	F	1298M	1:1	0.00	3624.99	641666	DFT-s-OFDM	0.0	15.0	14.51	1	1	Left Tilt	0	0.289	1.119	0.323	0.323	0.202		19.9		
Head	NR Band n48	40	QPSK	F	1298M	1:1	0.08	3624.99	641666	DFT-s-OFDM	0.0	15.0	14.54	50	28	Left Tilt	0	0.285	1.112	0.317	0.317	0.198		19.9		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																		Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-106

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n48	40	I	1298M	1:1	-0.03	3624.99	641666	CW/SRS	13.0	12.49	Right Cheek	0	0.390	1.125	0.439	0.439	0.274		16.5		
Head	NR Band n48	40	I	1298M	1:1	0.05	3624.99	641666	CW/SRS	13.0	12.49	Right Tilt	0	0.026	1.125	0.029	0.029	0.018		28.3	16.5	12.0
Head	NR Band n48	40	I	1298M	1:1	-0.03	3624.99	641666	CW/SRS	13.0	12.49	Left Cheek	0	0.328	1.125	0.369	0.369	0.231		17.3		
Head	NR Band n48	40	I	1298M	1:1	0.00	3624.99	641666	CW/SRS	13.0	12.49	Left Tilt	0	0.026	1.125	0.029	0.029	0.018		28.3		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 12-107

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n48	40	C	1298M	1:1	0.03	3624.99	641666	CW/SRS	14.0	13.27	Back	10	0.062	1.183	0.073	0.073	0.046		25.3		
Hotspot	NR Band n48	40	C	1298M	1:1	0.21	3624.99	641666	CW/SRS	14.0	13.27	Front	10	0.035	1.183	0.041	0.041	0.026		27.8	23.0	13.0
Hotspot	NR Band n48	40	C	1298M	1:1	0.01	3624.99	641666	CW/SRS	14.0	13.27	Bottom	10	0.032	1.183	0.038	0.038	0.024		28.2		
Hotspot	NR Band n48	40	C	1298M	1:1	-0.01	3624.99	641666	CW/SRS	14.0	13.27	Left	10	0.106	1.183	0.125	0.125	0.078		23.0		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 12-108

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n48	40	D	1298M	1:1	-0.10	3624.99	641666	CW/SRS	12.5	12.05	Back	10	0.143	1.109	0.159	0.159	0.099		20.4		
Hotspot	NR Band n48	40	D	1298M	1:1	0.02	3624.99	641666	CW/SRS	12.5	12.05	Front	10	0.010	1.109	0.011	0.011	0.007		32.0	20.4	11.5
Hotspot	NR Band n48	40	D	1298M	1:1	0.07	3624.99	641666	CW/SRS	12.5	12.05	Bottom	10	0.025	1.109	0.028	0.028	0.018		28.0		
Hotspot	NR Band n48	40	D	1298M	1:1	0.09	3624.99	641666	CW/SRS	12.5	12.05	Right	10	0.007	1.109	0.008	0.008	0.005		33.5		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 12-109

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n48	40	QPSK	F	1298M	1:1	0.11	3624.99	641666	DFT-s-OFDM	0.0	19.0	18.25	1	1	Back	10	0.263	1.189	0.313	0.313	0.196	A73	24.0		
Body-worn/Hotspot	NR Band n48	40	QPSK	F	1298M	1:1	0.02	3624.99	641666	DFT-s-OFDM	0.0	19.0	18.28	50	28	Back	10	0.263	1.180	0.310	0.310	0.194		24.0		
Hotspot	NR Band n48	40	QPSK	F	1298M	1:1	0.00	3624.99	641666	DFT-s-OFDM	0.0	19.0	18.25	1	1	Front	10	0.213	1.189	0.253	0.253	0.158		24.9		
Hotspot	NR Band n48	40	QPSK	F	1298M	1:1	0.01	3624.99	641666	DFT-s-OFDM	0.0	19.0	18.28	50	28	Front	10	0.211	1.180	0.249	0.249	0.156		25.0		
Hotspot	NR Band n48	40	QPSK	F	1298M	1:1	0.01	3624.99	641666	DFT-s-OFDM	0.0	19.0	18.25	1	1	Top	10	0.405	1.189	0.482	0.482	0.301	A74	22.1	22.1	18.0
Hotspot	NR Band n48	40	QPSK	F	1298M	1:1	0.02	3624.99	641666	DFT-s-OFDM	0.0	19.0	18.28	50	28	Top	10	0.391	1.180	0.461	0.461	0.288		22.3		
Hotspot	NR Band n48	40	QPSK	F	1298M	1:1	0.01	3624.99	641666	CP-OFDM	0.0	19.0	18.23	1	1	Top	10	0.402	1.194	0.480	0.480	0.300		22.1		
Hotspot	NR Band n48	40	QPSK	F	1298M	1:1	-0.09	3624.99	641666	DFT-s-OFDM	0.0	19.0	18.25	1	1	Left	10	0.068	1.189	0.081	0.081	0.051		29.9		
Hotspot	NR Band n48	40	QPSK	F	1298M	1:1	0.03	3624.99	641666	DFT-s-OFDM	0.0	19.0	18.28	50	28	Left	10	0.068	1.180	0.080	0.080	0.050		29.9		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																		Body 1.6 W/kg (mW/g) averaged over 1 gram								

Table 12-110

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n48	40	I	1298M	1:1	-0.02	3624.99	641666	CW/SRS	17.0	16.26	Back	10	0.133	1.186	0.158	0.158	0.099		25.0		
Hotspot	NR Band n48	40	I	1298M	1:1	0.01	3624.99	641666	CW/SRS	17.0	16.26	Front	10	0.134	1.186	0.159	0.159	0.099		24.9	24.9	16.0
Hotspot	NR Band n48	40	I	1298M	1:1	-0.10	3624.99	641666	CW/SRS	17.0	16.26	Top	10	0.014	1.186	0.017	0.017	0.011		34.7		
Hotspot	NR Band n48	40	I	1298M	1:1	0.07	3624.99	641666	CW/SRS	17.0	16.26	Left	10	0.061	1.186	0.072	0.072	0.045		28.4		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram							

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12.28 NR Band n77 Standalone SAR

Table 12-111

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n77	100	C	1313M	1:1	0.01	3750.00	650000	CW/SRS	11.0	10.87	Right Cheek	0	0.000	1.030	0.000	0.000	0.000		50.8		
Head	NR Band n77	100	C	1313M	1:1	0.03	3750.00	650000	CW/SRS	11.0	10.87	Right Tilt	0	0.005	1.030	0.005	0.005	0.003		33.8		
Head	NR Band n77 DoD	100	C	1313M	1:1	0.02	3500.01	633334	CW/SRS	11.0	10.57	Left Cheek	0	0.000	1.104	0.000	0.000	0.000		50.5	31.3	10.0
Head	NR Band n77	100	C	1313M	1:1	0.05	3750.00	650000	CW/SRS	11.0	10.87	Left Cheek	0	0.009	1.030	0.009	0.009	0.006		31.3		
Head	NR Band n77	100	C	1313M	1:1	0.05	3750.00	650000	CW/SRS	11.0	10.87	Left Tilt	0	0.000	1.030	0.000	0.000	0.000		50.8		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 12-112

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n77	100	D	1313M	1:1	0.07	3750.00	650000	CW/SRS	10.0	9.86	Right Cheek	0	0.000	1.033	0.000	0.000	0.000		49.8		
Head	NR Band n77	100	D	1313M	1:1	0.04	3750.00	650000	CW/SRS	10.0	9.86	Right Tilt	0	0.000	1.033	0.000	0.000	0.000		49.8		
Head	NR Band n77 DoD	100	D	1313M	1:1	0.04	3500.01	633334	CW/SRS	10.0	9.48	Left Cheek	0	0.000	1.127	0.000	0.000	0.000		49.4	49.4	9.0
Head	NR Band n77	100	D	1313M	1:1	0.08	3750.00	650000	CW/SRS	10.0	9.86	Left Cheek	0	0.000	1.033	0.000	0.000	0.000		49.8		
Head	NR Band n77	100	D	1313M	1:1	0.05	3750.00	650000	CW/SRS	10.0	9.86	Left Tilt	0	0.000	1.033	0.000	0.000	0.000		49.8		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 12-113

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n77	100	QPSK	F	1313M	1:1	0.05	3750.00	650000	DFT-s-OFDM	0.0	16.0	15.70	1	1	Right Cheek	0	0.608	1.072	0.652	0.652	0.408		17.8		
Head	NR Band n77	100	QPSK	F	1313M	1:1	0.06	3930.00	662000	DFT-s-OFDM	0.0	16.0	15.36	1	271	Right Cheek	0	0.757	1.159	0.877	0.877	0.548		16.5		
Head	NR Band n77	100	QPSK	F	1313M	1:1	0.03	3750.00	650000	DFT-s-OFDM	0.0	16.0	15.47	135	0	Right Cheek	0	0.646	1.130	0.730	0.730	0.456		17.3		
Head	NR Band n77	100	QPSK	F	1313M	1:1	-0.02	3930.00	662000	DFT-s-OFDM	0.0	16.0	15.29	135	138	Right Cheek	0	0.744	1.178	0.876	0.876	0.548		16.5		
Head	NR Band n77	100	QPSK	F	1313M	1:1	0.05	3750.00	650000	DFT-s-OFDM	0.0	16.0	15.38	270	0	Right Cheek	0	0.647	1.153	0.746	0.746	0.466		17.2		
Head	NR Band n77 DoD	100	QPSK	F	1313M	1:1	-0.01	3500.01	633334	DFT-s-OFDM	0.0	16.0	15.32	1	1	Right Tilt	0	0.739	1.169	0.864	0.864	0.540		16.6		
Head	NR Band n77	100	QPSK	F	1313M	1:1	0.07	3750.00	650000	DFT-s-OFDM	0.0	16.0	15.70	1	1	Right Tilt	0	0.834	1.072	0.894	0.894	0.559		16.4		
Head	NR Band n77	100	QPSK	F	1313M	1:1	-0.07	3930.00	662000	DFT-s-OFDM	0.0	16.0	15.36	1	271	Right Tilt	0	0.950	1.159	1.101	1.101	0.688	A75	15.5		
Head	NR Band n77	100	QPSK	F	1313M	1:1	0.01	3930.00	662000	DFT-s-OFDM	0.0	16.0	15.29	1	273	Right Tilt	0	0.937	1.159	1.086	1.086	0.675		15.6		
Head	NR Band n77	100	QPSK	F	1313M	1:1	0.00	3750.00	650000	DFT-s-OFDM	0.0	16.0	15.47	135	0	Right Tilt	0	0.865	1.130	0.977	0.977	0.611		16.0		
Head	NR Band n77	100	QPSK	F	1313M	1:1	0.00	3930.00	662000	DFT-s-OFDM	0.0	16.0	15.29	135	138	Right Tilt	0	0.944	1.178	1.112	1.112	0.695		15.5	15.5	15.0
Head	NR Band n77	100	QPSK	F	1313M	1:1	-0.03	3750.00	650000	DFT-s-OFDM	0.0	16.0	15.38	270	0	Right Tilt	0	0.908	1.153	1.047	1.047	0.654		15.7		
Head	NR Band n77	100	QPSK	F	1313M	1:1	0.01	3750.00	650000	DFT-s-OFDM	0.0	16.0	15.18	270	0	Right Tilt	0	0.788	1.153	0.908	0.908	0.567		15.8		
Head	NR Band n77	100	QPSK	F	1313M	1:1	0.01	3750.00	650000	CP-OFDM	0.0	16.0	15.78	1	1	Right Tilt	0	0.845	1.052	0.889	0.889	0.556		16.5		
Head	NR Band n77	100	QPSK	F	1313M	1:1	0.09	3750.00	650000	DFT-s-OFDM	0.0	16.0	15.70	1	1	Left Cheek	0	0.317	1.072	0.340	0.340	0.213		20.6		
Head	NR Band n77	100	QPSK	F	1313M	1:1	0.05	3750.00	650000	DFT-s-OFDM	0.0	16.0	15.47	135	0	Left Cheek	0	0.326	1.130	0.368	0.368	0.230		20.3		
Head	NR Band n77	100	QPSK	F	1313M	1:1	-0.15	3750.00	650000	DFT-s-OFDM	0.0	16.0	15.70	1	1	Left Tilt	0	0.388	1.072	0.416	0.416	0.260		19.8		
Head	NR Band n77	100	QPSK	F	1313M	1:1	-0.03	3930.00	662000	DFT-s-OFDM	0.0	16.0	15.36	1	271	Left Tilt	0	0.401	1.159	0.465	0.465	0.291		19.3		
Head	NR Band n77	100	QPSK	F	1313M	1:1	0.05	3750.00	650000	DFT-s-OFDM	0.0	16.0	15.47	135	0	Left Tilt	0	0.389	1.130	0.440	0.440	0.275		19.5		
Head	NR Band n77	100	QPSK	F	1313M	1:1	0.05	3930.00	662000	DFT-s-OFDM	0.0	16.0	15.29	135	138	Left Tilt	0	0.414	1.178	0.488	0.488	0.305		19.1		
Head	NR Band n77	100	QPSK	F	1313M	1:1	0.02	3750.00	650000	DFT-s-OFDM	0.0	16.0	15.38	270	0	Left Tilt	0	0.387	1.153	0.446	0.446	0.279		19.5		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Head 1.6 W/kg (mW/g) averaged over 1 gram										

Note: Blue entry represents variability measurement

Table 12-114

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n77 DoD	100	I	1313M	1:1	-0.04	3500.01	633334	CW/SRS	15.0	14.42	Right Cheek	0	0.248	1.143	0.283	0.283	0.177		20.4		
Head	NR Band n77	100	I	1313M	1:1	-0.04	3750.00	650000	CW/SRS	15.0	14.49	Right Cheek	0	0.389	1.125	0.438	0.438	0.274		18.5		
Head	NR Band n77	100	I	1313M	1:1	-0.02	3930.00	662000	CW/SRS	15.0	14.16	Right Cheek	0	0.292	1.213	0.354	0.354	0.221		19.5	18.5	14.0
Head	NR Band n77	100	I	1313M	1:1	-0.06	3750.00	650000	CW/SRS	15.0	14.49	Right Tilt	0	0.035	1.125	0.039	0.039	0.024		29.0		
Head	NR Band n77	100	I	1313M	1:1	0.03	3750.00	650000	CW/SRS	15.0	14.49	Left Cheek	0	0.360	1.125	0.405	0.405	0.253		18.9		
Head	NR Band n77	100	I	1313M	1:1	0.07	3750.00	650000	CW/SRS	15.0	14.49	Left Tilt	0	0.039	1.125	0.044	0.044	0.028		28.5		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 12-115

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n77 DoD	100	C	1190M	1:1	0.07	3500.01	633334	CW/SRS	12.0	11.61	Back	10	0.074	1.094	0.081	0.081	0.051		22.9		
Body-worn/Hotspot	NR Band n77	100	C	1190M	1:1	-0.16	3750.00	650000	CW/SRS	12.0	11.81	Back	10	0.055	1.045	0.057	0.057	0.036		24.4		
Hotspot	NR Band n77	100	C	1190M	1:1	-0.15	3750.00	650000	CW/SRS	12.0	11.81	Front	10	0.022	1.045	0.023	0.023	0.014		28.3	22.7	11.0
Hotspot	NR Band n77	100	C	1190M	1:1	0.03	3750.00	650000	CW/SRS	12.0	11.81	Bottom	10	0.028	1.045	0.029	0.029	0.018		27.3		
Hotspot	NR Band n77 DoD	100	C	1190M	1:1	-0.02	3500.01	633334	CW/SRS	12.0	11.61	Left	10	0.057	1.094	0.062	0.062	0.039		24.0		
Hotspot	NR Band n77	100	C	1190M	1:1	-0.17	3750.00	650000	CW/SRS	12.0	11.81	Left	10	0.080	1.045	0.084	0.084	0.053		22.7		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Body 1.6 W/kg (mW/g) averaged over 1 gram										

Table 12-116

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n77 DoD	100	D	1190M	1:1	-0.13	3500.01	633334	CW/SRS	11.0	10.48	Back	10	0.119	1.127	0.134	0.134	0.084		19.7		
Body-worn/Hotspot	NR Band n77	100	D	1190M	1:1	0.15	3750.00	650000	CW/SRS	11.0	10.81	Back	10	0.095	1.045	0.099	0.099	0.062		21.0		
Hotspot	NR Band n77	100	D	1190M	1:1	0.03	3750.00	650000	CW/SRS	11.0	10.81	Front	10	0.003	1.045	0.003	0.003	0.002		36.0	19.7	10.0
Hotspot	NR Band n77	100	D	1190M	1:1	0.09	3750.00	650000	CW/SRS	11.0	10.81	Bottom	10	0.017	1.045	0.018	0.018	0.011		28.5		
Hotspot	NR Band n77	100	D	1190M	1:1	0.04	3750.00	650000	CW/SRS	11.0	10.81	Right	10	0.008	1.045	0.008	0.008	0.005		31.7		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Body 1.6 W/kg (mW/g) averaged over 1 gram										

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Table 12-117

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n77 DoD	100	QPSK	F	1190M	1:1	-0.02	3500.01	633334	DFT-s-OFDM	0.0	18.0	17.46	1	1	Back	10	0.191	1.132	0.216	0.216	0.135		24.6	20.9	17.0
Body-worn/Hotspot	NR Band n77	100	QPSK	F	1190M	1:1	-0.01	3750.00	650000	DFT-s-OFDM	0.0	18.0	17.66	1	1	Back	10	0.256	1.081	0.277	0.277	0.173	A76	23.5		
Body-worn/Hotspot	NR Band n77	100	QPSK	F	1190M	1:1	0.00	3750.00	650000	DFT-s-OFDM	0.0	18.0	17.59	135	0	Back	10	0.256	1.099	0.281	0.281	0.176		23.5		
Hotspot	NR Band n77	100	QPSK	F	1190M	1:1	0.06	3750.00	650000	DFT-s-OFDM	0.0	18.0	17.66	1	1	Front	10	0.241	1.081	0.261	0.261	0.163		23.8		
Hotspot	NR Band n77	100	QPSK	F	1190M	1:1	-0.01	3750.00	650000	DFT-s-OFDM	0.0	18.0	17.59	135	0	Front	10	0.241	1.099	0.265	0.265	0.166		23.7		
Hotspot	NR Band n77 DoD	100	QPSK	F	1190M	1:1	-0.05	3500.01	633334	DFT-s-OFDM	0.0	18.0	17.46	1	1	Top	10	0.355	1.132	0.402	0.402	0.251		21.9		
Hotspot	NR Band n77	100	QPSK	F	1190M	1:1	-0.03	3750.00	650000	DFT-s-OFDM	0.0	18.0	17.66	1	1	Top	10	0.401	1.081	0.433	0.433	0.271		21.6		
Hotspot	NR Band n77	100	QPSK	F	1190M	1:1	-0.02	3930.00	662000	DFT-s-OFDM	0.0	18.0	17.53	1	1	Top	10	0.332	1.114	0.370	0.370	0.231		22.3		
Hotspot	NR Band n77	100	QPSK	F	1190M	1:1	0.02	3750.00	650000	DFT-s-OFDM	0.0	18.0	17.59	135	0	Top	10	0.393	1.099	0.432	0.432	0.270		21.6		
Hotspot	NR Band n77	100	QPSK	F	1190M	1:1	0.05	3930.00	662000	DFT-s-OFDM	0.0	18.0	17.57	135	138	Top	10	0.332	1.104	0.367	0.367	0.229		22.3		
Hotspot	NR Band n77	100	QPSK	F	1190M	1:1	-0.09	3750.00	650000	DFT-s-OFDM	0.0	18.0	17.39	270	0	Top	10	0.390	1.151	0.449	0.449	0.281		21.4		
Hotspot	NR Band n77	100	QPSK	F	1190M	1:1	0.00	3750.00	650000	CP-OFDM	0.0	18.0	17.57	1	1	Top	10	0.456	1.104	0.503	0.503	0.314	A77	20.9		
Hotspot	NR Band n77	100	QPSK	F	1190M	1:1	-0.05	3750.00	650000	DFT-s-OFDM	0.0	18.0	17.66	1	1	Left	10	0.056	1.081	0.061	0.061	0.038		30.1		
Hotspot	NR Band n77	100	QPSK	F	1190M	1:1	-0.09	3750.00	650000	DFT-s-OFDM	0.0	18.0	17.59	135	0	Left	10	0.054	1.099	0.059	0.059	0.037		30.2		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram										

Table 12-118

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n77 DoD	100	I	1190M	1:1	-0.19	3500.01	633334	CW/SRS	16.0	15.40	Back	10	0.101	1.148	0.116	0.116	0.073		25.3	25.2	15.0
Body-worn/Hotspot	NR Band n77	100	I	1190M	1:1	0.03	3750.00	650000	CW/SRS	16.0	15.47	Back	10	0.106	1.130	0.120	0.120	0.075		25.2		
Hotspot	NR Band n77	100	I	1190M	1:1	0.09	3750.00	650000	CW/SRS	16.0	15.47	Front	10	0.072	1.130	0.081	0.081	0.051		26.8		
Hotspot	NR Band n77	100	I	1190M	1:1	-0.08	3750.00	650000	CW/SRS	16.0	15.47	Left	10	0.077	1.130	0.087	0.087	0.054		26.6		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Body 1.6 W/kg (mW/g) averaged over 1 gram										

12.29 2.4 GHz WIFI Standalone SAR

Table 12-119

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	H	1262M	98.90	0.06	2437.00	6	1	14.0	12.80	Right Cheek	0	0.381	1.319	1.011	0.508	0.508	0.318	A78	16.9		
Head	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	H	1262M	98.90	0.00	2437.00	6	1	14.0	12.80	Right Tilt	0	0.166	1.319	1.011	0.221	0.221	0.138		20.5	16.9	13.0
Head	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	H	1262M	98.90	0.04	2437.00	6	1	14.0	12.80	Left Cheek	0	0.084	1.319	1.011	0.112	0.112	0.070		23.5		
Head	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	H	1262M	98.90	-0.04	2437.00	6	1	14.0	12.80	Left Tilt	0	0.058	1.319	1.011	0.077	0.077	0.048		25.1		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Head 1.6 W/kg (mW/g) averaged over 1 gram											

Table 12-120

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	J	1262M	98.99	0.01	2437.00	6	1	14.0	13.30	Right Cheek	0	0.190	1.176	1.010	0.226	0.226	0.141		20.4		
Head	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	J	1262M	98.99	0.05	2437.00	6	1	14.0	13.30	Right Tilt	0	0.025	1.176	1.010	0.030	0.030	0.019		29.2	18.6	13.0
Head	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	J	1262M	98.99	-0.01	2437.00	6	1	14.0	13.30	Left Cheek	0	0.289	1.176	1.010	0.343	0.343	0.214		18.6		
Head	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	J	1262M	98.99	0.10	2437.00	6	1	14.0	13.30	Left Tilt	0	0.040	1.176	1.010	0.048	0.048	0.030		27.2		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Head 1.6 W/kg (mW/g) averaged over 1 gram											

Table 12-121

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	1262M	98.82	-0.09	2437.00	6	1	14.0	12.69	14.0	13.24	Right Cheek	0	0.346	1.352	1.012	0.473	0.473	0.296		17.2		
Head	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	1262M	98.82	0.00	2437.00	6	1	14.0	12.69	14.0	13.24	Right Tilt	0	0.111	1.352	1.012	0.152	0.152	0.095		22.1	17.2	13.0
Head	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	1262M	98.82	0.02	2437.00	6	1	14.0	12.69	14.0	13.24	Left Cheek	0	0.258	1.352	1.012	0.353	0.353	0.221		18.5		
Head	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	1262M	98.82	0.12	2437.00	6	1	14.0	12.69	14.0	13.24	Left Tilt	0	0.045	1.352	1.012	0.062	0.062	0.039		26.1		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Head 1.6 W/kg (mW/g) averaged over 1 gram											

Note: To achieve the 17 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 14 dBm.

Table 12-122

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	H	1262M	98.90	-0.04	2437.00	6	1	20.0	19.47	Back	10	0.275	1.130	1.011	0.314	0.321	0.201		25.0		
Hotspot	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	H	1262M	98.90	0.04	2437.00	6	1	20.0	19.47	Front	10	0.223	1.130	1.011	0.255	0.261	0.163		25.9	22.8	20.1
Hotspot	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	H	1262M	98.90	0.01	2437.00	6	1	20.0	19.47	Top	10	0.201	1.130	1.011	0.230	0.235	0.147		26.3		
Hotspot	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	H	1262M	98.90	-0.02	2437.00	6	1	20.0	19.47	Left	10	0.452	1.130	1.011	0.516	0.528	0.330	A79	22.8		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram											

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Table 12-123

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	2.4 GHz WiFi/ IEEE 802.11b	20	DSSS	J	1262M	98.99	0.00	2437.00	6	1	20.0	19.48	Back	10	0.112	1.127	1.010	0.127	0.413	0.258		28.9	27.0	25.1
Hotspot	2.4 GHz WiFi/ IEEE 802.11b	20	DSSS	J	1262M	98.99	-0.04	2437.00	6	1	20.0	19.48	Front	10	0.173	1.127	1.010	0.197	0.637	0.398		27.0		
Hotspot	2.4 GHz WiFi/ IEEE 802.11b	20	DSSS	J	1262M	98.99	0.01	2437.00	6	1	20.0	19.48	Top	10	0.005	1.127	1.010	0.006	0.018	0.011		42.4		
Hotspot	2.4 GHz WiFi/ IEEE 802.11b	20	DSSS	J	1262M	98.99	0.01	2437.00	6	1	20.0	19.48	Right	10	0.054	1.127	1.010	0.061	0.199	0.124		32.1		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram											

Table 12-124

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	2.4 GHz WiFi/ IEEE 802.11b	20	DSSS	MIMO	1262M	98.82	-0.03	2437.00	6	1	20.0	19.20	20.0	19.95	Back	10	0.306	1.202	1.012	0.372	0.372	0.233	A80	24.2		
Hotspot	2.4 GHz WiFi/ IEEE 802.11b	20	DSSS	MIMO	1262M	98.82	0.01	2437.00	6	1	20.0	19.20	20.0	19.95	Front	10	0.337	1.202	1.012	0.410	0.410	0.256		23.8		
Hotspot	2.4 GHz WiFi/ IEEE 802.11b	20	DSSS	MIMO	1262M	98.82	-0.03	2437.00	6	1	20.0	19.20	20.0	19.95	Top	10	0.169	1.202	1.012	0.206	0.206	0.129		26.8	22.6	19.6
Hotspot	2.4 GHz WiFi/ IEEE 802.11b	20	DSSS	MIMO	1262M	98.82	0.02	2437.00	6	1	20.0	19.20	20.0	19.95	Right	10	0.095	1.202	1.012	0.116	0.116	0.073		29.3		
Hotspot	2.4 GHz WiFi/ IEEE 802.11b	20	DSSS	MIMO	1262M	98.82	-0.01	2437.00	6	1	20.0	19.20	20.0	19.95	Left	10	0.447	1.202	1.012	0.544	0.544	0.340		22.6		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram											

Note: To achieve the 23 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 20 dBm.

12.30 5 GHz WIFI SISO Standalone SAR

Table 12-125

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	5 GHz WiFi/ IEEE 802.11n	40	OFDM	H	1159M	92.65	0.00	5270.00	54	U-NII-2A	13.5	14.0	13.13	Right Cheek	0	0.455	1.222	1.079	0.600	0.600	0.375	A81	16.2		
Head	5 GHz WiFi/ IEEE 802.11ac	80	OFDM	H	1159M	96.60	-0.15	5690.00	138	U-NII-2C	29.3	14.0	12.27	Right Cheek	0	0.403	1.489	1.035	0.621	0.621	0.388		16.0		
Head	5 GHz WiFi/ IEEE 802.11ac	80	OFDM	H	1159M	96.60	-0.10	5775.00	155	U-NII-3	29.3	14.0	12.61	Right Cheek	0	0.409	1.376	1.035	0.582	0.582	0.364		16.3		
Head	5 GHz WiFi/ IEEE 802.11ac	80	OFDM	H	1159M	96.60	-0.06	5855.00	171	U-NII-4	29.3	14.0	13.11	Right Cheek	0	0.394	1.227	1.035	0.500	0.500	0.313		17.0		
Head	5 GHz WiFi/ IEEE 802.11n	40	OFDM	H	1159M	92.65	-0.08	5270.00	54	U-NII-2A	13.5	14.0	13.13	Right Tilt	0	0.148	1.222	1.079	0.195	0.195	0.122		21.0		
Head	5 GHz WiFi/ IEEE 802.11ac	80	OFDM	H	1159M	96.60	0.09	5690.00	138	U-NII-2C	29.3	14.0	12.27	Right Tilt	0	0.130	1.489	1.035	0.200	0.200	0.125		20.9		
Head	5 GHz WiFi/ IEEE 802.11ac	80	OFDM	H	1159M	96.60	0.03	5775.00	155	U-NII-3	29.3	14.0	12.61	Right Tilt	0	0.134	1.376	1.035	0.191	0.191	0.119		21.1		
Head	5 GHz WiFi/ IEEE 802.11ac	80	OFDM	H	1159M	96.60	0.01	5855.00	171	U-NII-4	29.3	14.0	13.11	Right Tilt	0	0.131	1.227	1.035	0.166	0.166	0.104		21.7		
Head	5 GHz WiFi/ IEEE 802.11n	40	OFDM	H	1159M	92.65	0.02	5270.00	54	U-NII-2A	13.5	14.0	13.13	Left Cheek	0	0.050	1.222	1.079	0.066	0.066	0.041		25.8		
Head	5 GHz WiFi/ IEEE 802.11ac	80	OFDM	H	1159M	96.60	0.07	5690.00	138	U-NII-2C	29.3	14.0	12.27	Left Cheek	0	0.051	1.489	1.035	0.079	0.079	0.049		25.0		
Head	5 GHz WiFi/ IEEE 802.11ac	80	OFDM	H	1159M	96.60	0.05	5775.00	155	U-NII-3	29.3	14.0	12.61	Left Cheek	0	0.032	1.376	1.035	0.046	0.046	0.029		27.4		
Head	5 GHz WiFi/ IEEE 802.11ac	80	OFDM	H	1159M	96.60	0.07	5855.00	171	U-NII-4	29.3	14.0	13.11	Left Cheek	0	0.028	1.227	1.035	0.036	0.036	0.023		28.4		
Head	5 GHz WiFi/ IEEE 802.11n	40	OFDM	H	1159M	92.65	0.03	5270.00	54	U-NII-2A	13.5	14.0	13.13	Left Tilt	0	0.049	1.222	1.079	0.065	0.065	0.041		25.8		
Head	5 GHz WiFi/ IEEE 802.11ac	80	OFDM	H	1159M	96.60	0.03	5690.00	138	U-NII-2C	29.3	14.0	12.27	Left Tilt	0	0.055	1.489	1.035	0.085	0.085	0.053		24.7		
Head	5 GHz WiFi/ IEEE 802.11ac	80	OFDM	H	1159M	96.60	0.03	5775.00	155	U-NII-3	29.3	14.0	12.61	Left Tilt	0	0.040	1.376	1.035	0.057	0.057	0.036		26.4		
Head	5 GHz WiFi/ IEEE 802.11ac	80	OFDM	H	1159M	96.60	0.07	5855.00	171	U-NII-4	29.3	14.0	13.11	Left Tilt	0	0.032	1.227	1.035	0.041	0.041	0.026		27.9		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Head 1.6 W/kg (mW/g) averaged over 1 gram											

Table 12-126

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	5 GHz WiFi/ IEEE 802.11n	40	OFDM	E	1159M	92.61	-0.01	5310.00	62	U-NII-2A	13.5	14.0	13.23	Right Cheek	0	0.062	1.194	1.080	0.080	0.080	0.050		24.9		
Head	5 GHz WiFi/ IEEE 802.11ac	80	OFDM	E	1159M	96.62	0.04	5690.00	138	U-NII-2C	29.3	14.0	12.91	Right Cheek	0	0.077	1.285	1.035	0.102	0.102	0.064		23.8		
Head	5 GHz WiFi/ IEEE 802.11ac	80	OFDM	E	1159M	96.62	0.03	5775.00	155	U-NII-3	29.3	14.0	12.86	Right Cheek	0	0.078	1.300	1.035	0.105	0.105	0.066		23.7		
Head	5 GHz WiFi/ IEEE 802.11ac	80	OFDM	E	1159M	96.62	0.09	5855.00	171	U-NII-4	29.3	14.0	13.14	Right Cheek	0	0.092	1.219	1.035	0.116	0.116	0.073		23.3		
Head	5 GHz WiFi/ IEEE 802.11n	40	OFDM	E	1159M	92.61	0.03	5310.00	62	U-NII-2A	13.5	14.0	13.23	Right Tilt	0	0.060	1.194	1.080	0.077	0.077	0.048		25.1		
Head	5 GHz WiFi/ IEEE 802.11ac	80	OFDM	E	1159M	96.62	0.04	5690.00	138	U-NII-2C	29.3	14.0	12.91	Right Tilt	0	0.061	1.285	1.035	0.081	0.081	0.051		24.9		
Head	5 GHz WiFi/ IEEE 802.11ac	80	OFDM	E	1159M	96.62	0.05	5775.00	155	U-NII-3	29.3	14.0	12.86	Right Tilt	0	0.060	1.300	1.035	0.081	0.081	0.051		24.9		
Head	5 GHz WiFi/ IEEE 802.11ac	80	OFDM	E	1159M	96.62	0.03	5855.00	171	U-NII-4	29.3	14.0	13.14	Right Tilt	0	0.074	1.219	1.035	0.093	0.093	0.058		24.2		
Head	5 GHz WiFi/ IEEE 802.11n	40	OFDM	E	1159M	92.61	-0.09	5310.00	62	U-NII-2A	13.5	14.0	13.23	Left Cheek	0	0.081	1.194	1.080	0.104	0.104	0.065		23.8		
Head	5 GHz WiFi/ IEEE 802.11ac	80	OFDM	E	1159M	96.62	0.03	5690.00	138	U-NII-2C	29.3	14.0	12.91	Left Cheek	0	0.075	1.285	1.035	0.100	0.100	0.063		24.0		
Head	5 GHz WiFi/ IEEE 802.11ac	80	OFDM	E	1159M	96.62	0.01	5775.00	155	U-NII-3	29.3	14.0	12.86	Left Cheek	0	0.084	1.300	1.035	0.113	0.113	0.071		23.4		
Head	5 GHz WiFi/ IEEE 802.11ac	80	OFDM	E	1159M	96.62	0.06	5855.00	171	U-NII-4	29.3	14.0	13.14	Left Cheek	0	0.079	1.219	1.035	0.100	0.100	0.063		24.0		
Head	5 GHz WiFi/ IEEE 802.11n	40	OFDM	E	1159M	92.61	0.03	5310.00	62	U-NII-2A	13.5	14.0	13.23	Left Tilt	0	0.049	1.194	1.080	0.063	0.063	0.039		25.9		
Head	5 GHz WiFi/ IEEE 802.11ac	80	OFDM	E	1159M	96.62	-0.09	5690.00	138	U-NII-2C	29.3	14.0	12.91	Left Tilt	0	0.081	1.285	1.035	0.108	0.108	0.068		23.6		
Head	5 GHz WiFi/ IEEE 802.11ac	80	OFDM	E	1159M	96.62	0.06	5775.00	155	U-NII-3	29.3	14.0	12.86	Left Tilt	0	0.065	1.300	1.035	0.087	0.087	0.054		24.5		
Head	5 GHz WiFi/ IEEE 802.11ac	80	OFDM	E	1159M	96.62	0.02	5855.00	171	U-NII-4	29.3	14.0	13.14	Left Tilt	0	0.074	1.219	1.035	0.093	0.093	0.058		24.2		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Head 1.6 W/kg (mW/g) averaged over 1 gram											

Table 12-127

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn	5 GHz WiFi/ IEEE 802.11a	20	OFDM	H	1156M	96.60	-0.16	5280.00	56	U-NII-2A	6	17.0	16.69	Back	10	0.237	1.074	1.035	0.263	0.263	0.164		22.7		
Body-worn	5 GHz WiFi/ IEEE 802.11a	20	OFDM	H	1156M	96.60	-0.21	5720.00	144	U-NII-2C	6	17.0	16.69	Back	10	0.474	1.074	1.035	0.527	0.527	0.329		19.7		
Body-worn	5 GHz WiFi/ IEEE 802.11a	20	OFDM	H	1159M	96.60	0.05	5845.00	169	U-NII-4	6	17.0	16.89	Back	10	0.280	1.026	1.035	0.297	0.297	0.186		22.2		
Body-worn/Hotspot	5 GHz WiFi/ IEEE 802.11a	20	OFDM	H	1156M	96.60	0.04	5825.00	165	U-NII-3	6	17.0	16.97	Back	10	0.388	1.007	1.035	0.404	0.404	0.253		20.9	19.7	16.0
Hotspot	5 GHz WiFi/ IEEE 802.11a	20	OFDM	H	1156M	96.60	0.13	5825.00	165	U-NII-3	6	17.0	16.97	Front	10	0.149	1.007	1.035	0.155	0.155	0.097		25.0		
Hotspot	5 GHz WiFi/ IEEE 802.11a	20	OFDM	H	1156M	96.60	0.06	5825.00	165	U-NII-3	6	17.0	16.97	Top	10	0.117	1.007	1.035	0.122	0.122	0.076		26.1		
Hotspot	5 GHz WiFi/ IEEE 802.11a	20	OFDM	H	1156M	96.60	0.00	5825.00	165	U-NII-3	6	17.0	16.97	Left	10	0.445	1.007	1.035	0.464	0.464	0.290		20.3		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram											

Table 12-128

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn	5 GHz WiFi/ IEEE 802.11a	20	OFDM	E	1159M	96.62	0.08	5300.00	60	U-NII-2A	6	17.0	16.94	Back	10	0.328	1.015	1.035	0.345	0.345	0.216		21.6		
Body-worn	5 GHz WiFi/ IEEE 802.11a	20	OFDM	E	1159M	96.62	-0.07	5720.00	144	U-NII-2C	6	17.0	16.98	Back	10	0.347	1.005	1.035	0.361	0.361	0.226		21.4		
Body-worn	5 GHz WiFi/ IEEE 802.11a	20	OFDM	E	1159M	96.62	-0.12	5865.00	173	U-NII-4	6	17.0	16.72	Back	10	0.380	1.067	1.035	0.420	0.420	0.263		20.7		
Body-worn/Hotspot	5 GHz WiFi/ IEEE 802.11a	20	OFDM	E	1159M	96.62	-0.08	5825.00	165	U-NII-3	6	17.0	16.63	Back	10	0.365	1.089	1.035	0.411	0.411	0.257		20.8	20.7	16.0
Hotspot	5 GHz WiFi/ IEEE 802.11a	20	OFDM	E	1159M	96.62	0.01	5825.00	165	U-NII-3	6	17.0	16.63	Front	10	0.057	1.089	1.035	0.064	0.064	0.040		28.9		
Hotspot	5 GHz WiFi/ IEEE 802.11a	20	OFDM	E	1159M	96.62	-0.21	5825.00	165	U-NII-3	6	17.0	16.63	Top	10	0.214	1.089	1.035	0.241	0.241	0.151		23.1		
Hotspot	5 GHz WiFi/ IEEE 802.11a	20	OFDM	E	1159M	96.62	0.03	5825.00	165	U-NII-3	6	17.0	16.63	Right	10	0.046	1.089	1.035	0.052	0.052	0.033		29.8		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram											

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Table 12-129

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 10g SAR [W/kg]	Adjusted 10g SAR [W/kg]	Exposure Ratio (10g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	H	1159M	96.60	-0.11	5280.00	56	U-NII-2A	6	17.0	16.69	Back	0	0.636	1.074	1.035	0.707	0.707	0.177		22.4		
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	H	1159M	96.60	-0.16	5720.00	144	U-NII-2C	6	17.0	16.69	Back	0	0.829	1.074	1.035	0.922	0.922	0.231		21.3		
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	H	1159M	96.60	0.00	5845.00	169	U-NII-4	6	17.0	16.89	Back	0	0.810	1.026	1.035	0.860	0.860	0.215		21.6		
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	H	1159M	96.60	-0.02	5280.00	56	U-NII-2A	6	17.0	16.69	Front	0	0.806	1.074	1.035	0.896	0.896	0.224		21.4		
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	H	1159M	96.60	0.01	5720.00	144	U-NII-2C	6	17.0	16.69	Front	0	0.813	1.074	1.035	0.904	0.904	0.226		21.4		
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	H	1159M	96.60	-0.03	5845.00	169	U-NII-4	6	17.0	16.89	Front	0	0.798	1.026	1.035	0.847	0.847	0.212		21.6		
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	H	1159M	96.60	-0.05	5280.00	56	U-NII-2A	6	17.0	16.69	Top	0	0.251	1.074	1.035	0.279	0.279	0.070		26.5		
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	H	1159M	96.60	-0.02	5720.00	144	U-NII-2C	6	17.0	16.69	Top	0	0.288	1.074	1.035	0.320	0.320	0.080		25.9		
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	H	1159M	96.60	0.11	5845.00	169	U-NII-4	6	17.0	16.89	Top	0	0.266	1.026	1.035	0.282	0.282	0.071		26.4	17.1	16.0
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	H	1159M	96.60	-0.03	5280.00	56	U-NII-2A	6	17.0	16.69	Left	0	1.390	1.074	1.035	1.545	1.545	0.386		19.0		
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	H	1159M	96.60	0.03	5500.00	100	U-NII-2C	6	17.0	16.51	Left	0	1.380	1.120	1.035	1.600	1.600	0.400		18.9		
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	H	1159M	96.60	0.06	5620.00	124	U-NII-2C	6	17.0	16.31	Left	0	1.690	1.171	1.035	2.048	2.048	0.512		17.8		
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	H	1159M	96.60	0.06	5720.00	144	U-NII-2C	6	17.0	16.69	Left	0	2.080	1.074	1.035	2.312	2.312	0.578		17.3		
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	H	1159M	96.60	0.01	5720.00	144	U-NII-2C	6	17.0	16.69	Left	0	2.080	1.074	1.035	2.312	2.312	0.578		17.3		
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	H	1159M	96.60	0.01	5845.00	169	U-NII-4	6	17.0	16.89	Left	0	2.240	1.026	1.035	2.379	2.379	0.595		17.2		
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	H	1159M	96.60	0.03	5865.00	173	U-NII-4	6	17.0	16.88	Left	0	2.280	1.028	1.035	2.426	2.426	0.607		17.1		
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	H	1159M	96.60	0.04	5885.00	177	U-NII-4	6	17.0	16.89	Left	0	2.190	1.026	1.035	2.326	2.326	0.582		17.3		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Phablet 4.0 W/kg (mW/g) averaged over 10 grams									

Note: Blue entry represents variability measurement

Table 12-130

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 10g SAR [W/kg]	Adjusted 10g SAR [W/kg]	Exposure Ratio (10g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	E	1159M	96.62	0.00	5300.00	60	U-NII-2A	6	17.0	16.94	Back	0	0.934	1.015	1.035	0.981	0.981	0.245		21.0		
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	E	1159M	96.62	-0.01	5720.00	144	U-NII-2C	6	17.0	16.98	Back	0	0.903	1.005	1.035	0.939	0.939	0.235		21.2		
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	E	1159M	96.62	0.01	5885.00	177	U-NII-4	6	17.0	16.72	Back	0	0.915	1.067	1.035	1.010	1.010	0.253		20.9		
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	E	1159M	96.62	0.01	5300.00	60	U-NII-2A	6	17.0	16.94	Front	0	0.259	1.015	1.035	0.272	0.272	0.068		26.6		
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	E	1159M	96.62	-0.17	5720.00	144	U-NII-2C	6	17.0	16.98	Front	0	0.214	1.005	1.035	0.223	0.223	0.056		27.5		
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	E	1159M	96.62	0.03	5885.00	177	U-NII-4	6	17.0	16.72	Front	0	0.251	1.067	1.035	0.277	0.277	0.069		26.5	20.9	16.0
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	E	1159M	96.62	-0.03	5300.00	60	U-NII-2A	6	17.0	16.94	Top	0	0.311	1.015	1.035	0.327	0.327	0.082		25.8		
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	E	1159M	96.62	-0.12	5720.00	144	U-NII-2C	6	17.0	16.98	Top	0	0.340	1.005	1.035	0.354	0.354	0.089		25.4		
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	E	1159M	96.62	-0.04	5885.00	177	U-NII-4	6	17.0	16.72	Top	0	0.412	1.067	1.035	0.455	0.455	0.114		24.4		
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	E	1159M	96.62	0.05	5300.00	60	U-NII-2A	6	17.0	16.94	Right	0	0.040	1.015	1.035	0.042	0.042	0.011		34.7		
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	E	1159M	96.62	-0.12	5720.00	144	U-NII-2C	6	17.0	16.98	Right	0	0.109	1.005	1.035	0.113	0.113	0.028		30.4		
Phablet	5 GHz WiFi / IEEE 802.11a	20	OFDM	E	1159M	96.62	-0.07	5885.00	177	U-NII-4	6	17.0	16.72	Right	0	0.077	1.067	1.035	0.085	0.085	0.021		31.6		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Phablet 4.0 W/kg (mW/g) averaged over 10 grams									

Table 12-131

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	5 GHz WiFi / IEEE 802.11n	40	OFDM	MIMO	1159M	92.79	-0.03	5270.00	54	U-NII-2A	27	14.0	13.22	14.0	13.06	Right Cheek	0	0.286	1.242	1.078	0.383	0.383	0.239		18.1		
Head	5 GHz WiFi / IEEE 802.11ac	80	OFDM	MIMO	1159M	96.68	0.03	5690.00	138	U-NII-2C	58.5	14.0	12.22	14.0	12.98	Right Cheek	0	0.356	1.507	1.034	0.555	0.555	0.347		16.5		
Head	5 GHz WiFi / IEEE 802.11ac	80	OFDM	MIMO	1159M	96.68	-0.09	5775.00	155	U-NII-3	58.5	14.0	12.31	14.0	13.10	Right Cheek	0	0.284	1.476	1.034	0.433	0.433	0.271		17.6		
Head	5 GHz WiFi / IEEE 802.11ac	80	OFDM	MIMO	1159M	96.68	-0.07	5855.00	171	U-NII-4	58.5	14.0	12.80	14.0	13.22	Right Cheek	0	0.288	1.319	1.034	0.393	0.393	0.246		18.0		
Head	5 GHz WiFi / IEEE 802.11n	40	OFDM	MIMO	1159M	92.79	0.11	5270.00	54	U-NII-2A	27	14.0	13.22	14.0	13.06	Right Tilt	0	0.139	1.242	1.078	0.186	0.186	0.116		21.3		
Head	5 GHz WiFi / IEEE 802.11ac	80	OFDM	MIMO	1159M	96.68	0.02	5690.00	138	U-NII-2C	58.5	14.0	12.22	14.0	12.98	Right Tilt	0	0.109	1.507	1.034	0.170	0.170	0.106		21.6		
Head	5 GHz WiFi / IEEE 802.11ac	80	OFDM	MIMO	1159M	96.68	0.04	5775.00	155	U-NII-3	58.5	14.0	12.31	14.0	13.10	Right Tilt	0	0.138	1.476	1.034	0.211	0.211	0.132		20.7		
Head	5 GHz WiFi / IEEE 802.11ac	80	OFDM	MIMO	1159M	96.68	-0.06	5855.00	171	U-NII-4	58.5	14.0	12.80	14.0	13.22	Right Tilt	0	0.171	1.319	1.034	0.233	0.233	0.146		20.3		
Head	5 GHz WiFi / IEEE 802.11n	40	OFDM	MIMO	1159M	92.79	0.05	5270.00	54	U-NII-2A	27	14.0	13.22	14.0	13.06	Left Cheek	0	0.077	1.242	1.078	0.103	0.103	0.064		23.8		
Head	5 GHz WiFi / IEEE 802.11ac	80	OFDM	MIMO	1159M	96.68	0.02	5690.00	138	U-NII-2C	58.5	14.0	12.22	14.0	12.98	Left Cheek	0	0.108	1.507	1.034	0.168	0.168	0.105		21.7		
Head	5 GHz WiFi / IEEE 802.11ac	80	OFDM	MIMO	1159M	96.68	0.07	5775.00	155	U-NII-3	58.5	14.0	12.31	14.0	13.10	Left Cheek	0	0.087	1.476	1.034	0.133	0.133	0.083		22.7		
Head	5 GHz WiFi / IEEE 802.11ac	80	OFDM	MIMO	1159M	96.68	0.07	5855.00	171	U-NII-4	58.5	14.0	12.80	14.0	13.22	Left Cheek	0	0.124	1.319	1.034	0.169	0.169	0.106		21.7		
Head	5 GHz WiFi / IEEE 802.11n	40	OFDM	MIMO	1159M	92.79	0.06	5270.00	54	U-NII-2A	27	14.0	13.22	14.0	13.06	Left Tilt	0	0.081	1.242	1.078	0.108	0.108	0.068		23.6		
Head	5 GHz WiFi / IEEE 802.11ac	80	OFDM	MIMO	1159M	96.68	0.15	5690.00	138	U-NII-2C	58.5	14.0	12.22	14.0	12.98	Left Tilt	0	0.073	1.507	1.034	0.114	0.114	0.071		23.4		
Head	5 GHz WiFi / IEEE 802.11ac	80	OFDM	MIMO	1159M	96.68	-0.18	5775.00	155	U-NII-3	58.5	14.0	12.31	14.0	13.10	Left Tilt	0	0.092	1.476	1.034	0.140	0.140	0.088		22.5		
Head	5 GHz WiFi / IEEE 802.11ac	80	OFDM	MIMO	1159M	96.68	0.04	5855.00	171	U-NII-4	58.5	14.0	12.80	14.0	13.22	Left Tilt	0	0.086	1.319	1.034	0.117	0.117	0.073		23.3		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Head 1.6 W/kg (mW/g) averaged over 1 gram											

Note: To achieve the 17 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 14 dBm.

