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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:
09/15/2024 – 11/04/2024
Test Site/Locations:
Element, Columbia, MD, USA
Element Morgan Hill, CA, USA
Element, Suwon, Korea
Document Serial No.:
1M2408260069-01.A3L (Rev1)

FCC ID: **A3LSMS938B**

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

DUT Type:	Portable Handset
Application Type:	Certification
FCC Rule Part(s):	CFR §2.1093
Model(s):	SM-S938B/DS
Additional Model(s):	SM-S938B

Equipment Class	Band & Mode	Tx Frequency	SAR			
			1g Head (W/kg)	1g Body-Worn (W/kg)	1g Hotspot (W/kg)	10g Phablet (W/kg)
PCE	GSM/GPRS/EDGE 850	824.20 - 848.80 MHz	1.03	0.52	0.70	N/A
PCE	GSM/GPRS/EDGE 1900	1850.20 - 1909.80 MHz	<0.1	0.42	0.90	N/A
PCE	UMTS 850	826.40 - 846.60 MHz	0.96	0.50	0.62	N/A
PCE	UMTS 1750	1712.4 - 1752.6 MHz	0.13	0.69	1.01	N/A
PCE	UMTS 1900	1852.4 - 1907.6 MHz	0.12	0.53	1.18	N/A
PCE	LTE Band 12	699.7 - 715.3 MHz	1.18	0.36	0.47	N/A
PCE	LTE Band 17	706.5 - 713.5 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 13	779.5 - 784.5 MHz	1.07	0.51	0.71	N/A
PCE	LTE Band 26	814.7 - 848.3 MHz	1.17	0.52	0.68	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	1.00	0.45	1.06	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	1.09	0.44	1.18	N/A
PCE	LTE Band 2	1850.7 - 1909.3 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 41	2498.5 - 2687.5 MHz	1.05	0.40	0.50	N/A
PCE	NR Band n5	826.5 - 846.5 MHz	**1.26**	0.58	0.70	N/A
PCE	NR Band n66	1712.5 - 1777.5 MHz	1.01	**0.78**	1.02	N/A
PCE	NR Band n25	1852.5 - 1912.5 MHz	1.05	0.66	**1.39**	N/A
PCE	NR Band n2	1852.5 - 1907.5 MHz	N/A	N/A	N/A	N/A
PCE	NR Band n41	2501.01 - 2685 MHz	1.25	0.41	0.47	N/A
PCE	NR Band n77	3455.01 - 3544.98 MHz; 3705 - 3975 MHz	0.81	0.39	0.54	N/A
DTS	2.4 GHz WiFi	2412 - 2472 MHz	**0.76**	**0.34**	**0.81**	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: 5945 - 5885 MHz	**0.89**	**0.48**	**0.48**	**1.81**
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	**1.04**	<0.1	N/A	**0.38**
DSS	2.4 GHz Bluetooth	2402 - 2480 MHz	**0.98**	**0.18**	**0.52**	N/A
DXX	NFC	13.56 MHz	N/A	N/A	N/A	<0.1
UWB	UWB	6489.6 - 7987.2 MHz	N/A	N/A	N/A	<0.1
Simultaneous SAR per KDB 690783 D01v01r03:			**1.59**	1.40	1.48	**1.88**

Equipment Class	Band & Mode	Tx Frequency	APD (W/m^2)			Reported PD (W/m^2)
			Head	Body-Worn	Phablet	
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	6.38	0.53	8.65	5.70
UWB	UWB	6489.6 - 7987.2 MHz	N/A	N/A	N/A	0.89

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 1.9 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
Measurement System No.	C, E, G, H, J, L, O, R, S

1.2.1 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
Measurement System No.	AM1, AM4, AM7, AM8, AM13, AM14

1.2.2 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
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.

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 12	Voice/Data	699.7 - 715.3 MHz
LTE Band 17	Voice/Data	706.5 - 713.5 MHz
LTE Band 13	Voice/Data	779.5 - 784.5 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 41	Voice/Data	2498.5 - 2687.5 MHz
NR Band n5	Voice/Data	826.5 - 846.5 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 n41	Voice/Data	2501.01 - 2685 MHz
NR Band n77	Voice/Data	3455.01 - 3544.98 MHz; 3705 - 3975 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: 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

2.2 Data Referencing

Reference Device		Variant Device	Key differences
FCC ID: A3LSMS938U		FCC ID: A3LSMS938B	See change documentation
Equipment Class	Mode	Data Referencing	Comments
DTS	2.4 GHz WIFI	Y	See RF Exposure Report Section 12.17, 12.18 for spot-check data
NII	5 GHz WIFI	Y	See RF Exposure Report Section 12.19, 12.20 for spot-check data
6CD	6 GHz WIFI	Y/N	See RF Exposure Report Section 12.21, 12.22 for spot-check and tested data
DSS	2.4 GHz BT	Y/N	See RF Exposure Report Section 12.23, 12.24 for spot-check and tested data

Per manufacturer declaration, there are two portable handset devices FCC ID: A3LSMS938U and FCC ID: A3LSMS938B, with high degree of similarity, reference model FCC ID: A3LSMS938U and variant model FCC ID: A3LSMS938B. Both models share the same material, form factor, circuit design, and components, including antennas and their locations. The reference and variant models use the same material, form factor, circuit design, and components, including antennas and their locations. The reference and variant models have the same tune-up tolerances at WIFI/BT.