Table 12-132

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn	5 GHz WiFi / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	-0.11	5280.00	56	U-NII-2A	13	17.0	16.89	17.0	16.76	Back	10	0.286	1.057	1.034	0.313	0.313	0.196		22.0		
Body-worn	5 GHz WiFi / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	0.05	5720.00	144	U-NII-2C	13	17.0	16.70	17.0	16.98	Back	10	0.440	1.072	1.034	0.488	0.488	0.305		20.1		
Body-worn	5 GHz WiFi / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	-0.15	5885.00	177	U-NII-4	13	17.0	16.33	17.0	16.73	Back	10	0.440	1.167	1.034	0.531	0.531	0.332		19.7		
Body-worn/Hotspot	5 GHz WiFi / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	-0.05	5825.00	165	U-NII-3	13	17.0	16.27	17.0	16.63	Back	10	0.448	1.183	1.034	0.548	0.548	0.343	A82	19.6		
Hotspot	5 GHz WiFi / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	0.09	5825.00	165	U-NII-3	13	17.0	16.27	17.0	16.63	Front	10	0.135	1.183	1.034	0.165	0.165	0.103		24.8	19.6	16.0
Hotspot	5 GHz WiFi / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	0.00	5825.00	165	U-NII-3	13	17.0	16.27	17.0	16.63	Top	10	0.347	1.183	1.034	0.424	0.424	0.265		20.7		
Hotspot	5 GHz WiFi / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	0.08	5825.00	165	U-NII-3	13	17.0	16.27	17.0	16.63	Right	10	0.048	1.183	1.034	0.059	0.059	0.037		29.3		
Hotspot	5 GHz WiFi / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	-0.01	5825.00	165	U-NII-3	13	17.0	16.27	17.0	16.63	Left	10	0.417	1.183	1.034	0.510	0.510	0.319		19.9		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram											

Note: To achieve the 20 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 17 dBm.

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Table 12-133

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 10g SAR [W/kg]	Adjusted 10g SAR [W/kg]	Exposure Ratio (10g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	5 GHz WIFI / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	-0.08	5280.00	56	U-NII-2A	13	17.0	16.89	17.0	16.76	Back	0	0.891	1.057	1.034	0.974	0.974	0.244		21.0		
Phablet	5 GHz WIFI / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	0.05	5720.00	144	U-NII-2C	13	17.0	16.70	17.0	16.98	Back	0	1.030	1.072	1.034	1.142	1.142	0.286		20.4		
Phablet	5 GHz WIFI / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	-0.02	5885.00	177	U-NII-4	13	17.0	16.33	17.0	16.73	Back	0	0.847	1.167	1.034	1.022	1.022	0.256		20.8		
Phablet	5 GHz WIFI / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	-0.06	5280.00	56	U-NII-2A	13	17.0	16.89	17.0	16.76	Front	0	0.849	1.057	1.034	0.928	0.928	0.232		21.3		
Phablet	5 GHz WIFI / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	-0.06	5720.00	144	U-NII-2C	13	17.0	16.70	17.0	16.98	Front	0	0.856	1.072	1.034	0.949	0.949	0.237		21.2		
Phablet	5 GHz WIFI / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	-0.01	5885.00	177	U-NII-4	13	17.0	16.33	17.0	16.73	Front	0	0.736	1.167	1.034	0.888	0.888	0.222		21.4		
Phablet	5 GHz WIFI / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	-0.01	5280.00	56	U-NII-2A	13	17.0	16.89	17.0	16.76	Top	0	0.350	1.057	1.034	0.383	0.383	0.096		25.1		
Phablet	5 GHz WIFI / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	0.11	5720.00	144	U-NII-2C	13	17.0	16.70	17.0	16.98	Top	0	0.395	1.072	1.034	0.438	0.438	0.110		24.5		
Phablet	5 GHz WIFI / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	-0.03	5885.00	177	U-NII-4	13	17.0	16.33	17.0	16.73	Top	0	0.481	1.167	1.034	0.580	0.580	0.145		23.3		
Phablet	5 GHz WIFI / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	-0.17	5280.00	56	U-NII-2A	13	17.0	16.89	17.0	16.76	Right	0	0.052	1.057	1.034	0.057	0.057	0.014		33.4		
Phablet	5 GHz WIFI / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	-0.16	5720.00	144	U-NII-2C	13	17.0	16.70	17.0	16.98	Right	0	0.121	1.072	1.034	0.134	0.134	0.034		29.7	16.2	16.0
Phablet	5 GHz WIFI / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	0.02	5885.00	177	U-NII-4	13	17.0	16.33	17.0	16.73	Right	0	0.078	1.167	1.034	0.094	0.094	0.024		31.2		
Phablet	5 GHz WIFI / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	0.00	5280.00	56	U-NII-2A	13	17.0	16.89	17.0	16.76	Left	0	1.370	1.057	1.034	1.497	1.497	0.374		19.2		
Phablet	5 GHz WIFI / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	0.05	5500.00	100	U-NII-2C	13	17.0	16.60	17.0	16.96	Left	0	1.280	1.096	1.034	1.451	1.451	0.363		19.3		
Phablet	5 GHz WIFI / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	0.04	5600.00	120	U-NII-2C	13	17.0	16.43	17.0	16.74	Left	0	1.510	1.140	1.034	1.780	1.780	0.445		18.4		
Phablet	5 GHz WIFI / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	-0.09	5720.00	144	U-NII-2C	13	17.0	16.70	17.0	16.98	Left	0	1.850	1.072	1.034	2.051	2.051	0.513		17.8		
Phablet	5 GHz WIFI / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	0.01	5845.00	169	U-NII-4	13	17.0	16.43	17.0	16.61	Left	0	2.400	1.140	1.034	2.829	2.829	0.707		16.4		
Phablet	5 GHz WIFI / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	-0.02	5865.00	173	U-NII-4	13	17.0	16.30	17.0	16.71	Left	0	2.410	1.175	1.034	2.928	2.928	0.732		16.3		
Phablet	5 GHz WIFI / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	-0.03	5865.00	173	U-NII-4	13	17.0	16.30	17.0	16.71	Left	0	2.420	1.175	1.034	2.940	2.940	0.735	A83	16.2		
Phablet	5 GHz WIFI / IEEE 802.11a	20	OFDM	MIMO	1159M	96.68	0.03	5885.00	177	U-NII-4	13	17.0	16.33	17.0	16.73	Left	0	2.320	1.167	1.034	2.799	2.799	0.700		16.5		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																									Phablet 4.0 W/kg (mW/g) averaged over 10 grams			

Note: Blue entry represents variability measurement
Note: To achieve the 20 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 17 dBm.

12.31 6 GHz WIFI SISO Standalone SAR and APD

Table 12-134

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	6 GHz WIFI / IEEE 802.11ax	80	OFDM	H	1295M	99.27	0.01	5985.00	7	34	10.0	9.67	Right Cheek	0	0.127	1.079	1.007	0.138	0.138	0.086		18.6		
Head	6 GHz WIFI / IEEE 802.11ax	80	OFDM	H	1295M	99.27	0.03	6305.00	71	34	10.0	9.35	Right Cheek	0	0.090	1.161	1.007	0.105	0.105	0.066		19.7		
Head	6 GHz WIFI / IEEE 802.11ax	80	OFDM	H	1295M	99.27	0.02	6465.00	103	34	10.0	9.23	Right Cheek	0	0.076	1.194	1.007	0.091	0.091	0.057		20.3		
Head	6 GHz WIFI / IEEE 802.11ax	80	OFDM	H	1295M	99.27	0.02	6705.00	151	34	10.0	9.45	Right Cheek	0	0.125	1.135	1.007	0.143	0.143	0.089	A84	18.4	18.4	9.0
Head	6 GHz WIFI / IEEE 802.11ax	80	OFDM	H	1295M	99.27	0.02	7025.00	215	34	10.0	9.76	Right Cheek	0	0.085	1.057	1.007	0.090	0.090	0.056		20.4		
Head	6 GHz WIFI / IEEE 802.11ax	80	OFDM	H	1295M	99.27	0.04	7025.00	215	34	10.0	9.76	Right Tilt	0	0.026	1.057	1.007	0.028	0.028	0.018		25.5		
Head	6 GHz WIFI / IEEE 802.11ax	80	OFDM	H	1295M	99.27	0.04	7025.00	215	34	10.0	9.76	Left Cheek	0	0.015	1.057	1.007	0.016	0.016	0.010		27.9		
Head	6 GHz WIFI / IEEE 802.11ax	80	OFDM	H	1295M	99.27	0.04	7025.00	215	34	10.0	9.76	Left Tilt	0	0.016	1.057	1.007	0.017	0.017	0.011		27.6		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																							Head 1.6 W/kg (mW/g) averaged over 1 gram		

Exposure	Band/ Mode	Bandwidth [MHz]	Service/ Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured APD [W/m² (4cm²)]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported APD [W/m² (4cm²)]	Adjusted APD [W/m² (4cm²)]	APD Exposure Ratio	Plot #
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	1295M	99.27	0.01	5985.00	7	34	10.0	9.67	Right Cheek	0	0.643	1.079	1.007	0.699	0.699	0.035	
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	1295M	99.27	0.03	6305.00	71	34	10.0	9.35	Right Cheek	0	0.504	1.161	1.007	0.589	0.589	0.029	
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	1295M	99.27	0.02	6465.00	103	34	10.0	9.23	Right Cheek	0	0.442	1.194	1.007	0.531	0.531	0.027	
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	1295M	99.27	0.02	6705.00	151	34	10.0	9.45	Right Cheek	0	0.681	1.135	1.007	0.778	0.778	0.039	A84
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	1295M	99.27	0.02	7025.00	215	34	10.0	9.76	Right Cheek	0	0.450	1.057	1.007	0.479	0.479	0.024	
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	1295M	99.27	0.04	7025.00	215	34	10.0	9.76	Right Tilt	0	0.181	1.057	1.007	0.193	0.193	0.010	
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	1295M	99.27	0.04	7025.00	215	34	10.0	9.76	Left Cheek	0	0.122	1.057	1.007	0.130	0.130	0.007	
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	1295M	99.27	0.04	7025.00	215	34	10.0	9.76	Left Tilt	0	0.090	1.057	1.007	0.096	0.096	0.005	

Table 12-135

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	6 GHz WIFI / IEEE 802.11ax	80	OFDM	E	1295M	99.56	0.08	6465.00	103	34	10.0	9.95	Right Cheek	0	0.072	1.012	1.004	0.073	0.073	0.046		21.3		
Head	6 GHz WIFI / IEEE 802.11ax	80	OFDM	E	1295M	99.56	0.04	6465.00	103	34	10.0	9.95	Right Tilt	0	0.057	1.012	1.004	0.058	0.058	0.036		22.3	21.3	9.0
Head	6 GHz WIFI / IEEE 802.11ax	80	OFDM	E	1295M	99.56	0.09	6465.00	103	34	10.0	9.95	Left Cheek	0	0.059	1.012	1.004	0.060	0.060	0.038		22.2		
Head	6 GHz WIFI / IEEE 802.11ax	80	OFDM	E	1295M	99.56	0.05	6465.00	103	34	10.0	9.95	Left Tilt	0	0.051	1.012	1.004	0.052	0.052	0.033		22.8		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																							Head 1.6 W/kg (mW/g) averaged over 1 gram		

Exposure	Band/ Mode	Bandwidth [MHz]	Service/ Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured APD [W/m² (4cm²)]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported APD [W/m² (4cm²)]	Adjusted APD [W/m² (4cm²)]	APD Exposure Ratio	Plot #
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.56	0.08	6465.00	103	34	10.0	9.95	Right Cheek	0	0.541	1.012	1.004	0.550	0.550	0.028	
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.56	0.04	6465.00	103	34	10.0	9.95	Right Tilt	0	0.387	1.012	1.004	0.393	0.393	0.020	
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.56	0.09	6465.00	103	34	10.0	9.95	Left Cheek	0	0.274	1.012	1.004	0.278	0.278	0.014	
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.56	0.05	6465.00	103	34	10.0	9.95	Left Tilt	0	0.196	1.012	1.004	0.199	0.199	0.010	

Table 12-136

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	1295M	99.27	0.05	6305.00	71	34	11.5	10.90	Back	10	0.034	1.148	1.007	0.039	0.039	0.024		25.5	25.5	10.5
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																							Body 1.6 W/kg (mW/g) averaged over 1 gram		

Exposure	Band/ Mode	Bandwidth [MHz]	Service/ Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured APD [W/m² (4cm²)]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported APD [W/m² (4cm²)]	Adjusted APD [W/m² (4cm²)]	APD Exposure Ratio	Plot #
Body-worn	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	1295M	99.27	0.05	6305.00	71	34	11.5	10.90	Back	10	0.267	1.148	1.007	0.309	0.309	0.015	

Table 12-137

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit DSI 0 [dBm]	EFS Plimit Pmax [dBm]
Body-worn	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.56	0.03	5985.00	7	34	11.5	10.78	Back	10	0.057	1.180	1.004	0.068	0.068	0.043		23.2			
Body-worn	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.56	0.01	6305.00	71	34	11.5	11.10	Back	10	0.117	1.096	1.004	0.129	0.129	0.081	A85	20.3			
Body-worn	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.56	0.09	6465.00	103	34	11.0	10.92	Back	10	0.074	1.019	1.004	0.076	0.644	0.403		22.2	20.3	10.5	22.2
Body-worn	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.56	0.06	6705.00	151	34	11.5	10.68	Back	10	0.028	1.208	1.004	0.034	0.034	0.021		26.1			
Body-worn	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.56	0.09	7025.00	215	34	11.0	10.99	Back	10	0.034	1.002	1.004	0.034	0.291	0.182		25.6			
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																							Body 1.6 W/kg (mW/g) averaged over 1 gram			

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Exposure	Band/ Mode	Bandwidth [MHz]	Service/ Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured APD [W/m² (4cm²)]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported APD [W/m² (4cm²)]	Adjusted APD [W/m² (4cm²)]	APD Exposure Ratio	Plot #
Body-worn	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.56	0.03	5985.00	7	34	11.5	10.78	Back	10	0.375	1.180	1.004	0.444	0.444	0.022	
Body-worn	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.56	0.01	6305.00	71	34	11.5	11.10	Back	10	0.876	1.096	1.004	0.964	0.964	0.048	A85
Body-worn	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.56	0.09	6465.00	103	34	11.0	10.92	Back	10	0.542	1.019	1.004	0.555	8.012	0.401	
Body-worn	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.56	0.06	6705.00	151	34	11.5	10.68	Back	10	0.152	1.208	1.004	0.184	0.184	0.009	
Body-worn	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.56	0.09	7025.00	215	34	11.0	10.99	Back	10	0.208	1.002	1.004	0.209	3.026	0.151	

Table 12-138

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 10g SAR [W/kg]	Adjusted 10g SAR [W/kg]	Exposure Ratio (10g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit DSI 0 [dBm]	EFS Plimit Pmax [dBm]
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	1295M	99.27	-0.09	6305.00	71	34	11.5	10.90	Back	0	0.206	1.148	1.007	0.238	0.238	0.060		21.7			
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	1295M	99.27	0.01	6305.00	71	34	11.5	10.90	Front	0	0.157	1.148	1.007	0.181	0.181	0.045		22.8			
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	1295M	99.27	0.14	6305.00	71	34	11.5	10.90	Top	0	0.051	1.148	1.007	0.059	0.059	0.015		27.7			
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	1295M	99.27	-0.03	5985.00	7	34	11.5	10.53	Left	0	0.408	1.250	1.007	0.514	0.514	0.129	A86	18.3	18.3	10.5	19.0
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	1295M	99.27	0.02	6305.00	71	34	11.5	10.90	Left	0	0.334	1.148	1.007	0.386	0.386	0.097		19.6			
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	1295M	99.27	-0.06	6465.00	103	34	11.0	10.58	Left	0	0.353	1.102	1.007	0.392	2.103	0.526		19.0			
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	1295M	99.27	-0.03	6705.00	151	34	11.5	10.80	Left	0	0.295	1.175	1.007	0.349	0.349	0.087		20.0			
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	1295M	99.27	-0.03	7025.00	215	34	11.0	10.74	Left	0	0.293	1.062	1.007	0.313	1.682	0.421		20.0			
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Phablet 4.0 W/kg (mW/g) averaged over 10 grams													

Exposure	Band/ Mode	Bandwidth [MHz]	Service/ Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured APD [W/m² (4cm²)]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported APD [W/m² (4cm²)]	Adjusted APD [W/m² (4cm²)]	APD Exposure Ratio	Plot #
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	1295M	99.27	-0.09	6305.00	71	34	11.5	10.90	Back	0	4.840	1.148	1.007	5.595	5.595	0.280	
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	1295M	99.27	0.01	6305.00	71	34	11.5	10.90	Front	0	3.670	1.148	1.007	4.243	4.243	0.212	
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	1295M	99.27	0.14	6305.00	71	34	11.5	10.90	Top	0	1.200	1.148	1.007	1.387	1.387	0.069	
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	1295M	99.27	-0.03	5985.00	7	34	11.5	10.53	Left	0	9.760	1.250	1.007	12.285	12.285	0.614	A86
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	1295M	99.27	0.02	6305.00	71	34	11.5	10.90	Left	0	8.000	1.148	1.007	9.248	9.248	0.462	
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	1295M	99.27	-0.06	6465.00	103	34	11.0	10.58	Left	0	8.440	1.102	1.007	9.366	10.751	0.538	
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	1295M	99.27	-0.03	6705.00	151	34	11.5	10.80	Left	0	7.080	1.175	1.007	8.377	8.377	0.419	
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	1295M	99.27	-0.03	7025.00	215	34	11.0	10.74	Left	0	7.020	1.062	1.007	7.507	8.617	0.431	

Table 12-139

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 10g SAR [W/kg]	Adjusted 10g SAR [W/kg]	Exposure Ratio (10g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit DSI 0 [dBm]	EFS Plimit Pmax [dBm]
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.27	-0.01	5985.00	7	34	11.5	10.78	Back	0	0.171	1.180	1.007	0.203	0.203	0.051		22.3			
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.27	-0.13	6305.00	71	34	11.5	11.10	Back	0	0.215	1.096	1.007	0.237	0.237	0.059		21.7			
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.27	-0.05	6465.00	103	34	11.0	10.92	Back	0	0.184	1.019	1.007	0.189	2.217	0.554		22.2			
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.27	-0.03	6705.00	151	34	11.5	10.68	Back	0	0.172	1.208	1.007	0.209	0.209	0.052		22.2	21.7	10.5	22.2
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1285M	99.27	-0.01	7025.00	215	34	11.0	10.99	Back	0	0.138	1.002	1.007	0.139	1.636	0.409		23.5			
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.27	-0.21	6305.00	71	34	11.5	11.10	Front	0	0.046	1.096	1.007	0.051	0.051	0.013		28.4			
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.27	-0.04	6305.00	71	34	11.5	11.10	Top	0	0.101	1.096	1.007	0.111	0.111	0.028		25.0			
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.27	0.06	6305.00	71	34	11.5	11.10	Right	0	0.009	1.096	1.007	0.010	0.010	0.003		35.5			
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Phablet 4.0 W/kg (mW/g) averaged over 10 grams													

Exposure	Band/ Mode	Bandwidth [MHz]	Service/ Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured APD [W/m² (4cm²)]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported APD [W/m² (4cm²)]	Adjusted APD [W/m² (4cm²)]	APD Exposure Ratio	Plot #
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.27	-0.01	5985.00	7	34	11.5	10.78	Back	0	3.980	1.180	1.007	4.729	4.729	0.236	
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.27	-0.13	6305.00	71	34	11.5	11.10	Back	0	4.970	1.096	1.007	5.485	5.485	0.274	
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.27	-0.05	6465.00	103	34	11.0	10.92	Back	0	4.280	1.019	1.007	4.392	11.283	0.564	
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.27	-0.03	6705.00	151	34	11.5	10.68	Back	0	4.050	1.208	1.007	4.927	4.927	0.246	
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1285M	99.27	-0.01	7025.00	215	34	11.0	10.99	Back	0	3.290	1.002	1.007	3.320	8.534	0.427	
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.27	-0.21	6305.00	71	34	11.5	11.10	Front	0	1.030	1.096	1.007	1.137	1.137	0.057	
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.27	-0.04	6305.00	71	34	11.5	11.10	Top	0	2.340	1.096	1.007	2.583	2.583	0.129	
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	E	1295M	99.27	0.06	6305.00	71	34	11.5	11.10	Right	0	0.201	1.096	1.007	0.222	0.222	0.011	

12.32 6 GHz WIFI MIMO Standalone SAR and APD

Table 12-140

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1150M	99.27	0.04	5985.00	7	68.1	10.0	9.39	10.0	9.73	Right Cheek	0	0.138	1.151	1.007	0.160	0.160	0.100	A87	17.9		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1150M	99.27	0.02	6305.00	71	68.1	10.0	8.11	10.0	9.58	Right Cheek	0	0.097	1.545	1.007	0.151	0.151	0.094		18.2		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1150M	99.27	0.04	6465.00	103	68.1	10.0	8.87	10.0	9.64	Right Cheek	0	0.106	1.297	1.007	0.138	0.138	0.086		18.5		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1150M	99.27	0.03	6705.00	151	68.1	10.0	9.37	10.0	9.61	Right Cheek	0	0.061	1.156	1.007	0.071	0.071	0.044		21.4	17.9	9.0
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1150M	99.27	0.01	7025.00	215	68.1	10.0	9.52	10.0	9.32	Right Cheek	0	0.061	1.169	1.007	0.072	0.072	0.045		21.4		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1150M	99.27	0.06	5985.00	7	68.1	10.0	9.39	10.0	9.73	Right Tilt	0	0.100	1.151	1.007	0.116	0.116	0.073		19.3		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1150M	99.27	0.03	5985.00	7	68.1	10.0	9.39	10.0	9.73	Left Cheek	0	0.058	1.151	1.007	0.067	0.067	0.042		21.7		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1150M	99.27	0.06	5985.00	7	68.1	10.0	9.39	10.0	9.73	Left Tilt	0	0.035	1.151	1.007	0.041	0.041	0.026		23.9		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Head 1.6 W/kg (mW/g) averaged over 1 gram											

Note: To achieve the 13 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 10 dBm.

Exposure	Band/ Mode	Bandwidth [MHz]	Service/ Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured APD [W/m² (4cm²)]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported APD [W/m² (4cm²)]	Adjusted APD [W/m² (4cm²)]	APD Exposure Ratio	Plot #
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1150M	99.27	0.04	5985.00	7	68.1	10.0	9.39	10.0	9.73	Right Cheek	0	0.646	1.151	1.007	0.749	0.749	0.037	A87
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1150M	99.27	0.02	6305.00	71	68.1	10.0	8.11	10.0	9.58	Right Cheek	0	0.562	1.545	1.007	0.874	0.874	0.044	
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1150M	99.27	0.04	6465.00	103	68.1	10.0	8.87	10.0	9.64	Right Cheek	0	0.627	1.297	1.007	0.819	0.819	0.041	
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1150M	99.27	0.03	6705.00	151	68.1	10.0	9.37	10.0	9.61	Right Cheek	0	0.413	1.156	1.007	0.481	0.481	0.024	
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1150M	99.27	0.01	7025.00	215	68.1	10.0	9.52	10.0	9.32	Right Cheek	0	0.356	1.169	1.007	0.419	0.419	0.021	
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1150M	99.27	0.06	5985.00	7	68.1	10.0	9.39	10.0	9.73	Right Tilt	0	0.455	1.151	1.007	0.527	0.527	0.026	
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1150M	99.27	0.03	5985.00	7	68.1	10.0	9.39	10.0	9.73	Left Cheek	0	0.275	1.151	1.007	0.319	0.319	0.016	
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1150M	99.27	0.06	5985.00	7	68.1	10.0	9.39	10.0	9.73	Left Tilt	0	0.098	1.151	1.007	0.114	0.114	0.006	

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Table 12-141

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1182M	99.27	0.09	6705.00	151	68.1	11.5	11.28	11.5	10.23	Back	10	0.086	1.340	1.007	0.116	0.116	0.073		20.8	20.8	10.5
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram											

Note: To achieve the 14.5 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 11.5 dBm.

Exposure	Band/ Mode	Bandwidth [MHz]	Service/ Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured APD [W/m² (4cm²)]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported APD [W/m² (4cm²)]	Adjusted APD [W/m² (4cm²)]	APD Exposure Ratio	Plot #
Body-worn	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1182M	99.27	0.09	6705.00	151	68.1	11.5	11.28	11.5	10.23	Back	10	0.661	1.340	1.007	0.892	0.892	0.045	

Table 12-142

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 10g SAR [W/kg]	Adjusted 10g SAR [W/kg]	Exposure Ratio (10g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit DSI 0 [dBm]	EFS Plimit Pmax [dBm]
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1182M	99.27	0.04	6705.00	151	68.1	11.5	11.28	11.5	10.20	Back	0	0.142	1.349	1.007	0.193	0.193	0.048		22.6			
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1150M	99.27	-0.16	6705.00	151	68.1	11.5	11.28	11.5	10.20	Front	0	0.220	1.349	1.007	0.299	0.299	0.075		20.7			
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1182M	99.27	0.03	6705.00	151	68.1	11.5	11.28	11.5	10.20	Top	0	0.092	1.349	1.007	0.125	0.125	0.031		24.5			
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1150M	99.27	0.03	6705.00	151	68.1	11.5	11.28	11.5	10.20	Right	0	0.041	1.349	1.007	0.056	0.056	0.014		28.0			
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1150M	99.27	-0.02	5985.00	7	68.1	11.5	10.85	11.5	9.85	Left	0	0.363	1.462	1.007	0.534	0.534	0.134		18.1	17.9	10.5	17.9
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1150M	99.27	0.09	6305.00	71	68.1	11.5	9.52	11.5	11.20	Left	0	0.326	1.578	1.007	0.518	0.518	0.130		18.3			
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1150M	99.27	0.01	6465.00	103	68.1	11.0	9.04	11.0	10.88	Left	0	0.322	1.570	1.007	0.509	0.509	0.127		17.9			
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1182M	99.27	0.01	6705.00	151	68.1	11.5	11.28	11.5	10.20	Left	0	0.346	1.349	1.007	0.470	0.470	0.118		18.7			
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1105M	99.27	0.05	7025.00	215	68.1	11.0	9.49	11.0	10.99	Left	0	0.245	1.416	1.007	0.349	0.349	0.087		19.5			
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Phablet 4.0 W/kg (mW/g) averaged over 10 grams											

Note: To achieve the 14.5 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 11.5 dBm.

Exposure	Band/ Mode	Bandwidth [MHz]	Service/ Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured APD [W/m² (4cm²)]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported APD [W/m² (4cm²)]	Adjusted APD [W/m² (4cm²)]	APD Exposure Ratio	Plot #
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1182M	99.27	0.04	6705.00	151	68.1	11.5	11.28	11.5	10.20	Back	0	3.230	1.349	1.007	4.388	4.388	0.219	
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1150M	99.27	-0.16	6705.00	151	68.1	11.5	11.28	11.5	10.20	Front	0	5.070	1.349	1.007	6.887	6.887	0.344	
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1182M	99.27	0.03	6705.00	151	68.1	11.5	11.28	11.5	10.20	Top	0	2.100	1.349	1.007	2.853	2.853	0.143	
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1150M	99.27	0.03	6705.00	151	68.1	11.5	11.28	11.5	10.20	Right	0	0.912	1.349	1.007	1.239	1.239	0.062	
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1150M	99.27	-0.02	5985.00	7	68.1	11.5	10.85	11.5	9.85	Left	0	8.600	1.462	1.007	12.661	12.661	0.633	
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1150M	99.27	0.09	6305.00	71	68.1	11.5	9.52	11.5	11.20	Left	0	7.640	1.578	1.007	12.140	12.140	0.607	
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1150M	99.27	0.01	6465.00	103	68.1	11.0	9.04	11.0	10.88	Left	0	7.590	1.570	1.007	12.000	12.000	0.600	
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1182M	99.27	0.01	6705.00	151	68.1	11.5	11.28	11.5	10.20	Left	0	8.220	1.349	1.007	11.166	11.166	0.558	
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1105M	99.27	0.05	7025.00	215	68.1	11.0	9.49	11.0	10.99	Left	0	5.800	1.416	1.007	8.270	8.270	0.414	

12.33 2.4 GHz Bluetooth Standalone SAR

Table 12-143

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	2.4 GHz Bluetooth LE	DSSS	H	1262M	85.28	0.03	2402.00	0	1	12.5	12.45	Right Cheek	0	0.218	1.012	1.020	0.225	0.225	0.141		18.3		
Head	2.4 GHz Bluetooth LE	DSSS	H	1262M	85.28	0.06	2402.00	0	1	12.5	12.45	Right Tilt	0	0.096	1.012	1.020	0.099	0.099	0.062		21.9	18.3	10.9
Head	2.4 GHz Bluetooth LE	DSSS	H	1262M	85.28	0.18	2402.00	0	1	12.5	12.45	Left Cheek	0	0.057	1.012	1.020	0.059	0.059	0.037		24.1		
Head	2.4 GHz Bluetooth LE	DSSS	H	1262M	85.28	0.06	2402.00	0	1	12.5	12.45	Left Tilt	0	0.034	1.012	1.020	0.035	0.035	0.022		26.4		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 12-144

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	2.4 GHz Bluetooth LE	DSSS	J	1262M	85.33	0.06	2402.00	0	1	12.5	11.57	Right Cheek	0	0.129	1.239	1.020	0.163	0.163	0.102		19.7		
Head	2.4 GHz Bluetooth LE	DSSS	J	1262M	85.33	0.05	2402.00	0	1	12.5	11.57	Right Tilt	0	0.018	1.239	1.020	0.023	0.023	0.014		28.3	17.1	10.9
Head	2.4 GHz Bluetooth LE	DSSS	J	1262M	85.33	-0.05	2402.00	0	1	12.5	11.57	Left Cheek	0	0.238	1.239	1.020	0.301	0.301	0.188	A88	17.1		
Head	2.4 GHz Bluetooth LE	DSSS	J	1262M	85.33	0.02	2402.00	0	1	12.5	11.57	Left Tilt	0	0.028	1.239	1.020	0.035	0.035	0.022		26.4		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 12-145

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	2.4 GHz Bluetooth LE	DSSS	MIMO	1262M	85.33	0.02	2402.00	0	1	12.5	12.35	12.5	11.92	Right Cheek	0	0.222	1.143	1.020	0.259	0.984	0.615		17.7		
Head	2.4 GHz Bluetooth LE	DSSS	MIMO	1262M	85.33	0.03	2402.00	0	1	12.5	12.35	12.5	11.92	Right Tilt	0	0.100	1.143	1.020	0.117	0.443	0.277		21.2	17.7	17.7
Head	2.4 GHz Bluetooth LE	DSSS	MIMO	1262M	85.33	0.05	2402.00	0	1	12.5	12.35	12.5	11.92	Left Cheek	0	0.216	1.143	1.020	0.252	0.957	0.598		17.8		
Head	2.4 GHz Bluetooth LE	DSSS	MIMO	1262M	85.33	0.07	2402.00	0	1	12.5	12.35	12.5	11.92	Left Tilt	0	0.035	1.143	1.020	0.041	0.155	0.097		25.7		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Head 1.6 W/kg (mW/g) averaged over 1 gram										

Note: To achieve the 15.5 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 12.5 dBm.

Table 12-146

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	2.4 GHz Bluetooth LE	DSSS	H	1262M	85.28	0.20	2402.00	0	1	19.0	18.39	Back	10	0.210	1.151	1.020	0.247	0.373	0.233	A89	24.4		
Hotspot	2.4 GHz Bluetooth LE	DSSS	H	1262M	85.28	0.01	2402.00	0	1	19.0	18.39	Front	10	0.169	1.151	1.020	0.198	0.300	0.188		25.4	23.2	20.2
Hotspot	2.4 GHz Bluetooth LE	DSSS	H	1262M	85.28	0.17	2402.00	0	1	19.0	18.39	Top	10	0.117	1.151	1.020	0.137	0.208	0.130		27.0		
Hotspot	2.4 GHz Bluetooth LE	DSSS	H	1262M	85.28	0.02	2402.00	0	1	19.0	18.39	Left	10	0.278	1.151	1.020	0.326	0.494	0.309	A90	23.2		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram										

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Table 12-147

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	2.4 GHz Bluetooth LE	DSSS	J	1262M	85.33	0.13	2440.00	19	1	19.0	18.02	Back	10	0.034	1.253	1.020	0.043	0.308	0.193		32.0	28.3	26.9
Hotspot	2.4 GHz Bluetooth LE	DSSS	J	1262M	85.33	0.04	2440.00	19	1	19.0	18.02	Front	10	0.079	1.253	1.020	0.101	0.715	0.447		28.3		
Hotspot	2.4 GHz Bluetooth LE	DSSS	J	1262M	85.33	0.01	2440.00	19	1	19.0	18.02	Top	10	0.003	1.253	1.020	0.004	0.027	0.017		42.5		
Hotspot	2.4 GHz Bluetooth LE	DSSS	J	1262M	85.33	0.02	2440.00	19	1	19.0	18.02	Right	10	0.018	1.253	1.020	0.023	0.163	0.102		34.7		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Body 1.6 W/kg (mW/g) averaged over 1 gram											

Table 12-148

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	2.4 GHz Bluetooth LE	DSSS	MIMO	1262M	85.33	-0.06	2402.00	0	1	12.5	12.35	12.5	11.92	Back	10	0.045	1.143	1.020	0.052	0.288	0.180		24.6		
Hotspot	2.4 GHz Bluetooth LE	DSSS	MIMO	1262M	85.33	0.04	2402.00	0	1	12.5	12.35	12.5	11.92	Front	10	0.041	1.143	1.020	0.048	0.263	0.164		25.1		
Hotspot	2.4 GHz Bluetooth LE	DSSS	MIMO	1262M	85.33	0.16	2402.00	0	1	12.5	12.35	12.5	11.92	Top	10	0.028	1.143	1.020	0.033	0.179	0.112		26.7	23.2	19.3
Hotspot	2.4 GHz Bluetooth LE	DSSS	MIMO	1262M	85.33	0.03	2402.00	0	1	12.5	12.35	12.5	11.92	Right	10	0.014	1.143	1.020	0.016	0.090	0.056		29.7		
Hotspot	2.4 GHz Bluetooth LE	DSSS	MIMO	1262M	85.33	0.06	2402.00	0	1	12.5	12.35	12.5	11.92	Left	10	0.063	1.143	1.020	0.073	0.404	0.253		23.2		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram											

Note: To achieve the 15.5 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 12.5 dBm.

12.34 UWB Standalone SAR

Table 12-149

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Exposure Ratio (10g SAR)	Plot #
Phablet	UWB	CW	1	1322M	1:1	0.05	6489.60	5	Back	0	0.000	0.000	
Phablet	UWB	CW	1	1322M	1:1	0.02	7987.20	9	Back	0	0.000	0.000	A91
Phablet	UWB	CW	1	1322M	1:1	0.09	6489.60	5	Front	0	0.000	0.000	
Phablet	UWB	CW	1	1322M	1:1	0.04	7987.20	9	Front	0	0.000	0.000	
Phablet	UWB	CW	1	1322M	1:1	0.02	6489.60	5	Top	0	0.000	0.000	
Phablet	UWB	CW	1	1322M	1:1	0.04	7987.20	9	Top	0	0.000	0.000	
Phablet	UWB	CW	1	1322M	1:1	0.06	6489.60	5	Left	0	0.000	0.000	
Phablet	UWB	CW	1	1322M	1:1	0.05	7987.20	9	Left	0	0.001	0.000	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Phablet 4.0 W/kg (mW/g) averaged over 10 grams				

Exposure	Band/ Mode	Service/ Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Test Position	Spacing [mm]	Measured APD [W/m² (4cm²)]	APD Exposure Ratio	Plot #
Phablet	UWB	CW	1	1322M	1:1	0.05	6489.60	5	Back	0	0.013	0.001	
Phablet	UWB	CW	1	1322M	1:1	0.02	7987.20	9	Back	0	0.016	0.001	A91
Phablet	UWB	CW	1	1322M	1:1	0.09	6489.60	5	Front	0	0.014	0.001	
Phablet	UWB	CW	1	1322M	1:1	0.04	7987.20	9	Front	0	0.014	0.001	
Phablet	UWB	CW	1	1322M	1:1	0.02	6489.60	5	Top	0	0.011	0.001	
Phablet	UWB	CW	1	1322M	1:1	0.04	7987.20	9	Top	0	0.022	0.001	
Phablet	UWB	CW	1	1322M	1:1	0.06	6489.60	5	Left	0	0.006	0.000	
Phablet	UWB	CW	1	1322M	1:1	0.05	7987.20	9	Left	0	0.023	0.001	

12.35 NFC Standalone SAR

Table 12-150

Exposure	Band / Mode	Signal Type	Ant.	Serial Number	Power Drift [dB]	Frequency [MHz]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Exposure Ratio (10g SAR)	Plot #
Phablet	NFC	B	NFC	1285M	-0.09	13.60	Back	0	0.017	0.004	A92
Phablet	NFC	B	NFC	1285M	0.01	13.60	Front	0	0.000	0.000	
Phablet	NFC	B	NFC	1285M	0.04	13.60	Top	0	0.000	0.000	
Phablet	NFC	B	NFC	1285M	0.09	13.60	Left	0	0.000	0.000	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Phablet 4.0 W/kg (mW/g) averaged over 10 grams				

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12.36 NTN Standalone SAR

Table 12-151

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	# Tone	Tone Start	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #
Body-worn	NTN Band 255	CW	F	1307M	0.06	1643.50	261674	23.0	22.90	1	5	Back	10	0.699	1.023	0.710	0.508	0.318	A93
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram					

Table 12-152

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	# Tone	Tone Start	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 10g SAR [W/kg]	Exposure Ratio (10g SAR)	Plot #
Phablet	NTN Band 255	CW	F	1307M	0.01	1643.50	261674	23.0	22.90	1	5	Back	0	1.760	1.023	0.710	1.278	0.320	
Phablet	NTN Band 255	CW	F	1307M	0.02	1643.50	261674	23.0	22.90	1	5	Front	0	2.360	1.023	0.710	1.714	0.429	
Phablet	NTN Band 255	CW	F	1307M	-0.01	1626.60	261505	23.0	22.73	1	5	Top	0	3.990	1.064	0.710	3.014	0.754	A94
Phablet	NTN Band 255	CW	F	1307M	-0.03	1626.60	261505	23.0	22.73	1	5	Top	0	3.940	1.064	0.710	2.976	0.744	
Phablet	NTN Band 255	CW	F	1307M	0.00	1643.50	261674	23.0	22.90	1	5	Top	0	3.630	1.023	0.710	2.637	0.659	
Phablet	NTN Band 255	CW	F	1307M	0.03	1660.40	261843	23.0	22.74	1	5	Top	0	3.620	1.062	0.710	2.730	0.683	
Phablet	NTN Band 255	CW	F	1307M	-0.11	1643.50	261674	23.0	22.90	1	5	Left	0	0.777	1.023	0.710	0.564	0.141	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Phablet 4.0 W/kg (mW/g) averaged over 10 grams					

Note: Blue entry represents variability measurement

SAR Test Notes

General Notes:

1. The test data reported are the worst-case SAR values according to test procedures specified in IEEE 1528-2013, and FCC KDB Publication 447498 D01v06.
2. Batteries are fully charged at the beginning of the SAR measurements.
3. Liquid tissue depth was at least 15.0 cm for all frequencies.
4. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
5. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D01v06.
6. Device was tested using a fixed spacing for body-worn accessory testing. A separation distance of 10 mm was considered because the manufacturer has determined that there will be body-worn accessories available in the marketplace for users to support this separation distance.
7. Per FCC KDB Publication 648474 D01v06r03, body-worn SAR was evaluated without a headset connected to the device. Since the standalone reported body-worn SAR was ≤ 1.2 W/kg, no additional body-worn SAR evaluations using a headset cable were required.
8. Per FCC KDB 865664 D01v01r04, variability SAR tests were performed when the measured SAR results for a frequency band were greater than or equal to 0.8 W/kg. Repeated SAR measurements are highlighted in the tables above for clarity. Please see Section 14 for variability analysis.
9. During SAR Testing for the Wireless Router conditions per FCC KDB Publication 941225 D06v02r01, the actual Portable Hotspot operation (with actual simultaneous transmission of a transmitter with WIFI) was not activated (See Section 7.7 for more details).
10. Per FCC KDB Publication 648474 D01v06r03, this device is considered a "phablet" since the display diagonal dimension is > 150 mm and < 200 mm. Therefore, phablet SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR > 1.2 W/kg.
11. This device supports dynamic antenna tuning for some bands. Per FCC Guidance, SAR was measured according to the normally required SAR measurement configurations with tuner active. The auto-tune state determined by the device was verified before and after each SAR measurement and is listed in tables above. Please see Section 15 for supplemental data.
12. Unless otherwise noted, when 10g SAR measurement is considered, a factor of 2.5 is applied to the 1g thresholds for the equivalent test cases.
13. This device uses Qualcomm Smart Transmit for WWAN/WLAN/BT operations to control and manage transmitting power in real time to ensure RF Exposure compliance. Per FCC Guidance, compliance for

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was assessed at the minimum of the time averaged power and the maximum output power for each band/mode/exposure condition (DSI).

14. Per October 2020 TCB Workshop notes, absorbed power density (APD) using a 4cm2 averaging area is reported based on SAR measurements.

GSM Test Notes:

1. Body-Worn accessory testing is typically associated with voice operations. Therefore, GSM voice was evaluated for body-worn SAR.
2. Justification for reduced test configurations per KDB Publication 941225 D01v03r01 and October 2013 TCB Workshop Notes: The source-based frame-averaged output power was evaluated for all GPRS/EDGE slot configurations. The configuration with the highest target frame averaged output power was evaluated for hotspot SAR. When the maximum frame-averaged powers are equivalent across two or more slots (within 0.25 dB), the configuration with the most number of time slots was tested.
3. Per FCC KDB Publication 447498 D01v06, if the reported (scaled) SAR measured at the highest output power channel for each test configuration is ≤ 0.8 W/kg for 1g evaluations then testing at the other channels is not required for such test configuration(s).

UMTS Notes:

1. UMTS mode was tested under RMC 12.2 kbps with HSPA Inactive per KDB Publication 941225 D01v03r01. AMR and HSPA SAR was not required per the 3G Test Reduction Procedure in KDB Publication 941225 D01v03r01.
2. Per FCC KDB Publication 447498 D01v06, if the reported (scaled) SAR measured at the highest output power channel for each test configuration is ≤ 0.8 W/kg for 1g evaluations then testing at the other channels is not required for such test configuration(s).

LTE Notes:

1. LTE test configurations are determined according to SAR Evaluation Considerations for LTE Devices in FCC KDB Publication 941225 D05v02r04. The general test procedures used for testing can be found in Section 9.5.4.
2. MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.
3. A-MPR was disabled for all SAR tests by setting NS=01 and MCC=001 on the base station simulator. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).
4. Per FCC KDB Publication 447498 D01v06, when the reported 1g SAR measured at the highest output power channel in a given a test configuration was > 0.6 W/kg for LTE B41/48, testing at the other channels was required for such test configurations.
5. TDD LTE was tested per the guidance provided in FCC KDB Publication 941225 D05v02r04. Testing was performed using UL-DL configuration 0 with 6 UL subframes and 2 S subframes using extended cyclic prefix only and special subframe configuration 6. SAR tests were performed at maximum output power and worst-case transmission duty factor in extended cyclic prefix. Per 3GPP 36.211 Section 4, the duty factor for special subframe configuration 6 using extended cyclic prefix is 0.633.
6. Per KDB Publication 941225 D05Av01r02, SAR for downlink only LTE CA operations was not needed since the maximum average output power in LTE CA mode was not >0.25 dB higher than the maximum output power when downlink carrier aggregation was inactive.
7. For LTE Band 48 per FCC guidance, SAR was first measured with only a single carrier active in the uplink (carrier aggregation not active). For each exposure condition, the uplink CA scenario with two component carriers was additionally tested for the configuration with the highest SAR when carrier aggregation was not active. The SCC was configured with the closest available contiguous channel. The two component carriers were configured so the resource blocks are physically allocated side by side to achieve the maximum output power.

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NR Notes:

1. NR implementation supports SA and NSA mode. In EN-DC mode, NR operates with the LTE Bands shown in the NR FR1 checklist acting as anchor bands. Per FCC guidance, SAR tests for NR Bands and LTE Anchors Bands were performed separately due to limitations in SAR probe calibration factors.
2. Due to test setup limitations, SAR testing for NR TDD was performed using test mode software to establish the connection.
3. Simultaneous transmission analysis for EN-DC operations is addressed in the Part 2 Test Report (Serial Number can be found in the bibliography).
4. This device additionally supports some EN-DC conditions where additional LTE carriers are added on the downlink only.
5. Per FCC Guidance, NR modulations and RB Sizes/Offsets were selected for testing such that configurations with the highest output power were evaluated for SAR tests.
6. Per FCC KDB Publication 447498 D01v06, when the reported NR Band n77 C-Band SAR measured at the highest output power channel in a given a test configuration was > 0.4 W/kg for 1g evaluations and > 1 W/kg for 10g evaluation, testing at the other channels was required for such test configurations.
7. Per FCC KDB Publication 447498 D01v06, when the reported NR Band n41/48 SAR measured at the highest output power channel in a given a test configuration was > 0.6 W/kg for 1g evaluations and > 1.5 W/kg for 10g evaluation, testing at the other channels was required for such test configurations.
8. SRS was tested with CW signal per Qualcomm guidance in 80-w2112-4.
9. For final implementation, NR Band n38, n41, n48 and n77 slot configuration is synchronized using maximum duty cycle of 100%. SAR testing was performed using FTM mode with a 100% duty cycle applied to match final duty cycle.
10. Per FCC Guidance, C-Band for NR n77 (3705 – 3975 MHz) was fully tested according to FCC procedures. For each exposure condition and antenna, the worst-case position was additionally evaluated for the NR n77 DoD (3455.01 – 3544.98 MHz).
11. This device uses two transmit pathways for n41 operations (Path 1 and Path 2). For each exposure condition, the pathway with the highest target power was fully evaluated. The worst case for each antenna and exposure condition was additionally evaluated using the other path.

WLAN Notes:

1. For held-to-ear, hotspot, and phablet operations, the initial test position procedures were applied. The test position with the highest extrapolated peak SAR will be used as the initial test position. When reported SAR for the initial test position is ≤ 0.4 W/kg for 1g evaluations, no additional testing for the remaining test positions was required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is ≤ 0.8 W/kg or all test positions are measured.
2. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 2.4 GHz WIFI single transmission chain operations, the highest measured maximum output power channel for DSSS was selected for SAR measurement. SAR for OFDM modes (2.4 GHz 802.11g/n/ax) was not required due to the maximum allowed powers and the highest reported DSSS SAR. See Section 9.6.5 for more information.
3. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 5 GHz WIFI operations, the initial test configuration was selected according to the transmission mode with the highest maximum allowed powers. Other transmission modes were not investigated since the highest reported SAR for initial test configuration adjusted by the ratio of maximum output powers is less than 1.2 W/kg for 1g evaluations. See Section 9.6.6 for more information.
4. Per KDB Publication 248227 D01v02r02, SAR for MIMO was evaluated by following the simultaneous SAR provisions from KDB Publication 447498 D01v06 by either evaluating the sum of the 1g SAR values of each antenna transmitting independently or making a SAR measurement with both antennas transmitting simultaneously. Please see Multi-TX and Antenna SAR Considerations Appendix for complete analysis.
5. When the maximum reported 1g averaged SAR is ≤0.8 W/kg, SAR testing on additional channels was not required. Otherwise, SAR for the next highest output power channel was required until the reported SAR result was ≤ 1.20 W/kg for 1g evaluations or all test channels were measured.

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6. The device was configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools. The reported SAR was scaled to the 100% transmission duty factor to determine compliance. Procedures used to measure the duty factor are identical to that in the associated EMC test reports.
7. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.
8. Per FCC guidance, SAR was performed using 6.5 GHz SAR probe calibration factor for WIFI 6E. Per October 2020 TCB Workshop notes, 5 channels were tested for WIFI 6E.

Bluetooth Notes

1. Bluetooth SAR was measured with the device connected to a call box with hopping disabled with DH5 operation and Tx Tests test mode type. Per October 2016 TCB Workshop Notes, the reported SAR was scaled to the 79% transmission duty factor for Bluetooth and 87% transmission duty factor for Bluetooth LE to determine compliance. See RF Conducted Power Section for the time domain plot and calculation for the duty factor of the device.
2. Head and Hotspot Bluetooth SAR were evaluated for BT BDR tethering applications.
3. The highest frame average power configurations for both Bluetooth and Bluetooth LE were evaluated for SAR. The worst case configuration was used for the remaining test positions as the most conservative scenario.

UWB Notes:

1. UWB was evaluated for phablet based on expected usage conditions.
2. Per FCC guidance, SAR was performed using 6.5 GHz/8GHz probe calibration factor for UWB.

NTN Notes:

1. Due to equipment limitations, NTN was tested using factory test mode software transmitting CW at 100% duty cycle. The results were scaled down to the maximum duty cycle of 71%.
2. NTN NB-IoT only supports data transmission, therefore only body-worn and phablet exposure conditions were evaluated.

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13 POWER DENSITY DATA SUMMARY

13.1 6 GHz WIFI Power Density Results

Table 13-1

MEASUREMENT RESULTS																									
Frequency (MHz)	Channel	Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant H) [dBm]	Conducted Power (Ant H) [dBm]	Maximum Allowed Power (Ant E) [dBm]	Conducted Power (Ant E) [dBm]	Power Drift (dB)	Spacing (mm)	Antenna Config.	DUT Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Grid Step (λ)	iPD (W/m²)	Scaling Factor for Measurement Uncertainty per IEC	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Normal psPD (W/m²)	Scaled Normal psPD (W/m²)	Total psPD (W/m²)	Scaled Total psPD (W/m²)	Plot #
6305.00	71	802.11ax	OFDM	80	11.50	10.90	-	-	-0.04	2	H	1258M	34	Back	99.27	0.125	0.477	1.554	1.148	1.007	0.536	0.963	0.665	1.195	
6305.00	71	802.11ax	OFDM	80	11.50	10.90	-	-	0.01	2	H	1258M	34	Front	99.27	0.125	1.510	1.554	1.148	1.007	0.868	1.559	0.976	1.753	
6305.00	71	802.11ax	OFDM	80	11.50	10.90	-	-	-0.06	2	H	1258M	34	Top	99.27	0.125	3.460	1.554	1.148	1.007	1.030	1.850	1.080	1.940	
6305.00	71	802.11ax	OFDM	80	11.50	10.90	-	-	-0.07	2	H	1258M	34	Left	99.27	0.125	1.430	1.554	1.148	1.007	1.970	3.539	2.250	4.042	
5985.00	7	802.11ax	OFDM	80	11.50	10.53	-	-	-0.08	2	H	1258M	34	Left	99.27	0.125	1.400	1.554	1.250	1.007	2.160	4.225	2.540	4.968	
6465.00	103	802.11ax	OFDM	80	11.00	10.58	-	-	-0.05	2	H	1258M	34	Left	99.27	0.125	1.370	1.554	1.102	1.007	1.810	3.121	2.060	3.552	
6705.00	151	802.11ax	OFDM	80	11.50	10.80	-	-	0.02	2	H	1258M	34	Left	99.27	0.125	0.937	1.554	1.175	1.007	1.030	1.894	1.220	2.243	
7025.00	215	802.11ax	OFDM	80	11.00	10.74	-	-	-0.03	2	H	1258M	34	Left	99.27	0.125	0.905	1.554	1.062	1.007	1.490	2.476	1.800	2.991	
6305.00	71	802.11ax	OFDM	80	11.50	10.90	-	-	-0.09	9.51	H	1258M	34	Left	99.27	0.125	0.677	1.554	1.148	1.007	0.669	1.202	0.735	1.320	
6305.00	71	802.11ax	OFDM	80	-	-	11.50	11.10	0.03	2	E	1258M	34	Back	99.27	0.125	1.770	1.554	1.096	1.007	3.440	5.900	3.920	6.723	A95
6305.00	71	802.11ax	OFDM	80	-	-	11.50	11.10	0.02	2	E	1258M	34	Front	99.27	0.125	0.585	1.554	1.096	1.007	0.575	0.986	0.610	1.046	
6305.00	71	802.11ax	OFDM	80	-	-	11.50	11.10	0.08	2	E	1258M	34	Top	99.27	0.125	1.230	1.554	1.096	1.007	1.380	2.367	1.670	2.864	
6305.00	71	802.11ax	OFDM	80	-	-	11.50	11.10	0.02	2	E	1258M	34	Right	99.27	0.125	0.390	1.554	1.096	1.007	0.204	0.350	0.232	0.398	
5985.00	7	802.11ax	OFDM	80	-	-	11.50	10.78	0.05	2	E	1258M	34	Back	99.27	0.125	1.320	1.554	1.180	1.007	2.030	3.749	2.280	4.210	
6465.00	103	802.11ax	OFDM	80	-	-	11.00	10.92	0.03	2	E	1258M	34	Back	99.27	0.125	1.440	1.554	1.019	1.007	3.040	4.848	3.600	5.741	
6705.00	151	802.11ax	OFDM	80	-	-	11.50	10.68	0.05	2	E	1258M	34	Back	99.27	0.125	1.530	1.554	1.208	1.007	2.010	3.800	2.600	4.915	
7025.00	215	802.11ax	OFDM	80	-	-	11.00	10.99	-0.02	2	E	1258m	34	Back	99.27	0.125	1.170	1.554	1.002	1.007	1.610	2.524	2.150	3.371	
5985.00	7	802.11ax	OFDM	80	11.50	10.85	11.50	9.85	-0.07	2	MIMO	1182M	68.1	Back	99.27	0.125	-	1.554	1.462	1.007	1.910	4.370	2.160	4.942	
6305.00	71	802.11ax	OFDM	80	11.50	9.52	11.50	11.20	0.04	2	MIMO	1182M	68.1	Back	99.27	0.125	-	1.554	1.578	1.007	2.070	5.112	2.390	5.902	
6465.00	103	802.11ax	OFDM	80	11.00	9.04	11.00	10.88	-0.02	2	MIMO	1182M	68.1	Back	99.27	0.125	-	1.554	1.570	1.007	2.540	6.240	2.860	7.027	
6705.00	151	802.11ax	OFDM	80	11.50	11.28	11.50	10.23	0.12	2	MIMO	1182M	68.1	Back	99.27	0.125	-	1.554	1.340	1.007	2.860	5.997	3.250	6.815	
7025.00	215	802.11ax	OFDM	80	11.00	9.49	11.00	10.99	-0.07	2	MIMO	1182M	68.1	Back	99.27	0.125	-	1.554	1.416	1.007	2.300	5.096	2.560	5.673	
6705.00	151	802.11ax	OFDM	80	11.50	11.28	11.50	10.23	0.11	2	MIMO	1182M	68.1	Front	99.27	0.125	-	1.554	1.340	1.007	1.080	2.265	1.340	2.810	
6705.00	151	802.11ax	OFDM	80	11.50	11.28	11.50	10.23	-0.12	2	MIMO	1182M	68.1	Top	99.27	0.125	-	1.554	1.340	1.007	0.833	1.747	1.170	2.453	
6705.00	151	802.11ax	OFDM	80	11.50	11.28	11.50	10.23	-0.18	2	MIMO	1182M	68.1	Right	99.27	0.125	-	1.554	1.340	1.007	0.312	0.654	0.334	0.700	
6705.00	151	802.11ax	OFDM	80	11.50	11.28	11.50	10.23	-0.13	2	MIMO	1182M	68.1	Left	99.27	0.125	-	1.554	1.340	1.007	1.740	3.649	2.890	6.060	
47 CFR §1.1310 - SAFETY LIMIT Spatial Average Uncontrolled Exposure / General Population																			Power Density 10 W/m² averaged over 4 cm²						

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13.2 UWB Power Density Results

Table 13-2

MEASUREMENT RESULTS														
Frequency (MHz)	Channel	Mode	Power Drift (dB)	Spacing (mm)	DUT Serial Number	Side	Grid Step (λ)	iPD (W/m²)	Scaling Factor for Measurement Uncertainty per IEC 62479	Normal psPD (W/m²)	Scaled Normal psPD (W/m²)	Total psPD (W/m²)	Scaled Total psPD (W/m²)	Plot #
6489.60	5	CW	-0.06	2	1322M	Back	0.125	-	1.554	0.115	0.179	0.121	0.188	
6489.60	5	CW	-0.08	2	1322M	Front	0.125	-	1.554	0.102	0.159	0.108	0.168	
6489.60	5	CW	-0.04	2	1322M	Top	0.125	0.162	1.554	0.057	0.089	0.069	0.107	
7987.20	5	CW	-0.06	2	1322M	Left	0.125	-	1.554	0.088	0.137	0.094	0.146	
7987.20	9	CW	-0.06	2	1322M	Back	0.125	-	1.554	0.135	0.210	0.167	0.260	A96
7987.20	9	CW	-0.08	2	1322M	Front	0.125	-	1.554	0.023	0.036	0.030	0.047	
7987.20	9	CW	-0.10	2	1322M	Top	0.125	-	1.554	0.061	0.095	0.078	0.121	
6489.60	9	CW	0.01	2	1322M	Left	0.125	-	1.554	0.095	0.148	0.100	0.155	
6489.60	5	CW	0.01	9.24	1322M	Top	0.125	0.062	1.554	0.048	0.075	0.056	0.087	
47 CFR §1.1310 - SAFETY LIMIT Spatial Average Uncontrolled Exposure / General Population					Power Density 10 W/m² averaged over 4 cm²									

Power Density General Notes

1. The manufacturer has confirmed that the devices tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
2. Batteries are fully charged at the beginning of the measurements. The DUT was connected to a wall charger for some measurements due to the test duration. It was confirmed that the charger plugged into this DUT did not impact the near-field PD test results.
3. Power density was calculated by repeated E-field measurements on two measurement planes separated by λ/4.
4. The device was configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools.
5. Per FCC guidance and equipment manufacturer guidance, power density results were scaled according to IEC 62479:2010 for the portion of the measurement uncertainty > 30%. Total expanded uncertainty of 2.68 dB (85.4%) was used to determine the psPD measurement scaling factor.
6. Per equipment manufacturer guidance, power density was measured at d=2mm and d=λ/5mm using the same grid size and grid step size for some frequencies and surfaces. The integrated Power Density (iPD) was calculated based on these measurements. Since iPD ratio between the two distances is ≥ -1dB, the grid step was sufficient for determining compliance at d=2mm.
7. psPD for MIMO was evaluated by making a measurement with both antennas transmitting simultaneously.
8. PTP-PR algorithm was used during psPD measurement and calculations.
9. PD results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D04.

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14 SAR MEASUREMENT VARIABILITY

14.1 Measurement Variability

Per FCC KDB Publication 865664 D01v01r04, SAR measurement variability was assessed for each frequency band, which was determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media were required for SAR measurements in a frequency band, the variability measurement procedures were applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. These additional measurements were repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device was returned to ambient conditions (normal room temperature) with the battery fully charged before it was re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

SAR Measurement Variability was assessed using the following procedures for each frequency band:

1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.
2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1g SAR limit).
3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg
5) When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

Table 14-1
Head SAR Measurement Variability Results

HEAD VARIABILITY RESULTS														
Band	FREQUENCY		Mode	Service	Side	Test Position	Antenna Config	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	Ratio	3rd Repeated SAR (1g)	Ratio
	MHz	Ch.						(W/kg)	(W/kg)		(W/kg)		(W/kg)	
750	793.00	23330	LTE Band 14, 10 MHz Bandwidth	QPSK	Left	Tilt	E	0.806	0.731	1.10	N/A	N/A	N/A	N/A
1900	1860.00	26140	LTE Band 25 (PCS), 20 MHz Bandwidth	QPSK, 1 RB, 0 Offset	Right	Tilt	F	0.918	0.884	1.04	N/A	N/A	N/A	N/A
2300	2310.00	27710	LTE Band 30, 10 MHz Bandwidth	QPSK, 50 RB, 0 Offset	Right	Cheek	F	0.855	0.831	1.03	N/A	N/A	N/A	N/A
3700	3750.00	650000	NR Band 77, 100 MHz Bandwidth	QPSK, 1 RB, 271 Offset	Right	Tilt	F	0.908	0.898	1.01	N/A	N/A	N/A	N/A
3900	3930.00	662000	NR Band 77, 100 MHz Bandwidth	QPSK, 270 RB, 0 Offset	Right	Tilt	F	0.950	0.932	1.02	N/A	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					Head 1.6 W/kg (mW/g) averaged over 1 gram									

Table 14-2
Body SAR Measurement Variability Results

BODY VARIABILITY RESULTS														
Band	FREQUENCY		Mode	Service	Side	Spacing	Antenna Config	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	Ratio	3rd Repeated SAR (1g)	Ratio
	MHz	Ch.						(W/kg)	(W/kg)		(W/kg)		(W/kg)	
1750	1752.60	1513	UMTS 1750	RMC	Bottom	10 mm	A	0.896	0.862	1.04	N/A	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					Body 1.6 W/kg (mW/g) averaged over 1 gram									

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Table 14-3
Phablet SAR Measurement Variability Results

PHABLET VARIABILITY RESULTS														
Band	FREQUENCY		Mode	Service	Side	Spacing	Antenna Config	Measured SAR (10g)	1st Repeated SAR (10g)	Ratio	2nd Repeated SAR (10g)	Ratio	3rd Repeated SAR (10g)	Ratio
	MHz	Ch.						(W/kg)	(W/kg)		(W/kg)		(W/kg)	
1640	1626.60	261505	NTN Band 255	CW	Top	0 mm	F	3.990	3.940	1.01	N/A	N/A	N/A	N/A
5750	5720.00	144	6 GHz WIFI/IEE 802.11a	OFDM	Left	0 mm	H	2.080	2.020	1.03	N/A	N/A	N/A	N/A
5805	5865.00	173	6 GHz WIFI/IEE 802.11a	OFDM	Left	0 mm	H	2.410	2.420	1.00	N/A	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Phablet 4.0 W/kg (mW/g) averaged over 10 grams						

14.2 Measurement Uncertainty

The measured SAR was <1.5 W/kg for 1g and <3.75 W/kg for 10g for all frequency bands. Therefore, per KDB Publication 865664 D01v01r04, the extended measurement uncertainty analysis per IEEE 1528-2013 was not required.

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15 ADDITIONAL TESTING PER FCC GUIDANCE

15.1 Tuner Testing

Per April 2019 TCB Workshop Notes, the following test procedures were followed to demonstrate that the SAR results in Section 12 represented the appropriate SAR test conditions. For bands with dynamic tuning implemented, SAR was measured according to the required FCC SAR test procedures with the dynamic tuner active to allow the device to automatically tune to the antenna state for the respective RF exposure test configurations. Additional single point SAR time-sweep measurements were evaluated for other tuner states to determine that the other tuner configurations would result in equivalent or lower SAR values. The additional tuner hardware has no influence on the antenna characteristics, other than impedance matching.

To evaluate all the tuner states, the 96 tuner states were divided among the aggregate band, mode and exposure combinations. Single point time-sweep measurements were performed at the peak SAR location determined by the zoom scan of the configuration with the highest measured SAR for each combination. The tuner state was able to be established remotely so that the device was not moved for the entire series of single point SAR for the tuner states in each combination. The SAR probe remained stationary at the same position throughout the entire series of single point measurements for each combination. When the single point SAR or 1g SAR was > 1.2 W/kg for a particular band/mode/exposure condition, point SAR measurements were made for all 96 states.

The operational description contains more information about the design and implementation of the dynamic antenna tuning.

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Table 15-1
UMTS Supplemental Head SAR Data

Supplemental Head SAR Data					
UMTS B5		UMTS B4		UMTS B2	
RMC		RMC		RMC	
Test Position	Right Cheek	Test Position	Left Cheek	Test Position	Left Cheek
Frequency (MHz)	846.60	Frequency (MHz)	1712.40	Frequency (MHz)	1880.00
Channel	4233	Channel	1312	Channel	9400
Measured 1g SAR (W/kg)	0.172	Measured 1g SAR (W/kg)	0.172	Measured 1g SAR (W/kg)	0.188
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 0)	0.175	Auto-tune (State 11)	0.176	Auto-tune (State 1)	0.194
Default (State 1)	0.169	Default (State 55)	0.157	Default (State 0)	0.180
State 0	0.174	State 1	0.141	State 1	0.184
State 16	0.108	State 11	0.165	State 2	0.180
State 40	0.031	State 17	0.121	State 18	0.163
State 47	0.113	State 46	0.036	State 45	0.048
State 48	0.082	State 49	0.024	State 50	0.045
State 76	0.013	State 77	0.077	State 78	0.082
State 95	0.069	State 94	0.063	State 93	0.104

Table 15-2
LTE Supplemental Head SAR Data

Supplemental Head SAR Data								Supplemental Head SAR Data					
LTE B71		LTE B12		LTE B13		LTE B14		LTE B26		LTE B66		LTE B25	
QPSK, 20 MHz Bandwidth, 1 RB, 50 RB Offset		QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offset		QPSK, 10 MHz Bandwidth, 1 RB, 49 RB Offset		QPSK, 10 MHz Bandwidth, 1 RB, 49 RB Offset		QPSK, 15 MHz Bandwidth, 1 RB, 36 RB Offset		QPSK, 20 MHz Bandwidth, 1 RB, 50 RB Offset		QPSK, 20 MHz Bandwidth, 1 RB, 0 RB Offset	
Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Left Cheek	Test Position	Left Cheek
Frequency (MHz)	680.50	Frequency (MHz)	707.50	Frequency (MHz)	782.00	Frequency (MHz)	793.00	Frequency (MHz)	831.50	Frequency (MHz)	1720.00	Frequency (MHz)	1860.00
Channel	133297	Channel	23095	Channel	23230	Channel	23330	Channel	26865	Channel	132072	Channel	26140
Measured 1g SAR (W/kg)	0.134	Measured 1g SAR (W/kg)	0.139	Measured 1g SAR (W/kg)	0.135	Measured 1g SAR (W/kg)	0.164	Measured 1g SAR (W/kg)	0.140	Measured 1g SAR (W/kg)	0.200	Measured 1g SAR (W/kg)	0.157
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 0)	0.139	Auto-tune (State 1)	0.149	Auto-tune (State 11)	0.152	Auto-tune (State 0)	0.163	Auto-tune (State 0)	0.152	Auto-tune (State 56)	0.214	Auto-tune (State 1)	0.165
Default (State 0)	0.127	Default (State 0)	0.132	Default (State 11)	0.133	Default (State 0)	0.158	Default (State 1)	0.153	Default (State 55)	0.217	Default (State 0)	0.202
State 0	0.127	State 1	0.143	State 5	0.036	State 0	0.158	State 0	0.149	State 11	0.195	State 0	0.200
State 3	0.089	State 4	0.113	State 11	0.133	State 6	0.074	State 7	0.080	State 27	0.021	State 13	0.192
State 19	0.028	State 20	0.010	State 21	0.005	State 22	0.122	State 23	0.113	State 36	0.174	State 29	0.026
State 44	0.109	State 43	0.000	State 42	0.001	State 41	0.010	State 40	0.033	State 56	0.187	State 34	0.160
State 51	0.023	State 52	0.010	State 53	0.006	State 54	0.003	State 55	0.034	State 59	0.176	State 61	0.171
State 79	0.065	State 80	0.097	State 81	0.061	State 82	0.082	State 83	0.071	State 84	0.034	State 82	0.099
State 92	0.107	State 91	0.047	State 90	0.083	State 89	0.135	State 88	0.146	State 90	0.053	State 92	0.047

Table 15-3
NR Supplemental Head SAR Data

Supplemental Head SAR Data													
NR Band n71		NR Band n12		NR Band n14		NR Band n26		NR Band n70		NR Band n66		NR Band n25	
DFT-OFDM QPSK, 20 MHz Bandwidth, 90 RB, 49 RB Offset		DFT-OFDM QPSK, 15 MHz Bandwidth, 1 RB, 1 RB Offset		DFT-OFDM QPSK, 10 MHz Bandwidth, 1 RB, 26 RB Offset		DFT-OFDM QPSK, 20 MHz Bandwidth, 1 RB, 104 RB Offset		DFT-S-OFDM QPSK, 15 MHz Bandwidth, 1 RB, 77 RB Offset		DFT-s-OFDM QPSK, 40 MHz Bandwidth, 108 RB, 54 RB Offset		DFT-s-OFDM QPSK, 40 MHz Bandwidth, 1 RB, 108 RB Offset	
Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Left Cheek	Test Position	Left Cheek	Test Position	Left Cheek
Frequency (MHz)	680.50	Frequency (MHz)	707.50	Frequency (MHz)	793.00	Frequency (MHz)	836.50	Frequency (MHz)	1702.50	Frequency (MHz)	1745.00	Frequency (MHz)	1882.50
Channel	136100	Channel	141500	Channel	158600	Channel	167300	Channel	340500	Channel	349000	Channel	376500
Measured 1g SAR (W/kg)	0.110	Measured 1g SAR (W/kg)	0.108	Measured 1g SAR (W/kg)	0.053	Measured 1g SAR (W/kg)	0.059	Measured 1g SAR (W/kg)	0.139	Measured 1g SAR (W/kg)	0.205	Measured 1g SAR (W/kg)	0.166
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 0)	0.109	Auto-tune (State 1)	0.106	Auto-tune (State 0)	0.060	Auto-tune (State 0)	0.062	Auto-tune (State 55)	0.147	Auto-tune (State 56)	0.229	Auto-tune (State 1)	0.173
Default (State 0)	0.111	Default (State 0)	0.112	Default (State 0)	0.054	Default (State 1)	0.055	Default (State 55)	0.144	Default (State 55)	0.192	Default (State 0)	0.169
State 0	0.111	State 1	0.105	State 0	0.056	State 0	0.058	State 20	0.054	State 21	0.039	State 1	0.181
State 15	0.078	State 16	0.048	State 17	0.024	State 19	0.012	State 27	0.015	State 26	0.023	State 22	0.042
State 31	0.006	State 31	0.006	State 30	0.003	State 28	0.018	State 36	0.145	State 37	0.165	State 25	0.039
State 32	0.002	State 32	0.002	State 33	0.037	State 35	0.027	State 55	0.132	State 56	0.207	State 38	0.157
State 63	0.002	State 64	0.000	State 65	0.000	State 67	0.038	State 68	0.133	State 69	0.057	State 70	0.055
State 80	0.068	State 79	0.074	State 78	0.043	State 76	0.004	State 75	0.056	State 74	0.012	State 73	0.028
State 94	0.068	State 95	0.037	State 94	0.044	State 92	0.046	State 91	0.142	State 90	0.060	State 89	0.147

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Table 15-4
UMTS Supplemental Body SAR Data

Supplemental Body SAR Data					
UMTS B5		UMTS B4		UMTS B2	
RMC		RMC		RMC	
Test Position	Back	Test Position	Bottom	Test Position	Bottom
Spacing	10 mm	Spacing	10 mm	Spacing	10 mm
Frequency (MHz)	846.60	Frequency (MHz)	1752.60	Frequency (MHz)	1880.00
Channel	4233	Channel	1513	Channel	9400
Measured 1g SAR (W/kg)	0.325	Measured 1g SAR (W/kg)	0.896	Measured 1g SAR (W/kg)	0.695
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 0)	0.348	Auto-tune (State 11)	0.979	Auto-tune (State 3)	0.765
Default (State 1)	0.359	Default (State 55)	0.820	Default (State 0)	0.631
State 0	0.362	State 11	0.959	State 3	0.779
State 23	0.244	State 22	0.204	State 21	0.365
State 24	0.232	State 25	0.141	State 26	0.129
State 40	0.071	State 41	0.371	State 42	0.542
State 71	0.208	State 70	0.212	State 69	0.228
State 72	0.173	State 73	0.121	State 74	0.168
State 87	0.015	State 86	0.121	State 85	0.215

Table 15-5
LTE Supplemental Body SAR Data

Supplemental Body SAR Data													
LTE B71		LTE B12		LTE B13		LTE B14		LTE B26		LTE B66		LTE B25	
QPSK, 20 MHz Bandwidth, 1 RB, 50 RB Offset		QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offset		QPSK, 10 MHz Bandwidth, 1 RB, 49 RB Offset		QPSK, 10 MHz Bandwidth, 1 RB, 49 RB Offset		QPSK, 15 MHz Bandwidth, 1 RB, 36 RB Offset		QPSK, 20 MHz Bandwidth, 1 RB, 0 RB Offset		QPSK, 20 MHz Bandwidth, 1 RB, 0 RB Offset	
Test Position	Back	Test Position	Back	Test Position	Back	Test Position	Back	Test Position	Back	Test Position	Bottom	Test Position	Bottom
Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm
Frequency (MHz)	680.50	Frequency (MHz)	707.50	Frequency (MHz)	782.00	Frequency (MHz)	793.00	Frequency (MHz)	831.50	Frequency (MHz)	1770.00	Frequency (MHz)	1860.00
Channel	133297	Channel	23095	Channel	23230	Channel	23330	Channel	26865	Channel	132572	Channel	26140
Measured 1g SAR (W/kg)	0.374	Measured 1g SAR (W/kg)	0.337	Measured 1g SAR (W/kg)	0.360	Measured 1g SAR (W/kg)	0.379	Measured 1g SAR (W/kg)	0.293	Measured 1g SAR (W/kg)	0.783	Measured 1g SAR (W/kg)	0.623
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 0)	0.406	Auto-tune (State 1)	0.377	Auto-tune (State 0)	0.394	Auto-tune (State 0)	0.435	Auto-tune (State 0)	0.326	Auto-tune (State 55)	0.864	Auto-tune (State 0)	0.647
Default (State 0)	0.402	Default (State 0)	0.429	Default (State 11)	0.384	Default (State 0)	0.416	Default (State 1)	0.343	Default (State 55)	0.848	Default (State 0)	0.624
State 0	0.402	State 1	0.448	State 0	0.355	State 0	0.416	State 0	0.327	State 12	0.669	State 0	0.624
State 20	0.055	State 19	0.064	State 18	0.097	State 17	0.195	State 16	0.179	State 35	0.676	State 10	0.620
State 27	0.114	State 28	0.153	State 29	0.038	State 30	0.053	State 31	0.048	State 51	0.079	State 37	0.501
State 43	0.004	State 44	0.361	State 45	0.261	State 46	0.295	State 47	0.202	State 55	0.848	State 53	0.091
State 68	0.184	State 67	0.245	State 66	0.332	State 65	0.007	State 64	0.013	State 60	0.586	State 58	0.398
State 75	0.013	State 76	0.012	State 77	0.280	State 78	0.278	State 79	0.190	State 76	0.013	State 74	0.181
State 84	0.038	State 83	0.068	State 82	0.153	State 81	0.283	State 80	0.230	State 83	0.189	State 85	0.233

Table 15-6
NR Supplemental Body SAR Data

Supplemental Body SAR Data													
NR Band n71		NR Band n12		NR Band n14		NR Band n26		NR Band n70		NR Band n66		NR Band n25	
DFT-s-OFDM QPSK, 35 MHz Bandwidth, 1 RB, 94 RB Offset		DFT-OFDM QPSK, 15 MHz Bandwidth, 36 RB, 22 RB Offset		DFT-OFDM QPSK, 10 MHz Bandwidth, 1 RB, 26 RB Offset		DFT-OFDM QPSK, 20 MHz Bandwidth, 1 RB, 104 RB Offset		DFTs-OFDM QPSK, 15 MHz Bandwidth, 1 RB, 77 RB Offset		CP-OFDM QPSK, 45 MHz Bandwidth, 1 RB, 1 RB Offset		DFTs-OFDM QPSK, 40 MHz Bandwidth, 108 RB, 54 RB Offset	
Test Position	Back	Test Position	Back	Test Position	Right	Test Position	Back	Test Position	Bottom	Test Position	Bottom	Test Position	Bottom
Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm
Frequency (MHz)	680.50	Frequency (MHz)	707.50	Frequency (MHz)	793.00	Frequency (MHz)	836.50	Frequency (MHz)	1702.50	Frequency (MHz)	1745.00	Frequency (MHz)	1882.50
Channel	136100	Channel	141500	Channel	158600	Channel	167300	Channel	340500	Channel	349000	Channel	376500
Measured 1g SAR (W/kg)	0.331	Measured 1g SAR (W/kg)	0.383	Measured 1g SAR (W/kg)	0.108	Measured 1g SAR (W/kg)	0.295	Measured 1g SAR (W/kg)	0.830	Measured 1g SAR (W/kg)	0.871	Measured 1g SAR (W/kg)	0.736
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 0)	0.311	Auto-tune (State 1)	0.394	Auto-tune (State 1)	0.114	Auto-tune (State 0)	0.330	Auto-tune (State 11)	0.894	Auto-tune (State 11)	0.928	Auto-tune (State 5)	0.699
Default (State 0)	0.373	Default (State 0)	0.414	Default (State 0)	0.112	Default (State 1)	0.337	Default (State 55)	0.740	Default (State 55)	0.817	Default (State 0)	0.673
State 0	0.373	State 1	0.426	State 1	0.117	State 0	0.333	State 3	0.721	State 2	0.758	State 1	0.694
State 8	0.053	State 7	0.110	State 6	0.063	State 4	0.290	State 11	0.903	State 11	0.928	State 5	0.701
State 39	0.027	State 40	0.016	State 41	0.010	State 43	0.017	State 44	0.236	State 45	0.244	State 46	0.208
State 55	0.129	State 55	0.096	State 54	0.004	State 52	0.036	State 51	0.144	State 50	0.155	State 49	0.248
State 56	0.184	State 56	0.179	State 57	0.072	State 59	0.233	State 60	0.724	State 61	0.709	State 62	0.646
State 72	0.039	State 71	0.063	State 70	0.068	State 68	0.239	State 67	0.316	State 66	0.383	State 65	0.484
State 87	0.007	State 88	0.340	State 89	0.096	State 91	0.143	State 92	0.232	State 93	0.804	State 94	0.247

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16 EQUIPMENT LIST

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	E4404B	Spectrum Analyzer	N/A	N/A	N/A	MY45113242
Agilent	E4438C	ESG Vector Signal Generator	11/14/2023	Annual	11/14/2024	MY45093852
Agilent	E4438C	ESG Vector Signal Generator	11/15/2023	Annual	11/15/2024	MY45092078
Agilent	N5182A	MXG Vector Signal Generator	10/12/2023	Annual	10/12/2024	MY47400315
Agilent	N5182A	MXG Vector Signal Generator	3/7/2024	Annual	3/7/2025	MY47400603
Agilent	8753ES	S-Parameter Vector Network Analyzer	1/10/2024	Annual	1/10/2025	MY40001472
Agilent	8753ES	S-Parameter Vector Network Analyzer	7/21/2023	Annual	7/21/2024	US39170118
Agilent	E5515C	Wireless Communications Test Set	CBT	N/A	CBT	GB46310788
Agilent	E5515C	Wireless Communications Test Set	CBT	N/A	CBT	US41140256
Agilent	N4010A	Wireless Connectivity Test Set	N/A	N/A	N/A	GB46170464
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433973
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433974
Amplifier Research	150A100C	Amplifier	CBT	N/A	CBT	350132
Anritsu	MN8110B	I/O Adaptor	CBT	N/A	CBT	6261747881
Anritsu	ML2496A	Power Meter	6/24/2024	Annual	6/24/2025	1940005
Anritsu	ML2495A	Power Meter	7/8/2024	Annual	7/8/2025	1036008
Anritsu	MA2411B	Pulse Power Sensor	8/22/2023	Annual	8/22/2024	1726262
Anritsu	MA2411B	Pulse Power Sensor	11/8/2023	Annual	11/8/2024	1027293
Anritsu	MT8821C	Radio Communication Analyzer MT8821C	12/15/2023	Annual	12/15/2024	6200901190
Anritsu	MT8821C	Radio Communication Analyzer MT8821C	5/15/2024	Annual	5/15/2025	6262150047
Anritsu	MT8821C	Radio Communication Analyzer MT8821C	5/30/2024	Annual	5/30/2025	6262044715
Anritsu	MT8000A	Radio Communication Test Station	CBT	N/A	CBT	626196-7072
Anritsu	MT8000A	Radio Communication Test Station	4/10/2024	Annual	4/10/2025	6261987983
Anritsu	MT8000A	Radio Communication Test Station	5/2/2024	Annual	5/2/2025	6272337436
Anritsu	MA24106A	USB Power Sensor	12/4/2023	Annual	12/4/2024	1520501
Anritsu	MA24106A	USB Power Sensor	4/15/2024	Annual	4/15/2025	1827528
Mini-Circuits	PWR-4GHS	USB Power Sensor	6/12/2024	Annual	6/12/2025	11001070013
Control Company	4052	Long Stem Thermometer	2/27/2024	Biennial	2/27/2026	240174346
Control Company	4052	Long Stem Thermometer	2/27/2024	Biennial	2/27/2026	240173096
Control Company	4052	Long Stem Thermometer	2/27/2024	Biennial	2/27/2026	240173259
Control Company	4040	Therm / Clock / Humidity Monitor	4/15/2024	Biennial	4/15/2026	240310280
Control Company	4040	Therm / Clock/ Humidity Monitor	4/15/2024	Biennial	4/15/2026	240310282
Control Company	56279	Therm / Clock/ Humidity Monitor	2/16/2024	Biennial	2/16/2026	240140051
Mitutoyo	500-196-30	CD-6"AXW 6inch Digital Caliper	2/16/2022	Triennial	2/16/2025	A20238413
Keysight Technologies	N9020A	MXA Signal Analyzer	4/11/2024	Annual	4/11/2025	MY54500644
Agilent	N9020A	MXA Signal Analyzer	6/14/2024	Annual	6/14/2025	MY56470202
MCL	BW-N6W5+	6dB Attenuator	CBT	N/A	CBT	1139
Mini-Circuits	VLF-600D+	Low Pass Filter DC to 6000 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	VLF-600D+	Low Pass Filter DC to 6000 MHz	7/5/2023	Annual	7/5/2024	31634
Mini-Circuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-120D+	Low Pass Filter DC to 1000 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-295D+	Low Pass Filter DC to 2700 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	BW-N20W5	Power Attenuator	CBT	N/A	CBT	1226
Mini-Circuits	ZUDC10-83-S+	Directional Coupler	CBT	N/A	CBT	2050
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Narda	BW-S3W2	Attenuator (3dB)	CBT	N/A	CBT	120
Seekonk	NC-100	Torque Wrench	CBT	N/A	CBT	22217
Seekonk	NC-100	Torque Wrench	4/2/2024	Biennial	4/2/2026	1262
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	1/11/2024	Annual	1/11/2025	150117
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	1/10/2024	Annual	1/10/2025	131454
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	8/10/2023	Annual	8/10/2024	140144
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	8/9/2023	Annual	8/9/2024	162125
SPEAG	DAK-3.5	Dielectric Assessment Kit	11/13/2023	Annual	11/13/2024	1277
SPEAG	DAKS-3.5	Portable Dielectric Assessment Kit	8/14/2023	Annual	8/14/2024	1041
SPEAG	MAIA	Modulation and Audio Interference Analyzer	N/A	N/A	N/A	1237
SPEAG	MAIA	Modulation and Audio Interference Analyzer	N/A	N/A	N/A	1331
SPEAG	MAIA	Modulation and Audio Interference Analyzer	N/A	N/A	N/A	1390
SPEAG	DAK-12	Dielectric Assessment Kit (4MHz - 3GHz)	3/11/2024	Annual	3/11/2025	1102
SPEAG	CLA-13	Confined Loop Antenna	11/9/2023	Annual	11/9/2024	1004
SPEAG	D750V3	750 MHz SAR Dipole	10/19/2021	Triennial	10/19/2024	1161
SPEAG	D750V3	750 MHz SAR Dipole	3/14/2022	Triennial	3/14/2025	1054
SPEAG	D750V3	750 MHz SAR Dipole	9/13/2021	Biennial	9/13/2025	1097
SPEAG	D835V2	835 MHz SAR Dipole	3/11/2024	Annual	3/11/2025	4d133
SPEAG	D835V2	835 MHz SAR Dipole	5/16/2022	Triennial	5/16/2025	4d040
SPEAG	D835V2	835 MHz SAR Dipole	4/8/2024	Annual	4/8/2025	4d119
SPEAG	D835V2	835 MHz SAR Dipole	1/18/2024	Annual	1/18/2025	4d132
SPEAG	D1640V2	1640 MHz SAR Dipole	12/13/2022	Biennial	12/13/2024	321
SPEAG	D1750V2	1750 MHz SAR Dipole	10/22/2021	Triennial	10/22/2024	1150
SPEAG	D1750V2	1750 MHz SAR Dipole	4/15/2024	Annual	4/15/2025	1051
SPEAG	D1750V2	1750 MHz SAR Dipole	1/18/2022	Triennial	1/18/2025	1148
SPEAG	D1900V2	1900 MHz SAR Dipole	2/21/2022	Triennial	2/21/2025	5d148
SPEAG	D1900V2	1900 MHz SAR Dipole	4/12/2024	Annual	4/12/2025	5d141
SPEAG	D2300V2	2300 MHz SAR Dipole	11/14/2023	Annual	11/14/2024	1064
SPEAG	D2300V2	2300 MHz SAR Dipole	3/11/2024	Annual	3/11/2025	1038
SPEAG	D2450V2	2450 MHz SAR Dipole	2/8/2024	Annual	2/8/2025	882
SPEAG	D2450V2	2450 MHz SAR Dipole	5/10/2024	Annual	5/10/2025	945
SPEAG	D2450V2	2450 MHz SAR Dipole	5/11/2022	Triennial	5/11/2025	750
SPEAG	D2450V2	2450 MHz SAR Dipole	11/15/2022	Biennial	11/15/2024	855
SPEAG	D2600V2	2600 MHz SAR Dipole	5/11/2022	Triennial	5/11/2025	1042
SPEAG	D2600V2	2600 MHz SAR Dipole	9/12/2023	Biennial	9/12/2025	1069
SPEAG	D2600V2	2600 MHz SAR Dipole	6/14/2024	Annual	6/14/2025	1039
SPEAG	D3500V2	3500 MHz SAR Dipole	12/13/2023	Annual	12/13/2024	1068
SPEAG	D3500V2	3500 MHz SAR Dipole	1/12/2024	Annual	1/12/2025	1059
SPEAG	D3700V2	3700 MHz SAR Dipole	12/13/2023	Annual	12/13/2024	1029
SPEAG	D3700V2	3700 MHz SAR Dipole	1/13/2023	Biennial	1/13/2025	1067
SPEAG	D3900V2	3900 MHz SAR Dipole	10/19/2023	Annual	10/19/2024	1056
SPEAG	D3700V2	3700 MHz SAR Dipole	1/9/2024	Annual	1/9/2025	1018
SPEAG	D5GHzV2	5 GHz SAR Dipole	2/21/2024	Annual	2/21/2025	1057
SPEAG	D5GHzV2	5 GHz SAR Dipole	4/9/2024	Annual	4/9/2025	1237
SPEAG	D6.5GHzV2	6.5 GHz SAR Dipole	2/22/2024	Annual	2/22/2025	1111
SPEAG	D6.5GHzV2	6.5 GHz SAR Dipole	10/11/2023	Annual	10/11/2024	1019
SPEAG	D8GHzV2	8GHz SAR Dipole	3/4/2024	Annual	3/4/2025	1007
SPEAG	5G Verification Source 10GHz	10GHz System Verification Antenna	3/5/2024	Annual	3/5/2025	1032
SPEAG	5G Verification Source 10GHz	10GHz System Verification Antenna	8/22/2024	Annual	8/22/2025	1004
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/16/2024	Annual	1/16/2025	1582
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/8/2024	Annual	7/8/2025	1677
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/9/2024	Annual	4/9/2025	1415
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/1/2024	Annual	3/1/2025	665
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/8/2024	Annual	5/8/2025	1678
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/8/2024	Annual	5/8/2025	728
SPEAG	DAE4	Dasy Data Acquisition Electronics	9/10/2024	Annual	9/10/2025	1364
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/16/2024	Annual	1/16/2025	1466
SPEAG	DAE4	Dasy Data Acquisition Electronics	8/8/2024	Annual	8/8/2025	1532
SPEAG	DAE4	Dasy Data Acquisition Electronics	6/11/2024	Annual	6/11/2025	1334
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/18/2024	Annual	4/18/2025	1407
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/9/2024	Annual	2/9/2025	467
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/8/2024	Annual	5/8/2025	1683
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/9/2024	Annual	4/9/2025	1652
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/9/2024	Annual	2/9/2025	1645
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/8/2024	Annual	5/8/2025	1502
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/8/2024	Annual	5/8/2025	1676
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/6/2024	Annual	3/6/2025	604
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/6/2024	Annual	3/6/2025	534
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/12/2024	Annual	3/12/2025	1272
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/16/2024	Annual	1/16/2025	1530
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/18/2024	Annual	7/18/2025	1583
SPEAG	DAE4	Dasy Data Acquisition Electronics	12/5/2023	Annual	12/5/2024	1639
SPEAG	EX3DV4	SAR Probe	4/16/2024	Annual	4/16/2025	7357
SPEAG	EX3DV4	SAR Probe	7/18/2024	Annual	7/18/2025	7406
SPEAG	EX3DV4	SAR Probe	2/9/2024	Annual	2/9/2025	7308
SPEAG	EX3DV4	SAR Probe	1/16/2024	Annual	1/16/2025	7565
SPEAG	EX3DV4	SAR Probe	9/2/2024	Annual	9/2/2025	7491
SPEAG	EX3DV4	SAR Probe	3/8/2024	Annual	3/8/2025	7488
SPEAG	EX3DV4	SAR Probe	6/17/2024	Annual	6/17/2025	7409
SPEAG	EX3DV4	SAR Probe	5/8/2024	Annual	5/8/2025	7660
SPEAG	EX3DV4	SAR Probe	4/17/2024	Annual	4/17/2025	7718
SPEAG	EX3DV4	SAR Probe	2/9/2024	Annual	2/9/2025	7427
SPEAG	EX3DV4	SAR Probe	4/17/2024	Annual	4/17/2025	7639
SPEAG	EX3DV4	SAR Probe	5/13/2024	Annual	5/13/2025	7682
SPEAG	EX3DV4	SAR Probe	4/17/2024	Annual	4/17/2025	7637
SPEAG	EX3DV4	SAR Probe	2/9/2024	Annual	2/9/2025	7640
SPEAG	EX3DV4	SAR Probe	5/10/2024	Annual	5/10/2025	7402
SPEAG	EX3DV4	SAR Probe	5/10/2024	Annual	5/10/2025	3914
SPEAG	EX3DV4	SAR Probe	3/11/2024	Annual	3/11/2025	7421
SPEAG	EX3DV4	SAR Probe	3/8/2024	Annual	3/8/2025	7527
SPEAG	EX3DV4	SAR Probe	9/11/2024	Annual	9/11/2025	7558
SPEAG	EX3DV4	SAR Probe	1/15/2024	Annual	1/15/2025	7570
SPEAG	EX3DV4	SAR Probe	6/28/2024	Annual	6/28/2025	7803
SPEAG	EX3DV4	SAR Probe	5/13/2024	Annual	5/13/2024	7552
SPEAG	EUmmWV4	EUmmWV4 Probe	2/2/2024	Annual	2/2/2025	9622
SPEAG	EUmmWV4	EUmmWV4 Probe	3/4/2024	Annual	3/4/2025	9421

Note: CBT (Calibrated Before Testing). Prior to testing, the measurement paths containing a cable, amplifier, attenuator, coupler or filter were connected to a calibrated source (i.e. a signal generator) to determine the losses of the measurement path. The power meter offset was then adjusted to compensate for the measurement system losses. This level offset is stored within the power meter before measurements are made. This calibration verification procedure applies to the system verification and output power measurements. The calibrated reading is then taken directly from the power meter after compensation of the losses for all final power measurements.
Note: All equipment was used solely within its respective calibration period.