Per FCC Approved Data Referencing Test Plan, testing was done fully on the reference model FCC ID: A3LSMS938U, while spot-check verification has been performed on variant model FCC ID: A3LSMS938B. The spot check verification has been performed in the worst case for each exposure condition and if the spot check SAR value was higher, it was applied to the simultaneous transmission results and SAR CHAR on variant model FCC ID: A3LSMS938B. The reference and variant model comparison data summary is included in section 12. Please see unlicensed SAR reference test data in Appendix K: for complete compliance evaluation for the reference model.

2.3 Time-Averaging Algorithm for RF Exposure Compliance

2.3.1 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 2.11– Bibliography).

The Smart Transmit algorithm maintains the time-averaged transmit power, in turn, time-averaged RF exposure of *SAR_design_target* below the predefined time-averaged power limit (i.e., P_{limit} for WWAN sub-6/WLAN/BT radio), 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.

Exposure Scenario			Maximum	Body-Worn, Hotspot, or Phablet	Head
Averaging Volume			Tune-Up	1g/10g	1g
Spacing			Output	10mm, 0mm	0mm
DSI			Power*	0	1
Technology/Band	Antenna	Antenna Group	P_{max}	P_{limit}	P_{limit}
GSM 850	A	AG0	25.1	29.8	29.8
GSM 850	E	AG1	25.1	26.5	21.0
GSM 1900	A	AG0	22.1	18.8	32.7
UMTS 850	A	AG0	24.0	28.5	30.3
UMTS 850	E	AG1	24.0	27.0	20.5
UMTS 1750	A	AG0	23.0	19.0	30.6
UMTS 1900	A	AG0	23.0	18.0	30.2
LTE Band 12/17	A	AG0	24.3	27.5	28.5
LTE Band 12/17	E	AG1	24.3	26.0	21.5
LTE Band 13	A	AG0	24.0	27.2	28.1
LTE Band 13	E	AG1	24.0	26.4	21.5
LTE Band 26/5	A	AG0	24.0	28.2	29.5
LTE Band 26/5	E	AG1	24.0	26.5	21.0
LTE Band 66/4	A	AG0	23.5	19.0	31.2
LTE Band 66/4	F	AG1	23.5	21.0	18.5
LTE Band 25/2	A	AG0	23.0	18.0	30.3
LTE Band 25/2	F	AG1	23.0	20.0	19.0
LTE Band 41 PC3	B	AG0	22.0	19.0	34.0
LTE Band 41 PC3	F	AG1	22.0	19.0	15.5
LTE Band 41 PC2	B	AG0	21.4	19.0	34.0
LTE Band 41 PC2	F	AG1	21.4	19.0	15.5
NR Band n5	A	AG0	24.0	25.9	30.1
NR Band n5	E	AG1	24.0	26.5	21.0
NR Band n66	A	AG0	23.0	19.0	31.5
NR Band n66	F	AG1	22.5	21.0	18.5
NR Band n25/n2	A	AG0	22.5	18.0	28.9
NR Band n25/n2	F	AG1	22.5	20.0	19.0
NR Band n41 PC3 (Path 1)	F	AG1	24.0	18.5	16.5
NR Band n41 PC3 (Path 1)	B	AG0	21.0	19.0	16.5
NR Band n41 PC3 (Path 1)	E	AG1	20.0	16.0	13.5
NR Band n41 PC3 (Path 1)	D	AG0	19.0	16.0	13.5
NR Band n41 PC3 (Path 2)	B	AG0	24.0	20.0	21.0
NR Band n41 PC3 (Path 2)	F	AG1	21.0	18.5	16.5
NR Band n41 PC3 (Path 2)	D	AG0	22.0	18.0	19.0
NR Band n41 PC3 (Path 2)	E	AG1	18.0	16.0	16.0
NR Band n77 PC2	F	AG1	25.0	18.5	14.5
NR Band n77 PC2	C	AG0	19.0	14.0	10.0
NR Band n77 PC2	I	AG1	24.0	18.5	14.5
NR Band n77 PC2	D	AG0	19.0	14.0	10.0
2.4 GHz WIFI	H	AG1	19.0	19.5	16.0
2.4 GHz WIFI	J	AG1	19.0	25.4	16.0
2.4 GHz WIFI	MIMO	AG1	17.0	19.4	16.0
5 GHz WIFI	H	AG1	17.0	15.0	15.0
5 GHz WIFI	E	AG1	17.0	15.0	15.0
5 GHz WIFI	MIMO	AG1	17.0	15.0	15.0
6 GHz WIFI	H	AG1	16.0	8.0	16.8
6 GHz WIFI	E	AG1	16.0	8.0	22.9
6 GHz WIFI	MIMO	AG1	16.0	8.0	17.0
2.4 GHz Bluetooth	H	AG1	17.4	21.3	18.5
2.4 GHz Bluetooth	J	AG1	17.4	25.9	20.4
2.4 GHz Bluetooth	MIMO	AG1	12.9	17.9	17.2
2.4 GHz Bluetooth LE	H	AG1	18.9	21.3	18.9
2.4 GHz Bluetooth LE	J	AG1	18.4	25.9	20.4
2.4 GHz Bluetooth LE	MIMO	AG1	12.9	17.9	17.2

The maximum time-averaged output power (dBm) for any WWAN sub-6/WLAN/BT technology, band, and DSI is the minimum of ("*Plimit* EFS" and "Maximum tune up output power *Pmax*") + 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.