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17 MEASUREMENT UNCERTAINTIES

"Note: The tables below represent the worst-case uncertainty budget among the uncertainty budgets of all testing laboratories listed in Section 1.2 "

Applicable for SAR measurements < 6GHz:

a	b	c	d	e= f(d,k)	f	g	h = c x f/e	i = c x g/e	k
Uncertainty Component	IEEE 1528 Sec.	Tol. (± %)	Prob. Dist.	Div.	c_i 1gm	c_i 10 gms	1gm u_i (± %)	10gms u_i (± %)	v_i
Measurement System									
Probe Calibration	E.2.1	7	N	1	1	1	7.0	7.0	∞
Axial Isotropy	E.2.2	0.25	N	1	0.7	0.7	0.2	0.2	∞
Hemishperical Isotropy	E.2.2	1.3	N	1	0.7	0.7	0.9	0.9	∞
Boundary Effect	E.2.3	2	R	1.73	1	1	1.2	1.2	∞
Linearity	E.2.4	0.3	N	1	1	1	0.3	0.3	∞
System Detection Limits	E.2.4	0.25	R	1.73	1	1	0.1	0.1	∞
Modulation Response	E.2.5	4.8	R	1.73	1	1	2.8	2.8	∞
Readout Electronics	E.2.6	0.3	N	1	1	1	0.3	0.3	∞
Response Time	E.2.7	0.8	R	1.73	1	1	0.5	0.5	∞
Integration Time	E.2.8	2.6	R	1.73	1	1	1.5	1.5	∞
RF Ambient Conditions - Noise	E.6.1	3	R	1.73	1	1	1.7	1.7	∞
RF Ambient Conditions - Reflections	E.6.1	3	R	1.73	1	1	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	E.6.2	0.8	R	1.73	1	1	0.5	0.5	∞
Probe Positioning w/ respect to Phantom	E.6.3	6.7	R	1.73	1	1	3.9	3.9	∞
Extrapolation, Interpolation & Integration algorithms for Max. SAR Evaluation	E.5	4	R	1.73	1	1	2.3	2.3	∞
Test Sample Related									
Test Sample Positioning	E.4.2	3.12	N	1	1	1	3.1	3.1	35
Device Holder Uncertainty	E.4.1	1.67	N	1	1	1	1.7	1.7	5
Output Power Variation - SAR drift measurement	E.2.9	5	R	1.73	1	1	2.9	2.9	∞
SAR Scaling	E.6.5	0	R	1.73	1	1	0.0	0.0	∞
Phantom & Tissue Parameters									
Phantom Uncertainty (Shape & Thickness tolerances)	E.3.1	7.6	R	1.73	1.0	1.0	4.4	4.4	∞
Liquid Conductivity - measurement uncertainty	E.3.3	4.3	N	1	0.78	0.71	3.3	3.0	76
Liquid Permittivity - measurement uncertainty	E.3.3	4.2	N	1	0.23	0.26	1.0	1.1	75
Liquid Conductivity - Temperature Uncertainty	E.3.4	3.4	R	1.73	0.78	0.71	1.5	1.4	∞
Liquid Permittivity - Temperature Unceritainty	E.3.4	0.6	R	1.73	0.23	0.26	0.1	0.1	∞
Liquid Conductivity - deviation from target values	E.3.2	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Permittivity - deviation from target values	E.3.2	5.0	R	1.73	0.60	0.49	1.7	1.4	∞
Combined Standard Uncertainty (k=1)			RSS				12.2	12.0	191
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=2				24.4	24.0	

The above measurement uncertainties are according to IEEE Std. 1528-2013

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Applicable for SAR measurements > 6GHz:

a	b	c	d	e= f(d,k)	f	g	h = c x f/e	i = c x g/e	k
Uncertainty Component	IEEE 1528 Sec.	Tol. (± %)	Prob. Dist.	Div.	c_i 1gm	c_i 10 gms	1gm u_i (± %)	10gms u_i (± %)	v_i
Measurement System									
Probe Calibration	E.2.1	9.3	N	1	1	1	9.3	9.3	∞
Axial Isotropy	E.2.2	0.25	N	1	0.7	0.7	0.2	0.2	∞
Hemishperical Isotropy	E.2.2	1.3	N	1	0.7	0.7	0.9	0.9	∞
Boundary Effect	E.2.3	2	R	1.73	1	1	1.2	1.2	∞
Linearity	E.2.4	0.3	N	1	1	1	0.3	0.3	∞
System Detection Limits	E.2.4	0.25	R	1.73	1	1	0.1	0.1	∞
Modulation Response	E.2.5	4.8	R	1.73	1	1	2.8	2.8	∞
Readout Electronics	E.2.6	0.3	N	1	1	1	0.3	0.3	∞
Response Time	E.2.7	0.8	R	1.73	1	1	0.5	0.5	∞
Integration Time	E.2.8	2.6	R	1.73	1	1	1.5	1.5	∞
RF Ambient Conditions - Noise	E.6.1	3	R	1.73	1	1	1.7	1.7	∞
RF Ambient Conditions - Reflections	E.6.1	3	R	1.73	1	1	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	E.6.2	0.8	R	1.73	1	1	0.5	0.5	∞
Probe Positioning w/ respect to Phantom	E.6.3	6.7	R	1.73	1	1	3.9	3.9	∞
Extrapolation, Interpolation & Integration algorithms for Max. SAR Evaluation	E.5	4	R	1.73	1	1	2.3	2.3	∞
Test Sample Related									
Test Sample Positioning	E.4.2	3.12	N	1	1	1	3.1	3.1	35
Device Holder Uncertainty	E.4.1	1.67	N	1	1	1	1.7	1.7	5
Output Power Variation - SAR drift measurement	E.2.9	5	R	1.73	1	1	2.9	2.9	∞
SAR Scaling	E.6.5	0	R	1.73	1	1	0.0	0.0	∞
Phantom & Tissue Parameters									
Phantom Uncertainty (Shape & Thickness tolerances)	E.3.1	7.6	R	1.73	1.0	1.0	4.4	4.4	∞
Liquid Conductivity - measurement uncertainty	E.3.3	4.3	N	1	0.78	0.71	3.3	3.0	76
Liquid Permittivity - measurement uncertainty	E.3.3	4.2	N	1	0.23	0.26	1.0	1.1	75
Liquid Conductivity - Temperature Uncertainty	E.3.4	3.4	R	1.73	0.78	0.71	1.5	1.4	∞
Liquid Permittivity - Temperature Unceritainty	E.3.4	0.6	R	1.73	0.23	0.26	0.1	0.1	∞
Liquid Conductivity - deviation from target values	E.3.2	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Permittivity - deviation from target values	E.3.2	5.0	R	1.73	0.60	0.49	1.7	1.4	∞
Combined Standard Uncertainty (k=1)			RSS				13.8	13.6	191
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=2				27.6	27.1	

The above measurement uncertainties are according to IEEE Std. 1528-2013

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Applicable for Power Density Measurements:

a	b	c	d	e	f = c x f/e	g
Uncertainty Component	Unc. (± dB)	Prob. Dist.	Div.	c_i	u_i (± dB)	v_i
Measurement System						
Calibration	0.49	N	1	1	0.49	∞
Probe Correction	0.00	R	1.73	1	0.00	∞
Frequency Response	0.20	R	1.73	1	0.12	∞
Sensor Cross Coupling	0.00	R	1.73	1	0.00	∞
Isotropy	0.50	R	1.73	1	0.29	∞
Linearity	0.20	R	1.73	1	0.12	∞
Probe Scattering	0.00	R	1.73	1	0.00	∞
Probe Positioning offset	0.30	R	1.73	1	0.17	∞
Probe Positioning Repeatability	0.04	R	1.73	1	0.02	∞
Sensor MechanicalOffset	0.00	R	1.73	1	0.00	∞
Probe Spatial Resolution	0.00	R	1.73	1	0.00	∞
Field Impedence Dependance	0.00	R	1.73	1	0.00	∞
Amplitude and Phase Drift	0.00	R	1.73	1	0.00	∞
Amplitude and Phase Noise	0.04	R	1.73	1	0.02	∞
Measurement Area Truncation	0.00	R	1.73	1	0.00	∞
Data Acquisition	0.03	N	1	1	0.03	∞
Sampling	0.00	R	1.73	1	0.00	∞
Field Reconstruction	2.00	R	1.73	1	1.15	∞
Forward Transformation	0.00	R	1.73	1	0.00	∞
Power Density Scaling	0.00	R	1.73	1	0.00	∞
Spatial Averaging	0.10	R	1.73	1	0.06	∞
System Detection Limit	0.04	R	1.73	1	0.02	∞
Test Sample Related						
Probe Coupling with DUT	0.00	R	1.73	1	0.00	∞
Modulation Response	0.40	R	1.73	1	0.23	∞
Integration Time	0.00	R	1.73	1	0.00	∞
Response Time	0.00	R	1.73	1	0.00	∞
Device Holder Influence	0.10	R	1.73	1	0.06	∞
DUT alignment	0.00	R	1.73	1	0.00	∞
RF Ambient Conditions	0.04	R	1.73	1	0.02	∞
Ambient Reflections	0.04	R	1.73	1	0.02	∞
Immunity/Secondary Reception	0.00	R	1.73	1	0.00	∞
Drift of DUT	0.21	R	1.73	1	0.12	∞
Combined Standard Uncertainty (k=1)		RSS			1.34	∞
Expanded Uncertainty (95% CONFIDENCE LEVEL)		k=2			2.68	

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18 CONCLUSION

18.1 Measurement Conclusion

The SAR evaluation indicates that the EUT complies with the RF radiation exposure limits of the FCC and Innovation, Science, and Economic Development Canada, with respect to all parameters subject to this test. These measurements were taken to simulate the RF effects of RF exposure under worst-case conditions. Precise laboratory measures were taken to assure repeatability of the tests. The results and statements relate only to the item(s) tested.

Please note that the absorption and distribution of electromagnetic energy in the body are very complex phenomena that depend on the mass, shape, and size of the body, the orientation of the body with respect to the field vectors, and the electrical properties of both the body and the environment. Other variables that may play a substantial role in possible biological effects are those that characterize the environment (e.g. ambient temperature, air velocity, relative humidity, and body insulation) and those that characterize the individual (e.g. age, gender, activity level, debilitation, or disease). Because various factors may interact with one another to vary the specific biological outcome of an exposure to electromagnetic fields, any protection guide should consider maximal amplification of biological effects as a result of field-body interactions, environmental conditions, and physiological variables. [3]

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RF Exposure Part 2 Test Report

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Date of Testing:
09/16/2024 – 10/22/2023
Test Site/Location:
Element, Columbia, MD, USA
Document Serial No.:
1M2408260064-24.A3L

FCC ID:	**A3LSMS936U**
APPLICANT:	**SAMSUNG ELECTRONICS CO., LTD.**

DUT Type:	Portable Handset
Application Type:	Certification
FCC Rule Part(s):	CFR §2.1093
Model(s):	SM-S936U
Additional Model(s):	SM-S936U1
Device Serial Numbers:	Pre-Production Samples [2291M, 2292M]

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them. Test results reported herein relate only to the item(s) tested.

RJ Ortanez
Executive Vice President

ilac-MRA A2LA ACCREDITED CERT #2041.01

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1 DEVICE UNDER TEST

1.1 Device Overview

Band & Mode	Operating Modes	Tx Frequency
LTE Band 71	Voice/Data	665.5 - 695.5 MHz
LTE Band 12	Voice/Data	699.7 - 715.3 MHz
LTE Band 13	Voice/Data	779.5 - 784.5 MHz
LTE Band 14	Voice/Data	790.5 - 795.5 MHz
LTE Band 26	Voice/Data	814.7 - 848.3 MHz
LTE Band 5	Voice/Data	824.7 - 848.3 MHz
LTE Band 66	Voice/Data	1710.7 - 1779.3 MHz
LTE Band 4	Voice/Data	1710.7 - 1754.3 MHz
LTE Band 25	Voice/Data	1850.7 - 1914.3 MHz
LTE Band 2	Voice/Data	1850.7 - 1909.3 MHz
LTE Band 30	Voice/Data	2307.5 - 2312.5 MHz
LTE Band 7	Voice/Data	2502.5 - 2567.5 MHz
LTE Band 41	Voice/Data	2498.5 - 2687.5 MHz
LTE Band 38	Voice/Data	2572.5 - 2617.5 MHz
LTE Band 48	Voice/Data	3552.5 - 3697.5 MHz
NR Band n71	Voice/Data	665.5 - 695.5 MHz
NR Band n12	Voice/Data	701.5 - 713.5 MHz
NR Band n14	Voice/Data	790.5 - 795.5 MHz
NR Band n26	Voice/Data	816.5 - 846.5 MHz
NR Band n5	Voice/Data	826.5 - 846.5 MHz
NR Band n70	Voice/Data	1697.5 - 1707.5 MHz
NR Band n66	Voice/Data	1712.5 - 1777.5 MHz
NR Band n25	Voice/Data	1852.5 - 1912.5 MHz
NR Band n30	Voice/Data	2307.5 - 2312.5 MHz
NR Band n7	Voice/Data	2502.5 - 2567.5 MHz
NR Band n41	Voice/Data	2501.01 - 2685 MHz
NR Band n38	Voice/Data	2575 - 2615 MHz
NR Band n48	Voice/Data	3555 - 3694.98 MHz
NR Band n78	Voice/Data	3455.01 - 3544.98 MHz; 3705 - 3795 MHz
NR Band n77	Voice/Data	3455.01 - 3544.98 MHz; 3705 - 3975 MHz
NR Band n255 NTN	Voice/Data	1629 - 1658 MHz
2.4 GHz WIFI	Voice/Data	2412 - 2462 MHz
5 GHz WIFI	Voice/Data	U-NII-1: 5180 - 5240 MHz U-NII-2A: 5260 - 5320 MHz U-NII-2C: 5500 - 5720 MHz U-NII-3: 5745 - 5825 MHz
6 GHz WIFI	Voice/Data	U-NII-5: 5945 - 6415 MHz U-NII-6: 6435 - 6515 MHz U-NII-7: 6535 - 6875 MHz U-NII-8: 6895 - 7115 MHz
2.4 GHz Bluetooth	Data	2402 - 2480 MHz
NFC	Data	13.56 MHz
UWB	Data	6489.6 - 7987.2 MHz

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1.2 Time-Averaging Algorithm for RF Exposure Compliance

This device is enabled with Qualcomm® Smart Transmit feature. This feature performs time averaging algorithm in real time to control and manage transmitting power and ensure the time-averaged RF exposure is in compliance with FCC requirements all the time. DUT contains embedded file system (EFS) version 23 configured for the second generation (GEN2) for Sub6.

The Smart Transmit algorithm maintains the time-averaged transmit power, in turn, time-averaged RF exposure of SAR_design_target or PD_design_target, below the predefined time-averaged power limit (i.e., Plimit for sub-6 radio, and input.power.limit for 5G mmW NR), for each characterized technology and band.

Smart Transmit allows the device to transmit at higher power instantaneously, as high as P_{max}, when needed, but enforces power limiting to maintain time-averaged transmit power to P_{limit} for frequencies < 6 GHz and *input.power.limit* for frequencies > 6 GHz.

Note that the device uncertainty for sub-6GHz is 1.0 dB for this DUT, the device uncertainty for mmW is 1.4 dB.

The following input parameters are key parameters that are required for functionality of the Smart Transmit feature. These parameters cannot be accessed by the end user, because at the factory they are entered through the embedded file system (EFS) entries by the OEM.

- *Tx_power_at_SAR_design_target (Plimit in dBm) for Tx transmitting frequency < 6 GHz*

  The maximum time-average transmit power, in dBm, at which this radio configuration (i.e., band and technology) reaches the *SAR_design_target*. This *SAR_design_target* is pre-determined for the specific device and it shall be less than regulatory SAR limit after accounting for all design related tolerances. The time-averaged SAR is assessed against this *SAR_design_target* in real time to determine the compliance. The Plimit could vary with technology, band, antenna and DSI (device state index), therefore it has the unique value for each technology, band, antenna and DSI.

- *input.power.limit (*dBm) for Tx transmitting frequency ≥ 6 GHz
  The maximum time-average power at the input of antenna element port, in dBm, at which each beam meets the *PD_design_target* that is less than the regulatory power density limit after accounting for all design related tolerances.

This purpose of the Part 2 report is to demonstrate the DUT complies with FCC RF exposure requirement under Tx varying transmission scenarios, thereby validity of Qualcomm® Smart Transmit feature implementation in this device. It serves to compliment the Part 0 and Part 1 Test Reports to justify compliance per FCC.

1.3 Part 2 Test Case Reduction for Multiple Filings

Per FCC guidance, the number of test cases for Part 2 evaluation can be reduced in the case of multiple filings using the same chipset after full part 2 testing on the first filing. While the same chipset and Smart Transmit algorithm are used in this model, DUT with the final SW was tested for power measurements to verify the integration. The SAR, as described in Section 3, measurements are excluded per FCC guidance.

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Report Type	Report Serial Number
RF Exposure Part 1 Test Report	1M2408260064-23.A3L
RF Exposure Part 0 Test Report	1M2408260064-31.A3L
PD Part 1 Test Report	1M2408260064-25.A3L
PD Part 0 Test Report	
RF Exposure Compliance Summary	1M2408260064-26.A3L

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2 RF EXPOSURE LIMITS

2.1 Uncontrolled Environment

UNCONTROLLED ENVIRONMENTS are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

2.2 Controlled Environment

CONTROLLED ENVIRONMENTS are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

2.3 RF Exposure Limits for Frequencies Below 6 GHz

Table 2-1
SAR Human Exposure Specified in ANSI/IEEE C95.1-1992 and Health Canada Safety Code 6

HUMAN EXPOSURE LIMITS		
	UNCONTROLLED ENVIRONMENT *General Population* (W/kg) or (mW/g)	CONTROLLED ENVIRONMENT *Occupational* (W/kg) or (mW/g)
Peak Spatial Average SAR Head	1.6	8.0
Whole Body SAR	0.08	0.4
Peak Spatial Average SAR Hands, Feet, Ankle, Wrists, etc.	4.0	20

1. The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.
2. The Spatial Average value of the SAR averaged over the whole body.
3. The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

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2.4 RF Exposure Limits for Frequencies Above 6 GHz

Per §1.1310 (d)(3), the MPE limits are applied for frequencies above 6 GHz. Power Density is expressed in units of W/m^2 or mW/cm^2.

Peak Spatially Averaged Power Density was evaluated over a circular area of 4 cm^2 per interim FCC Guidance for near-field power density evaluations per October 2018 TCB Workshop notes.

Table 2-2
Human Exposure Limits Specified in FCC 47 CFR §1.1310

Human Exposure to Radiofrequency (RF) Radiation Limits		
Frequency Range [MHz]	**Power Density** [mW/cm^2]	**Averaging Time** [Minutes]
(A) Limits for Occupational / Controlled Environments		
1,500 – 100,000	5.0	6
(B) Limits for General Population / Uncontrolled Environments		
1,500 – 100,000	1.0	30

Note: 1.0 mW/cm^2 is 10 W/m^2

2.5 Time Averaging Windows for FCC Compliance

Per October 2018 TCB Workshop Notes, the below time-averaging windows can be used for assessing time-averaged exposures for devices that are capable of actively monitoring and adjusting power output over time to comply with exposure limits.

Interim Guidance	Frequency (GHz)	Maximum Averaging Time (sec)
SAR	< 3	100
	3 – 6	60
MPE	6 - 10	30
	10 - 16	14
	16 – 24	8
	24 – 42	4
	42 – 95	2

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3 TIME VARYING TRANSMISSION TEST CASES

To validate the time averaging feature and demonstrate the compliance in Tx varying transmission conditions, the following transmission scenarios are covered in the Part 2 test:

1. During a time-varying Tx power transmission: To prove that the Smart Transmit feature accounts for Tx power variations in time accurately.
2. During a call disconnect and re-establish scenario: To prove that the Smart Transmit feature accounts for history of past Tx power transmissions accurately.
3. During a technology/band handover: To prove that the Smart Transmit feature functions correctly during transitions in technology/band.
4. During a DSI (Device State Index) change: To prove that the Smart Transmit feature functions correctly during transition from one device state (DSI) to another.
5. During an antenna (or beam) switch: To prove that the Smart Transmit feature functions correctly during transitions in antenna (such as AsDiv scenario) or beams (different antenna array configurations) or beams (different antenna array configurations).
6. SAR vs. PD exposure switching during sub-6+mmW transmission: To prove that the Smart Transmit feature functions correctly and ensures total RF exposure compliance during transitions in SAR dominant exposure, SAR+PD exposure, and PD dominant exposure scenarios.
7. During time window switch: To prove that the Smart Transmit feature correctly handles the transition from one time window to another specified by FCC, and maintains the normalized time-averaged RF exposure to be less than normalized FCC limit of 1.0 at all times.
8. SAR exposure switching between two active radios (radio1 and radio2): To prove that the Smart Transmit feature functions correctly and ensures total RF exposure compliance when exposure varies among SAR_radio1 only, SAR_radio1 + SAR_radio2, and SAR_radio2 only scenarios.
9. System level compliance continuity: Within terrestrial networks (WWAN, WLAN, BT, etc.): To demonstrate the time averaged RF exposure compliance continuity during technology transition in both single-radio and multi-radio transmission scenarios and under both modes (i.e., ON and airplane) of WWAN modem.

    NOTE: Technology in this test refers to WWAN, WLAN and/or Bluetooth

    NOTE: For WWAN, theoretically, either sub6 radio or mmW radio can be selected for this system level compliance continuity test as Smart Transmit internal operation is identical. Thus, the test with either WWAN sub6 or mmW radio is sufficient. However, since FCC time average window for WWAN mmW NR is 4 seconds, to be more practical and feasible in actual measurement, sub6 WWAN radio is recommended to be selected for this test.

    NOTE: BT allowed maximum power will be at one of the 3 levels populated in EFS depending on transmission scenarios, and BT's Pmax allocated by Smart Transmit is always $\leqslant$ Plimit. Therefore, for 10.b), either WWAN or WLAN can be selected as a terrestrial network for demonstrating the compliance continuity during bi-directional transitions between non-terrestrial networks and terrestrial network. Test with one pair of terrestrial and non-terrestrial radios is sufficiant as the continuity among all terrestrial technologies is covered and validated.

As described in Part 0 report, the RF exposure is proportional to the Tx power for a SAR- and PD-characterized wireless device. Thus, feature validation in Part 2 can be effectively performed through conducted (for f < 6GHz)

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and radiated (for f ⩾ 6GHz) power measurement. Therefore, the compliance demonstration under dynamic transmission conditions and feature validation are done in conducted/radiated power measurement setup for transmission scenario 1 through 10.

To add confidence in the feature validation, the time-averaged SAR and PD measurements are also performed but only performed for transmission scenario 1 to avoid the complexity in SAR and PD measurement (such as, for scenario 3 requiring change in SAR probe calibration file to accommodate different bands and/or tissue simulating liquid).

The strategy for testing in Tx varying transmission condition is outlined as follows:

- Demonstrate the total RF exposure averaged over FCC defined time windows does not exceed FCC's SAR and PD limits, through time-averaged power measurements
    - Measure conducted Tx power (for *f* < 6GHz) versus time, and radiated Tx power (EIRP for f > 10GHz) versus time.
    - Convert it into RF exposure and divide by respective FCC limits to get normalized exposure versus time.
    - Perform running time-averaging over FCC defined time windows.
    - Demonstrate that the total normalized time-averaged RF exposure is less than 1 for all transmission scenarios (i.e., transmission scenarios 1, 2, 3, 4, 5, 6, 7, and 8) at all times.

Mathematical expression:

For < 6 GHz transmission only:

$$1g_or_10gSAR(t) = \frac{conducted_Tx_power(t)}{conducted_Tx_power_P_{limit}} * 1g_or_10gSAR_P_{limit} \quad (1a)$$

$$\frac{\frac{1}{T_{SAR}}\int_{t-T_{SAR}}^{t} 1g_or_10gSAR(t)dt}{FCC\ SAR\ limit} \leq 1 \quad (1b)$$

For sub-6+mmW transmission:

$$1g_or_10gSAR(t) = \frac{conducted_Tx_power(t)}{conducted_Tx_power_P_{limit}} * 1g_or_10gSAR_P_{limit} \quad (2a)$$

$$4cm^2PD(t) = \frac{radiated_Tx_power(t)}{radiated_Tx_power_input.power.limit} * 4cm^2PD_input.power.limit \quad (2b)$$

$$\frac{\frac{1}{T_{SAR}}\int_{t-T_{SAR}}^{t} 1g_or_10gSAR(t)dt}{FCC\ SAR\ limit} + \frac{\frac{1}{T_{PD}}\int_{t-T_{PD}}^{t} 4cm^2PD(t)dt}{FCC\ 4cm^2\ PD\ limit} \leq 1 \quad (2c)$$

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where, $conducted_Tx_power(t)$, $conducted_Tx_power_P_{limit}$, and $1g_or_10gSAR_P_{limit}$ correspond to the measured instantaneous conducted Tx power, measured conducted Tx power at P_{limit}, and measured *1gSAR or 10gSAR* values at P_{limit} corresponding to sub-6 transmission. Similarly, $radiated_Tx_power(t)$, $radiated_Tx_power_input.power.limit$, and $4cm^2PD_input.power.limit$ correspond to the measured instantaneous radiated Tx power, radiated Tx power at *input.power.limit* (i.e., radiated power limit), and 4cm^{2}PD value at *input.power.limit* corresponding to mmW transmission. Both P_{limit} and *input.power.limit* are the parameters pre-defined in Part 0 and loaded via Embedded File System (EFS) onto the EUT. T_{SAR} is the FCC defined time window for sub-6 radio; T_{PD} is the FCC defined time window for mmW radio.

- Demonstrate the total RF exposure averaged over FCC defined time windows does not exceed FCC's SAR and PD limits, through time-averaged SAR and PD measurements. Note as mentioned earlier, this measurement is performed for transmission scenario 1 only.
    - For sub-6 transmission only, measure instantaneous SAR versus time; for LTE+sub6 NR transmission, request low power (or all-down bits) on LTE so that measured SAR predominantly corresponds to sub6 NR.
    - For LTE + mmW transmission, measure instantaneous E-field versus time for mmW radio and instantaneous conducted power versus time for LTE radio.
    - Convert it into RF exposure and divide by respective FCC limits to obtain normalized exposure versus time.
    - Perform time averaging over FCC defined time window.
    - Demonstrate that the total normalized time-averaged RF exposure is less than 1 for transmission scenario 1 at all times.

Mathematical expression:

- For sub-6 transmission only:

$$1g_or_10gSAR(t) = \frac{pointSAR(t)}{pointSAR_P_{limit}} * 1g_or_10gSAR(t)_P_{limit} \qquad (3a)$$

$$\frac{\frac{1}{T_{SAR}}\int_{t-T_{SAR}}^{t} 1g_or_10gSAR(t)dt}{FCC\ SAR\ limit} \leq 1 \qquad (3b)$$

- For sub-6 +*f* ≥ *6GHz* transmission:

$$1g_or_10gSAR(t) = \frac{conducted_Tx_power(t)}{conducted_Tx_power_P_{limit}} * 1g_or_10gSAR_P_{limit} \qquad (4a)$$

$$4cm^2PD(t) = \frac{[pointE(t)]^2}{[pointE_input.power.limit]^2} * 4cm^2PD_input.power.limit \qquad (4b)$$

$$\frac{\frac{1}{T_{SAR}}\int_{t-T_{SAR}}^{t} 1g_or_10gSAR(t)dt}{FCC\ SAR\ limit} + \frac{\frac{1}{T_{PD}}\int_{t-T_{PD}}^{t} 4cm^2PD(t)dt}{FCC\ 4cm^2PD\ limit} \leq 1 \qquad (4c)$$

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where, $pointSAR(t)$, $pointSAR_P_{limit}$, and $1g_or_10gSAR_P_{limit}$ correspond to the measured instantaneous point SAR, measured point SAR at P_{limit}, and measured *1gSAR* or 10gSAR values at P_{limit} corresponding to sub-6 transmission. Similarly, $pointE(t)$, $pointE_input.power.limit$, and $4cm^2PD_input.power.limit$ correspond to the measured instantaneous E-field, E-field at *input.power.limit*, and 4cm^{2}PD value at *input.power.limit* corresponding to mmW transmission.

Note: cDASY6 measurement system by Schmid & Partner Engineering AG (SPEAG) of Zurich, Switzerland measures relative E-field, and provides ratio of $\frac{[pointE(t)]^2}{[pointE_input.power.limit]^2}$ versus time.

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4 FCC MEASUREMENT PROCEDURES (FREQ < 6 GHZ)

This chapter provides the test plan and test procedure for validating Qualcomm Smart Transmit feature for sub-6 transmission. The 100 seconds time window for operating f < 3GHz is used as an example to detail the test procedures in this chapter. The same test plan and test procedures described in this chapter apply to 60 seconds time window for operating f ≥ 3GHz.

4.1 Test Sequence Determination for Validation

Following the FCC recommendation, two test sequences having time-variation in Tx power are predefined for sub-6 (f < 6 GHz) validation:

- Test sequence 1: request DUT's Tx power to be at maximum power, measured P_{max}†, for 80s, then requesting for half of the maximum power, i.e., measured P_{max}/2, for the rest of the time.
- Test sequence 2: request DUT's Tx power to vary with time. This sequence is generated relative to measured P_{max}, measured P_{limit} and calculated $P_{reserve}$ (= measured P_{limit} in dBm - *total_min_reserve* in dB) of DUT based on measured P_{limit}.

  The details for generating these two test sequences is described and listed in Appendix E.

NOTE: For test sequence generation, "measured P_{limit}" and "measured P_{max}" are used instead of the "P_{limit}" specified in EFS entry and "P_{max}" specified for the device, because the Smart Transmit feature operates against the actual power level of the "P_{limit}" that was calibrated for the DUT. The "measured P_{limit}" accurately reflects what the feature is referencing to, therefore, it should be used during feature validation testing. The RF tune up and device-to-device variation are already considered in Part 0 report prior to determining P_{limit}.

4.2 Test Configuration Selection Criteria for Validating Smart Transmit Feature

For validating the Smart Transmit feature, this section provides the general guidance to select test cases.

4.2.1 Time-Varying Tx Power Transmission

The Smart Transmit time averaging feature operation is independent of bands, modes, and channels for a given technology. Hence, validation of Smart Transmit in one band/mode/channel per technology is sufficient. Two bands per technology are proposed and selected for this testing to provide high confidence in this validation.

Note this test is designed for single radio transmission scenario. If UE supports sub6 NR in both non-standalone (NSA) and standalone (SA) modes, then validation in time-varying Tx power transmission scenario described in this section needs to be performed in SA mode. Otherwise, it needs to be performed in NSA mode with LTE anchor set to low power. The choice between SA and NSA mode needs to also take into account the selection criteria described below. In general, one mode out of the two modes (NSA or SA) is sufficient for this test.

The criteria for the selection are based on the P_{limit} values determined in Part 0 report. Select two bands* in each supported technology that correspond to least** and highest*** P_{limit} values that are less than P_{max} for validating Smart Transmit. Note:

1. P_{max} refers to maximum Tx power configured for this device in this technology/band (not rated P_{max}). This P_{max} definition applies throughout this Part 2 report.

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2. If $P_{limit} > P_{max}$, the validation test with time-varying test sequences is not needed as no power enforcement will be required in this condition.

* If one P_{limit} level applies to all the bands within a technology, then only one band needs to be tested. In this case, within the bands having the same P_{limit}, the radio configuration (e.g., # of RBs, channel#) and device position that correspond to the highest *measured* 1gSAR at P_{limit} shown in Part 1 report is selected.

** In case of multiple bands having the same least P_{limit} within the technology, then select the band having the highest *measured* 1gSAR at P_{limit}.

*** The band having a higher P_{limit} needs to be properly selected so that the power limiting enforced by Smart Transmit can be validated using the pre-defined test sequences. If the highest P_{limit} in a technology is too high where the power limiting enforcement is not needed when testing with the pre-defined test sequences, then the next highest level is checked. This process is continued within the technology until the second band for validation testing is determined.

4.2.2 Change In Call

The criteria to select a test configuration for call-drop measurement is:

- Select technology/band with least P_{limit} among all supported technologies/bands, and select the radio configuration (e.g., # of RBs, channel#) in this technology/band that corresponds to the highest *measured* 1gSAR at P_{limit} listed in Part 1 report.
- In case of multiple bands having same least P_{limit}, then select one band/radio configuration for this test.

This test is performed with the DUT's Tx power requested to be at maximum power, the above band selection will result in Tx power enforcement (i.e., DUT forced to have Tx power at $P_{reserve}$) for longest duration in one FCC defined time window. The call change (call drop/reestablish) is performed during the Tx power enforcement duration (i.e., during the time when DUT is forced to have Tx power at $P_{reserve}$). One test is sufficient as the feature operation is independent of technology and band.

4.2.3 Change In Technology/Band

The selection criteria for this measurement is, for a given antenna, to have DUT switch from a technology/band with lowest P_{limit} within the technology group (in case of multiple bands having the same P_{limit}, then select the band with highest *measured* 1gSAR at P_{limit}) to a technology/band with highest P_{limit} within the technology group, in case of multiple bands having the same P_{limit}, then select the band with lowest *measured* 1gSAR at P_{limit} in Part 1 report, or vice versa.

This test is performed with the DUT's Tx power requested to be at maximum power, the technology/band switch is performed during Tx power enforcement duration (i.e., during the time when DUT is forced to have Tx power at $P_{reserve}$).

4.2.4 Change In Antenna

The criteria to select a test configuration for antenna switch measurement is:

- Whenever possible and supported by the DUT, first select antenna switch configuration within the same technology/band (i.e., same technology and band combination).

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- Then, select any technology/band that supports multiple Tx antennas, and has the highest difference in P_{limit} among all supported antennas.
- In case of multiple bands having same difference in P_{limit} among supported antennas, then select the band having the highest *measured* 1gSAR at P_{limit} in Part 1 report.

This test is performed with the DUT's Tx power requested to be at maximum power in selected technology/band, and antenna change is conducted during Tx power enforcement duration (i.e., during the time when DUT is forced to have Tx power at $P_{reserve}$).

4.2.5 Change In DSI

The criteria to select a test configuration for DSI change test is

- Select a technology/band having the $P_{limit} < P_{max}$ within any technology and DSI group, and for the same technology/band having a different P_{limit} in any other DSI group. Note that the selected DSI transition need to be supported by the device.

This test is performed with the DUT's Tx power requested to be at maximum power in selected technology/band, and DSI change is conducted during Tx power enforcement duration (i.e., during the time when DUT is forced to have Tx power at $P_{reserve}$).

4.2.6 Change In Time Window

FCC specifies different time window for time averaging based on operation frequency. The criteria to select a test configuration for validating Smart Transmit feature and demonstrating the compliance during the change in time window is

- Select any technology/band that has operation frequency classified in one time window defined by FCC (such as 100-seconds time window), and its corresponding P_{limit} is less than P_{max} if possible.
- Select the 2nd technology/band that has operation frequency classified in a different time window defined by FCC (such as 60-seconds time window), and its corresponding P_{limit} is less than P_{max} if possible.
- Note it is preferred both P_{limit} values of two selected technology/band less than corresponding P_{max}, but if not possible, at least one of technologies/bands has its P_{limit} less than P_{max}.

This test is performed with the EUT's Tx power requested to be at maximum power in selected technology/band. Test for one pair of time windows selected is sufficient as the feature operation is the same.

4.2.7 SAR Exposure Switching

If supported, the test configuration for SAR exposure switching should cover

1. SAR exposure switch when two active radios are in the same time window
2. SAR exposure switch when two active radios are in different time windows. One test with two active radios in any two different time windows is sufficient as Smart Transmit operation is the same for RF exposure switch in any combination of two different time windows. For device supporting LTE + mmW NR, this test is covered in SAR vs PD exposure switch validation.

The Smart Transmit time averaging operation is independent of the source of SAR exposure (for example, LTE vs. Sub6 NR) and ensures total time-averaged RF exposure compliance. Hence, validation of Smart Transmit in any one simultaneous SAR transmission scenario (i.e., one combination for LTE + Sub6 NR transmission) is sufficient, where the SAR exposure varies among SAR_{radio1} only, SAR_{radio1} + SAR_{radio2}, and SAR_{radio2} only scenarios.

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The criteria to select a test configuration for validating Smart Transmit feature during SAR exposure switching scenarios is

- Select any two < 6GHz technologies/bands that the EUT supports simultaneous transmission (for example, LTE+Sub6 NR).
- Among all supported simultaneous transmission configurations, the selection order is
    1. select one configuration where both P_{limit} of radio1 and radio2 is less than their corresponding P_{max}, preferably, with different P_{limits}. If this configuration is not available, then,
    2. select one configuration that has P_{limit} less than its P_{max} for at least one radio. If this can not be found, then,
    3. select one configuration that has P_{limit} of radio1 and radio2 greater than P_{max} but with least ($P_{limit} - P_{max}$) delta.

Test for one simultaneous transmission scenario is sufficient as the feature operation is the same.

4.2.8 Exposure Category Switch

The criteria to select a test configuration for exposure category switch measurement is:

1. If the device's intended exposure mode is configured for time averaged exposure mode operation, then:

□ If *Plimit* < *Pmax* for at least one radio out of all supported technology/band/antenna/DSI, then:

(a) Out of all head exposure DSIs, select a technology/band/antenna/DSI having the least *Plimit* (< *Pmax*), furthermore, having the largest difference between *Pmax* and *Plimit* (*Plimit* < *Pmax*) should be considered in the selection. Then, select a second DSI in the non- head exposure category DSI that has the least *Plimit* among all the non-head DSIs for the same technology/band/antenna. This technology/band/antenna and selected DSIs are used for head to non-head to head exposure switch test. If the *Plimit* > *Pmax* for all supported technology/band/antenna/DSI in head exposure category, then this test is not required.

(b) Similarly, out of all non-head exposure DSIs, select a technology/band/antenna/DSI having the least *Plimit* (< *Pmax*), furthermore, having the largest difference between *Pmax* and *Plimit* (*Plimit* < *Pmax*) should be considered in the selection. Then, select a second DSI in the head exposure category DSI that has the least Plimit among all the head DSIs for the same technology/band/antenna. This technology/band/antenna and selected DSIs are used for non-head to head to non-head exposure switch test. If the Plimit > Pmax for all supported technology/band/antenna/DSI in non-head exposure category, then this test is not required.

□ If *Plimit* > *Pmax* for all supported technology/band/antenna/DSIs for both head and non-head DSI categories, then:

c) select a supported sub6 simultaneous transmission scenario (like LTE + FR1 NSA, or LTE interband ULCA, or FR1 interband NR-DC, etc.) in head DSI that has Plimit < Pmax +10*log(N) for all radios of selected technology(s)/band(s)/antenna(s), where N is the number of active radios in selected sub6 simultaneous transmission scenario.

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Note that the antennas determined for the selected radios of simultaneous transmission scenario should be in the same antenna group if EUT is configured with GEN2_SUB6 or GEN2_SUB6_MMW. Then, select a second DSI in the non-head exposure category that has the lowest Plimit among all the non-head DSIs for all the radios of the selected technology(s)/band(s)/antenna(s) simultaneous transmission scenario. This selected technology(s)/band(s)/antenna(s) and selected DSIs are used for head to non-head to head exposure switch test. If the head DSI has Plimit > Pmax +10*log(N) for all radios supported in sub6 simultaneous transmission scenarios, then this test is not required.

d) select a supported sub6 simultaneous transmission scenario (like LTE + FR1 NSA, or LTE interband ULCA, or FR1 interband NR-DC, etc.) in non-head DSI that has Plimit < Pmax +10*log(N) for all radios of the selected technology(s)/band(s)/antenna(s), where N is the number of active radios in selected sub6 simultaneous transmission scenario. Note that the antennas determined for the selected radios of simultaneous transmission scenario should be in the same antenna group if EUT is configured with GEN2_SUB6 or GEN2_SUB6_MMW. Then, select a second DSI in the head exposure category that has the lowest Plimit among all the head DSIs for all the radios of the selected technology(s)/band(s)/antenna(s) simultaneous transmission scenario. This selected technology(s)/band(s)/antenna(s) and selected DSIs are used for non-head to head to non-head exposure switch test. If the non-head DSI has Plimit > Pmax +10*log(N) for all radios supported in sub6 simultaneous transmission scenarios, then this test is not required.

□ Use the highest measured 1g_or_10g SAR at Plimit (Plimit < Pmax) shown in Part 1 report for the selected tech/band/antenna/DSI out of all radio configurations and device positions in Equation (3a), (4a), (5a) and (6a) to calculate time-varying SAR. However, in the case of Plimit > Pmax, the SAR measured in Part 1 report for the corresponding radio configuration selected and tested in Part 2 should be applied in Equation (3a), (4a), (5a) and (6a).

2. If the device's intended exposure mode is configured for peak exposure mode operation, then:

a) Select a supported sub6 simultaneous transmission scenario (like LTE + FR1 NSA, or LTE interband ULCA, or FR1 interband NR-DC, etc.) in head DSI that has Plimit < Pmax +10*log(N) for all radios of selected technology(s)/band(s)/antenna(s), where N is the number of active radios in selected sub6 simultaneous transmission scenario. Note that the antennas determined for the selected radios of simultaneous transmission scenario should be in the same antenna group if EUT is configured with GEN2_SUB6 or GEN2_SUB6_MMW. Then, select a second DSI in the non-head exposure category that has the lowest Plimit among all the non-head DSIs for all the radios of the selected technology(s)/band(s)/antenna(s) simultaneous transmission scenario. This selected technology(s)/band(s)/antenna(s) and selected DSIs are used for head to non-head to head exposure switch test. If the head DSI has Plimit > Pmax +10*log(N) for all radios supported in sub6 simultaneous transmission scenarios, then this test is not required.

b) Select a supported sub6 simultaneous transmission scenario (like LTE + FR1 NSA, or LTE interband ULCA, or FR1 interband NR-DC, etc.) in non-head DSI that has Plimit < Pmax +10*log(N) for all radios of the selected technology(s)/band(s)/antenna(s), where N is the number of active radios in selected sub6 simultaneous transmission scenario. Note that the antennas determined for the selected radios of simultaneous transmission scenario should be in the same antenna group if EUT is configured with GEN2_SUB6 or GEN2_SUB6_MMW. Then, select a second DSI in the head exposure category that has the lowest Plimit among all the head DSIs for all the radios of the selected technology(s)/band(s)/antenna(s) simultaneous transmission scenario. This selected technology(s)/band(s)/antenna(s) and selected DSIs are used for non-head to head to non-head exposure switch test. If the non-head DSI has Plimit >

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Pmax +10*log(N) for all radios supported in sub6 simultaneous transmission scenarios, then this test is not required.

- □ Use the highest measured 1g_or_10g SAR at Plimit (Plimit < Pmax) shown in Part 1 report for the selected tech/band/antenna/DSI out of all radio configurations and device positions in Equation (3a), (4a), (5a) and (6a) to calculate time-varying SAR. However, in the case of Plimit > Pmax, the SAR measured in Part 1 report for the corresponding radio configuration selected and tested in Part 2 should be applied in Equation (3a), (4a), (5a) and (6a).

4.2.9 System Level Compliance Continuity

The purpose of system level compliance test is to demonstrate the compliance continuity in the following scenarios:

1. Across technology switch
2. During transition from single technology to multi-technology
3. In transition when WWAN went from ON to airplane mode
4. Active WLAN radio and/or Bluetooth (BT) radio with WWAN in airplane mode
5. Time window transition when WWAN in airplane mode

Note: Technology in this section refers to WWAN, WLAN or BT

The selection criteria for radios to be tested is to select a radio which has the largest Pmax/Plimit ratio among all configurations supported (including SISO, MIMO, DBS, SISO+MIMO or DBS+MIMO whichever appropriate) within each technology and within the same antenna group.

If the device supports simultaneous transmission of WWAN, WLAN and BT, then the selection criteria for system level compliance continuity test is:

- For a given DSI and antenna group, select band/antenna configurations for WWAN, WLAN and BT technologies that have the largest (Pmax – Plimit) delta. In case of multiple bands/antennas having the same difference between Pmax and Plimit within a given technology, then select any one band/antenna out of them.

NOTE: The antennas corresponding to the selected technologies/bands for the system level compliance continuity test case should be in the same antenna group if EUT is configured with GEN2_SUB6 or GEN2_SUB6_MMW.

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4.3 Test Procedures for Conducted Power Measurements

This section provides general conducted power measurement procedures to perform compliance test under dynamic transmission scenarios described in Section 3. In practice, an adjustment can be made in these procedures. The justification/clarification may be provided.

4.3.1 Time-Varying Tx Power Transmission

This test is performed with the two pre-defined test sequences described in Section 4.1 for all the technologies and bands selected in Section 4.2.1. The purpose of the test is to demonstrate the effectiveness of power limiting enforcement and that the time-averaged SAR (corresponding time-averaged Tx power) does not exceed the FCC limit at all times (see Eq. (1a) and (1b)).

Test procedure

1. Measure P_{max}, measure P_{limit} and calculate $P_{reserve}$ (measured P_{limit} in dBm – *total_min_reserve* in dB) and follow Section 4.1 to generate the test sequences for all the technologies and bands selected in Section 4.2.1. Both test sequence 1 and test sequence 2 are created based on measured P_{max} and measured P_{limit} of the DUT. Test condition to measure P_{max} and P_{limit} is:
    a. Measure P_{max} with Smart Transmit disabled and callbox set to request maximum power.
    b. Measure P_{limit} with Smart Transmit peak exposure mode enabled, and callbox set to request maximum power.
2. Set DUT to the intended Smart Transmit exposure mode, establish radio link in desired radio configuration, with callbox requesting the DUT's Tx power to be at pre-defined test sequence 1, measure and record Tx power versus time, and then convert the conducted Tx power into 1gSAR or 10gSAR value (see Eq. (1a)) using measured P_{limit} from above Step 1. Perform running time average to determine time-averaged power and 1gSAR or 10gSAR versus time as illustrated in Figure 4-1 where using 100-seconds time window as an example.

    Note: In Eq.(1a), instantaneous Tx power is converted into instantaneous 1gSAR or 10gSAR value by applying the measured worst-case 1gSAR or 10gSAR value at P_{limit} for the corresponding technology/band/antenna/DSI reported in Part 1 report.

    Note: For an easier computation of the running time average, 0 dBm can be added at the beginning of the test sequences the length of the responding time window, for example, add 0dBm for 100-seconds so the running time average can be directly performed starting with the first 100-seconds data using excel spreadsheet. This technique applies to all tests performed in this Part 2 report for easier time-averaged computation using excel spreadsheet.

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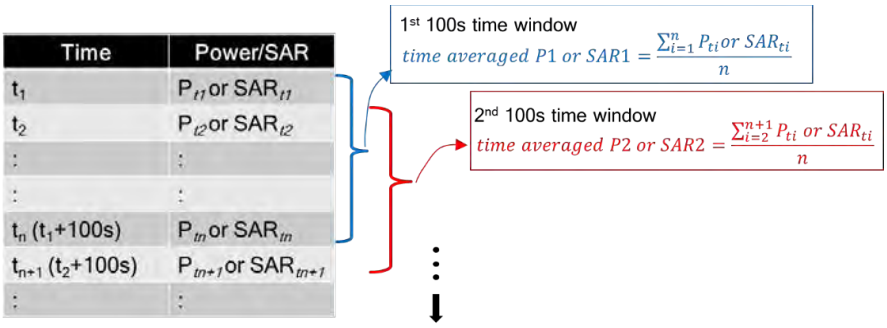

Figure 4-1
Running Average Illustration

3. Make one plot containing:
    a. Instantaneous Tx power versus time measured in Step 2,
    b. Requested Tx power used in Step 2 (test sequence 1),
    c. Computed time-averaged power versus time determined in Step 2,
    d. Time-averaged power limit (corresponding to FCC SAR limit of 1.6 W/kg for 1gSAR or 4.0W/kg for 10gSAR) given by

$$Time\ averarged\ power\ limit = meas.P_{limit} + 10 \times \log(\frac{FCC\ SAR\ limit}{meas.SAR_Plimit}) \qquad (5a)$$

where $meas.P_{limit}$ and $meas.SAR_Plimit$ correspond to measured power at P_{limit} and measured SAR at P_{limit}.

4. Make another plot containing:
    a. Computed time-averaged 1gSAR or 10gSAR versus time determined in Step 2
    b. FCC $1gSAR_{limit}$ of 1.6W/kg or FCC $10gSAR_{limit}$ of 4.0W/kg.
5. Repeat Steps 2 ~ 4 for pre-defined test sequence 2 and replace the requested Tx power (test sequence 1) in Step 2 with test sequence 2.
6. Repeat Steps 2 ~ 5 for all the selected technologies and bands.
7. The validation criteria are, at all times, the time-averaged power versus time shown in Step 3 plot shall not exceed the time-averaged power limit (defined in Eq. (5a)), in turn, the time-averaged 1gSAR or 10gSAR versus time shown in Step 4 plot shall not exceed the FCC limit of 1.6 W/kg for 1gSAR or 4.0 W/kg for 10gSAR (i.e., Eq. (1b)).

4.3.2 Change In Call Scenario

This test is to demonstrate that Smart Transmit feature accurately accounts for the past Tx powers during time-averaging when a new call is established.

The call disconnect and re-establishment needs to be performed during power limit enforcement, i.e., when the DUT's Tx power is at $P_{reserve}$ level, to demonstrate the continuity of RF exposure management and limiting in call change scenario. In other words, the RF exposure averaged over any FCC defined

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time window (including the time windows containing the call change) doesn't exceed FCC limit of 1.6 W/kg for 1gSAR or 4.0 W/kg for 10gSAR.

Test procedure

1. Measure P_{limit} for the technology/band selected in Section 4.2.2. Measure P_{limit} with Smart Transmit peak exposure mode enabled, and callbox set to request maximum power.
2. Set DUT to the intended Smart Transmit exposure mode.
3. Establish radio link with callbox in the selected technology/band.
4. Request DUT's Tx power at 0 dBm for at least one time window specified for the selected technology/band, followed by requesting DUT's Tx power to be at maximum power for about ~60 seconds, and then drop the call for ~10 seconds. Afterwards, re-establish another call in the same radio configuration (i.e., same technology/band/channel) and continue callbox requesting DUT's Tx power to be at maximum power for the remaining time of at least another full duration of the specified time window. Measure and record Tx power versus time. Once the measurement is done, extract instantaneous Tx power versus time, convert the measured conducted Tx power into 1gSAR or 10gSAR value using Eq. (1a), and then perform the running time average to determine time-averaged power and 1gSAR or 10gSAR versus time.

   NOTE: In Eq.(1a), instantaneous Tx power is converted into instantaneous 1gSAR or 10gSAR value by applying the measured worst-case 1gSAR or 10gSAR value at P_{limit} for the corresponding technology/band/antenna/DSI reported in Part 1 report.

5. Make one plot containing: (a) instantaneous Tx power versus time, (b) requested power, (c) computed time-averaged power, (d) time-averaged power limit calculated using Eq.(5a).
6. Make another plot containing: (a) computed time-averaged 1gSAR or 10gSAR versus time, and (b) FCC limit of 1.6 W/kg for 1gSAR or 4.0 W/kg for 10gSAR.

The validation criteria are, at all times, the time-averaged power versus time shall not exceed the time-averaged power limit (defined in Eq.(5a)), in turn, the time-averaged 1gSAR or 10gSAR versus time shall not exceed the FCC limit of 1.6 W/kg for 1gSAR or 4.0 W/kg for 10gSAR (i.e., Eq. (1b)).

4.3.3 Change In Technology/Band

This test is to demonstrate the correct power control by Smart Transmit during technology switches and/or band handovers.

Similar to the change in call test in Section 4.3.2, to validate the continuity of RF exposure limiting during the transition, the technology and band handover needs to be performed when DUT's Tx power is at $P_{reserve}$ level (i.e., during Tx power enforcement) to make sure that the DUT's Tx power from previous $P_{reserve}$ level to the new $P_{reserve}$ level (corresponding to new technology/band). Since the P_{limit} could vary with technology and band, Eq. (1a) can be written as follows to convert the instantaneous Tx power in 1gSAR or 10gSAR exposure for the two given radios, respectively:

$$1g_or_10gSAR_1(t) = \frac{conducted_Tx_power_1(t)}{conducted_Tx_power_P_{limit_1}} * 1g_or_10gSAR_P_{limit_1} \quad (6a)$$

$$1g_or_10gSAR_2(t) = \frac{conducted_Tx_power_2(t)}{conducted_Tx_power_P_{limit_2}} * 1g_or_10gSAR_P_{limit_2} \quad (6b)$$

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$$\frac{1}{T_{SAR}}\left[\int_{t-T_{SAR}}^{t_1}\frac{1g_or_10gSAR_1(t)}{FCC\ SAR\ limit}dt+\int_{t-T_{SAR}}^{t}\frac{1g_or_10gSAR_2(t)}{FCC\ SAR\ limit}dt\right]\leq 1 \quad (6c)$$

where, *conducted_Tx_power_1(t)*, *conducted_Tx_power_P$_{limit_1}$*, and *1g_or_10gSAR_P$_{limit_1}$* correspond to the measured instantaneous conducted Tx power, measured conducted Tx power at *P$_{limit}$*, and measured *1gSAR* or *10gSAR* value at *P$_{limit}$* of technology1/band1; *conducted_Tx_power_2(t)*, *conducted_Tx_power_P$_{limit_2}$(t)*, and *1g_or_10gSAR_P$_{limit_2}$* correspond to the measured instantaneous conducted Tx power, measured conducted Tx power at *P$_{limit}$*, and measured *1gSAR* or *10gSAR* value at *P$_{limit}$* of technology2/band2. Transition from technology1/band1 to the technology2/band2 happens at time-instant '*t$_1$*'.

Test procedure

1. Measure *P$_{limit}$* for both the technologies and bands selected in Section 4.2.3. Measure *P$_{limit}$* with Smart Transmit peak exposure mode enabled, and callbox set to request maximum power.
2. Set DUT to the intended Smart Transmit exposure mode. Establish radio link with callbox in first technology/band selected. Establish radio link with callbox in first technology/band selected.
3. Request DUT's Tx power at 0 dBm for at least one time window specified for the selected technology/band, followed by requesting DUT's Tx power to be at maximum power for about ~60 seconds, and then switch to second technology/band selected. Continue with callbox requesting DUT's Tx power to be at maximum power for the remaining time of at least another full duration of the specified time window. Measure and record Tx power versus time for the full duration of the test.
4. Once the measurement is done, extract instantaneous Tx power versus time, and convert the conducted Tx power into 1gSAR or 10gSAR value using Eq. (6a) and (6b) and corresponding measured *P$_{limit}$* values from Step 1 of this section. Perform the running time average to determine time-averaged power and 1gSAR or 10gSAR versus time.

   NOTE: In Eq.(6a) & (6b), instantaneous Tx power is converted into instantaneous 1gSAR or 10gSAR value by applying the measured worst-case 1gSAR or 10gSAR value at *P$_{limit}$* for the corresponding technology/band/antenna/DSI reported in Part 1 report.

5. Make one plot containing: (a) instantaneous Tx power versus time, (b) requested power, (c) computed time-averaged power, (d) time-averaged power limit calculated using Eq.(5a).
6. Make another plot containing: (a) computed time-averaged 1gSAR or 10gSAR versus time, and (b) FCC limit of 1.6 W/kg for 1gSAR or 4.0 W/kg for 10gSAR.

The validation criteria are, at all times, the time-averaged 1gSAR or 10gSAR versus time shall not exceed the FCC limit of 1.6 W/kg for 1gSAR or 4.0 W/kg for 10gSAR (i.e., Eq. (6c)).

4.3.4 Change In Antenna

This test is to demonstrate the correct power control by Smart Transmit during antenna switches from one antenna to another. The test procedure is identical to Section 4.3.3, by replacing technology/band switch operation with antenna switch. The validation criteria are, at all times, the time-averaged 1gSAR or 10gSAR versus time shall not exceed FCC limit of 1.6 W/kg for 1gSAR or 4.0 W/kg for 10gSAR.

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NOTE: If the DUT does not support antenna switch within the same technology/band, but has multiple antennas to support different frequency bands, then the antenna switch test is included as part of change in technology and band (Section 4.3.3) test.

4.3.5 Change In DSI

This test is to demonstrate the correct power control by Smart Transmit during DSI switches from one DSI to another. The test procedure is identical to Section 4.3.3, by replacing technology/band switch operation with DSI switch. The validation criteria are, at all times, the time-averaged 1gSAR or 10gSAR versus time shall not exceed FCC limit of 1.6 W/kg for 1gSAR or 4.0 W/kg for 10gSAR.

4.3.6 Change In Time Window

This test is to demonstrate the correct power control by Smart Transmit during the change in averaging time window when a specific band handover occurs. FCC specifies time-averaging windows of 100s for Tx frequency < 3GHz, and 60s for Tx frequency between 3GHz and 6GHz.

To validate the continuity of RF exposure limiting during the transition, the band handover test needs to be performed when EUT handovers from operation band less than 3GHz to greater than 3GHz and vice versa. The equations (3a) and (3b) in Section 2 can be written as follows for transmission scenario having change in time window,

$$1gSAR_1(t) = \frac{conducted_Tx_power_1(t)}{conducted_Tx_power_P_{limit_1}} * 1g_or\ 10g_SAR_P_{limit_1} \qquad (7a)$$

$$1gSAR_2(t) = \frac{conducted_Tx_power_2(t)}{conducted_Tx_power_P_{limit_2}} * 1g_or\ 10g_SAR_P_{limit_2} \qquad (7b)$$

$$\frac{1}{T1_{SAR}}\left[\int_{t-T1_{SAR}}^{t_1} \frac{1g_or\ 10g_SAR_1(t)}{FCC\ SAR\ limit}\,dt\right] + \frac{1}{T2_{SAR}}\left[\int_{t-T2_{SAR}}^{t} \frac{1g_or10g_SAR_2(t)}{FCC\ SAR\ limit}\,dt\right] \le 1 \qquad (7c)$$

where, *conducted_Tx_power_1(t)*, *conducted_Tx_power_P$_{limit_1}$(t)*, and *1g_ or 10g_SAR_P$_{limit_1}$* correspond to the instantaneous Tx power, conducted Tx power at *P$_{limit}$*, and compliance *1g_ or 10g_SAR* values at *P$_{limit_1}$* of band1 with time-averaging window '*T1$_{SAR}$*'; *conducted_Tx_power_2(t)*, *conducted_Tx_power_P$_{limit_2}$(t)*, and *1g_ or 10g_SAR_P$_{limit_2}$* correspond to the instantaneous Tx power, conducted Tx power at *P$_{limit}$*, and compliance *1g_ or 10g_SAR* values at *P$_{limit_2}$* of band2 with time-averaging window '*T2$_{SAR}$*'. One of the two bands is less than 3GHz, another is greater than 3GHz. Transition from first band with time-averaging window '*T1$_{SAR}$*' to the second band with time-averaging window '*T2$_{SAR}$*' happens at time-instant '*t$_1$*'.

Test procedure

1. Measure *P$_{limit}$* for both the technologies and bands selected in Section 4.2.6. Measure *P$_{limit}$* with Smart Transmit peak exposure mode enabled, and callbox set to request maximum power.
2. Set DUT to the intended Smart Transmit exposure mode.

Transition from 100s time window to 60s time window, and vice versa

3. Establish radio link with callbox in the technology/band having 100s time window selected in Section 4.2.6.
4. Request EUT's Tx power to be at 0 dBm for at least 100 seconds, followed by requesting EUT's Tx power to be at maximum power for about ~140 seconds, and then switch to second technology/band (having 60s time window) selected in Section 4.2.6. Continue with callbox requesting EUT's Tx power to be at

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maximum power for about ~60s in this second technology/band, and then switch back to the first technology/band. Continue with callbox requesting EUT's Tx power to be at maximum power for at least another 100s. Measure and record Tx power versus time for the entire duration of the test.

5. Once the measurement is done, extract instantaneous Tx power versus time, and convert the conducted Tx power into 1gSAR or 10gSAR value (see Eq. (7a) and (7b)) using corresponding technology/band Step 1 result, and then perform 100s running average to determine time-averaged 1gSAR or 10gSAR versus time. Note that in Eq.(7a) & (7b), instantaneous Tx power is converted into instantaneous 1gSAR or 10gSAR value by applying the worst-case 1gSAR or 10gSAR value tested in Part 1 for the selected technologies/bands at P_{limit}.
6. Make one plot containing: (a) instantaneous Tx power versus time measured in Step 4.
7. Make another plot containing: (a) instantaneous 1gSAR versus time determined in Step 5, (b) computed time-averaged 1gSAR versus time determined in Step 5, and (c) corresponding regulatory $1gSAR_{limit}$ of 1.6W/kg or $10gSAR_{limit}$ of 4.0W/kg.

Transition from 60s time window to 100s time window, and vice versa

8. Establish radio link with callbox in the technology/band having 60s time window selected in Section 4.2.6.
9. Request EUT's Tx power to be at 0 dBm for at least 60 seconds, followed by requesting EUT's Tx power to be at maximum power for about ~80 seconds, and then switch to second technology/band (having 100s time window) selected in Section 4.2.6. Continue with callbox requesting EUT's Tx power to be at maximum power for about ~100s in this second technology/band, and then switch back to the first technology/band. Continue with callbox requesting EUT's Tx power to be at maximum power for the remaining time for a total test time of 500 seconds. Measure and record Tx power versus time for the entire duration of the test.
10. Repeat above Step 5~7 to generate the plots

The validation criteria is, at all times, the time-averaged 1gSAR or 10gSAR versus time shall not exceed the regulatory $1gSAR_{limit}$ of 1.6W/kg or $10gSAR_{limit}$ of 4.0W/kg.

4.3.7 SAR Exposure Switching

This test is to demonstrate that Smart Transmit feature is accurately accounts for switching in exposures among SAR from radio1 only, SAR from both radio1 and radio2, and SAR from radio2 only scenarios, and ensures total time-averaged RF exposure complies with the FCC limit. Here, radio1 represents primary radio (for example, LTE anchor in a NR non-standalone mode call) and radio2 represents secondary radio (for example, sub6 NR or mmW NR). The detailed test procedure for SAR exposure switching in the case of LTE+Sub6 NR non-standalone mode transmission scenario is provided in APPENDIX F.

Test procedure:

1. Measure conducted Tx power corresponding to P_{limit} for radio1 and radio2 in selected band. Test condition to measure conducted P_{limit} is:

   □ Establish device in call with the callbox for radio1 technology/band. Measure conducted Tx power corresponding to radio1 P_{limit} with Smart Transmit peak exposure mode enabled, and callbox set to request maximum power.

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- Repeat above step to measure conducted Tx power corresponding to radio2 P_{limit}. If radio2 is dependent on radio1 (for example, non-standalone mode of Sub6 NR requiring radio1 LTE as anchor), then establish radio1 + radio2 call with callbox, and request all down bits for radio1 LTE. In this scenario, with callbox requesting maximum power from radio2 Sub6 NR, measured conducted Tx power corresponds to radio2 P_{limit} (as radio1 LTE is at all-down bits)

2. Set DUT to the intended Smart Transmit exposure mode, with EUT setup for radio1 + radio2 call. In this description, it is assumed that radio2 has lower priority than radio1. Establish device in radio1+radio2 call, and request all-down bits or low power on radio1, with callbox requesting EUT's Tx power to be at maximum power in radio2 for at least one time window. After one time window, set callbox to request EUT's Tx power to be at maximum power on radio1, i.e., all-up bits. Continue radio1+radio2 call with both radios at maximum power for at least one time window, and drop (or request all-down bits on) radio2. Continue radio1 at maximum power for at least one time window. Record the conducted Tx power for both radio1 and radio2 for the entire duration of this test.
3. Once the measurement is done, extract instantaneous Tx power versus time for both radio1 and radio2 links. Convert the conducted Tx power for both these radios into 1gSAR or 10gSAR value (see Eq. (6a) and (6b)) using corresponding technology/band P_{limit} measured in Step 1, and then perform the running time average to determine time-averaged 1gSAR or 10gSAR versus time.
4. Make one plot containing: (a) instantaneous Tx power versus time measured in Step 2.
5. Make another plot containing: (a) instantaneous 1gSAR versus time determined in Step 3, (b) computed time-averaged 1gSAR versus time determined in Step 3, and (c) corresponding regulatory $1gSAR_{limit}$ of 1.6W/kg or $10gSAR_{limit}$ of 4.0W/kg.

The validation criteria is, at all times, the time-averaged 1gSAR or 10gSAR versus time shall not exceed the regulatory $1gSAR_{limit}$ of 1.6W/kg or $10gSAR_{limit}$ of 4.0W/kg.

NOTE: If *multi_Tx_factor* is set to > 1.0 with EFS version 19 (or higher), then in single Tx transmission scenarios, Smart Transmit ensures time-averaged RF exposure is ≤ (*SAR_design_target* * $10^{(+\text{ sub6 device uncertainty}/10)}$) < regulatory RF exposure limit for sub6 radio managed by Smart Transmit. In simultaneous Tx transmission scenarios, Smart Transmit ensures time-averaged RF exposure is ≤ (*SAR_design_target* * *multi_Tx_factor* * $10^{(+\text{ sub6 device uncertainty}/10)}$) < regulatory RF exposure limit for sub6 radios managed by Smart Transmit. These simultaneous transmission scenarios are listed below:

- 2-or-more radio scenarios within WWAN like EN-DC, LTE ULCA, etc.
- 2-or-more-radio across technologies such as WWAN+WLAN, WWAN+BT, WLAN+BT and WWAN+WLAN+BT transmission scenarios (if WLAN/BT radios are also managed by Smart Transmit).

4.3.8 Exposure Category Switch

This test is performed with the EUT being requested to transmit at maximum power in selected technology/band/antenna/DSI. The change in exposure category is preferrably performed during Tx power enforcement (i.e., EUT forced to transmit at a sustainable level). One test is sufficient as this feature operation is independent of technology, band and antenna. Test procedure are:

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In case of head to non-head to head exposure switch test, 'first DSI' in below test procedure refers to head DSI and 'second DSI' refers to non-head DSI. Similarly, in case of non-head to head to non-head exposure switch test, 'first DSI' in below test procedure refers to non-head DSI and 'second DSI' refers to head DSI.

1. Measure *Plimit* for all the technology(s)/band(s)/antenna(s)/DSI(s) selected following the above selection criteria. Measure *Plimit* with Smart Transmit Peak exposure mode enabled and callbox set to request maximum power.
2. Set EUT to intended Smart Transmit exposure mode.
3. Establish radio link with first DSI and with callbox in the selected technology(s)/band(s)/antenna(s).
4. Request EUT to transmit at 0 dBm for at least 100 seconds, followed by requesting EUT to transmit at maximum Tx power for the active radio(s) for half of the regulatory time window, and then switch to the second DSI for ~10s, and switch back to the first DSI for at least one time window. Throughout this test, when switching between DSIs (i.e., switching between exposure categories), continue with callbox requesting EUT to transmit at maximum Tx power for the active radio(s). Measure and record Tx power versus time for the entire duration of the test.
5. Once the measurement is done, extract instantaneous Tx power versus time, and convert the conducted Tx power into 1g_or_10gSAR value (see Eq. (7a) and (7b)) using the corresponding *Plimit* measured in Step 1 and 1g_or_10gSAR value measured in 80-W2112-4 Part 1 report, and then perform 100s running average to determine time-averaged 1g_or_10gSAR versus time as illustrated in Figure 5-1. Note that in Eq.(7a) & (7b), instantaneous Tx power is converted into instantaneous 1g_or_10gSAR value by applying the worst-case 1gSAR value for the selected technologies/bands at *Plimit* as reported in 80- W2112-4 Part 1 report.
6. Make one plot containing: (a) computed time-averaged normalized 1g_or_10gSAR of the selected technology(s)/band(s)/antenna(s) versus time determined in Step 5 for exposure under first DSI , (b) total time-averaged normalized exposure for exposure under first DSI if simultaneous transmission scenario was tested, and (c) normalized regulatory limit of 1.0.
7. Make another plot containing: (a) computed time-averaged 1g_or_10gSAR of the selected technology(s)/band(s)/antenna(s) versus time determined in Step 5 for exposure under second DSI, (b) total time-averaged normalized exposure for exposure under second DSI if simultaneous transmission scenario was tested, and (c) normalized regulatory limit of 1.0.

The validation criteria is, at all times, the time-averaged normalized exposure versus time shall not exceed the normalized limit of 1.0 for both first & second DSIs (i.e., both head exposure category and non-head exposure category).

4.3.9 System Level Compliance Continuity

Below is the test flow outline of the system level compliance test. The test contains 6 sections and 5 transitions: Start with WWAN radio transmission (Section A), transition to WLAN transmission (Section B), transition to simultaneous transmission of WWAN + WLAN + BT (Section C), then drop off WWAN radio and set WWAN to airplane mode, at the same time transition to WLAN+BT transmission simultaneously (Section D), transition to BT only transmission (Section E), transition to WLAN only transmission (Section F), and finally transition to simultaneous transmission of WWAN + WLAN + BT (Section G).

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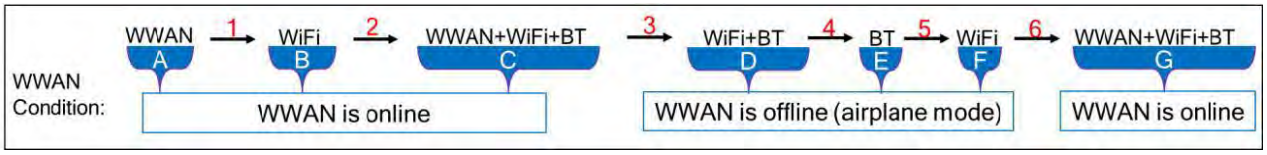

Figure 4-2
Schematic of technology transitions for system level compliance continuity test

1. Measure conducted Tx power corresponding to *Plimit* for all three (WWAN, WLAN & BT) technologies in the selected radio configurations. Test condition to measure conducted *Plimit* for each technology is:

   - Establish device in call with the callbox for the first technology in desired band. Measure conducted Tx power corresponding to the first technology *Plimit* with Smart Transmit Peak exposure mode enabled and callbox set to request maximum power (or maximum duty cycle in case of WLAN/BT).
   - Repeat above step to measure conducted Tx power corresponding to the remaining two technologies' *Plimit*. In the case of BT, measured conducted Tx power is compensated by tested duty cycle and *BT_STANDALONE* EFS parameter, i.e., measured *Plimit* = conducted power measured in BT standalone condition / *BT_STANDALONE* / *BT_duty_cycle*.

2. Set EUT to the intended Smart Transmit exposure mode.

3. As depicted in Figure 4-2, first

i. Section A: Establish WWAN connection with the callbox in selected WWAN radio configuration. Request EUT to transmit at 0 dBm for at least one WWAN time window (100s or 60s), followed by requesting EUT to transmit at maximum Tx power for {one WWAN time window (*TWWAN* = 100s if *f* < 3GHz or 60s if 3GHz < *f* < 6GHz for FCC, 360s for ICNIRP) + the maximum high power duration allowed in one *TWWAN*}, denoted as *TA_WWAN*.

ii. Section B: After *TA_WWAN*, drop WWAN connection and establish WLAN connection with the callbox in selected WLAN radio configuration and request EUT to transmit at maximum duty cycle (and maximum power) for {one WLAN time-window duration (*TWLAN* = 30s for all WLAN frequency bands for FCC, 360s for ICNIRP) + the maximum high power duration allowed in one *TWLAN*}, denoted *TB_WLAN*.

iii. Section C: After *TB_WLAN* , add the selected WWAN and BT radios to have the simultaneous transmission of WWAN + WLAN + BT. Request WWAN radio to transmit at maximum power and request WLAN & BT radios to transmit at maximum duty cycle (and maximum power) for at least one max{*TA_WWAN*, *TB_WLAN*, *TBT*}, where, *TBT* = 100s for FCC, 360s for ICNIRP.

iv. Section D: Drop WWAN connection and set WWAN modem into airplane mode. Continue requesting WLAN & BT radios to transmit at maximum duty cycle (and maximum power) for at least two times the max{ *TWLAN*, *TBT*}.

v. Section E: Drop WLAN connection. Continue requesting BT radio to transmit at maximum duty cycle (and maximum power). Continue the test for at least one *TBT* .

vi. Section F: In the case of FCC time windows, after at least one *TBT*, drop BT connection and establish back WLAN connection in selected radio configuration. Continue requesting WLAN radio to transmit

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at maximum duty cycle (and maximum power). Continue the test for at least one max { TWLAN, TBT}. In the case of ICNIRP time windows, Section F is not required.

vii. Section G: Disable airplane mode and add WWAN and BT connections after Section F in the case of FCC time windows (Disable airplane mode and add WWAN and WLAN connections after Section E in the case of ICNIRP time windows) to have the simultaneous transmission of WWAN + WLAN + BT. Request WWAN radio to transmit at maximum power and request WLAN & BT radios to transmit at maximum duty cycle (and maximum power) for at least one max{TA_WWAN, TB_WLAN, TBT}, where, TBT = 100s for FCC, 360s for ICNIRP.

4. Once the measurement is done, extract instantaneous Tx power versus time for all WWAN, WLAN and BT radios in selected configurations. Similar to technology/band switch test in Section 4.3.3, convert the conducted Tx power for both these radios into 1g_or_10gSAR value (see Eq. (7a) and (7b)) using corresponding technology/band Plimit measured in Step 1, and then perform running average over corresponding time-windows (i.e., 100s/60s for WWAN radio, 30s for WLAN radio and 100s for BT radio in case of FCC time-windows, and 360s for all of them in case of ICNIRP time-windows) to determine time-averaged 1g_or_10gSAR versus time as illustrated in Figure 4-1.

5. Make one plot containing: (a) computed normalized time-averaged 1g_or_10gSAR for WWAN radio configuration versus time determined in Step 4, (b) computed normalized time- averaged 1g_or_10gSAR for WLAN radio configuration versus time determined in Step 4, (c) computed normalized time-averaged 1g_or_10gSAR for WLAN radio configuration versus time determined in Step 4, (d) computed total normalized time-averaged 1g_or_10gSAR versus time (sum of Steps (5.a), (5.b) and (5.c)) determined in Step 4, and (e) corresponding normalized regulatory 1g_or_10gSARlimit limit of 1.0.

The validation criteria is, at all times, the time-averaged 1g_or_10gSAR versus time shall not exceed the regulatory 1g_or_10gSARlimit limit.

NOTE: If *multi_Tx_factor* is set to > 1.0 with EFS version 19 (or higher), then in single Tx transmission scenarios, Smart Transmit ensures time-averaged RF exposure is ≤ (*SAR_design_target* * $10^{(+\text{ sub6 device uncertainty}/10)}$) < regulatory RF exposure limit for sub6 radio managed by Smart Transmit. In simultaneous Tx transmission scenarios, Smart Transmit ensures time-averaged RF exposure is ≤ (*SAR_design_target* * *multi_Tx_factor* * $10^{(+\text{ sub6 device uncertainty}/10)}$) < regulatory RF exposure limit for sub6 radios managed by Smart Transmit. These simultaneous transmission scenarios are listed below:

- 2-or-more radio scenarios within WWAN like EN-DC, LTE ULCA, etc.
- 2-or-more-radio across technologies such as WWAN+WLAN, WWAN+BT, WLAN+BT and WWAN+WLAN+BT transmission scenarios (if WLAN/BT radios are also managed by Smart Transmit).

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5 FCC MEASUREMENT PROCEDURES (FREQ > 6 GHZ)

This section provides the test plan and test procedures for validating Qualcomm Smart Transmit feature for mmW transmission. For this EUT, millimeter wave (mmW) transmission is only in non-standalone mode, i.e., it requires an LTE link as anchor.

5.1 Test Sequence for Validation In mmW NR Transmission

In 5G mmW NR transmission, the test sequence for validation is with the callbox requesting EUT's Tx power in 5G mmW NR at maximum power all the time.

5.2 Test configuration selection criteria for validating Smart Transmit feature

5.2.1 Time-Varying Tx Power Transmission

The Smart Transmit time averaging operation is independent of bands, modes, channels, and antenna configurations (beams) for a given technology. Hence, validation of Smart Transmit in any one band/mode/channel per technology is sufficient. Two mmW bands are proposed and selected for this testing to provide high confidence in this validation (Note, the EUT used in this report is only supported in one mmW band).

The selection criteria for this measurement is to test EUT transmit in a beam containing highest number of elements (as it has lower *input.power.limit*). Additionally, for EUT enabled with Smart Transmit EFS version 18 (or higher) utilizing DSI applicability feature (see Section 10.1), since this test is performed in non-standalone (NSA) mode with a sub6 anchor, perform this test in a DSI that has *DSI_PD_ratio* < 1 (see equation 9b in Section 12.1) in the EFS for the selected beam.

5.2.2 Change In Antenna Configuration (Beam)

The Smart Transmit time averaging feature operation is independent of bands, modes, channels, and antenna configurations (beams) for a given technology. Hence, validation of Smart Transmit with beam switch between any two beams is sufficient.

NOTE: The selected two beams should be in the same module group if EUT is configured with GEN2_MMW or GEN2_SUB6_MMW.

5.2.3 SAR Vs. PD Exposure Switch During Transmission

The Smart Transmit time averaging feature operation is independent of the nature of exposure (SAR vs. PD) and ensures total time-averaged RF exposure compliance. Hence, validation of Smart Transmit in any one band/mode/channel/beam for mmW + sub-6 (LTE) transmission is sufficient, where the exposure varies among SAR dominant scenario, SAR+PD scenario, and PD only scenarios.

The selection criteria for this measurement is to test EUT transmit in a beam containing highest number of elements (as it has lower *input.power.limit*).

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5.3 Test Procedures for mmW Radiated Power Measurements

Perform conducted power measurement (for f < 6GHz) and radiated power measurement (for f > 6GHz) for LTE + mmW transmission to validate Smart Transmit time averaging feature in the various transmission scenarios described in Section 3.

This section provides general conducted power measurement procedures to perform compliance test under dynamic transmission scenarios described in Section 3. In practice, an adjustment can be made in these procedures. The justification/clarification may be provided.

5.3.1 Time-Varying Tx Power Transmission

The purpose of the test is to demonstrate the effectiveness of power limiting enforcement and that the time-averaged Tx power when converted into RF exposure values does not exceed the FCC limit at all times (see Eq. (2a), (2b) & (2c) in Section 3).

Test procedure:

1. Measure conducted Tx power corresponding to P_{limit} for LTE in selected band, and measure radiated Tx power corresponding to *input.power.limit* in desired mmW band/channel/beam by following below steps:
    a. Measure radiated power corresponding to mmW *input.power.limit* by setting up the EUT's Tx power in desired band/channel/beam at *input.power.limit* in Factory Test Mode (FTM). This test is performed in a calibrated anechoic chamber. Rotate the EUT to obtain maximum radiated Tx power, keep the EUT in this position and do not disturb the position of the EUT inside the anechoic chamber for the rest of this test.
    b. Reset EUT to place in online mode and establish radio link in LTE, measure conducted Tx power corresponding to LTE P_{limit} with Smart Transmit peak exposure mode enabled, and callbox set to request maximum power.
2. Set DUT to the intended Smart Transmit exposure mode. With DUT setup for a mmW NR call in the desired/selected LTE band and mmW NR band, perform the following steps:
    a. Establish LTE and mmW NR connection in desired band/channel/beam used in Step 1. As soon as the mmW connection is established, immediately request all-down bits on LTE link. With callbox requesting EUT's Tx power to be at maximum mmW power to test predominantly PD exposure scenario (as SAR exposure is less when LTE's Tx power is at low power).
    b. After 120s, request LTE to go all-up bits for at least 100s. SAR exposure is dominant. There are two scenarios:
        i If $P_{limit} < P_{max}$ for LTE, then the RF exposure margin (provided to mmW NR) gradually runs out (due to high SAR exposure). This results in gradual reduction in the 5G mmW NR transmission power and eventually seized 5G mmW NR transmission when LTE goes to $P_{reserve}$ level.
        ii If $P_{limit} \geq P_{max}$ for LTE, then the 5G mmW NR transmission's averaged power should gradually reduce but the mmW NR connection can sustain all the time (assuming TxAGC uncertainty = 0dB).
    c. Record the conducted Tx power of LTE and radiated Tx power of mmW for the full duration of this test of at least 300s.

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3. Once the measurement is done, extract instantaneous Tx power versus time for both LTE and mmW links. Convert the conducted Tx power for LTE into 1gSAR or 10gSAR value using Eq. (2a) and P_{limit} measured in Step 1.b, and then divide by FCC limit of 1.6 W/kg for 1gSAR or 4.0 W/kg for 10gSAR to obtain instantaneous normalized 1gSAR or 10gSAR versus time. Perform 100s running average to determine normalized 100s-averaged 1gSAR or 10gSAR versus time.

   NOTE: In Eq.(2a), instantaneous Tx power is converted into instantaneous 1gSAR or 10gSAR value by applying the measured worst-case 1gSAR or 10gSAR value at P_{limit} for the corresponding technology/band/antenna/DSI reported in Part 1 report.

4. Similarly, convert the radiated Tx power for mmW into 4cm^{2}PD value using Eq. (2b) and the radiated Tx power limit (i.e., radiated Tx power at *input.power.limit*) measured in Step 1.a, then divide by FCC 4cm^{2}PD limit of 10W/m^2 to obtain instantaneous normalized 4cm^{2}PD versus time. Perform 4s running average to determine normalized 4s-averaged 4cm^{2}PD versus time.

   NOTE: In Eq.(2b), instantaneous radiated Tx power is converted into instantaneous 4cm^{2}PD by applying the worst-case 4cm^{2}PD value measured at *input.power.limit* for the selected band/beam in Part 1 report.

5. Make one plot containing: (a) instantaneous conducted Tx power for LTE versus time, (b) computed 100s-averaged conducted Tx power for LTE versus time, (c) instantaneous radiated Tx power for mmW versus time, as measured in Step 2, (d) computed 4s-averaged radiated Tx power for mmW versus time, and (e) time-averaged conducted and radiated power limits for LTE and mmW radio using Eq. (5a) & (5b), respectively:

$$Time\ avearged\ LTE\ power\ limit = meas.P_{limit} + 10 \times \log(\frac{FCC\ SAR\ limit}{meas.SAR_Plimit}) \quad (5a)$$

$$Time\ avearged\ mmW\ NR\ power\ limit = meas.EIRP_{input.power.limit} + 10 \times \log(\frac{FCC\ PD\ limit}{meas.PD_input.power.limit}) \quad (5b)$$

   where $meas.EIRP_{input.power.limit}$ and $meas.PD_input.power.limit$ correspond to measured EIRP at *input.power.limit* and measured power density at *input.power.limit*.

6. Make another plot containing: (a) computed normalized 100s-averaged 1gSAR or 10gSAR versus time determined in Step 3, (b) computed normalized 4s-averaged 4cm^{2}PD versus time determined in Step 4, and (c) corresponding total normalized time-averaged RF exposure (sum of steps (6.a) and (6.b)) versus time.

The validation criteria are, at all times, the total normalized time-averaged RF exposure versus time determined in Step 6.c shall not exceed the normalized limit of 1.0 of FCC requirement (i.e., Eq. (2c)).

5.3.2 Switch In SAR Vs. PD Exposure During Transmission

This test is to demonstrate that Smart Transmit feature is independent of the nature of exposure (SAR vs. PD), accurately accounts for switching in exposures among SAR dominant, SAR+PD, and PD dominant scenarios, and ensures total time-averaged RF exposure compliance.

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Test procedure:

1. Measure conducted Tx power corresponding to P_{limit} for LTE in selected band, and measure radiated Tx power corresponding to *input.power.limit* in desired mmW band/channel/beam by following below steps:
    a. Measure radiated power corresponding to *input.power.limit* by setting up the EUT's Tx power in desired band/channel/beam at *input.power.limit* in FTM. This test is performed in a calibrated anechoic chamber. Rotate the EUT to obtain maximum radiated Tx power, keep the EUT in this position and do not disturb the position of the EUT inside the anechoic chamber for the rest of this test.
    b. Reset EUT to place in online mode and establish radio link in LTE, measure conducted Tx power corresponding to LTE P_{limit} with Smart Transmit peak exposure mode enabled, and callbox set to request maximum power.
2. Set DUT to the intended Smart Transmit exposure mode. With DUT setup for LTE + mmW call, perform the following steps:
    a. Establish LTE (sub-6) and mmW NR connection with callbox.
    b. As soon as the mmW connection is established, immediately request all-down bits on LTE link. Continue LTE (all-down bits) + mmW transmission for more than 100s duration to test predominantly PD exposure scenario (as SAR exposure is negligible from all-down bits in LTE).
    c. After 120s, request LTE to go all-up bits, mmW transmission should gradually run out of RF exposure margin if LTE's $P_{limit} < P_{max}$ and seize mmW transmission (SAR only scenario); or mmW transmission should gradually reduce in Tx power and will sustain the connection if LTE's $P_{limit} > P_{max}$.
    d. After 75s, request LTE to go all-down bits, mmW transmission should start getting back RF exposure margin and resume transmission again.
    e. Record the conducted Tx power of LTE and radiated Tx power of mmW for the entire duration of this test of at least 300s.
3. Once the measurement is done, extract instantaneous Tx power versus time for both LTE and mmW links. Convert the conducted Tx power for LTE into 1gSAR or 10gSAR value using Eq. (2a) and P_{limit} measured in Step 1.b, and then divide by FCC limit of 1.6 W/kg for 1gSAR or 4.0 W/kg for 10gSAR to obtain instantaneous normalized 1gSAR or 10gSAR versus time. Perform 100s running average to determine normalized 100s-averaged 1gSAR or 10gSAR versus time.

    NOTE: In Eq.(2a), instantaneous Tx power is converted into instantaneous 1gSAR or 10gSAR value by applying the measured worst-case 1gSAR or 10gSAR value at P_{limit} for the corresponding technology/band/antenna/DSI reported in Part 1 report.

4. Similarly, convert the radiated Tx power for mmW into 4cm^{2}PD value using Eq. (2b) and the radiated Tx power limit (i.e., radiated Tx power at *input.power.limit*) measured in Step 1.a, then divide this by FCC 4cm^{2}PD limit of 10W/m^2 to obtain instantaneous normalized 4cm^{2}PD versus time. Perform 4s running average to determine normalized 4s-averaged 4cm^{2}PD versus time.

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NOTE: In Eq.(2b), instantaneous radiated Tx power is converted into instantaneous 4cm^{2}PD by applying the worst-case 4cm^{2}PD value measured at *input.power.limit* for the selected band/beam in Part 1 report.

5. Make one plot containing: (a) instantaneous conducted Tx power for LTE versus time, (b) computed 100s-averaged conducted Tx power for LTE versus time, (c) instantaneous radiated Tx power for mmW versus time, as measured in Step 2, (d) computed 4s-averaged radiated Tx power for mmW versus time, and (e) time-averaged conducted and radiated power limits for LTE and mmW radio using Eq. (5a) & (5b), respectively.
6. Make another plot containing: (a) computed normalized 100s-averaged 1gSAR or 10gSAR versus time determined in Step 3, (b) computed normalized 4s-averaged 4cm^{2}PD versus time determined in Step 4, and (c) corresponding total normalized time-averaged RF exposure (sum of steps (6.a) and (6.b)) versus time.

The validation criteria are, at all times, the total normalized time-averaged RF exposure versus time determined in Step 6.c shall not exceed the normalized limit of 1.0 of FCC requirement (i.e., Eq. (2c)).

5.3.3 Change In Antenna Configuration (Beam)

This test is to demonstrate the correct power control by Smart Transmit during changes in antenna configuration (beam). Since the *input.power.limit* varies with beam, the Eq. (2a), (2b) and (2c) in Section 3 are written as below for transmission scenario having change in beam,

$$1g_or_10gSAR(t) = \frac{conducted_Tx_power(t)}{conducted_Tx_power_P_{limit}} * 1g_or_10gSAR_P_{limit} \qquad (8a)$$

$$4cm^2PD_1(t) = \frac{radiated_Tx_power_1(t)}{radiated_Tx_power_input.power.limit_1} * 4cm^2PD_input.power.limit_1 \qquad (8b)$$

$$4cm^2PD_2(t) = \frac{radiated_Tx_power_2(t)}{radiated_Tx_power_input.power.limit_2} * 4cm^2PD_input.power.limit_2 \qquad (8c)$$

$$\frac{\frac{1}{T_{SAR}}\int_{t-T_{SAR}}^{t} 1g_or_10gSAR(t)dt}{FCC\ SAR\ limit} + \frac{\frac{1}{T_{PD}}\left[\int_{t-T_{PD}}^{t_1} 4cm^2\mathrm{PD}_1(t)dt + \int_{t_1}^{t} 4cm^2\mathrm{PD}_2(t)dt\right]}{FCC4cm^2\ PD\ limit} \leq 1 \qquad (8d)$$

where, $conducted_Tx_power(t)$, $conducted_Tx_power_P_{limit}$, and $1g_or_10gSAR_P_{limit}$ correspond to the measured instantaneous conducted Tx power, measured conducted Tx power at P_{limit}, and measured *1gSAR or 10gSAR* values at P_{limit} corresponding to LTE transmission. Similarly, *radiated_Tx_power_1(t)*, *radiated_Tx_power_input.power.limit_1*, and *4cm^{2}PD_input.power.limit_1* correspond to the measured instantaneous radiated Tx power, radiated Tx power at *input.power.limit*, and *4cm^{2}PD* value at *input.power.limit* of beam 1; *radiated_Tx_power_2(t)*, *radiated_Tx_power_input.power.limit_2*, and *4cm^{2}PD_input.power.limit_2* correspond to the measured instantaneous radiated Tx power, radiated Tx power at *input.power.limit*, and *4cm^{2}PD* value at *input.power.limit* of beam 2 corresponding to mmW transmission.