2.4 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.

2.4.1 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	33.6	33.6	32.2	30.5	28.5	28.0	26.0	24.0	23.0
	Nominal	32.6	32.6	31.2	29.5	27.5	27.0	25.0	23.0	22.0
DSI = 0 (Body-Worn, Hotspot, or Phablet)	Max Allowed Power	33.6	33.6	32.2	30.5	28.5	28.0	26.0	24.0	23.0
	Nominal	32.6	32.6	31.2	29.5	27.5	27.0	25.0	23.0	22.0
DSI = 1 (Head)	Max Allowed Power	33.6	33.6	32.2	30.5	28.5	28.0	26.0	24.0	23.0
	Nominal	32.6	32.6	31.2	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	33.6	33.6	32.2	30.5	28.5	28.0	26.0	24.0	23.0
	Nominal	32.6	32.6	31.2	29.5	27.5	27.0	25.0	23.0	22.0
DSI = 0 (Body-Worn, Hotspot, or Phablet)	Max Allowed Power	33.6	33.6	32.2	30.5	28.5	28.0	26.0	24.0	23.0
	Nominal	32.6	32.6	31.2	29.5	27.5	27.0	25.0	23.0	22.0
DSI = 1 (Head)	Max Allowed Power	31.2	31.2	28.2	26.4	25.2	28.0	26.0	24.0	23.0
	Nominal	30.2	30.2	27.2	25.4	24.2	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	30.8	30.8	28.7	27.5	25.5	27.0	25.0	23.0	22.0
	Nominal	29.8	29.8	27.7	26.5	24.5	26.0	24.0	22.0	21.0
DSI = 0 (Body-Worn, Hotspot, or Phablet)	Max Allowed Power	29.0	29.0	26.0	24.2	23.0	27.0	25.0	23.0	22.0
	Nominal	28.0	28.0	25.0	23.2	22.0	26.0	24.0	22.0	21.0
DSI = 1 (Head)	Max Allowed Power	30.8	30.8	28.7	27.5	25.5	27.0	25.0	23.0	22.0
	Nominal	29.8	29.8	27.7	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	21.5	20.5	20.5	20.5
	Nominal	20.5	19.5	19.5	19.5

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	24.0	23.0	23.0	23.0
	Nominal	23.0	22.0	22.0	22.0
DSI = 0 (Body-Worn, Hotspot, or Phablet)	Max Allowed Power	20.0	19.0	19.0	19.0
	Nominal	19.0	18.0	18.0	18.0
DSI = 1 (Head)	Max Allowed Power	24.0	23.0	23.0	23.0
	Nominal	23.0	22.0	22.0	22.0

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	24.0	23.0	23.0	23.0
	Nominal	23.0	22.0	22.0	22.0
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	24.0	23.0	23.0	23.0
	Nominal	23.0	22.0	22.0	22.0

Mode / Band	Antenna		Modulated Average Output Power (in dBm)		
			Pmax	DSI = 0 (Body-Worn, Hotspot, or Phablet)	DSI = 1 (Head)
LTE Band 12/17	A	Max Allowed Power	25.3	25.3	25.3
		Nominal	24.3	24.3	24.3
LTE Band 12/17	E	Max Allowed Power	25.3	25.3	22.5
		Nominal	24.3	24.3	21.5
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	22.5
		Nominal	24.0	24.0	21.5
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	20.0	24.5
		Nominal	23.5	19.0	23.5
LTE Band 66/4	F	Max Allowed Power	24.5	22.0	19.5
		Nominal	23.5	21.0	18.5
LTE Band 25/2	A	Max Allowed Power	24.0	19.0	24.0
		Nominal	23.0	18.0	23.0
LTE Band 25/2	F	Max Allowed Power	24.0	21.0	20.0
		Nominal	23.0	20.0	19.0
LTE Band 41 PC3	B	Max Allowed Power	25.0	22.0	25.0
		Nominal	24.0	21.0	24.0
LTE Band 41 PC3	F	Max Allowed Power	25.0	22.0	18.5
		Nominal	24.0	21.0	17.5
LTE Band 41 PC2	B	Max Allowed Power	26.0	23.6	26.0
		Nominal	25.0	22.6	25.0
LTE Band 41 PC2	F	Max Allowed Power	26.0	23.6	20.1
		Nominal	25.0	22.6	19.1

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

Mode / Band	Antenna		Modulated Average Output Power (in dBm)		
			Pmax	DSI = 0 (Body-Worn, Hotspot, or Phablet)	DSI = 1 (Head)
NR Band n5	A	Max Allowed Power	25.0	25.0	25.0
		Nominal	24.0	24.0	24.0
NR Band n5	E	Max Allowed Power	25.0	25.0	22.0
		Nominal	24.0	24.0	21.0
NR Band n66	A	Max Allowed Power	24.0	20.0	24.0
		Nominal	23.0	19.0	23.0
NR Band n66	F	Max Allowed Power	23.5	22.0	19.5
		Nominal	22.5	21.0	18.5
NR Band n25/n2	A	Max Allowed Power	23.5	19.0	23.5
		Nominal	22.5	18.0	22.5
NR Band n25/n2	F	Max Allowed Power	23.5	21.0	20.0
		Nominal	22.5	20.0	19.0
NR Band n41 PC3 (Path 1)	F	Max Allowed Power	25.0	19.5	17.5
		Nominal	24.0	18.5	16.5
NR Band n41 PC3 (Path 1)	B	Max Allowed Power	22.0	20.0	17.5
		Nominal	21.0	19.0	16.5
NR Band n41 PC3 (Path 1)	E	Max Allowed Power	21.0	17.0	14.5
		Nominal	20.0	16.0	13.5
NR Band n41 PC3 (Path 1)	D	Max Allowed Power	20.0	17.0	14.5
		Nominal	19.0	16.0	13.5
NR Band n41 PC3 (Path 2)	B	Max Allowed Power	25.0	21.0	22.0
		Nominal	24.0	20.0	21.0
NR Band n41 PC3 (Path 2)	F	Max Allowed Power	22.0	19.5	17.5
		Nominal	21.0	18.5	16.5
NR Band n41 PC3 (Path 2)	D	Max Allowed Power	23.0	19.0	20.0
		Nominal	22.0	18.0	19.0
NR Band n41 PC3 (Path 2)	E	Max Allowed Power	19.0	17.0	17.0
		Nominal	18.0	16.0	16.0
NR Band n77 PC2	F	Max Allowed Power	26.0	19.5	15.5
		Nominal	25.0	18.5	14.5
NR Band n77 PC2	C	Max Allowed Power	20.0	15.0	11.0
		Nominal	19.0	14.0	10.0
NR Band n77 PC2	I	Max Allowed Power	25.0	19.5	15.5
		Nominal	24.0	18.5	14.5
NR Band n77 PC2	D	Max Allowed Power	20.0	15.0	11.0
		Nominal	19.0	14.0	10.0

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

2.4.2 2.4 GHz WLAN Output Power

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

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

Band	IEEE 802.11 Modulated/Frame Output Power (in dBm)																																			
	SISO Antenna H												SISO Antenna J												SISO in MIMO MIMO											
	b		g		n		ac		ax (5G)		be (5G)		b		g		n		ac		ax (5G)		be (5G)		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.
2.4 GHz WLAN	20.0	19.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0 ch. 1: 16.5 ch. 11: 16.0 ch. 12: 6.0 ch. 13: -3.0	17.0 15.5 15.0 5.0 -4.0	18.0 ch. 1: 16.5 ch. 11: 16.0 ch. 12: 6.0 ch. 13: -3.0	17.0 15.5 15.0 5.0 -4.0	20.0 ch. 12: 6.0 ch. 13: -3.0	19.0 5.0 -4.0	18.0 ch. 12: 6.0 ch. 13: -3.0	17.0 5.0 -4.0	18.0 ch. 12: 6.0 ch. 13: -3.0	17.0 5.0 -4.0	18.0 ch. 12: 6.0 ch. 13: -3.0	17.0 5.0 -4.0	18.0 ch. 12: 6.0 ch. 13: -3.0	17.0 5.0 -4.0	18.0 ch. 1: 16.5 ch. 11: 16.0 ch. 12: 6.0 ch. 13: -3.0	17.0 15.5 15.0 5.0 -4.0	18.0 ch. 1: 16.5 ch. 11: 16.0 ch. 12: 6.0 ch. 13: -3.0	17.0 15.5 15.0 5.0 -4.0	18.0 ch. 12: 6.0 ch. 13: -3.0	17.0 5.0 -4.0	18.0 ch. 12: 6.0 ch. 13: -3.0	17.0 5.0 -4.0	18.0 ch. 12: 6.0 ch. 13: -3.0	17.0 5.0 -4.0	18.0 ch. 1: 16.5 ch. 11: 16.0 ch. 12: 6.0 ch. 13: -3.0	17.0 15.5 15.0 5.0 -4.0	18.0 ch. 1: 16.5 ch. 11: 16.0 ch. 12: 6.0 ch. 13: -3.0	17.0 15.5 15.0 5.0 -4.0

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

- DSI=1 (RCV)