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Test procedure:

1. Measure conducted Tx power corresponding to P_{limit} for LTE in selected band, and measure radiated Tx power corresponding to *input.power.limit* in desired mmW band/channel/beam by following below steps:
    a. Measure radiated power corresponding to mmW *input.power.limit* by setting up the EUT's Tx power in desired band/channel at *input.power.limit* of beam 1 in FTM. Do not disturb the position of the EUT inside the anechoic chamber for the rest of this test. Repeat this Step 1.a for beam 2.
    b. Reset EUT to place in online mode and establish radio link in LTE, measure conducted Tx power corresponding to LTE P_{limit} with Smart Transmit peak exposure mode enabled, and callbox set to request maximum power.
2. Set DUT to the intended Smart Transmit exposure mode. With DUT setup for LTE + mmW connection, perform the following steps:
    a. Establish LTE (sub-6) and mmW NR connection in beam 1. As soon as the mmW connection is established, immediately request all-down bits on LTE link with the callbox requesting EUT's Tx power to be at maximum mmW power.
    b. After beam 1 continues transmission for at least 20s, request the EUT to change from beam 1 to beam 2, and continue transmitting with beam 2 for at least 20s.
    c. Record the conducted Tx power of LTE and radiated Tx power of mmW for the entire duration of this test.
3. Once the measurement is done, extract instantaneous Tx power versus time for both LTE and mmW links. Convert the conducted Tx power for LTE into 1gSAR or 10gSAR value using the similar approach described in Step 3 of Section 5.3.2. Perform 100s running average to determine normalized 100s-averaged 1gSAR versus time.
4. Similarly, convert the radiated Tx power for mmW NR into 4cm^{2}PD value using Eq. (8b), (8c) and the radiated Tx power limits (i.e., radiated Tx power at *input.power.limit*) measured in Step 1.a for beam 1 and beam 2, respectively, and then divide the resulted PD values by FCC 4cm^{2}PD limit of 10W/m^2 to obtain instantaneous normalized 4cm^{2}PD versus time for beam 1 and beam 2. Perform 4s running average to determine normalized 4s-averaged 4cm^{2}PD versus time.

    NOTE: In Eq.(8b) and (8c), instantaneous radiated Tx power of beam 1 and beam 2 is converted into instantaneous 4cm^{2}PD by applying the worst-case 4cm^{2}PD value measured at the *input.power.limit* of beam 1 and beam 2 in Part 1 report, respectively.

5. Since the measured radiated powers for beam 1 and beam 2 in Step 1.a were performed at an arbitrary rotation of EUT in anechoic chamber, repeat Step 1.a of this procedure by rotating the EUT to determine maximum radiated power at *input.power.limit* in FTM mode for both beams separately. Re-scale the measured instantaneous radiated power in Step 2.c by the delta in radiated power measured in Step 5 and the radiated power measured in Step 1.a for plotting purposes in next Step. In other words, this step essentially converts measured instantaneous radiated power during the measurement in Step 2 into maximum instantaneous radiated power for both beams. Perform 4s running average to compute 4s-averaged radiated Tx power. Additionally, use these EIRP values measured at *input.power.limit* at respective peak locations to determine the EIRP limits (using Eq. (5b)) for both these beams.

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6. Make one plot containing: (a) instantaneous conducted Tx power for LTE versus time, (b) computed 100s-averaged conducted Tx power for LTE versus time, (c) instantaneous radiated Tx power for mmW versus time, as obtained in Step 5, (d) computed 4s-averaged radiated Tx power for mmW versus time, as obtained in Step 5, and (e) time-averaged conducted and radiated power limits for LTE and mmW radio, respectively.
7. Make another plot containing: (a) computed normalized 100s-averaged 1gSAR versus time determined in Step 3, (b) computed normalized 4s-averaged 4cm^{2}PD versus time determined in Step 4, and (c) corresponding total normalized time-averaged RF exposure (sum of steps (6.a) and (6.b)) versus time.

The validation criteria are, at all times, the total normalized time-averaged RF exposure versus time determined in Step 6.c shall not exceed the normalized limit of 1.0 of FCC requirement (i.e., (8d)).

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6 MEASUREMENT TEST SETUP (FREQ < 6 GHZ)

6.1 Conducted Measurement Test setup

Legacy test setup

The Rohde & Schwarz CMW500 callbox was used in this test. The test setup schematic is shown in Figure 6-1a (Appendix B – Test Setup Photo 1, 2, and 3) for measurements with a single antenna of DUT, and in Figure 6-1b (Appendix B – Test Setup Photo 5) for measurements involving antenna switch. For single antenna measurement, one port (RF1 COM) of the callbox is connected to the RF port of the DUT using a directional coupler. For technology/band switch measurement, one port (RF1 COM) of the callbox used for signaling two different technologies is connected to a combiner, which is in turn connected to a directional coupler. The other end of the directional coupler is connected to a splitter to connect to two RF ports of the DUT corresponding to the two antennas of interest. In the setups, power meter is used to tap the directional coupler for measuring the conducted output power of the DUT. For all legacy conducted tests, only RF1 COM port of the callbox is used to communicate with the DUT.

All the path losses from RF port of DUT to the callbox RF COM port and to the power meter are calibrated and automatically entered as offsets in the callbox and the power meter via test scripts on the PC used to control callbox and power meter

Sub6 NR test setup:

The Anritsu MT8000A callbox was used in this test. The test setup schematic is the same as the Legacy Test Setup shown in Figure 6-1a (Appendix B – Test Setup Photo 4). One port of the callbox is connected to the RF port of the DUT using a directional coupler. In the setup, the power meter is used to tap the directional coupler for measuring the conducted output power of the DUT.

All the path losses from RF port of DUT to the callbox RF COM port and to the power meter are calibrated and automatically entered as offsets in the callbox and the power meter via test scripts on the PC used to control callbox and power meter.

LTE+Sub6 NR test setup:

LTE conducted port and Sub6 NR conducted port are different on this DUT, therefore, the LTE and Sub6 NR signals for power meter measurement are performed on separate paths as shown below in Figure 6-1c (Also UXM was used in this setup). (Appendix B – Test Setup Photo 6).

All the path losses from RF port of DUT to the callbox RF COM port and to the power meter are calibrated and automatically entered as offsets in the callbox and the power meter via test scripts on the PC used to control callbox and power meter.

WLAN SISO test setup:

The Rohde & Schwarz CMW500 callbox was used in this test. The test setup schematic is shown in Figure 6-1d (Appendix B – Test Setup Photo 7).

All the path losses from RF port of DUT to the callbox RF COM port and to the power meter are calibrated and automatically entered as offsets in the callbox and the power meter via test scripts on the PC used to control callbox and power meter.

WLAN DBS test setup:

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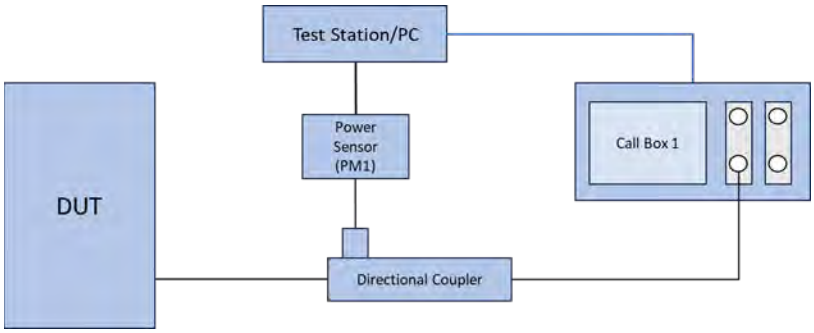
The Rohde & Schwarz CMW500 callbox was used in this test. WLAN 2.4GHz port and WLAN 5GHz conducted port are the same on this DUT, therefore, the WLAN signals for power meter measurement are performed on separate paths as shown below in Figure 6-1e (Appendix B – Test Setup Photo 8).

All the path losses from RF port of DUT to the callbox RF COM port and to the power meter are calibrated and automatically entered as offsets in the callbox and the power meter via test scripts on the PC used to control callbox and power meter.

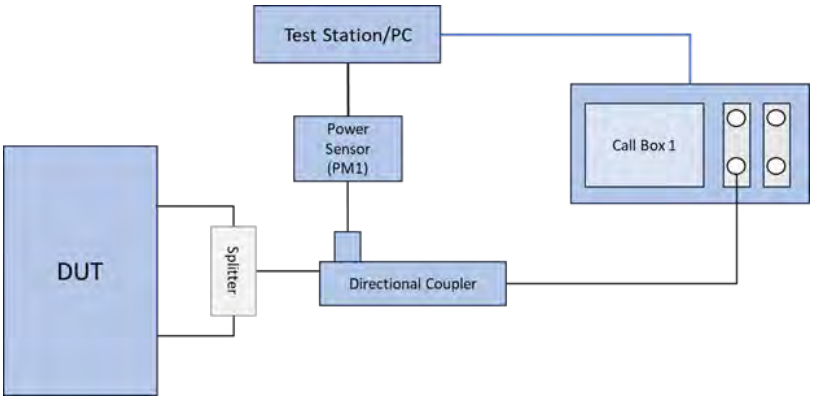
System continuity test setup:

The Rohde & Schwarz CMW500 callbox was used in this test. WWAN conducted port and BT conducted port are the same on this DUT, while the WLAN conducted port is separate. Therefore the WWAN, WLAN, and BT signals for power meter measurement are performed on paths shown below in Figure 6-1f (Appendix B – Test Setup Photo 9).

All the path losses from RF port of DUT to the callbox RF COM port and to the power meter are calibrated and automatically entered as offsets in the callbox and the power meter via test scripts on the PC used to control callbox and power meter.



(a) Appendix B – Test Setup Photo 1, 2, 3, 4



(b) Appendix B – Test Setup Photo 5

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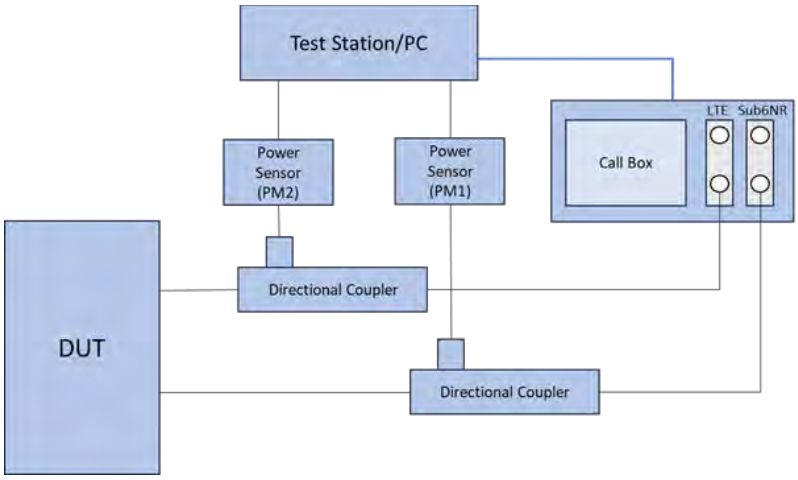
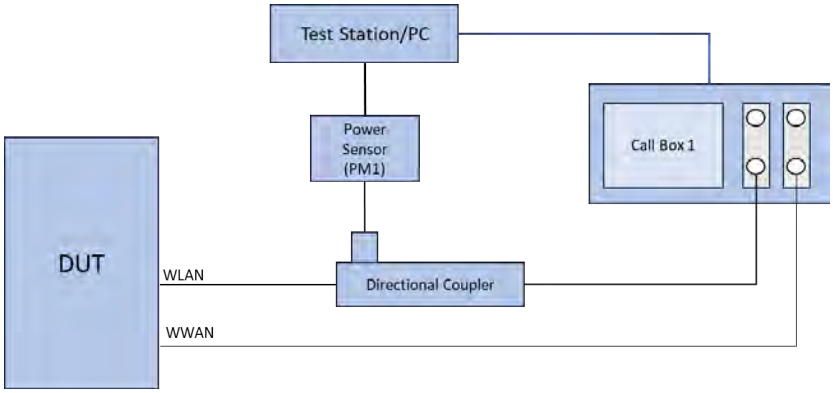


(c) Appendix B – Test Setup Photo 6



(d) Appendix B – Test Setup Photo 7

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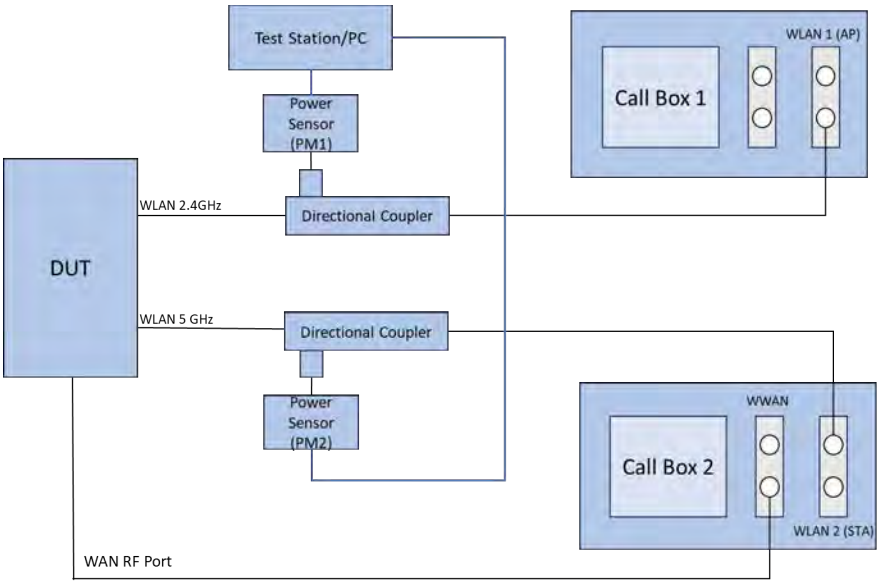
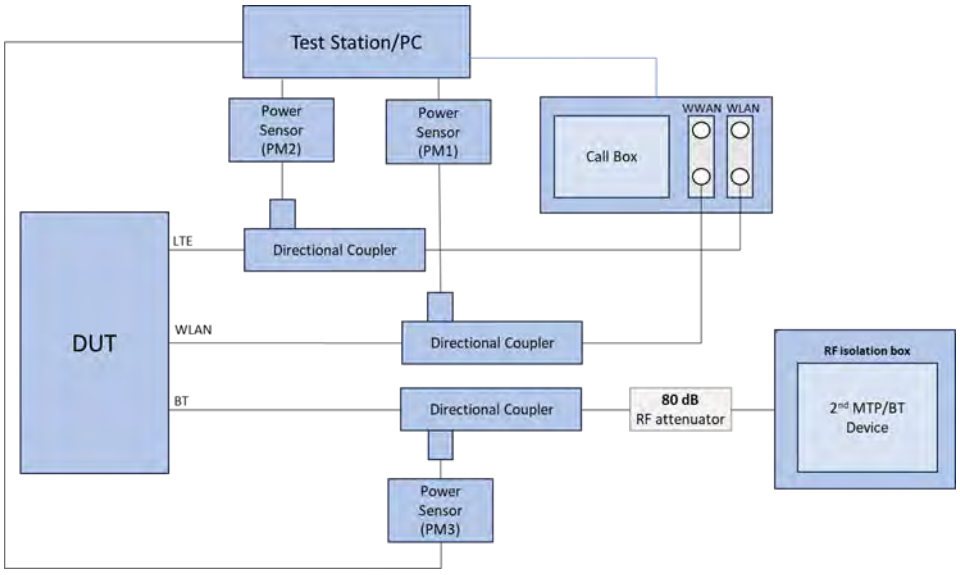


(e) Appendix B – Test Setup Photo 8



(f) Appendix B – Test Setup Photo 9

Figure 6-1
Conducted power measurement setup

Both the callbox and power meter are connected to the PC using GPIB cables. Two test scripts are custom made for automation, and the test duration set in the test scripts is 500 seconds.

For time-varying Tx power measurement, the PC runs the 1st test script to send GPIB commands to control the callbox's requested power versus time, while at the same time to

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record the conducted power measured at DUT RF port using the power meter. The commands sent to the callbox to request power are:

- 0dBm for 100 seconds
- test sequence 1 or test sequence 2 (defined in Section 4.1 and generated in Section 4.2.1), for 360 seconds.
- stay at the last power level of test sequence 1 or test sequence 2 for the remaining time.

Power meter readings are periodically recorded every 100ms. A running average of this measured Tx power over 100 seconds is performed in the post-data processing to determine the 100s-time averaged power.

For call drop, technology/band/antenna switch, and DSI switch tests, after the call is established, the callbox is set to request the DUT's Tx power at 0dBm for 100 seconds while simultaneously starting the 2nd test script runs at the same time to start recording the Tx power measured at DUT RF port using the power meter. After the initial 100 seconds since starting the Tx power recording, the callbox is set to request maximum power from the DUT for the rest of the test. Note that the call drop/re-establish, or technology/band/antenna switch or DSI switch is manually performed when the Tx power of DUT is at $P_{reserve}$ level. See Section 4.3 for detailed test procedure of call drop test, technology/band/antenna switch test and DSI switch test.

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7 MEASUREMENT TEST SETUP (FREQ > 6 GHZ)

7.1 Radiated Power Measurement Test setup

The Keysight Technologies E7515B UXM callbox is used in this test. The schematic of the setup is shown in Figure 7-1. The UXM callbox has two RF radio heads to up/down convert IF to mmW frequencies, which in turn are connected to two horn antennas for V- and H-polarizations for downlink communication. In the uplink, a directional coupler is used in the path of one of the horn antennas to measure and record radiated power using a Rohde & Schwarz NRP50S power sensor. Note here that the isolation of the directional coupler may not be sufficient to attenuate the downlink signal from the callbox, which will result in high noise floor masking the recording of radiated power from EUT. In that case, either lower the downlink signal strength emanating from the RF radio heads of callbox or add an attenuator between callbox radio heads and directional coupler. Additionally, note that since the measurements performed in this validation are all relative, measurement of EUT's radiated power in one polarization is sufficient. The EUT is placed inside an anechoic chamber with V- and H-pol horn antennas to establish the radio link as shown in Figure 7-1. The callbox's LTE port is directly connected to the EUT's RF port via a directional coupler to measure the EUT's conducted Tx power using a Rohde & Schwarz NRP8S power sensor. Additionally, EUT is connected to the PC via USB connection for sending beam switch command. Care is taken to route the USB cable and RF cable (for LTE connection) away from the EUT's mmW antenna modules.

Setup in Figure 7-1 is used for the test scenario 1, 5 and 6 described in Section 3. The test procedures described in Section 5 are followed. The path losses from the EUT to both the power meters are calibrated and used as offset in the power meter.

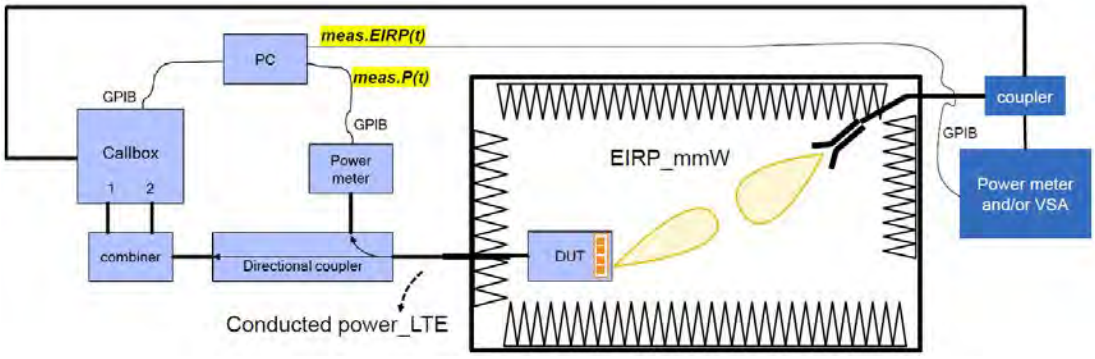

Figure 7-1
mmW NR radiated power measurement setup – Test Setup Photos 10

Both the callbox and power meters are connected to the PC using USB cables. Test scripts are custom made for automation of establishing LTE + mmW call, LTE + sub6 NR call, and sub6 NR + mmW call conducted Tx powers recording for LTE, sub6 NR and radiated Tx power recording for mmW. These tests are manually stopped after desired time duration. Test script is programmed to set LTE Tx power to all-down bits on the callbox immediately after the mmW link is established and programmed to set toggle between all-up and all-down bits depending on the transmission scenario being evaluated. Similarly, test

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script is also programmed to send beam switch command manually to the EUT via USB connection. For all the tests, the callbox is set to request maximum Tx power in mmW NR radio from EUT all the time.

Test configurations for this validation are detailed in Section 5.2. Test procedures are listed in Section 5.3.

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8 TEST CONFIGURATIONS (FREQ < 6 GHZ)

8.1 Sub6 Transmission

The P_{limit} values, corresponding to 1.0 W/kg (1gSAR) and 2.5 W/kg (10gSAR) of *SAR_design_target*, for technologies and bands supported by DUT are derived in Part 0 report and summarized in Table 8-1. Note all P_{limit} power levels entered in Table 8-1 correspond to average power levels after accounting for duty cycle in the case of TDD modulation schemes.

Table 8-1
P_{limit} for supported technologies and bands (P_{limit} in EFS file)

Exposure Scenario			Maximum Tune-Up Output Power*	Body-Worn, Hotspot, or Phablet	Head
Averaging Volume				1g/10g	1g
Spacing				10mm, 0mm	0mm
Configuration					
DSI				0	1
Technology/Band	Antenna	Antenna Group	P_{max}	P_{limit}	P_{limit}
GSM 850	A	AG0	25.3	30.2	30.2
GSM 850	E	AG1	25.3	28.4	20.8
GSM 1900	A	AG0	22.1	17.8	28.0
UMTS 850	A	AG0	24.0	28.0	29.8
UMTS 850	E	AG1	24.0	26.8	21.0
UMTS 1750	A	AG0	22.5	18.0	27.6
UMTS 1900	A	AG0	23.5	17.5	27.8
LTE Band 71	A	AG0	24.0	28.7	30.1
LTE Band 71	E	AG1	24.0	28.4	18.0
LTE Band 12	A	AG0	24.3	29.5	30.3
LTE Band 12	E	AG1	24.3	27.9	21.0
LTE Band 13	A	AG0	24.0	28.5	30.0
LTE Band 13	E	AG1	24.0	26.2	21.0
LTE Band 14	A	AG0	24.3	28.8	29.9
LTE Band 14	E	AG1	24.3	26.4	21.0
LTE Band 26/5	A	AG0	24.0	28.8	29.8
LTE Band 26/5	E	AG1	24.0	26.2	21.0
LTE Band 66/4	A	AG0	23.5	18.5	27.3
LTE Band 66/4	F	AG1	23.5	20.0	16.0
LTE Band 25/2	A	AG0	23.5	18.0	28.8
LTE Band 25/2	F	AG1	23.5	20.0	18.0
LTE Band 30	A	AG0	22.5	19.0	34.8
LTE Band 30	F	AG1	22.5	18.0	16.5
LTE Band 7	B	AG0	23.0	19.0	31.2
LTE Band 7	F	AG1	23.0	17.0	15.5
LTE Band 41	B	AG0	22.0	19.0	18.4
LTE Band 41	F	AG1	22.0	16.0	14.5
LTE Band 38	B	AG0	22.0	17.0	18.4
LTE Band 38	F	AG1	22.0	14.5	12.5
LTE Band 48	F	AG1	20.5	16.5	12.5
NR Band n71	A	AG0	24.0	28.4	31.0
NR Band n71	E	AG1	24.0	27.5	18.0
NR Band n12	A	AG0	24.3	28.6	31.2
NR Band n12	E	AG1	24.3	28.2	21.0
NR Band n14	A	AG0	24.0	28.7	34.2
NR Band n14	E	AG1	24.0	26.8	21.0
NR Band n26/n5	A	AG0	24.0	27.6	33.5
NR Band n26/n5	E	AG1	24.0	25.8	21.0
NR Band n70	A	AG0	23.0	19.0	28.5
NR Band n70	F	AG1	23.0	19.0	16.0
NR Band n66	A	AG0	23.5	18.5	26.7
NR Band n66	F	AG1	23.5	20.0	16.0
NR Band n25/n2	A	AG0	23.5	18.0	28.0
NR Band n25/n2	F	AG1	23.5	20.0	18.0
NR Band n30	A	AG0	22.5	19.0	34.9
NR Band n30	F	AG1	22.5	18.0	16.5
NR Band n7	B	AG0	23.0	19.0	30.7
NR Band n7	F	AG1	23.0	17.0	15.5
NR Band n41 PC2 (Path 1)	F	AG1	26.0	16.5	13.5
NR Band n41 PC2 (Path 1)	B	AG0	25.0	19.0	17.5
NR Band n41 PC2 (Path 1)	E	AG1	24.0	17.5	16.0
NR Band n41 PC2 (Path 1)	D	AG0	20.0	15.5	14.0
NR Band n41 PC2 (Path 2)	B	AG0	26.0	20.0	24.0
NR Band n41 PC2 (Path 2)	F	AG1	21.0	16.5	13.5
NR Band n41 PC2 (Path 2)	D	AG0	22.0	15.5	14.0
NR Band n41 PC2 (Path 2)	E	AG1	19.0	17.5	16.0
NR Band n38 (Path 1)	F	AG1	24.0	16.5	13.5
NR Band n38 (Path 2)	B	AG0	24.0	19.0	24.0
NR Band n48	F	AG1	22.5	18.0	14.0
NR Band n48	C	AG0	19.5	13.0	9.0
NR Band n48	I	AG1	22.5	16.0	12.0
NR Band n48	D	AG0	18.5	11.5	7.5
NR Band n77/n78 PC2	F	AG1	26.0	17.0	15.0
NR Band n77/n78 PC2	C	AG0	19.0	11.0	10.0
NR Band n77/n78 PC2	I	AG1	23.5	15.0	14.0
NR Band n77/n78 PC2	D	AG0	18.0	10.0	9.0
2.4 GHz WIFI	H	AG1	19.0	20.1	13.0
2.4 GHz WIFI	J	AG1	19.0	25.1	13.0
2.4 GHz WIFI	MIMO	AG1	19.0	19.6	13.0
5 GHz WIFI	H	AG1	17.0	16.0	13.0
5 GHz WIFI	E	AG1	17.0	16.0	13.0
5 GHz WIFI	MIMO	AG1	17.0	16.0	13.0
6 GHz WIFI	H	AG1	16.0	10.5	9.0
6 GHz WIFI	E	AG1	16.0	10.5	9.0
6 GHz WIFI	MIMO	AG1	16.0	10.5	9.0
2.4 GHz Bluetooth	H	AG1	17.4	20.2	10.9
2.4 GHz Bluetooth	J	AG1	17.4	26.9	10.9
2.4 GHz Bluetooth	MIMO	AG1	10.9	19.3	17.7

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* Maximum tune up target power, P_{max}, is configured in NV settings in DUT to limit maximum transmitting power. This power is converted into peak power in NV settings for TDD schemes. The DUT maximum allowed output power is equal to P_{max} + 1 dB device uncertainty.

Based on selection criteria described in Section 4.2.1, the selected technologies/bands for testing time-varying test sequences are highlighted in yellow in Table 8-1. Per the manufacturer, the *Total_min_res_ratio* is set to 0.5 in EFS and is used in Part 2 test.

The radio configurations used in Part 2 test for selected technologies, bands, DSIs and antennas are listed in Table 8-2. The corresponding worst-case radio configuration 1gSAR values for selected technology/band/DSI are extracted from Part 1 report and are listed in the last column of Table 8-2.

Based on equations (1a), (2a), (3a) and (4a), it is clear that Part 2 testing outcome is normalized quantity, which implies that it can be applied to any radio configuration within a selected technology/band/DSI. Thus, as long as applying the worst-case SAR obtained from the worst radio configuration in Part 1 testing to calculate time-varying SAR exposure in equations (1a), (2a), (3a) and (4a), the accuracy in compliance demonstration remains the same. Therefore, there may be some differences between the radio configuration selected for Part 2 testing and the radio configuration associated with worst-case SAR obtained in the Part 1 evaluation.

The measured P_{limit} for all the selected radio configurations are listed in below Table 8-2. P_{max} was also measured for radio configurations selected for testing time-varying Tx power transmission scenarios in order to generate test sequences following the test procedures in Section 4.1.

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Table 8-2
Radio configurations selected for Part 2 test

Test Case #	Test Scenario	Tech	Band	Antenna	DSI	Channel	Frequency [MHz]	Test Configurations	SAR Exposure Scenario	Part 1 Worst Case Measured SAR at Plimit (W/kg)	EFS Plimit [dBm]	Tune-up Pmax [dBm]	Measured Plimit [dBm]	Measured Pmax [dBm]
1	Time Varying Tx Power	GSM	1900	A	0	661	1880	GPRS 4Tx Slots	Bottom Edge, 10mm	0.430	17.8	21.3	17.09	20.51
2		WCDMA	5	E	1	4183	836.5	RMC	Left Cheek	0.659	21.0	24.0	20.51	23.85
3		LTE	41	F	1	40620	2593.0	QPSK 1/50/20 MHz BW	Right Cheek	0.372	14.5	22.0	14.47	21.98
4		NR	26	E	1	166300	831.5	DFT-S-OFDM, QPSK 1/1/20 MHz BW	Left Cheek	0.752	21.0	24.0	20.06	23.28
5		WLAN	2.4	J	1	6	2437	802.11b 20MHz BW DSSS	Left Cheek	0.289	13.0	19.0	13.85	18.96
6	Change in Call	LTE	41	F	1	40620	2593	QPSK 1/50/20 MHz BW	Right Cheek	0.372	14.5	22.0	14.47	21.98
7	Change in Technology/Band/Antenna	LTE	7	B	0	21100	2535	QPSK 1/50/20 MHz BW	Left Edge, 10mm	0.244	19.0	23.0	18.81	22.98
		WCDMA	2	A	0	9400	1880	RMC	Bottom Edge, 10mm	0.695	17.5	23.5	18.04	23.56
8	Change in Time Window	LTE	25	F	1	26365	1882.5	QPSK 1/50/20 MHz BW	Right Tilt	0.918	18.0	23.5	17.87	23.88
			48	F	1	56207	3646.7	QPSK 1/50/20 MHz BW	Right Tilt	0.545	12.5	20.5	13.30	19.77
9	WWAN SAR Exposure Switching (EN-DC)	LTE	5	E	1	20525	836.5	QPSK 1/25/10 MHz BW	Left Cheek	0.674	21.0	24.0	20.45	23.75
		Sub6 NR	n66	F	1	349000	1745	DFT-S-OFDM, QPSK 1/1/40 MHz BW	Right Cheek	0.660	16.0	23.5	16.84	24.45
10	WLAN SAR Exposure	WLAN	5	E	1	36	5180	802.11ac 20MHz BW DSSS	Right Cheek	0.092	13.0	17.0	13.09	16.84
			2.4	J	1	6	2437	802.11n 20MHz BW DSSS	Left Cheek	0.289	13.0	17.0	13.85	17.67
11	System Level Compliance Continuity	WWAN (LTE)	5	E	1	20525	836.5	QPSK 1/25/10 MHz BW	Left Cheek	0.674	21.0	24.0	20.45	23.75
		Bluetooth	2.4	H	1	0	2402	DSSS	Right Cheek	0.218	10.9	17.4	11.76	17.25
		WLAN	2.4	J	1	6	2437	802.11b 20MHz BW DSSS	Left Cheek	0.289	13.0	19.0	13.85	18.96
12	Exposure Category Switch	LTE	48	F	1	56207	3646.7	QPSK 1/50/20 MHz BW	Right Tilt	0.545	12.5	20.5	13.3	19.77
					0	56207	3646.7	QPSK 1/50/20 MHz BW	Top Edge, 10mm	0.315	16.5	20.5	17.33	19.77
13		LTE	41	F	0	40620	2593	QPSK 1/50/20 MHz BW	Back Side, 10mm	0.119	16.0	22.0	15.97	21.98
					1	40620	2593	QPSK 1/50/20 MHz BW	Right Cheek	0.372	14.5	22.0	14.47	21.98

Note: The device uncertainty of P_{max} is +/- 1 dB as provided by manufacturer.

Note: The above P_{max} value for GPRS850 and GPRS1900 are for 4 Tx Slots.

Table 8-3
DSI and Corresponding Exposure Scenarios

Scenario	Description	SAR Test Cases
Head (DSI = 1)	▪ Device positioned next to head ▪ Receiver Active	*Head SAR per KDB Publication 648474 D04*
Hotspot mode (DSI = 0)	▪ Device transmits in hotspot mode near body ▪ Hotspot Mode Active	*Hotspot SAR per KDB Publication 941225 D06*
Phablet (DSI = 0)	▪ Device is held with hand	*Phablet SAR per KDB Publication 648474 D04 & KDB Publication 616217 D04*
Body-worn (DSI = 0)	▪ Device being used with a body-worn accessory	*Body-worn SAR per KDB Publication 648474 D04*

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Based on the selection criteria described in Section 4.2, the radio configurations for the Tx varying transmission test cases listed in Section 3 are:

1. Technologies and bands for time-varying Tx power transmission: The test case 1~5 listed in Table 8-2 are selected to test with the test sequences defined in Section 4.2.1 in both time-varying conducted power measurement and time-varying SAR measurement.
2. Technology and band for change in call test: Based on selection criteria in Section 4.2.2, LTE Band 41, having the lowest P_{limit} among all technologies and bands (test case 6 in Table 8-2), is selected for performing the call drop test in conducted power setup.
3. Technologies and bands for change in technology/band/antenna test: Based on selection criteria in Section 4.2.3 and 4.2.4, test case 17 in Table 8-2 is selected for handover test from a technology/band within one technology group (LTE Band 7, DSI=0, antenna B), to a technology/band in the same DSI within another technology group (WCDMA Band 2, DSI=0, antenna A) in conducted power setup.
4. Technologies and bands for change in time-window: Based on selection criteria in Section 4.2.6, for a given DSI=1, test case 8 in Table 8-2 is selected for time window switch between 60s window (LTE Band 48, Antenna F) and 100s window (LTE Band 25, Antenna F) in conducted power setup.
5. Technologies and bands for switch in SAR exposure: Based on selection criteria in Section 4.2.7 Scenario 1, test case 9 in Table 8-2 is selected for SAR exposure switching test in one of the supported simultaneous WWAN transmission scenario, i.e., LTE + Sub6 NR active in the same 100s time window, in conducted power setup. Test case 10 in Table 8-2 is selected for SAR exposure switching test in one of the supported simultaneous DBS WLAN transmission scenario, i.e., WLAN + WLAN active in the same 30s time window, in conducted power setup. Since this device supports LTE+mmW NR, test for Section 4.2.7 Scenario 2 for RF exposure switch is covered in Sections 13.1 and 13.2 between LTE (100s window) and mmW NR (4s window).
6. Technologies and bands for switch in exposure category: Based on selection criteria in Section 4.2.8 Scenario 1, test case 12 in Table 8-2 is selected for switch in exposure category test by establishing a call in LTE Band 48 in DSI=1 (head exposure) and then handing over to DSI=0 (non-head exposure) scenario in conducted power setup. Based on selection criteria in Section 4.2.8 Scenario 2, test case 13 in Table 8-2 is selected for switch in exposure category test by establishing a call in LTE Band 41 in DSI=0 (non-head exposure) and then handing over to DSI=1 (head exposure) scenario in conducted power setup.
7. Technologies and bands for system level compliance continuity: Based on selection criteria in Section 4.2.9, test case 11 in Table 8-2 is selected for system level compliance continuity test by establishing a call in LTE Band 5 in DSI=1 and then handing over to WLAN and BT in scenario described in section 4.3.9.

   Note: All switching and EN-DC test cases (#7 - #13) were done with modes/bands within the same antenna group.

   Note: System level compliance continuity was performed with USB disconnected from DUT per Qualcomm 80-W2112-51 RevYE guidance.

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8.2 EFS v23 Verification

Per Qualcomm's 80-w2112-5 document, embedded file system (EFS) version 23 products are required to be verified for Smart Tx generation for relevant MCC settings. It was confirmed that this DUT contains embedded file system (EFS) version 23 configured for Smart Tx second generation (GEN2) for Sub6 with MCC settings for the US market.

EFS v23 Generation	MCC
GEN2_Sub6	310

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9 CONDUCTED TX CASES (FREQ < 6 GHZ)

9.1 Time-varying Tx Power

The measurement setup is shown in Figure 6-1a.The purpose of the time-varying Tx power measurement is to demonstrate the effectiveness of power limiting enforcement and that the time-averaged Tx power when represented in time-averaged 1gSAR or 10gSAR values does not exceed FCC limit as shown in Eq. (1a) and (1b), rewritten below:

$$1g_or_10gSAR(t) = \frac{conducted_Tx_power(t)}{conducted_Tx_power_P_{limit}} * 1g_or_10gSAR_P_{limit} \qquad (1a)$$

$$\frac{\frac{1}{T_{SAR}}\int_{t-T_{SAR}}^{t} 1g_or_10gSAR(t)dt}{FCC\ SAR\ limit} \leq 1 \qquad (1b)$$

where, $conducted_Tx_power(t)$, $conducted_Tx_power_P_{limit}$, and $1g_or_10gSAR_P_{limit}$ correspond to the measured instantaneous conducted Tx power, measured conducted Tx power at P_{limit}, and measured *1gSAR* and *10gSAR* values at P_{limit} reported in Part 1 test (listed in Table 8-2 of this report as well).

Following the test procedure in Section 4.3.1, the conducted Tx power measurement for all selected configurations are reported in this section. In all the conducted Tx power plots, the green curve represents time-averaged power and red line represents the conducted power limit that corresponds to FCC limit of 1.6 W/kg for 1gSAR or 4.0 W/kg for 10gSAR.

Similarly, in all the 1g or 10gSAR plots (when converted using Eq. (1a)), the green curve represents the 100s/60s-time averaged 1gSAR or 10gSAR value calculated based on instantaneous 1gSAR or 10gSAR; and the red line limit represents the FCC limit of 1.6 W/kg for 1gSAR or 4.0 W/kg for 10gSAR.

Time-varying Tx power measurements were conducted on test cases #1 ~ #5 in Table 8-2, by generating test sequence 1 and test sequence 2 given in APPENDIX C: using measured P_{limit} and measured P_{max} (last two columns of Table 8-2) for each of these test cases. Measurement results for test cases #1 ~ #5 are given in Sections 9.1.1-9.1.5.

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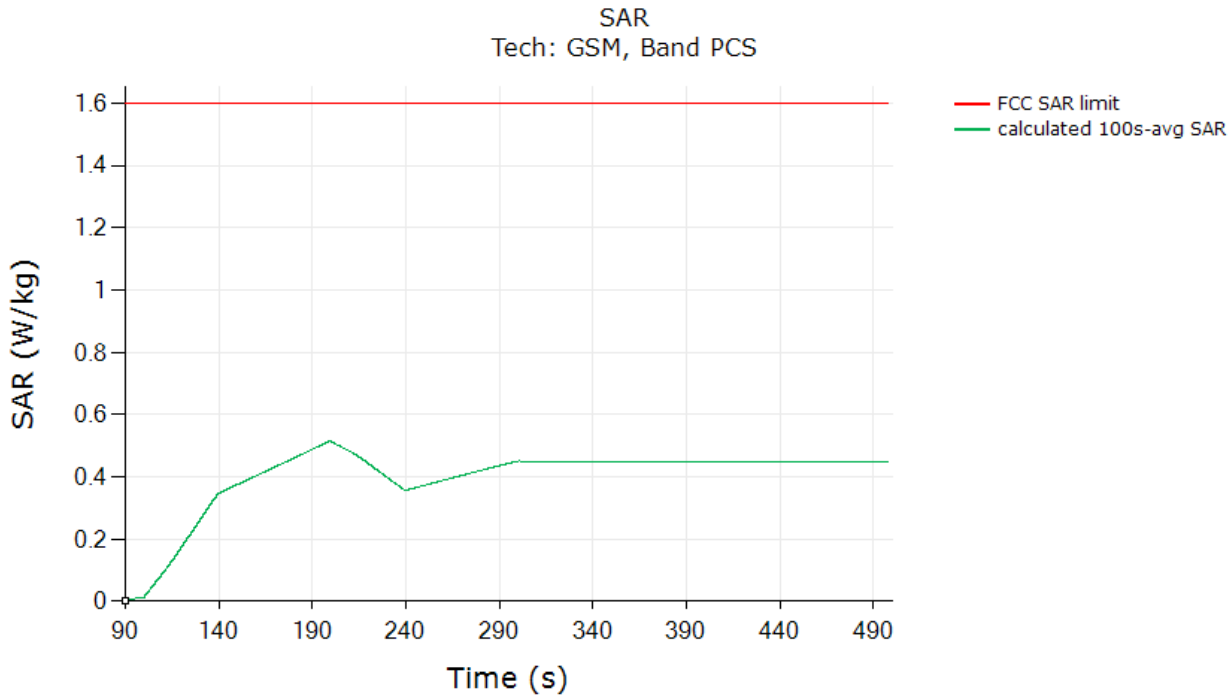
9.1.1 GSM/GPRS/EDGE 1900, Antenna A

Test result for test sequence 1:

Time-averaged conducted Tx power is converted/calculated into time-averaged 1gSAR using Equation (1a) and plotted below to demonstrate that the time-averaged 1gSAR versus time does not exceed the FCC limit of 1.6 W/kg for 1gSAR:



	(W/kg)
FCC 1gSAR limit	1.6
Max 100s-time averaged 1gSAR (green curve)	0.516
Validated: Max time averaged SAR (green curve) is within 1 dB device uncertainty of measured SAR at P_{limit} (worst case SAR at Plim column in Table 8-2).	

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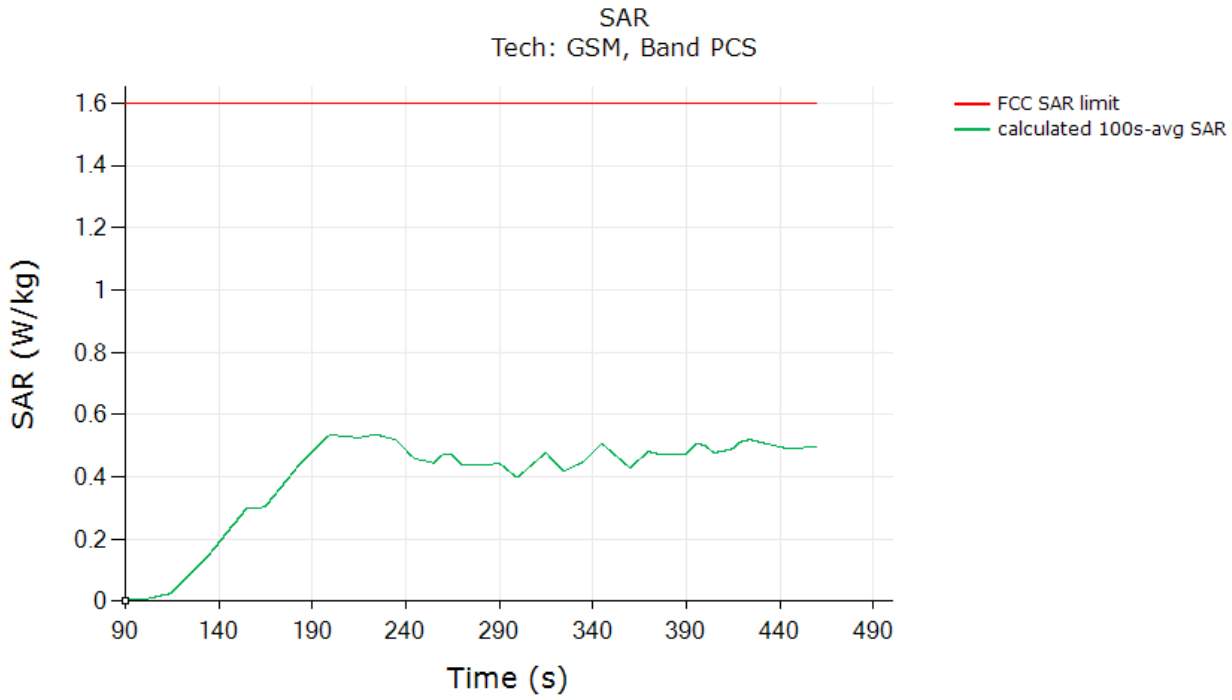
Test result for test sequence 2:

Time-averaged conducted Tx power is converted/calculated into time-averaged 1gSAR using Equation (1a) and plotted below to demonstrate that the time-averaged 1gSAR versus time does not exceed the FCC limit of 1.6 W/kg for 1gSAR:



	(W/kg)
FCC 1gSAR limit	1.6
Max 100s-time averaged 1gSAR (green curve)	0.537
Validated: Max time averaged SAR (green curve) is within 1 dB device uncertainty of measured SAR at P_{limit} (worst case SAR at Plim column in Table 8-2).	

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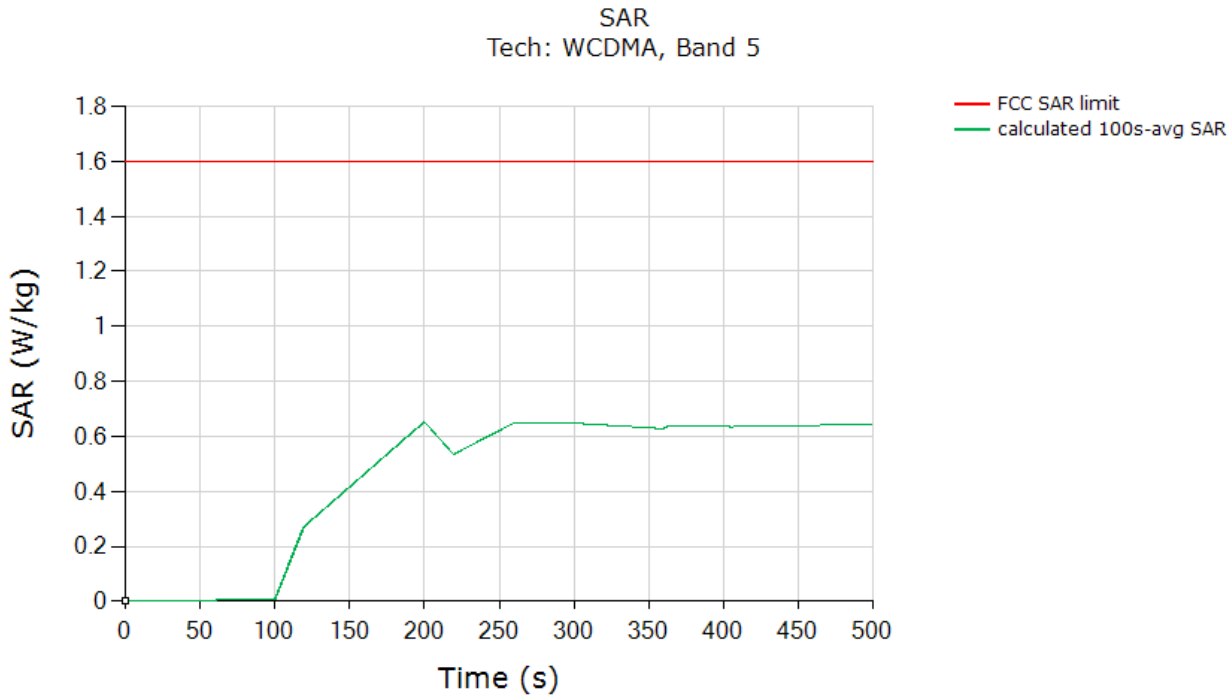
9.1.2 WCDMA Band 5, Antenna E

Test result for test sequence 1:

Time-averaged conducted Tx power is converted/calculated into time-averaged 1gSAR using Equation (1a) and plotted below to demonstrate that the time-averaged 1gSAR versus time does not exceed the FCC limit of 1.6 W/kg for 1gSAR:



	(W/kg)
FCC 1gSAR limit	1.6
Max 100s-time averaged 1gSAR (green curve)	0.652
Validated: Max time averaged SAR (green curve) is within 1 dB device uncertainty of measured SAR at P_{limit} (worst case SAR at Plim column in Table 8-2).	