Band	IEEE 802.11 Modulated/Frame Output Power (in dBm)																																			
	SISO Antenna H												SISO Antenna J												SISO in MIMO MIMO											
	b		g		n		ac		ax (5G)		be (5G)		b		g		n		ac		ax (5G)		be (5G)		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.
2.4 GHz WLAN	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0 ch. 1: 16.5 ch. 11: 16.0 ch. 12: 6.0 ch. 13: -3.0	16.0 15.5 15.0 5.0 -4.0	17.0 ch. 1: 16.5 ch. 11: 16.0 ch. 12: 6.0 ch. 13: -3.0	16.0 15.5 15.0 5.0 -4.0	17.0 ch. 12: 6.0 ch. 13: -3.0	16.0 5.0 -4.0	17.0 ch. 12: 6.0 ch. 13: -3.0	16.0 5.0 -4.0	17.0 ch. 12: 6.0 ch. 13: -3.0	16.0 5.0 -4.0	17.0 ch. 12: 6.0 ch. 13: -3.0	16.0 5.0 -4.0	17.0 ch. 12: 6.0 ch. 13: -3.0	16.0 5.0 -4.0	17.0 ch. 1: 16.5 ch. 11: 16.0 ch. 12: 6.0 ch. 13: -3.0	16.0 15.5 15.0 5.0 -4.0	17.0 ch. 1: 16.5 ch. 11: 16.0 ch. 12: 6.0 ch. 13: -3.0	16.0 15.5 15.0 5.0 -4.0	17.0 ch. 12: 6.0 ch. 13: -3.0	16.0 5.0 -4.0	17.0 ch. 12: 6.0 ch. 13: -3.0	16.0 5.0 -4.0	17.0 ch. 12: 6.0 ch. 13: -3.0	16.0 5.0 -4.0	17.0 ch. 1: 16.5 ch. 11: 16.0 ch. 12: 6.0 ch. 13: -3.0	16.0 15.5 15.0 5.0 -4.0	17.0 ch. 1: 16.5 ch. 11: 16.0 ch. 12: 6.0 ch. 13: -3.0	16.0 15.5 15.0 5.0 -4.0

2.4.3 5 GHz WLAN Output Power

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

- Pmax

Mode	Band	IEEE 802.11 Modulated Output Power (in dBm)																																			
		SISO Antenna H												SISO Antenna E												SISO in MIMO 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.	Max	Nom.	Max	Nom.	Max	Nom.
5 GHz WiFi (20MHz BW)	UNII-1	18.0	17.0	18.0	17.0	18.0	17.0	18.0 ch. 36	17.0 16.0 15.0	18.0 ch. 36	17.0 16.0 15.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0 ch. 36	17.0 16.0 15.0	18.0 ch. 36	17.0 16.0 15.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0 ch. 36	17.0 16.0 15.0	18.0 ch. 36	17.0 16.0 15.0				
	UNII-2A	18.0	17.0	18.0	17.0	18.0	17.0	18.0 ch. 64	17.0 15.5 14.5	18.0 ch. 64	17.0 15.5 14.5	18.0	17.0	18.0	17.0	18.0	17.0	18.0 ch. 64	17.0 15.5 14.5	18.0 ch. 64	17.0 15.5 14.5	18.0	17.0	18.0	17.0	18.0	17.0	18.0 ch. 64	17.0 15.5 14.5	18.0 ch. 64	17.0 15.5 14.5				
	UNII-2C	18.0	17.0	18.0	17.0	18.0	17.0	18.0 ch. 100	17.0 15.0 14.0	18.0 ch. 100	17.0 15.0 14.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0 ch. 100	17.0 15.0 14.0	18.0 ch. 100	17.0 15.0 14.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0 ch. 100	17.0 15.0 14.0	18.0 ch. 100	17.0 15.0 14.0				
	UNII-3	18.0	17.0	18.0	17.0	18.0	17.0	18.0 ch. 165	17.0 17.0 16.0	18.0 ch. 165	17.0 17.0 16.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0 ch. 165	17.0 17.0 16.0	18.0 ch. 165	17.0 17.0 16.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0 ch. 165	17.0 17.0 16.0	18.0 ch. 165	17.0 17.0 16.0				
	UNII-4	18.0	17.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0	17.0				
5 GHz WiFi (40MHz BW)	UNII-1			18.0 ch. 38	17.0 16.0 15.0	18.0 ch. 38	17.0 16.0 15.0	18.0 ch. 38	17.0 15.5 14.5	18.0 ch. 38	17.0 15.5 14.5			18.0 ch. 38	17.0 16.0 15.0	18.0 ch. 38	17.0 16.0 15.0	18.0 ch. 38	17.0 15.5 14.5	18.0 ch. 38	17.0 15.5 14.5			18.0 ch. 38	17.0 16.0 15.0	18.0 ch. 38	17.0 16.0 15.0	18.0 ch. 38	17.0 15.5 14.5	18.0 ch. 38	17.0 15.5 14.5				
	UNII-2A			18.0 ch. 62	17.0 17.0 16.0	18.0 ch. 62	17.0 17.0 16.0	18.0 ch. 62	17.0 14.5 13.5	18.0 ch. 62	17.0 14.5 13.5			18.0 ch. 62	17.0 17.0 16.0	18.0 ch. 62	17.0 17.0 16.0	18.0 ch. 62	17.0 14.5 13.5	18.0 ch. 62	17.0 14.5 13.5			18.0 ch. 62	17.0 17.0 16.0	18.0 ch. 62	17.0 17.0 16.0	18.0 ch. 62	17.0 14.5 13.5	18.0 ch. 62	17.0 14.5 13.5				
	UNII-2C			18.0 ch. 102	17.0 16.5 15.5	18.0 ch. 102	17.0 16.5 15.5	18.0 ch. 102	17.0 14.0 13.0	18.0 ch. 102	17.0 14.0 13.0			18.0 ch. 102	17.0 16.5 15.5	18.0 ch. 102	17.0 16.5 15.5	18.0 ch. 102	17.0 14.0 13.0	18.0 ch. 102	17.0 14.0 13.0			18.0 ch. 102	17.0 16.5 15.5	18.0 ch. 102	17.0 16.5 15.5	18.0 ch. 102	17.0 14.0 13.0	18.0 ch. 102	17.0 14.0 13.0				
	UNII-3			18.0	17.0	18.0	17.0	18.0 ch. 159	17.0 16.0 15.0	18.0 ch. 159	17.0 16.0 15.0			18.0	17.0	18.0	17.0	18.0 ch. 159	17.0 16.0 15.0	18.0 ch. 159	17.0 16.0 15.0			18.0	17.0	18.0	17.0	18.0 ch. 159	17.0 16.0 15.0	18.0 ch. 159	17.0 16.0 15.0				
	UNII-4			18.0	17.0	18.0	17.0	18.0 ch. 175	17.0 16.0 15.0	18.0 ch. 175	17.0 16.0 15.0			18.0	17.0	18.0	17.0	18.0 ch. 175	17.0 16.0 15.0	18.0 ch. 175	17.0 16.0 15.0			18.0	17.0	18.0	17.0	18.0 ch. 175	17.0 16.0 15.0	18.0 ch. 175	17.0 16.0 15.0				
5 GHz WiFi (80MHz BW)	UNII-1					16.5	15.5	15.5	14.5	15.5	14.5					16.5	15.5	15.5	14.5	15.5	14.5					16.5	15.5	15.5	14.5	15.5	14.5				
	UNII-2A					16.5	15.5	15.5	14.5	15.5	14.5					16.5	15.5	15.5	14.5	15.5	14.5					16.5	15.5	15.5	14.5	15.5	14.5				
	UNII-2C					18.0 ch. 106	17.0 15.5 14.5	18.0 ch. 106	17.0 13.5 12.5	18.0 ch. 106	17.0 13.5 12.5					18.0 ch. 106	17.0 15.5 14.5	18.0 ch. 106	17.0 13.5 12.5	18.0 ch. 106	17.0 13.5 12.5					18.0 ch. 106	17.0 15.5 14.5	18.0 ch. 106	17.0 13.5 12.5	18.0 ch. 106	17.0 13.5 12.5				
	UNII-3					18.0	17.0	16.5	15.5	16.5	15.5					18.0	17.0	16.5	15.5	16.5	15.5					18.0	17.0	16.5	15.5	16.5	15.5				
	UNII-4					18.0	17.0	17.0	16.0	17.0	16.0					18.0	17.0	17.0	16.0	17.0	16.0					18.0	17.0	17.0	16.0	17.0	16.0				
5 GHz WiFi (160MHz BW)	UNII-1/2A					15.5	14.5	14.0	13.0	14.0	13.0					15.5	14.5	14.0	13.0	14.0	13.0					15.5	14.5	14.0	13.0	14.0	13.0				
	UNII-2C					12.0	11.0	12.0	11.0	12.0	11.0					12.0	11.0	12.0	11.0	12.0	11.0					12.0	11.0	12.0	11.0	12.0	11.0				
	UNII-3/4					15.0	14.0	14.5	13.5	14.5	13.5					15.0	14.0	14.5	13.5	14.5	13.5					15.0	14.0	14.5	13.5	14.5	13.5				

- DSI=0 (Body-worn, Hotspot or Phablet), DSI=1 (Head)