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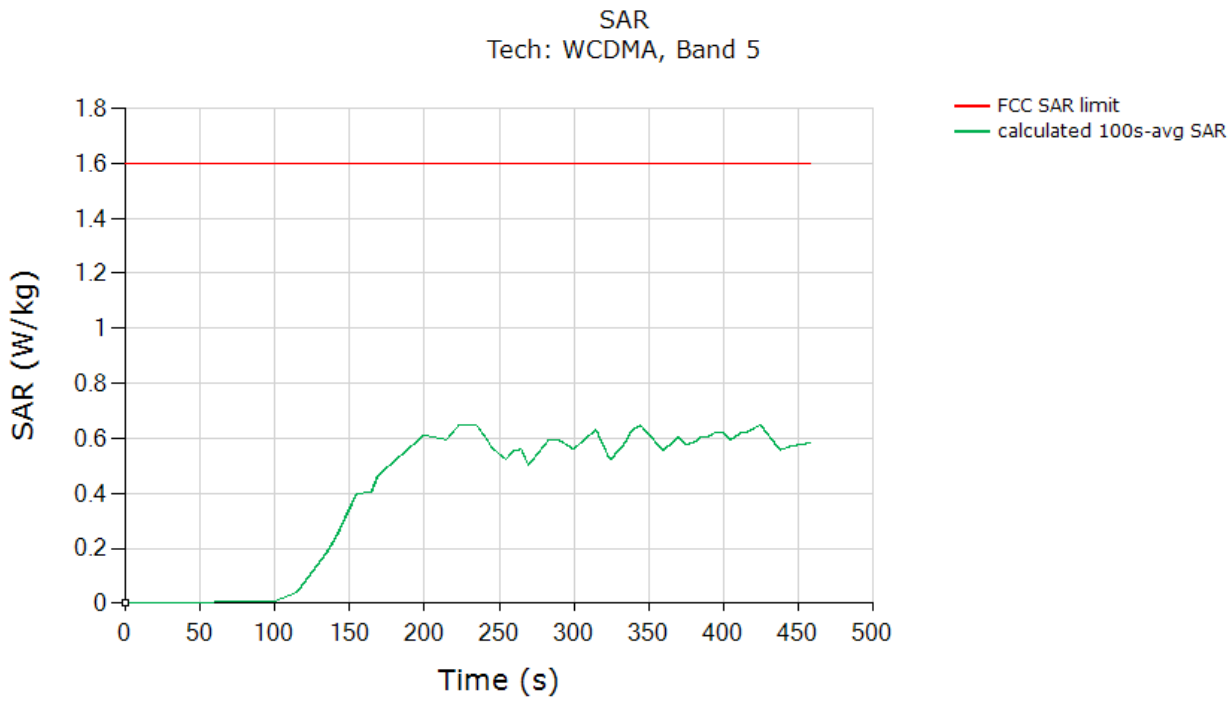
Test result for test sequence 2:

Time-averaged conducted Tx power is converted/calculated into time-averaged 1gSAR using Equation (1a) and plotted below to demonstrate that the time-averaged 1gSAR versus time does not exceed the FCC limit of 1.6 W/kg for 1gSAR:



	(W/kg)
FCC 1gSAR limit	1.6
Max 100s-time averaged 1gSAR (green curve)	0.649
Validated: Max time averaged SAR (green curve) is within 1 dB device uncertainty of measured SAR at P_{limit} (worst case SAR at Plim column in Table 8-2).	

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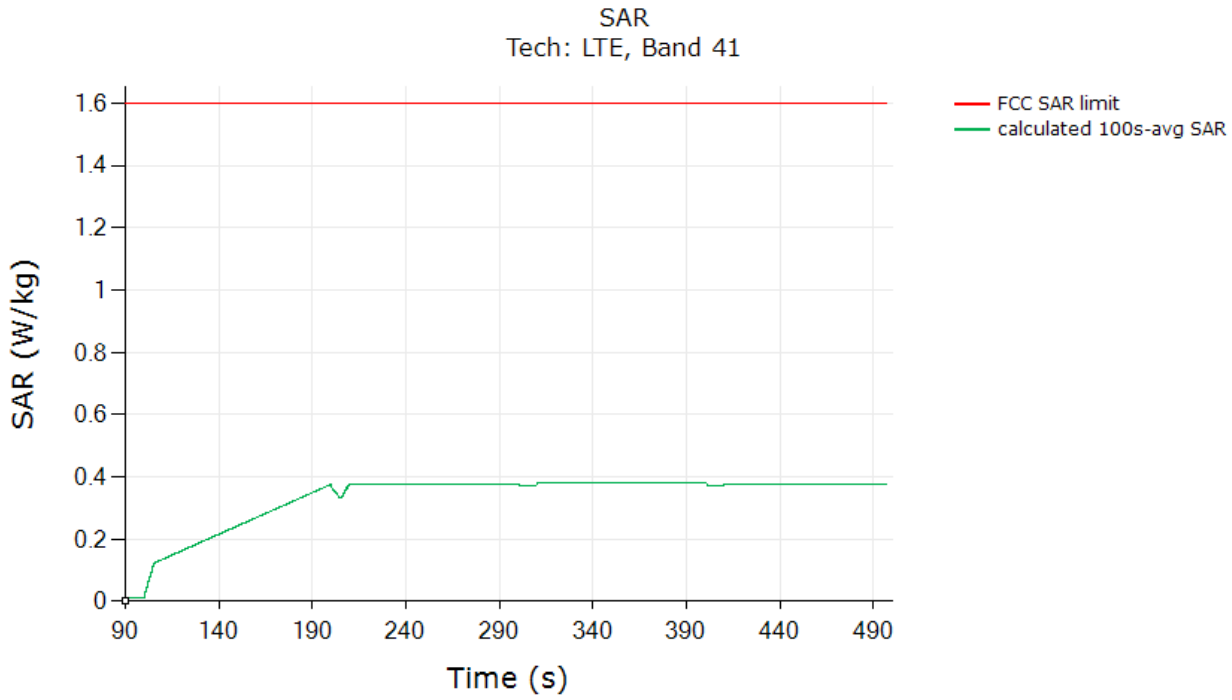
9.1.3 LTE Band 41, Antenna F

Test result for test sequence 1:

Time-averaged conducted Tx power is converted/calculated into time-averaged 1gSAR using Equation (1a) and plotted below to demonstrate that the time-averaged 1gSAR versus time does not exceed the FCC limit of 1.6 W/kg for 1gSAR:



	(W/kg)
FCC 1gSAR limit	1.6
Max 100s-time averaged 1gSAR (green curve)	0.379
Validated: Max time averaged SAR (green curve) is within 1 dB device uncertainty of measured SAR at P_{limit} (worst case SAR at Plim column in Table 8-2).	

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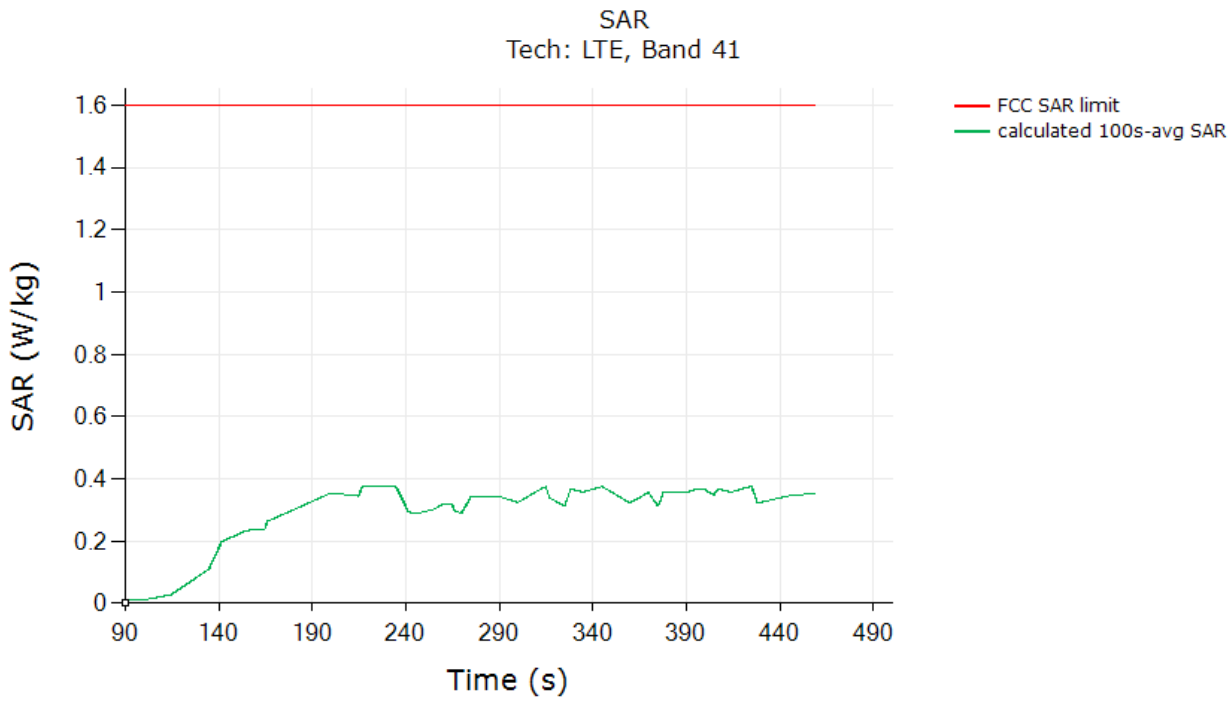
Test result for test sequence 2:

Time-averaged conducted Tx power is converted/calculated into time-averaged 1gSAR using Equation (1a) and plotted below to demonstrate that the time-averaged 1gSAR versus time does not exceed the FCC limit of 1.6 W/kg for 1gSAR:



	(W/kg)
FCC 1gSAR limit	1.6
Max 100s-time averaged 1gSAR (green curve)	0.376
Validated: Max time averaged SAR (green curve) is within 1 dB device uncertainty of measured SAR at P_{limit} (worst case SAR at Plim column in Table 8-2).	

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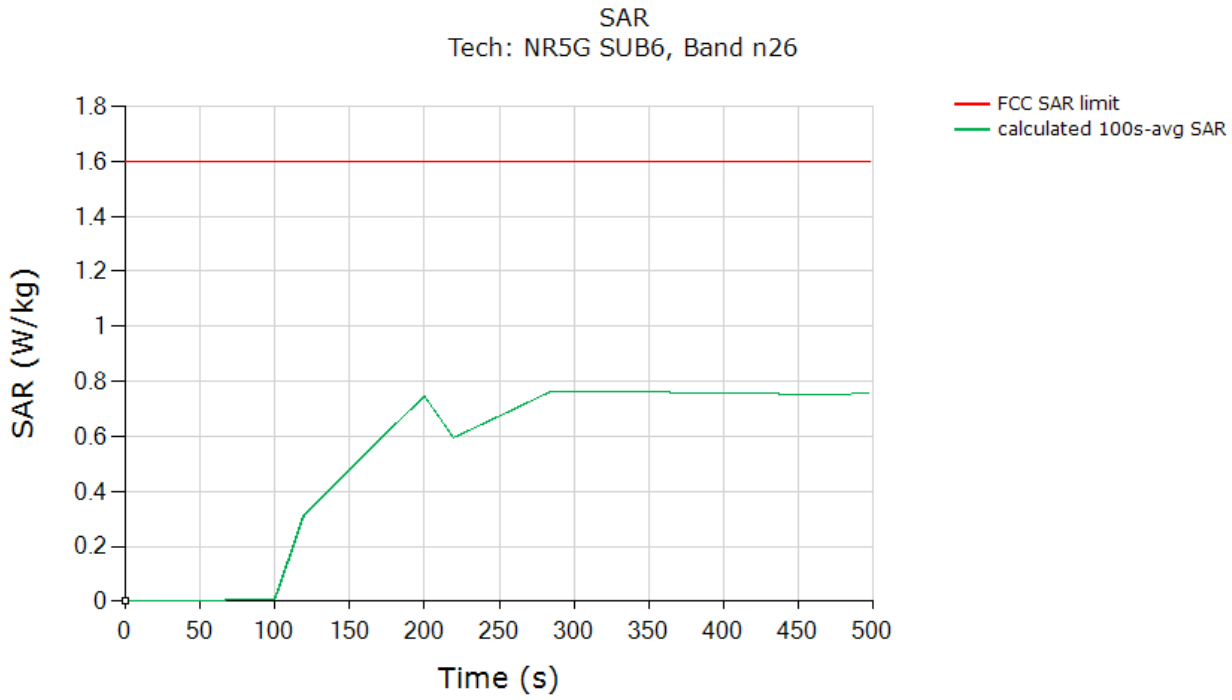
9.1.4 NR n26 SA, Antenna E

Test result for test sequence 1:

Time-averaged conducted Tx power is converted/calculated into time-averaged 1gSAR using Equation (1a) and plotted below to demonstrate that the time-averaged 1gSAR versus time does not exceed the FCC limit of 1.6 W/kg for 1gSAR:



	(W/kg)
FCC 1gSAR limit	1.6
Max 100s-time averaged 1gSAR (green curve)	0.762
Validated: Max time averaged SAR (green curve) is within 1 dB device uncertainty of measured SAR at P_{limit} (worst case SAR at Plim column in Table 8-2).	

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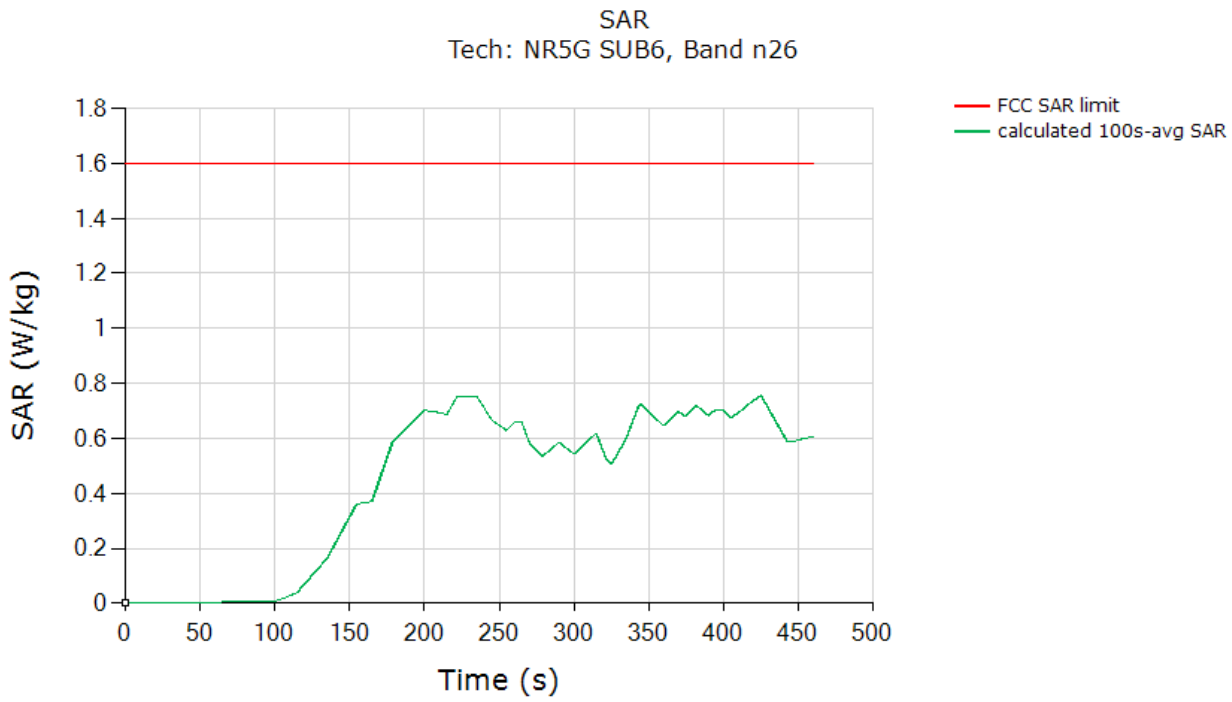
Test result for test sequence 2:

Time-averaged conducted Tx power is converted/calculated into time-averaged 1gSAR using Equation (1a) and plotted below to demonstrate that the time-averaged 1gSAR versus time does not exceed the FCC limit of 1.6 W/kg for 1gSAR:



	(W/kg)
FCC 1gSAR limit	1.6
Max 100s-time averaged 1gSAR (green curve)	0.756
Validated: Max time averaged SAR (green curve) is within 1 dB device uncertainty of measured SAR at P_{limit} (worst case SAR at Plim column in Table 8-2).	

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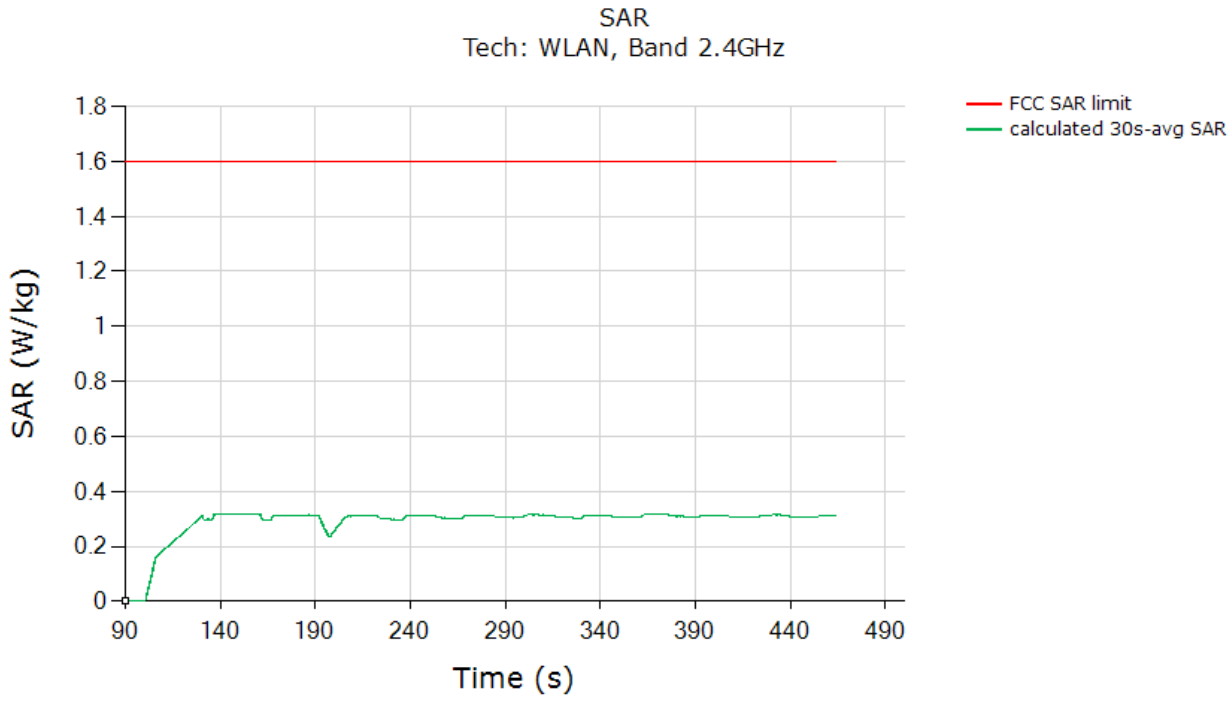
9.1.5 WLAN 2.4GHz, Antenna J

Test result for test sequence:

Time-averaged conducted Tx power is converted/calculated into time-averaged 1gSAR using Equation (1a) and plotted below to demonstrate that the time-averaged 1gSAR versus time does not exceed the FCC limit of 1.6 W/kg for 1gSAR:



	(W/kg)
FCC 1gSAR limit	1.6
Max 30s-time averaged 1gSAR (green curve)	0.317
Validated: Max time averaged SAR (green curve) is within 1 dB device uncertainty of measured SAR at P_{limit} (worst case SAR at Plim column in Table 8-2).	

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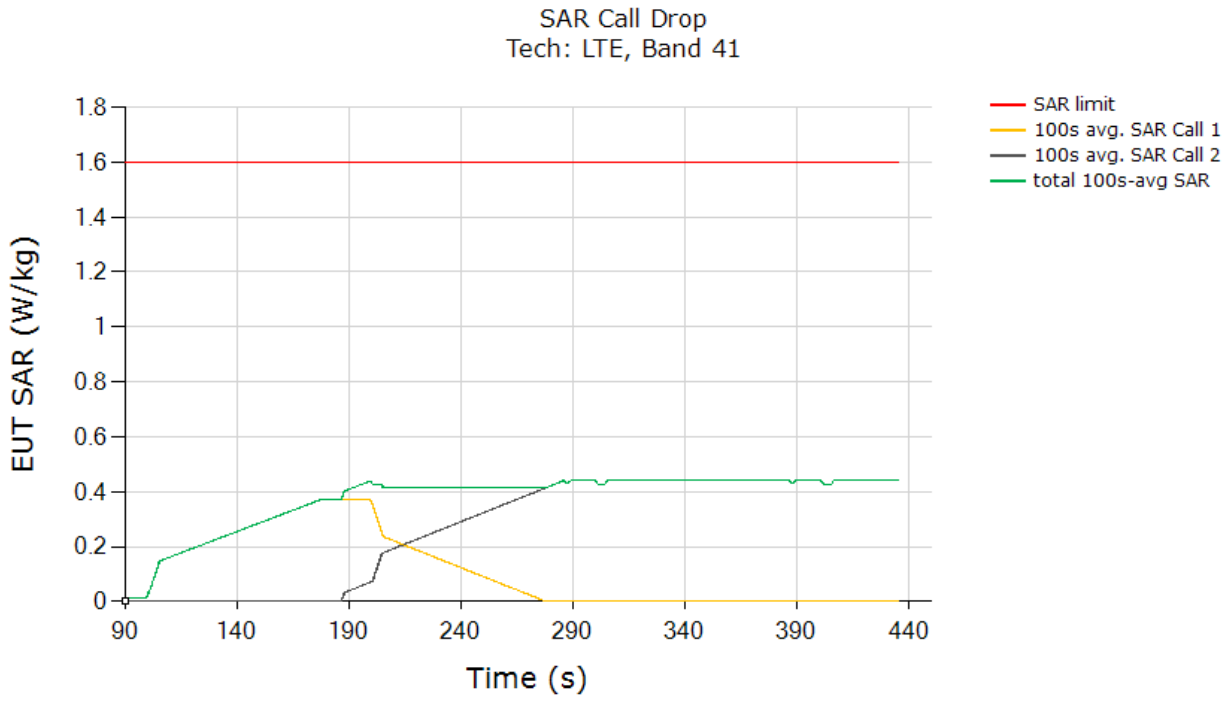
9.2 Change in Call

This test was measured LTE Band 41, Antenna F, DSI = 1, and with callbox requesting maximum power. The call drop was manually performed when the DUT is transmitting at $P_{reserve}$ level as shown in the plot below. The measurement setup is shown in Figure 6-1a. The detailed test procedure is described in Section 4.3.2.

Call drop test result:
Time-averaged conducted Tx power is converted/calculated into time-averaged 1gSAR using Equation (1a) and plotted below to demonstrate that the time-averaged 1gSAR versus time does not exceed the FCC limit of 1.6 W/kg for 1gSAR:



	(W/kg)
FCC 1gSAR limit	1.6
Max 100s-time averaged 1gSAR (green curve)	0.441
Validated	

The test result validated the continuity of power limiting in call change scenario.

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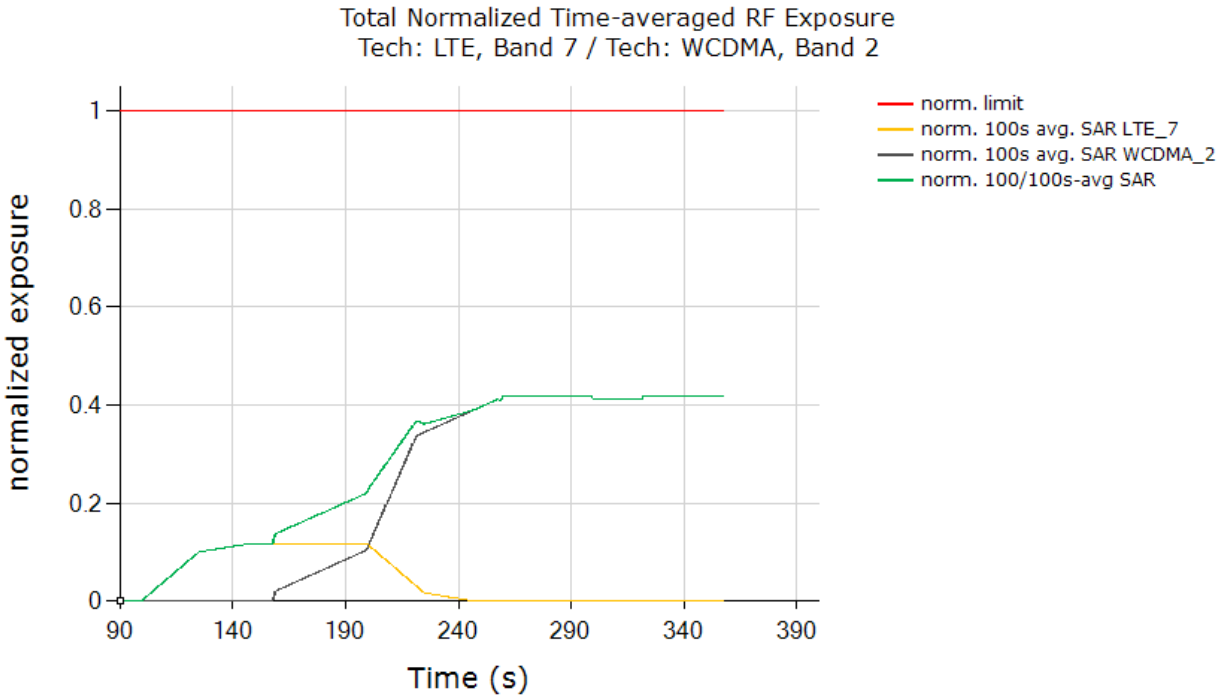
9.3 Change in Technology/Band/Antenna

This test was conducted with callbox requesting maximum power, and with a technology switch from LTE Band 7, Antenna B, DSI = 0 to WCDMA Band 2, Antenna A, DSI = 0. Following procedure detailed in Section 4.3.3, and using the measurement setup shown in Figure 6-1b, the technology/band switch was performed when the DUT is transmitting at $P_{reserve}$ level as shown in the plot below.

Test result for change in technology/band/Antenna:

Time-averaged conducted Tx power measurement results were converted into time-averaged normalized SAR values using Equation (6a), (6b) and (6c), and plotted below to demonstrate that the time-averaged normalized SAR versus time does not exceed the normalized FCC limit of 1.0:



	(W/kg)
FCC normalized SAR limit	1.0
Max 100s-time averaged normalized SAR (green curve)	0.418
Validated	

The test result validated the continuity of power limiting in technology/band/Antenna switch scenario.

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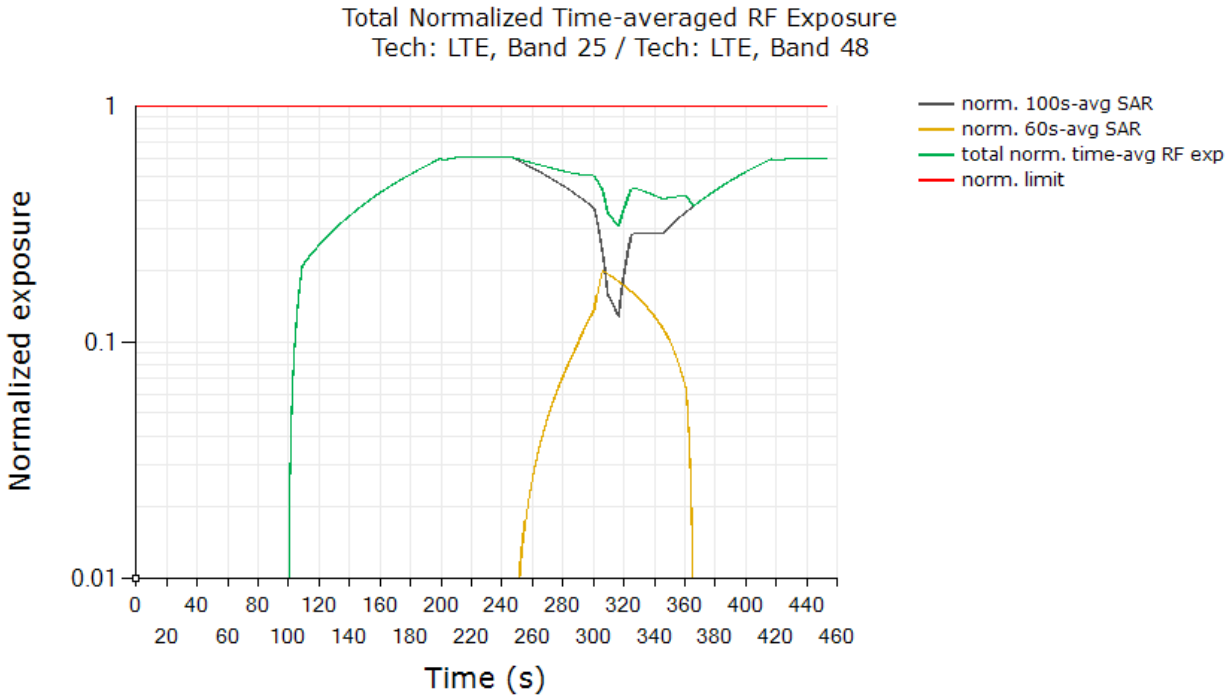
9.4 Change in Time Window

This test was conducted with callbox requesting maximum power, and with time-window switch between LTE Band 25, Antenna F, DSI = 1 (100s window) and LTE Band 48, Antenna F, DSI = 1 (60s window). Following procedure detailed in Section 4.3.6, and using the measurement setup shown in Figure 6-1a, the time-window switch via tech/band/antenna switch was performed when the EUT is transmitting at $P_{reserve}$ level.

9.4.1 Test case 1: transition from LTE Band 25 to LTE Band 48 (i.e., 100s to 60s), then back to LTE Band 25

Test result for change in time-window (from 100s to 60s to 100s):

All the conducted Tx power measurement results were converted into time-averaged normalized SAR values using Equation (7a), (7b) and (7c), and plotted below to demonstrate that the time-averaged normalized SAR versus time does not exceed the FCC limit of 1 unit. Equation (7a) is used to convert the Tx power of device to obtain 100s-averaged normalized SAR in LTE Band 25 as shown in black curve. Similarly, equation (7b) is used to obtain 60s-averaged normalized SAR in LTE Band 48 as shown in orange curve. Equation (7c) is used to obtain total time-averaged normalized SAR as shown in green curve (i.e., sum of black and orange curves).



	(W/kg)
FCC normalized total exposure limit	1.0
Max time averaged normalized SAR (green curve)	0.611
Validated	

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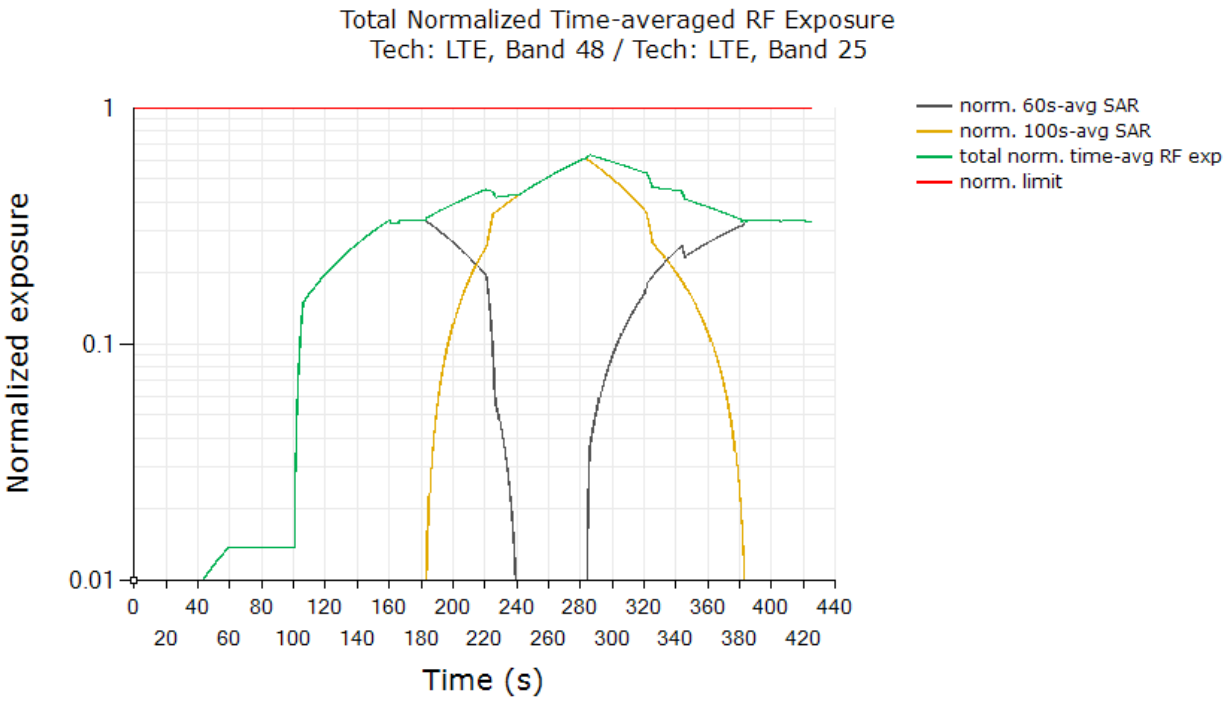
Plot Notes: Maximum power is requested by callbox for the entire duration of the test, with tech/band switches from 100s-to-60s window at ~246s time stamp, and from 60s-to-100s window at ~306s time stamp. Smart Transmit controls the Tx power during these time-window switches to ensure total time-averaged RF exposure, i.e., sum of black and orange curves given by equation (7c), is always compliant. In time-window switch test, at all times the total time-averaged normalized RF exposure (green curve) should not exceed normalized *SAR_design_target* + 1dB device uncertainty. In this test, with a maximum normalized SAR of 0.611 being ≤ 0.79 (= 1.0/1.6 + 1dB device uncertainty), the above test result validated the continuity of power limiting in time-window switch scenario.

9.4.2 Test case 2: transition from LTE Band 48 to LTE Band 25 (i.e., 60s to 100s), then back to LTE Band 48

Test result for change in time-window (from 60s to 100s to 60s):

All the conducted Tx power measurement results were converted into time-averaged normalized SAR values using Equation (7a), (7b) and (7c), and plotted below to demonstrate that the time-averaged normalized SAR versus time does not exceed the FCC limit of 1 unit. Equation (7a) is used to convert the Tx power of device to obtain 60s-averaged normalized SAR in LTE Band 48 as shown in black curve. Similarly, equation (7b) is used to obtain 100s-averaged normalized SAR in LTE Band 25 as shown in orange curve. Equation (7c) is used to obtain total time-averaged normalized SAR as shown in green curve (i.e., sum of black and orange curves).



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	(W/kg)
FCC normalized total exposure limit	1.0
Max time averaged normalized SAR (green curve)	0.634
Validated	

Plot Notes: Maximum power is requested by callbox for the entire duration of the test, with tech/band switches from 60s-to-100s window at ~183s time stamp, and from 100s-to-60s window at ~284s time stamp. Smart Transmit controls the Tx power during these time-window switches to ensure total time-averaged RF exposure, i.e., sum of black and orange curves given by equation (7c), is always compliant. In time-window switch test, at all times the total time-averaged normalized RF exposure (green curve) should not exceed normalized *SAR_design_target* + 1dB device uncertainty. In this test, with a maximum normalized SAR of 0.634 being ≤ 0.79 (= 1.0/1.6 + 1dB device uncertainty), the above test result validated the continuity of power limiting in time-window switch scenario.

9.5 SAR Exposure Switching (EN-DC)

This test was conducted with callbox requesting maximum power, and with the EUT in LTE Band 5 + Sub6 NR Band n66 call. Following procedure detailed in Section 4.3.7 and Appendix D.2, and using the measurement setup shown in Figure 6-1c since LTE and Sub6 NR are on different antenna ports, the SAR exposure switch measurement is performed with the EUT in various SAR exposure scenarios, i.e., in SAR_{sub6NR} only scenario (t =0s ~120s), SAR_{su6NR} + SAR_{LTE} scenario (t =120s ~ 240s) and SAR_{LTE} only scenario (t > 240s).

Plot Notes: All the conducted Tx power measurement results were converted into time-averaged normalized SAR values using Equation (7a), (7b) and (7c), and plotted below to demonstrate that the time-averaged normalized SAR versus time does not exceed the FCC limit of 1 unit. Equation (7a) is used to convert the LTE Tx power of device to obtain 100s-averaged normalized SAR in LTE Band 5 as shown in black curve. Similarly, equation (7b) is used to obtain 100s-averaged normalized SAR in Sub6 NR n66 as shown in orange curve. Equation (7c) is used to obtain total time-averaged normalized SAR as shown in green curve (i.e., sum of black and orange curves).

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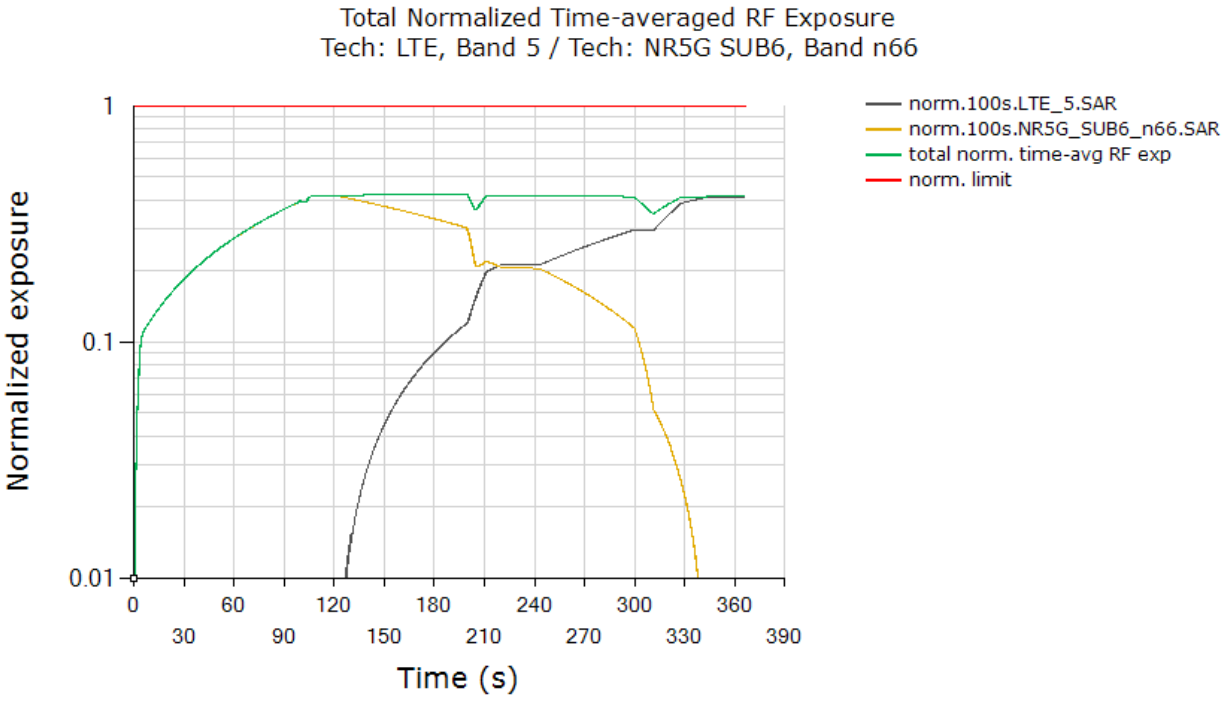

	(W/kg)
FCC normalized total exposure limit	1.0
Max time averaged normalized SAR (green curve)	0.425
Validated	

Plot Notes: Device starts predominantly in Sub6 NR SAR exposure scenario between 0s and 120s, and in LTE SAR + Sub6 NR SAR exposure scenario between 120s and 240s, and in predominantly in LTE SAR exposure scenario after t=240s. Here, Smart Transmit allocates a maximum of 100% of exposure margin for Sub6 NR. This corresponds to a normalized 1gSAR exposure value = 100% * 0.660 W/kg measured SAR at Sub6 NR *Plimit* / 1.6W/kg limit = 0.413 ± 1dB device related uncertainty (see orange curve between 120s). For predominantly LTE SAR exposure scenario, maximum normalized 1gSAR exposure should correspond to 100% exposure margin = 0.674 W/kg measured SAR at LTE *Plimit* / 1.6W/kg limit = 0.421 ± 1dB device related uncertainty (see black curve after t = 240s). Additionally, in SAR exposure switch test, at all times the total time-averaged normalized RF exposure (green curve) should not exceed normalized *SAR_design_target* + 1dB device uncertainty. In this test, with a maximum normalized SAR of 0.425 being ≤ 0.79 (= 1.0/1.6 + 1dB device uncertainty), the above test result validated the continuity of power limiting in SAR exposure switch scenario.

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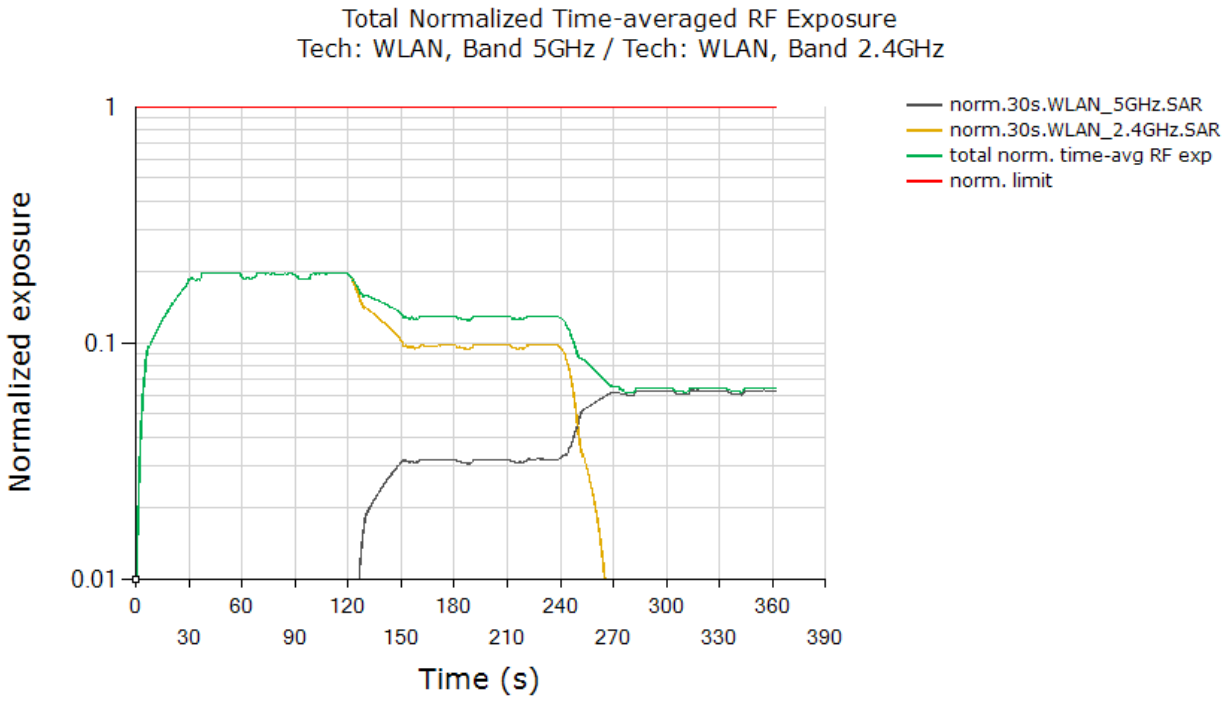
9.6 SAR Exposure Switching WLAN DBS

This test was conducted with callbox requesting maximum power, and with the EUT in WLAN 2.4GHz + WLAN 5GHz call. Following procedure detailed in Section 4.3.7, and using the measurement setup shown in Figure 6-1e since WLAN channels have different antenna ports, the SAR exposure switch measurement is performed with the EUT in various SAR exposure scenarios, i.e., in $SAR_{WLAN\ 2.4GHz}$ only scenario (t =0s ~120s), $SAR_{WLAN\ 2.4GHz}$ + $SAR_{WLAN\ 5GHz}$ scenario (t =120s ~ 240s) and $SAR_{WLAN\ 5GHz}$ only scenario (t > 240s).

Plot Notes: All the conducted Tx power measurement results were converted into time-averaged normalized SAR values using Equation (7a), (7b) and (7c), and plotted below to demonstrate that the time-averaged normalized SAR versus time does not exceed the FCC limit of 1 unit. Equation (7a) is used to convert the WLAN Tx power of device to obtain 30s-averaged normalized SAR in WLAN 5GHz as shown in black curve. Similarly, equation (7b) is used to obtain 30s-averaged normalized SAR in WLAN 2.4GHz as shown in orange curve. Equation (7c) is used to obtain total time-averaged normalized SAR as shown in green curve (i.e., sum of black and orange curves).