Power Level	Mode	Band	IEEE 802.11 Modulated/Frame Output Power (in dBm)																																	
			SISO Antenna H												SISO Antenna E												SISO in MIMO 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.	Max	Nom.	Max	Nom.
0_Body-Worn, Hotspot, or Phablet	5 GHz WiFi (20MHz BW)	UNII-1	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	16.0	15.0	16.0	15.0	16.0	15.0				
		UNII-2A	16.0	15.0	16.0	15.0	16.0	15.0	16.0 ch. 64	15.0 15.5 14.5	16.0 ch. 64	15.0 15.5 14.5	16.0	15.0	16.0	15.0	16.0	15.0	16.0 ch. 64	15.0 15.5 14.5	16.0 ch. 64	15.0 15.5 14.5	16.0	15.0	16.0	15.0	16.0	15.0	16.0 ch. 64	15.0 15.5 14.5	16.0 ch. 64	15.0 15.5 14.5				
		UNII-2C	16.0	15.0	16.0	15.0	16.0	15.0	16.0 ch. 100	15.0 15.0 14.0	16.0 ch. 100	15.0 15.0 14.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0 ch. 100	15.0 15.0 14.0	16.0 ch. 100	15.0 15.0 14.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0 ch. 100	15.0 15.0 14.0	16.0 ch. 100	15.0 15.0 14.0				
		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	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	16.0	15.0	16.0	15.0	16.0	15.0				
	5 GHz WiFi (40MHz BW)	UNII-1					16.0	15.0	16.0 ch. 38	15.0 15.5 14.5	16.0 ch. 38	15.0 15.5 14.5					16.0	15.0	16.0 ch. 38	15.0 15.5 14.5	16.0 ch. 38	15.0 15.5 14.5					16.0	15.0	16.0 ch. 38	15.0 15.5 14.5	16.0 ch. 38	15.0 15.5 14.5				
		UNII-2A					16.0	15.0	16.0 ch. 62	15.0 14.5 13.5	16.0 ch. 62	15.0 14.5 13.5					16.0	15.0	16.0 ch. 62	15.0 14.5 13.5	16.0 ch. 62	15.0 14.5 13.5					16.0	15.0	16.0 ch. 62	15.0 14.5 13.5	16.0 ch. 62	15.0 14.5 13.5				
		UNII-2C					16.0	15.0	16.0 ch. 102	15.0 14.0 13.0	16.0 ch. 102	15.0 14.0 13.0					16.0	15.0	16.0 ch. 102	15.0 14.0 13.0	16.0 ch. 102	15.0 14.0 13.0					16.0	15.0	16.0 ch. 102	15.0 14.0 13.0	16.0 ch. 102	15.0 14.0 13.0				
		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				
		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				
	5 GHz WiFi (80MHz BW)	UNII-1					16.0	15.0	15.5	14.5	15.5	14.5					16.0	15.0	15.5	14.5	15.5	14.5					16.0	15.0	15.5	14.5	15.5	14.5				
		UNII-2A					16.0	15.0	15.5	14.5	15.5	14.5					16.0	15.0	15.5	14.5	15.5	14.5					16.0	15.0	15.5	14.5	15.5	14.5				
		UNII-2C					16.0 ch. 106	15.0 15.5 14.5	16.0 ch. 106	15.0 13.5 12.5	16.0 ch. 106	15.0 13.5 12.5					16.0 ch. 106	15.0 15.5 14.5	16.0 ch. 106	15.0 13.5 12.5	16.0 ch. 106	15.0 13.5 12.5					16.0 ch. 106	15.0 15.5 14.5	16.0 ch. 106	15.0 13.5 12.5	16.0 ch. 106	15.0 13.5 12.5				
		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				
		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				
	5 GHz WiFi (160MHz BW)	UNII-1/2A					15.5	14.5	14.0	13.0	14.0	13.0					15.5	14.5	14.0	13.0	14.0	13.0					15.5	14.5	14.0	13.0	14.0	13.0				
		UNII-2C					12.0	11.0	12.0	11.0	12.0	11.0					12.0	11.0	12.0	11.0	12.0	11.0					12.0	11.0	12.0	11.0	12.0	11.0				
		UNII-3/4					15.0	14.0	14.5	13.5	14.5	13.5					15.0	14.0	14.5	13.5	14.5	13.5					15.0	14.0	14.5	13.5	14.5	13.5				

2.4.4 6 GHz WLAN Output Power

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

- Pmax, DSI = 1 (Head)

Mode	Band	IEEE 802.11 Modulated/Frame 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.
6 GHz WIFI (20MHz BW) - LPI	UNII-5	9.5 ch. 2: 8.0	8.5 7.0	10.0 ch. 2: 7.0	9.0 6.0	10.0 ch. 2: 7.0	9.0 6.0	9.5 ch. 2: 8.0	8.5 7.0	10.0 ch. 2: 7.0	9.0 6.0	10.0 ch. 2: 7.0	9.0 6.0	9.5 ch. 2: 8.0	8.5 7.0	10.0 ch. 2: 7.0	9.0 6.0	10.0 ch. 2: 7.0	9.0 6.0
	UNII-6	10.0	9.0	10.0	9.0	10.0	9.0	10.0	9.0	10.0	9.0	10.0	9.0	10.0	9.0	10.0	9.0	10.0	9.0
	UNII-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	10.0	9.0	10.0	9.0	10.0	9.0
	UNII-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	10.0	9.0	10.0	9.0	10.0	9.0
6 GHz WIFI (40MHz BW) - LPI	UNII-5			13.0	12.0	13.0	12.0			13.0	12.0	13.0	12.0			13.0	12.0	13.0	12.0
	UNII-6			13.0	12.0	13.0	12.0			13.0	12.0	13.0	12.0			13.0	12.0	13.0	12.0
	UNII-7			13.0	12.0	13.0	12.0			13.0	12.0	13.0	12.0			13.0	12.0	13.0	12.0
	UNII-8			13.0	12.0	13.0	12.0			13.0	12.0	13.0	12.0			13.0	12.0	13.0	12.0
6 GHz WIFI (80MHz BW) - LPI	UNII-5			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-6			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-7			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-8			15.5	14.5	15.5	14.5			15.5	14.5	15.5	14.5			15.5	14.5	15.5	14.5
6 GHz WIFI (160MHz BW) - LPI	UNII-5			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-6			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-7			14.5	13.5	14.5	13.5			14.5	13.5	14.5	13.5			14.5	13.5	14.5	13.5
	UNII-8			14.5	13.5	14.5	13.5			14.5	13.5	14.5	13.5			14.5	13.5	14.5	13.5
6 GHz WIFI (320MHz BW) - LPI	UNII-5					15.0	14.0					15.0	14.0					15.0	14.0
	UNII-6					15.0	14.0					15.0	14.0					15.0	14.0
	UNII-7					14.5	13.5					14.5	13.5					14.5	13.5
	UNII-8					14.5	13.5					14.5	13.5					14.5	13.5