	(W/kg)
FCC normalized total exposure limit	1.0
Max time averaged normalized SAR (green curve)	0.199
Validated	

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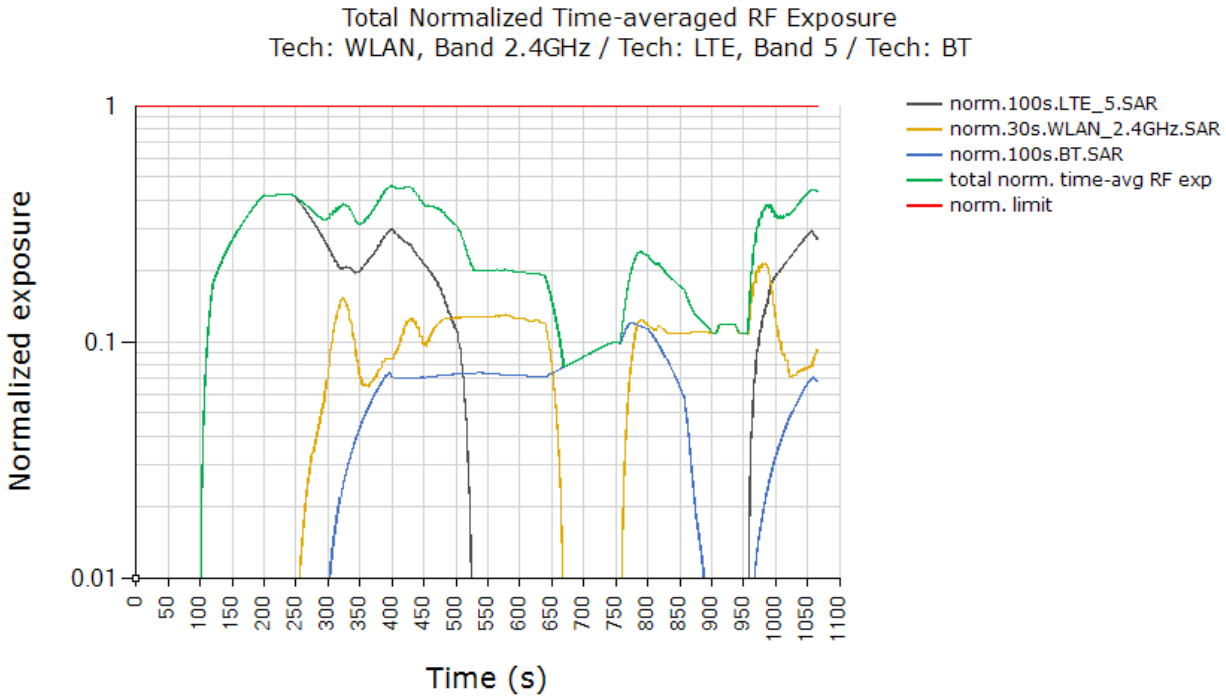
Plot Notes: In this test, the total time-averaged normalized RF exposure (green curve) did not exceed normalized limit of 1.0 at all times, the above test result validated the continuity of power limiting in SAR exposure switch scenario.

9.7 System Level Compliance Continuity

This test was conducted with callbox requesting maximum power, and with the EUT in LTE Band 5 + WLAN 2.4GHz + Bluetooth call. Following procedure detailed in Section 4.3.9, and using the measurement setup shown in Figure 6-1f since WWAN, WLAN, Bluetooth are in different antenna ports, the SAR exposure switch measurement is performed with the EUT in various SAR exposure scenarios, WWAN radio transmission, WLAN transmission, simultaneous transmission of WWAN + WLAN + BT, simultaneous transmission of WLAN + BT in airplane mode, BT in airplane mode, WLAN in airplane mode, and finally simultaneous transmission of WWAN + WLAN + BT.



	(W/kg)
FCC normalized total exposure limit	1.0
Max time averaged normalized SAR (green curve)	0.459
Validated	

In this test, the total time-averaged normalized RF exposure (green curve) did not exceed normalized limit of 1.0 at all times, the above test result validated the total RF exposure compliance in system level compliance continuity test scenario.

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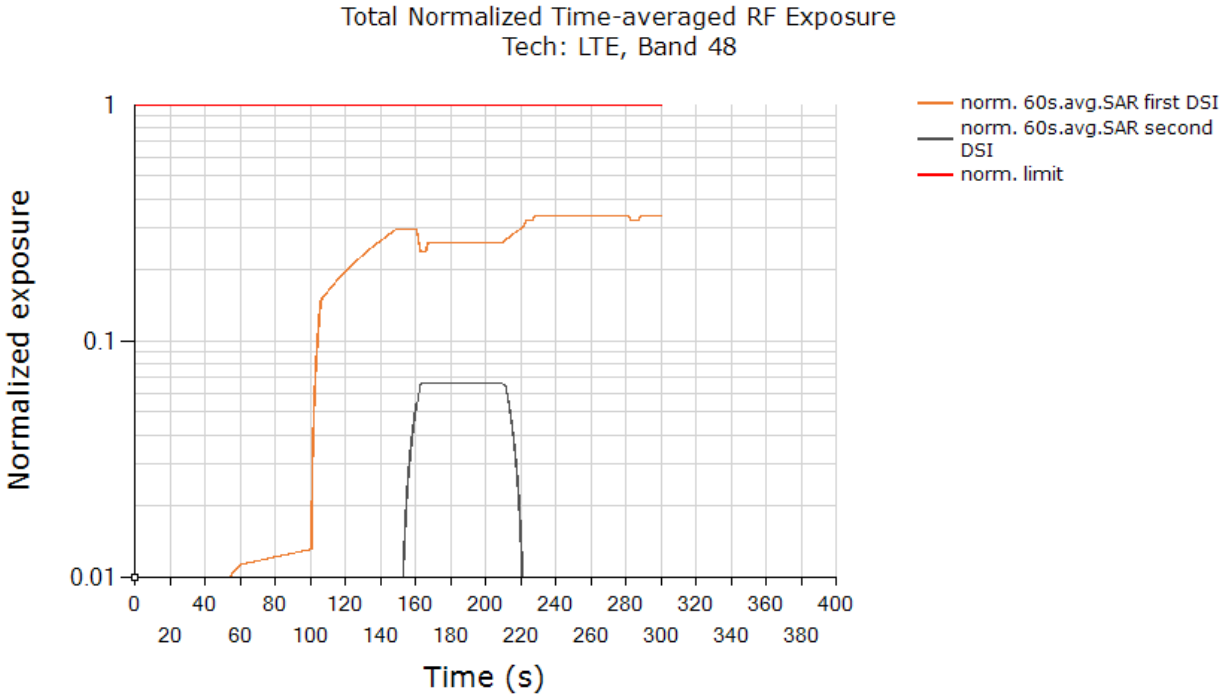
Note: This test was performed with USB disconnected from DUT per Qualcomm 80-W2112-51 RevYE guidance.

9.8 Exposure Category Switch

This test was conducted with callbox requesting maximum power, and with exposure category switch between LTE Band 48, Antenna F, DSI = 1 (Head) and LTE Band 48, Antenna F, DSI = 0 (non-Head). Following procedure detailed in Section 4.3.8 and using the measurement setup shown in Figure 6-1a, the exposure category switch was performed when the EUT is transmitting at Preserve level.

9.8.1 Test case 1: Transition from LTE B48 DSI=1 (Head) to LTE B48 DSI=0 (non-Head), then back to DSI=1 (Head)



	(W/kg)
FCC normalized total exposure limit	1.0
Max 60s-time averaged normalized SAR (first DSI, orange curve)	0.338
Validated	

Plot Notes: Maximum power is requested by callbox for the entire duration of the test, time-averaged exposure in head DSI gradually increases until t~150s where the device is switched from head exposure DSI (first DSI, orange curve) to non-head exposure DSI (second DSI, black curve) as evident from increase in exposure of black curve and no change in orange curve between t~150s and t~163s. At

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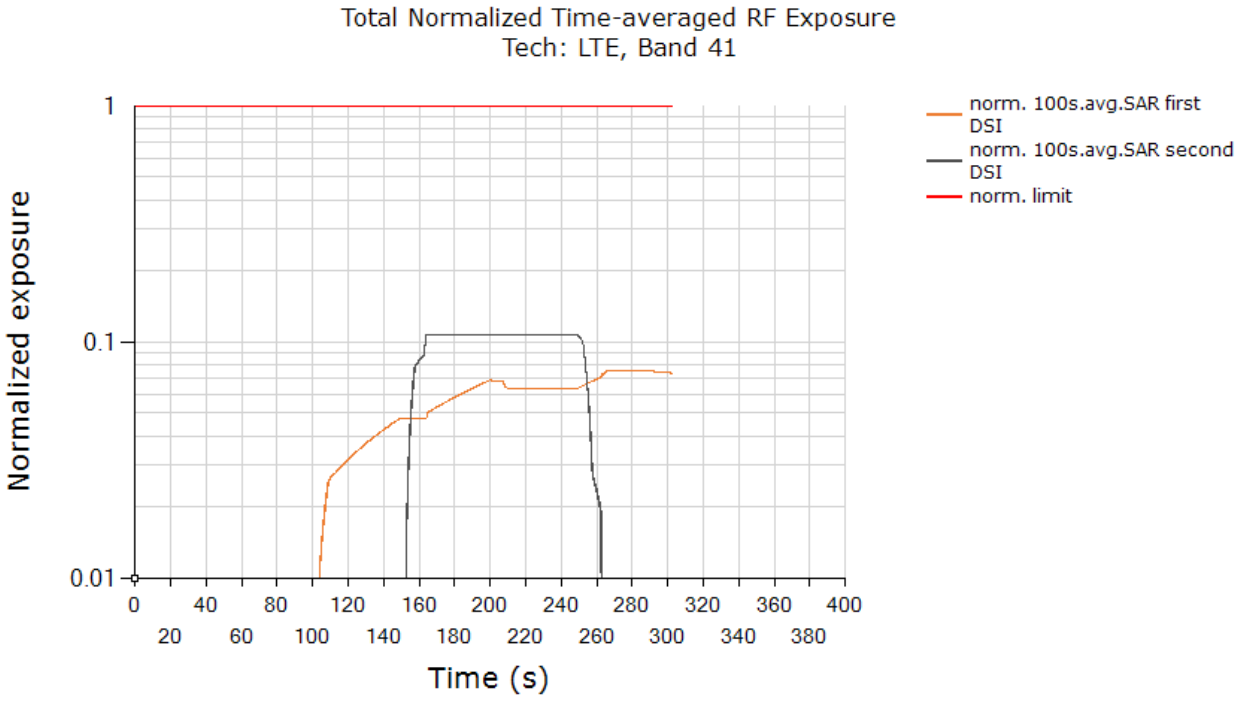
t~163s, device is switched back from non-head exposure to head exposure as evident from increase in exposure of orange curve and no change in black curve. In this test, the time-averaged normalized RF exposure in head exposure DSI (orange curve) did not exceed normalized limit of 1.0 at all times, and is less than normalized SAR of 0.338 being ≤ 0.79 (= 1.0/1.6 + 1dB device uncertainty), validating the exposure continuity when switching between head exposure and non-head exposure categories.

9.8.2 Test case 2: Transition from LTE B41 DSI=0 (non-Head) to LTE B41 DSI=1 (Head), then back to DSI=0 (non-Head)



	(W/kg)
FCC normalized total exposure limit	1.0
Max 100s-time averaged normalized SAR (first DSI, orange curve)	0.075
Validated	

Plot Notes: Maximum power is requested by callbox for the entire duration of the test, time-averaged exposure in head DSI gradually increases until t~150s where the device is switched from non-head exposure DSI (first DSI, orange curve) to head exposure DSI (second DSI, black curve) as evident from increase in exposure of black curve and no change in orange curve between t~150s and t~164s. At t~164s, device is switched back from head exposure to non-head exposure as evident from increase in exposure of orange curve and no change in black curve. In this test, the time-averaged normalized RF exposure in head exposure DSI (orange curve) did not exceed normalized limit of 1.0 at all times, and is

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less than normalized SAR of 0.075 being ≤ 0.79 (= 1.0/1.6 + 1dB device uncertainty), validating the exposure continuity when switching between head exposure and non-head exposure categories.

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10 TEST CONFIGURATIONS (FREQ > 6 GHZ)

10.1 LTE + mmW NR Transmission

Based on the selection criteria described in Section 5.2, the selections for LTE and mmW NR validation test are listed in Table 10-1. The radio configurations used in this test are listed in Table 10-2.

Table 10-1
Selections for LTE + mmW NR validation measurements

Transmission Scenario	Test	Technology and Band	mmWave Beam
Time-varying Tx power test	Cond. & Rad. Power meas.	LTE Band 2 and n258	Beam ID 20
Switch in SAR vs. PD	Cond. & Rad. Power meas.	LTE Band 2 and n258	Beam ID 20
Beam switch test	Cond. & Rad. Power meas.	LTE Band 2 and n258	Beam ID 20 to Beam ID 2

Table 10-2
Test configuration for LTE + mmW NR validation

Tech	Band	Antenna	DSI	Channel	Freq (MHz)	RB/RB Offset/Bandwidth (MHz)	Mode	UL Duty Cycle
LTE	2	A	0	18900	1880	1/0/20 MHz BW	QPSK	100%
mmW NR	n258	M	-	2032499	25200	20/22/100 MHz BW	DFT-s-OFDM, QPSK	75.6%*

Smart Transmit EFS version 23 supports DSI applicability feature. With this new enhancement, in simultaneous transmission scenarios involving sub6 radio + mmW radio, for a given DSI, both sub6 exposure and mmW exposure will be evaluated at the DSI corresponding separation distance in TER analysis, but in the same time, the compliance of mmW exposure at 2mm is ensured for all DSI states (**Note: at this time, FCC requires PD compliance at 2mm for all DSI states**). Thus, below two steps are implemented in Smart Transmit with EFS version 23:

1. For TER calcuation, scale PD exposure at 2mm down to the same separation distance at which sub6 exposure is measured for that DSI using '*DSI_PD_ratio*' (see Appendix G.1.3 of 80-W2112-4 Part 1 report for the definition of *DSI_PD_ratio* and its calculation), i.e.,

$$TER_at_DSI_distance = \frac{sub6\ exposure}{regulatory\ sub6\ limit} + \frac{PD\ exposure}{regulatory\ PD\ limit} \text{ x } DSI_PD_ratio \qquad (9a)$$

Where,

$$DSI_PD_ratio = \frac{PD_at_DSI_separation_distance}{PD_at_2mm} \qquad (9b)$$

2. Below conditions will also be met irrespective of DSI state:

$$\frac{PD_at_2mm}{regulatory_PD_limit} \leq 1.0 \qquad (9c)$$

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10.2 mmW NR and LTE Radiated Power

To demonstrate the compliance, the conducted Tx power of LTE Band 2 in DSI = 0 is converted to 1gSAR exposure by applying the corresponding worst-case 1g SAR value at P_{limit} as reported in Part 1 report and listed in Table 8-2 and 10-3 of this report.

Similarly, following Step 4 in Section 5.3.1, radiated Tx power of mmW Band n258 for the beams tested is converted by applying the corresponding measured worst-case 4cm^{2}PD values, and listed in below Table 10-3. Qualcomm Smart Transmit feature operates based on time-averaged Tx power reported on a per symbol basis, which is independent of modulation, channel and bandwidth (RBs), therefore the worst-case 4cm^{2}PD was conducted with the EUT in FTM mode, with CW modulation and 100% duty cycle. cDASY6 system verification for power density measurement is provided in Section 14, and the associated SPEAG certificates are attached in Appendix E.

Both the worst-case 1gSAR and 4cm^{2}PD values used in this section are listed in Table 10-3. The measured EIRP at *input.power.limit* for the beams tested in this section are also listed in Table 10-3.

Table 10-3
Selections for LTE + mmW NR validation measurements

Tech	Band	Antenna	Beam ID	input.power.limit (dBm)	Measured psPD at input.power.limit		Measured EIRP at input.power.limit (dBm)	DSI_PD_ratio
					4cm^2 psPD (W/m^2)	Test Position		
mmW NR	n258	M	20	5.7	5.84	Left Edge	10.91	1.0
		M	2	12.4	4.11	Left Edge	8.45	

Tech	Band	Antenna	DSI	Measured Plimit (dBm)	Measured 1g SAR at Plimit	
					1g SAR (W/kg)	Test Position
LTE	2	A	0	17.84	0.623	Botton Edge, 10mm

Smart Transmit EFS version 23 supports DSI applicability feature. With this new enhancement, in simultaneous transmission scenarios involving sub6 radio + mmW radio, for a given DSI, both sub6 exposure and mmW exposure will be evaluated at the DSI corresponding separation distance in TER analysis, but in the same time, the compliance of mmW exposure at 2mm is ensured for all DSI states (**Note: at this time, FCC requires PD compliance at 2mm for all DSI states**). Thus, below two steps are implemented in Smart Transmit with EFS version 23:

2. For TER calcuation, scale PD exposure at 2mm down to the same separation distance at which sub6 exposure is measured for that DSI using '*DSI_PD_ratio*' (see Appendix G.1.3 of 80-W2112-4 Part 1 report for the definition of *DSI_PD_ratio* and its calculation), i.e.,

$$TER_at_DSI_distance = \frac{sub6\ exposure}{regulatory\ sub6\ limit} + \frac{PD\ exposure}{regulatory\ PD\ limit} \text{ x } DSI_PD_ratio \qquad (9a)$$

Where,

$$DSI_PD_ratio = \frac{PD_at_DSI_separation_distance}{PD_at_2mm} \qquad (9b)$$

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3. Below condition will also be met irrespective of DSI state:

$$\frac{PD_at_2mm}{regulatory_PD_limit} \leq 1.0 \qquad (9c)$$

Figure 10-1
4cm² psPD distribution measured at *input.power.limit* of 5.7 dBm on the Right Edge at 2mm for n258 beam 20

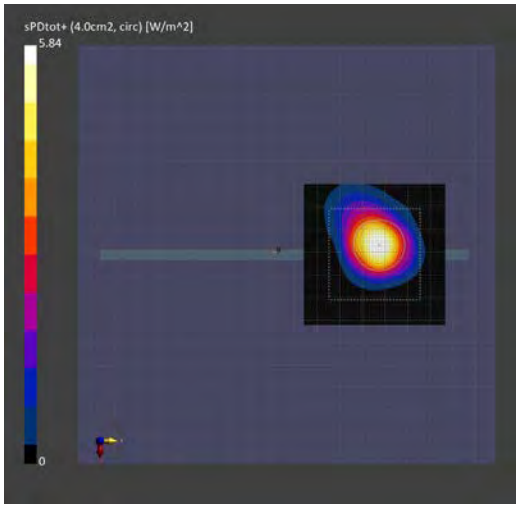
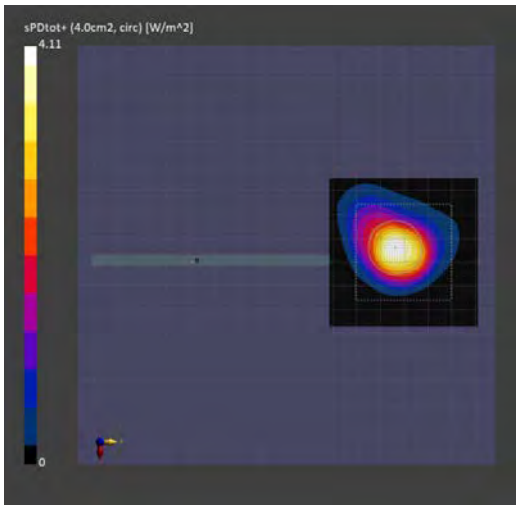


Figure 10-2
4cm² psPD distribution measured at *input.power.limit* of 12.4 dBm on the Right Edge at 2mm for n258 beam 2



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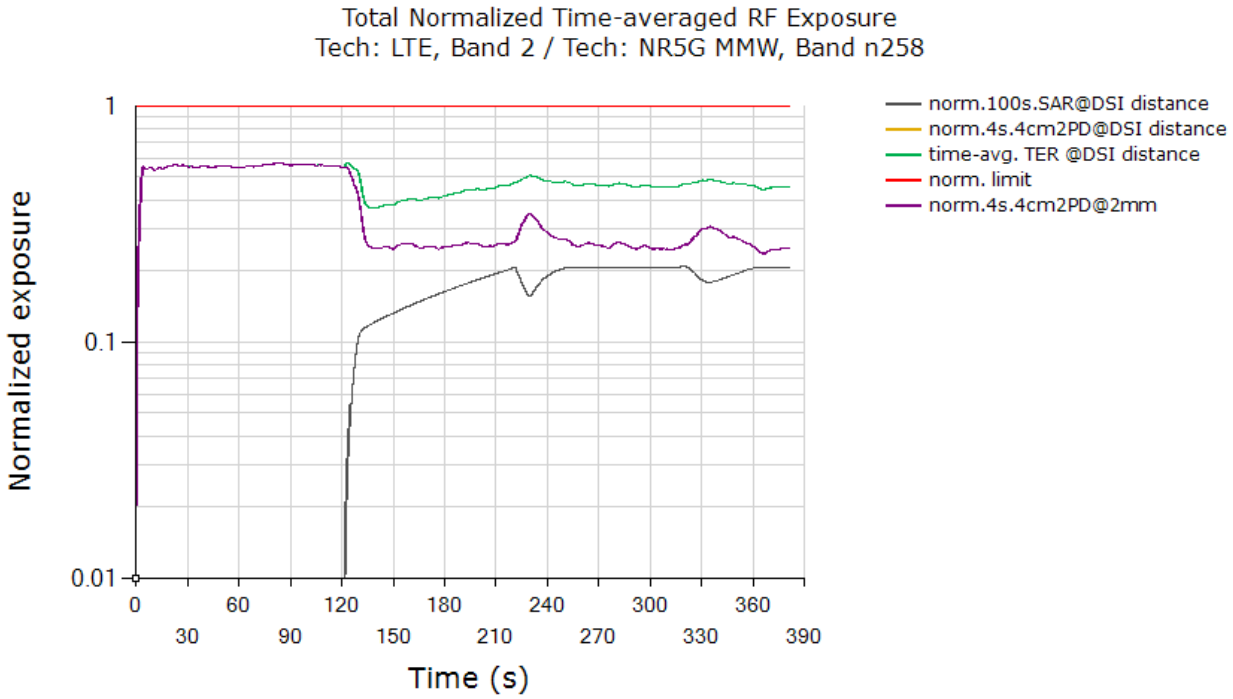
11 RADIATED POWER TX CASES (FREQ > 6 GHZ)

11.1 Time-Varying Tx Power for n258

This test was measured with LTE Band 2 (DSI=0) and mmW Band n258 Beam ID 20 by following the detailed test procedure described in Section 5.3.1.

Time-averaged conducted Tx power for LTE Band 2 and radiated Tx power for mmW NR n258 beam 20 are converted into time-averaged 1gSAR and time-averaged 4cm^{2}PD using Equation (2a) and (2b), which are divided by FCC 1gSAR limit of 1.6 W/kg and 4cm^{2}PD limit of 10 W/m^2, respectively, to obtain normalized exposures versus time. Below plot shows (a) normalized time-averaged 1gSAR versus time, (b) normalized time-averaged 4cm2-avg.PD versus time, (c) sum of normalized time-averaged 1gSAR and normalized time-averaged 4cm^2-avg.PD:



FCC requirement for total RF exposure (normalized)	1.0
Max total normalized time-averaged RF exposure (green curve)	0.576
Validated	

Plot notes: As soon as 5G mmW NR call was established, LTE was placed in all-down bits immediately. Between 0s~120s, mmW exposure is the dominant contributor. Here, Smart Transmit feature allocates a maximum of 1.0 for mmW. At ~120s time mark, LTE is set to all-up bits, taking away margin from mmW exposure gradually and

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towards the end of the test, LTE is the dominant contributor towards RF exposure. Table 11-1 shows the calculations for the normalized 4cm^2 PD exposure values and the normalized 1g SAR exposure value.

Table 11-1

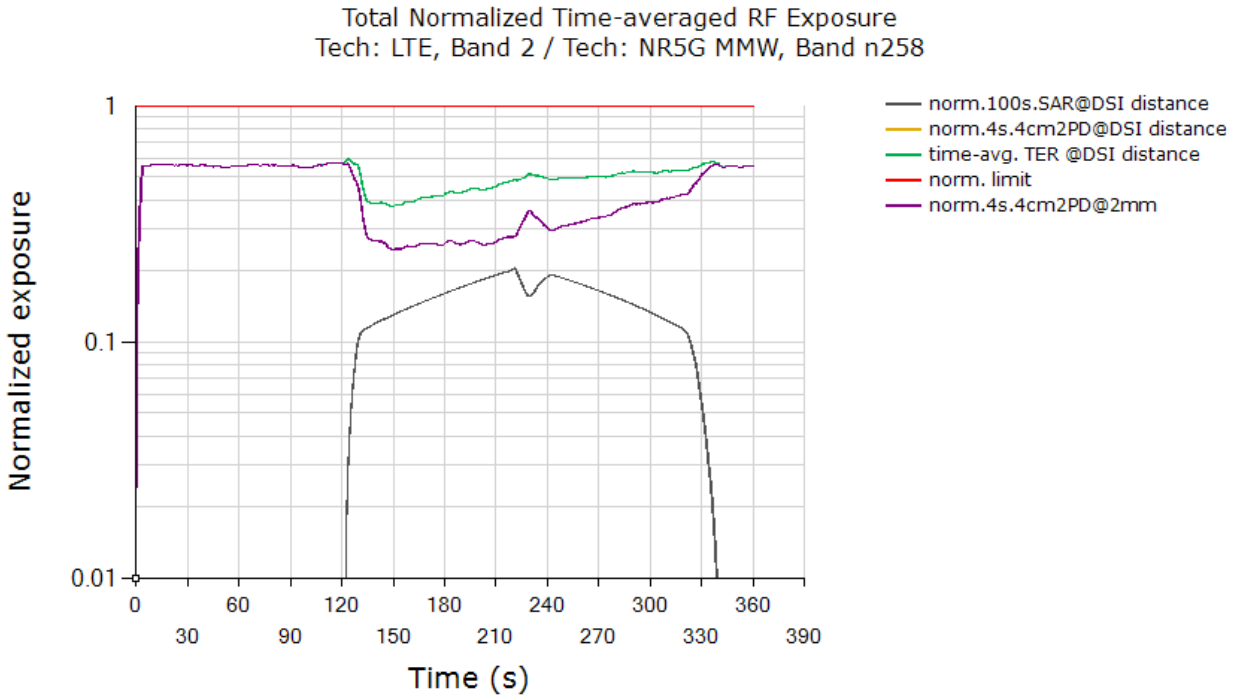
	Static 4cm^2 PD or 1g SAR [W/m^2 or W/kg]	Normalized Exposure	Uncertainty [dB]
0s~120s: NR Green/Orange Curve	5.84	58.4%	1.4
After ~120s: LTE Black Curve	0.623	38.9%	1.0

As can be seen, the power limiting enforcement is effective and the total normalized time-averaged RF exposure does not exceed 1.0. Therefore, Qualcomm® Smart Transmit time averaging feature is validated.

11.2 Switch In SAR Vs. PD Exposure for n258

This test was measured with LTE Band 2 (DSI = 0) and mmW Band n258 Beam ID 20, by following the detailed test procedure is described in Section 5.3.2.

Normalized time-averaged exposures for LTE (1gSAR) and mmW (4cm^{2}PD), as well as total normalized time-averaged exposure versus time:



FCC requirement for total RF exposure (normalized)	1.0
Max total normalized time-averaged RF exposure (green curve)	0.597
Validated	

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Plot notes: As soon as 5G mmW NR call was established, LTE was placed in all-down bits immediately. Between 0s~120s, mmW exposure is the dominant contributor. Here, Smart Transmit feature allocates a maximum of 1.0 for mmW). At ~120s time mark, LTE is set to all-up bits, taking away margin from mmW exposure gradually (orange curve for mmW exposure goes down while black curve for LTE exposure goes up). At ~240s time mark, LTE is set to all-down bits, which results in mmW getting back RF margin slowly as seen by gradual increase in mmW exposure (orange curve for mmW exposure goes up while black curve for LTE exposure goes down). Table 11-2 shows the calculations for the normalized 4cm^2 PD exposure value and the normalized 1g SAR exposure value.

Table 11-2

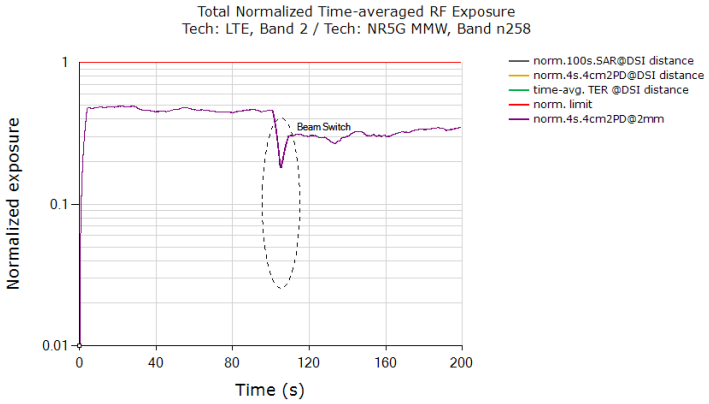
	Static 4cm^2 PD or 10g SAR [W/m^2 or W/kg]	Normalized Exposure	Uncert [dB]
0s~120s + After 240s: NR Green/Orange Curve	5.84	58.4%	1.4
120s - 240s: LTE Black Curve	0.623	38.9%	1.0

As can be seen, the power limiting enforcement is effective during transmission when SAR and PD exposures are switched, and the total normalized time-averaged RF exposure does not exceed 1.0. Therefore, Qualcomm® Smart Transmit time averaging feature is validated.

11.3 Change In Antenna Configuration (Beam) for n258

This test was measured with LTE Band 2 (DSI = 0) and mmW Band n258, with beam switch from Beam ID 20 to Beam ID 2, by following the test procedure is described in Section 5.3.3.

Normalized time-averaged exposures for LTE and mmW (4cm^{2}PD), as well as total normalized time-averaged exposure versus time:



FCC requirement for total RF exposure (normalized)	1.0
Max total normalized time-averaged RF exposure (green curve)	0.492
Validated	

Plot notes: 5G mmW NR call was established at ~1s time mark and LTE was placed in all-down bits immediately after 5G mmW NR call was established. For the rest of this test, mmW exposure is the dominant contributor as LTE is left in all-down bits. Here, Smart Transmit feature allocates a maximum of 1.0 for mmW for the first beam.

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At ~100s time mark (shown in black dotted ellipse), beam switch takes place and mmW starts transmission from the second beam. Second beam transmits at *input.power.limit* with active power limiting. Table 11-3 shows the calculations for the normalized 4cm^2 PD exposure values and the difference in EIRPs between two beams.

Table 11-3

	Beam ID 20 (0 - 100 sec, before ellipse)	Beam ID 2 (100 - 200 sec, after ellipse)
Static psPD [W/m^2]	5.84	4.11
Input.power.limit [dBm]	5.7	12.4
Maximum Power [dBm]	15.5	
Normalized 4cm^{2}PD exposure value [% ± 2.0 dB uncertainty]	58.4%	41.1%
EIRP Difference [dB ± 2.0 dB uncertainty]	2.46	

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12 SYSTEM VERIFICATION (FREQ > 6 GHZ)

The system was verified to be within ±0.66 dB of the power density targets on the calibration certificate according to the test system specification in the user's manual and calibration facility recommendation. The 0.66 dB deviation threshold represents the expanded uncertainty for system performance checks using SPEAG's mmWave verification sources. The same spatial resolution and measurement region used in the source calibration was applied during the system check.

The measured power density distribution of verification source was also confirmed through visual inspection to have no noticeable differences, both spatially (shape) and numerically (level) from the distribution provided by the manufacturer, per November 2017 TCBC Workshop Notes.

Table 12-1
System Verification Results

System Verification											
Syst.	Freq. (GHz)	Date	Source SN	Probe SN	Normal psPD (W/m^2 over 4 cm^2)		Deviation (dB)	Total psPD (W/m^2 over 4 cm^2)		Deviation (dB)
					measured	target		measured	target	
Q	30.00	9/25/2024	1044	9622	37.20	34.00	0.39	37.80	34.00	0.46
N	30.00	10/7/2024	1035	9389	33.00	33.80	-0.10	33.50	34.30	-0.10

Note: A **10 mm distance spacing** was used from the reference horn antenna aperture to the probe element. This includes 4.45 mm from the reference antenna horn aperture to the surface of the verification source plus 5.55 mm from the surface to the probe. The SPEAG software requires a setting of "5.55 mm" for the correct setup.

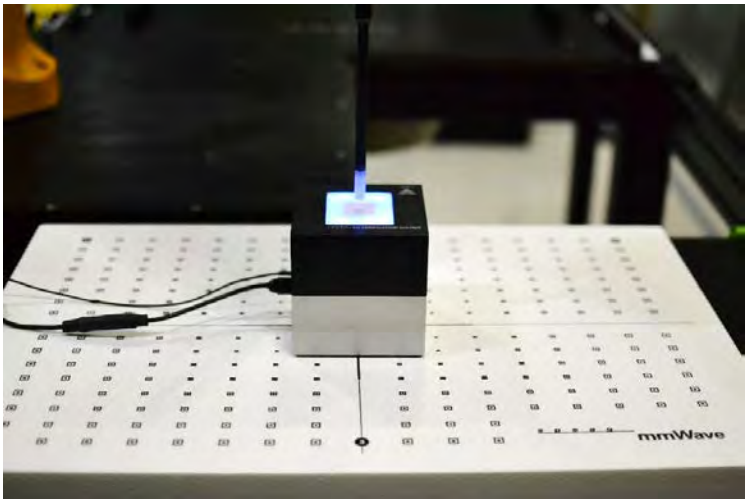

Figure 12-1
System Verification Setup Photo

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13 EQUIPMENT LIST

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	E4404B	Spectrum Analyzer	N/A	N/A	N/A	MY45113242
Agilent	E4438C	ESG Vector Signal Generator	11/14/2023	Annual	11/14/2024	MY45093852
Agilent	E4438C	ESG Vector Signal Generator	11/15/2023	Annual	11/15/2024	MY45092078
Agilent	N5182A	MXG Vector Signal Generator	3/15/2024	Annual	3/15/2025	MY47420651
Agilent	8753ES	S-Parameter Vector Network Analyzer	1/10/2024	Annual	1/10/2025	MY40001472
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433972
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433974
Anritsu	MT8000A	Radio Communication Test Station	4/10/2024	Annual	4/10/2025	6261987983
Anritsu	MT8821C	Radio Communication Analyzer MT8821C	5/15/2024	Annual	5/15/2025	6262150047
Anritsu	MA24106A	USB Power Sensor	12/4/2023	Annual	12/4/2024	1520501
Anritsu	MA24106A	USB Power Sensor	4/15/2024	Annual	4/15/2025	1827528
Anritsu	MA2411B	Pulse Power Sensor	7/1/2024	Annual	7/1/2025	1911105
Anritsu	MA2411B	Pulse Power Sensor	7/10/2024	Annual	7/10/2025	1126066
COMTECH	AR85729-5/5759B	Solid State Amplifier	CBT	N/A	CBT	M3W1A00-1002
COMTech	AR85729-5	Solid State Amplifier	CBT	N/A	CBT	M1S5A00-009
Control Company	4052	Long Stem Thermometer	2/27/2024	Biennial	2/27/2026	240174346
Control Company	4040	Therm./ Clock/ Humidity Monitor	4/15/2024	Biennial	4/15/2026	240310280
Control Company	4052	Long Stem Thermometer	2/27/2024	Biennial	2/27/2026	240171096
K & L	11SH10-1300/U4000	High Pass Filter	CBT	N/A	CBT	11SH10-1300/U4000 - 2
Keysight Technologies	772D	Dual Directional Coupler	CBT	N/A	CBT	MY52180215
Keysight Technologies	E7515B	UXM 5G Wireless Test Platform	CBT	N/A	CBT	MY59150289
Keysight Technologies	M1740A	mmWave Transceiver	CBT	N/A	CBT	MY59291989
Keysight Technologies	M1740A	mmWave Transceiver	CBT	N/A	CBT	MY59291982
Keysight Technologies	E7770A	Common Interface Unit	CBT	N/A	CBT	MY58290483
Krytar	110067006	Directional Coupler, 10 - 67 GHz	CBT	N/A	CBT	200391
MCL	BW-N6W5+	6dB Attenuator	CBT	N/A	CBT	1139
Mini Circuits	ZA2PD2-63-S+	Power Splitter	CBT	N/A	CBT	SUU64901930
Mini Circuits	ZAPD-2-272-S+	Power Splitter	CBT	N/A	CBT	SF702001405
MIniCircuits	NLP-1200+	Low Pass Filter	CBT	N/A	CBT	VUU78201318
MiniCircuits	SLP-2400+	Low Pass Filter	CBT	N/A	CBT	R8979500903
MiniCircuits	VLF-6000+	Low Pass Filter	CBT	N/A	CBT	N/A
Mini-Circuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-1200+	Low Pass Filter DC to 1000 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	BW-N20W5	Power Attenuator	CBT	N/A	CBT	1226
Mini-Circuits	ZUDC10-83-S+	Directional Coupler, 0.3 to 8.0 GHz	CBT	N/A	CBT	2050
Narda	4216-10	Directional Coupler, 0.5 to 8.0 GHz, 10 dB	CBT	N/A	CBT	01492
Narda	4216-10	Directional Coupler, 0.5 to 8.0 GHz, 10 dB	CBT	N/A	CBT	01493
Narda	4772-3	Attenuator	CBT	N/A	CBT	9406
Narda	BW-S3W2	Attenuator	CBT	N/A	CBT	120
Narda	BW-S10W2+	Attenuator	CBT	N/A	CBT	831
Narda	4014C-6	4 - 8 GHz SMA 6 dB Directional Coupler	CBT	N/A	CBT	N/A
Newmark System	NSC-G2	Motion Controller	CBT	N/A	CBT	1007-D
Pasternack	PE2208-6	Bidirectional Coupler	CBT	N/A	CBT	N/A
Pasternack	PE2209-10	Bidirectional Coupler	CBT	N/A	CBT	N/A
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	1/11/2024	Annual	1/11/2025	150117
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	1/10/2024	Annual	1/10/2025	131454
Rohde & Schwarz	NRP8S	3 Path Dipole Power Sensor	1/16/2024	Annual	1/16/2025	109956
Rohde & Schwarz	NRP8S	3 Path Dipole Power Sensor	12/14/2023	Annual	12/14/2024	109052
Rohde & Schwarz	NRP8S	3-Path Dipole Power Sensor	12/14/2023	Annual	12/14/2024	108168
Rohde & Schwarz	NRP50S	3-Path Dipole Power Sensor	12/14/2023	Annual	12/14/2024	101339
SPEAG	5G Verification Source 30GHz	30GHz System Verification Antenna	5/7/2024	Annual	5/7/2025	1044
SPEAG	5G Verification Source 30GHz	30GHz System Verification Antenna	2/7/2024	Annual	2/7/2025	1035
SPEAG	DAE4ip	Dasy Data Acquisition Electronics	11/15/2023	Annual	11/15/2024	1639
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/9/2024	Annual	1/9/2025	859
SPEAG	EUmmWV3	EUmmWV4 Probe	2/2/2024	Annual	2/2/2025	9622
SPEAG	EUmmWV3	EUmmWV4 Probe	1/5/2024	Annual	1/5/2025	9389
Zhuhai Bojay Electronics	BJ8827	Shielded Test Enclosure	N/A	N/A	N/A	F229647

Notes:

1. CBT (Calibrated Before Testing). Prior to testing, the measurement paths containing a cable, amplifier, attenuator, coupler, or filter were connected to a calibrated source (i.e. a signal generator) to determine the losses of the measurement path The power meter offset was then adjusted to compensate for the measurement system losses. This level offset is stored within the power meter before measurements are made. This calibration verification procedure applies to the system verification and output power measurements. The calibrated reading is then taken directly from the power meter after compensation of the losses for all final power measurements.
2. Each equipment item is used solely within its respective calibration period.

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14 MEASUREMENT UNCERTAINTIES

For SAR Measurements

a	c	d	e= f(d,k)	f	g	h = c x f/e	i = c x g/e	k
Uncertainty Component	**Tol. (± %)**	**Prob. Dist.**	**Div.**	**c_i 1gm**	**c_i 10 gms**	**1gm u_i (± %)**	**10gms u_i (± %)**	**v_i**
Measurement System								
Probe Calibration	6.55	N	1	1.0	1.0	6.6	6.6	∞
Axial Isotropy	0.25	N	1	0.7	0.7	0.2	0.2	∞
Hemishperical Isotropy	1.3	N	1	0.7	0.7	0.9	0.9	∞
Boundary Effect	2.0	R	1.73	1.0	1.0	1.2	1.2	∞
Linearity	0.3	N	1	1.0	1.0	0.3	0.3	∞
System Detection Limits	0.25	R	1.73	1.0	1.0	0.1	0.1	∞
Readout Electronics	0.3	N	1	1.0	1.0	0.3	0.3	∞
Response Time	0.8	R	1.73	1.0	1.0	0.5	0.5	∞
Integration Time	2.6	R	1.73	1.0	1.0	1.5	1.5	∞
RF Ambient Conditions - Noise	3.0	R	1.73	1.0	1.0	1.7	1.7	∞
RF Ambient Conditions - Reflections	3.0	R	1.73	1.0	1.0	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	0.4	R	1.73	1.0	1.0	0.2	0.2	∞
Probe Positioning w/ respect to Phantom	6.7	R	1.73	1.0	1.0	3.9	3.9	∞
Extrapolation, Interpolation & Integration algorithms for Max. SAR Evaluation	4.0	R	1.73	1.0	1.0	2.3	2.3	∞
Test Sample Related								
Test Sample Positioning	2.7	N	1	1.0	1.0	2.7	2.7	35
Device Holder Uncertainty	1.67	N	1	1.0	1.0	1.7	1.7	5
Output Power Variation - SAR drift measurement	5.0	R	1.73	1.0	1.0	2.9	2.9	∞
SAR Scaling	0.0	R	1.73	1.0	1.0	0.0	0.0	∞
Phantom & Tissue Parameters								
Phantom Uncertainty (Shape & Thickness tolerances)	7.6	R	1.73	1.0	1.0	4.4	4.4	∞
Liquid Conductivity - measurement uncertainty	4.2	N	1	0.78	0.71	3.3	3.0	10
Liquid Permittivity - measurement uncertainty	4.1	N	1	0.23	0.26	1.0	1.1	10
Liquid Conductivity - Temperature Uncertainty	3.4	R	1.73	0.78	0.71	1.5	1.4	∞
Liquid Permittivity - Temperature Unceritainty	0.6	R	1.73	0.23	0.26	0.1	0.1	∞
Liquid Conductivity - deviation from target values	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Permittivity - deviation from target values	5.0	R	1.73	0.60	0.49	1.7	1.4	∞
Combined Standard Uncertainty (k=1)		RSS				11.5	11.3	60
Expanded Uncertainty (95% CONFIDENCE LEVEL)		k=2				23.0	22.6	

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For PD Measurements

a	b	c	d	e	f = c x f/e	g
Uncertainty Component	Unc. (± dB)	Prob. Dist.	Div.	c_i	u_i (± dB)	v_i
Measurement System						
Calibration	0.49	N	1	1	0.49	∞
Probe Correction	0.00	R	1.73	1	0.00	∞
Frequency Response	0.20	R	1.73	1	0.12	∞
Sensor Cross Coupling	0.00	R	1.73	1	0.00	∞
Isotropy	0.50	R	1.73	1	0.29	∞
Linearity	0.20	R	1.73	1	0.12	∞
Probe Scattering	0.00	R	1.73	1	0.00	∞
Probe Positioning offset	0.30	R	1.73	1	0.17	∞
Probe Positioning Repeatability	0.04	R	1.73	1	0.02	∞
Sensor MechanicalOffset	0.00	R	1.73	1	0.00	∞
Probe Spatial Resolution	0.00	R	1.73	1	0.00	∞
Field Impedence Dependance	0.00	R	1.73	1	0.00	∞
Amplitude and Phase Drift	0.00	R	1.73	1	0.00	∞
Amplitude and Phase Noise	0.04	R	1.73	1	0.02	∞
Measurement Area Truncation	0.00	R	1.73	1	0.00	∞
Data Acquisition	0.03	N	1	1	0.03	∞
Sampling	0.00	R	1.73	1	0.00	∞
Field Reconstruction	0.60	R	1.73	1	0.35	∞
Forward Transformation	0.00	R	1.73	1	0.00	∞
Power Density Scaling	0.00	R	1.73	1	0.00	∞
Spatial Averaging	0.10	R	1.73	1	0.06	∞
System Detection Limit	0.04	R	1.73	1	0.02	∞
Test Sample Related						
Probe Coupling with DUT	0.00	R	1.73	1	0.00	∞
Modulation Response	0.40	R	1.73	1	0.23	∞
Integration Time	0.00	R	1.73	1	0.00	∞
Response Time	0.00	R	1.73	1	0.00	∞
Device Holder Influence	0.10	R	1.73	1	0.06	∞
DUT alignment	0.00	R	1.73	1	0.00	∞
RF Ambient Conditions	0.04	R	1.73	1	0.02	∞
Ambient Reflections	0.04	R	1.73	1	0.02	∞
Immunity/Secondary Reception	0.00	R	1.73	1	0.00	∞
Drift of DUT	0.21	R	1.73	1	0.12	∞
Combined Standard Uncertainty (k=1)		RSS			0.76	∞
Expanded Uncertainty (95% CONFIDENCE LEVEL)		k=2			1.52	

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15 CONCLUSION

15.1 Measurement Conclusion

The SAR evaluation indicates that the DUT complies with the RF radiation exposure limits of the FCC and Innovation, Science, and Economic Development Canada, with respect to all parameters subject to this test. These measurements were taken to simulate the RF effects of RF exposure under worst-case conditions. Precise laboratory measures were taken to assure repeatability of the tests. The results and statements relate only to the item(s) tested.

Please note that the absorption and distribution of electromagnetic energy in the body are very complex phenomena that depend on the mass, shape, and size of the body, the orientation of the body with respect to the field vectors, and the electrical properties of both the body and the environment. Other variables that may play a substantial role in possible biological effects are those that characterize the environment (e.g. ambient temperature, air velocity, relative humidity, and body insulation) and those that characterize the individual (e.g. age, gender, activity level, debilitation, or disease). Because various factors may interact with one another to vary the specific biological outcome of an exposure to electromagnetic fields, any protection guide should consider maximal amplification of biological effects as a result of field-body interactions, environmental conditions, and physiological variables. [3]

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