Mode	Band	IEEE 802.11 Modulated/Frame 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.
6 GHz WIFI (20MHz BW) - SP	UNII-5	17.0 ch. 2: 8.0	16.0 7.0	17.0 ch. 2: 7.0	16.0 6.0	17.0 ch. 2: 7.0	16.0 6.0	17.0 ch. 2: 8.0	16.0 7.0	17.0 ch. 2: 7.0	16.0 6.0	17.0 ch. 2: 7.0	16.0 6.0	17.0 ch. 2: 8.0	16.0 7.0	17.0 ch. 2: 7.0	16.0 6.0	17.0 ch. 2: 7.0	16.0 6.0
	UNII-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	17.0	16.0	17.0	16.0	17.0	16.0
6 GHz WIFI (40MHz BW) - SP	UNII-5			17.0	16.0	17.0	16.0			17.0	16.0	17.0	16.0			17.0	16.0	17.0	16.0
	UNII-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			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-7			16.0	15.0	16.0	15.0			16.0	15.0	16.0	15.0			16.0	15.0	16.0	15.0
6 GHz WIFI (160MHz BW) - SP	UNII-5			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-7			14.5	13.5	14.5	13.5			14.5	13.5	14.5	13.5			14.5	13.5	14.5	13.5
6 GHz WIFI (320MHz BW) - SP	UNII-5					15.0	14.0					15.0	14.0					15.0	14.0
	UNII-7					14.5	13.5					14.5	13.5					14.5	13.5

Mode	Band	IEEE 802.11 Modulated/Frame 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.
6 GHz WIFI (20MHz BW) - VLP	UNII-5	5.5	4.5	6.0	5.0	6.0	5.0	5.5	4.5	6.0	5.0	6.0	5.0	5.5	4.5	6.0	5.0	6.0	5.0
	UNII-7	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			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0
	UNII-7			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0
6 GHz WIFI (80MHz BW) - VLP	UNII-5			12.0	11.0	12.0	11.0			12.0	11.0	12.0	11.0			12.0	11.0	12.0	11.0
	UNII-7			12.0	11.0	12.0	11.0			12.0	11.0	12.0	11.0			12.0	11.0	12.0	11.0
6 GHz WIFI (160MHz BW) VLP	UNII-5			12.0	11.0	12.0	11.0			12.0	11.0	12.0	11.0			12.0	11.0	12.0	11.0
	UNII-7			12.0	11.0	12.0	11.0			12.0	11.0	12.0	11.0			12.0	11.0	12.0	11.0
6 GHz WIFI (320MHz BW) VLP	UNII-5					12.0	11.0					12.0	11.0					12.0	11.0
	UNII-7					12.0	11.0					12.0	11.0					12.0	11.0

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

- DSI=0 (Body-worn or Phablet)

Mode	Band	IEEE 802.11 Modulated/Frame 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.
6 GHz WIFI (20MHz BW) - LPI	UNII-5	9.0 ch. 2: 8.0	8.0 7.0	9.0 ch. 2: 7.0	8.0 6.0	9.0 ch. 2: 7.0	8.0 6.0	9.0 ch. 2: 8.0	8.0 7.0	9.0 ch. 2: 7.0	8.0 6.0	9.0 ch. 2: 7.0	8.0 6.0	9.0 ch. 2: 8.0	8.0 7.0	9.0 ch. 2: 7.0	8.0 6.0	9.0 ch. 2: 7.0	8.0 6.0
	UNII-6	9.0	8.0	9.0	8.0	9.0	8.0	9.0	8.0	9.0	8.0	9.0	8.0	9.0	8.0	9.0	8.0	9.0	8.0
	UNII-7	9.0	8.0	9.0	8.0	9.0	8.0	9.0	8.0	9.0	8.0	9.0	8.0	9.0	8.0	9.0	8.0	9.0	8.0
	UNII-8	9.0	8.0	9.0	8.0	9.0	8.0	9.0	8.0	9.0	8.0	9.0	8.0	9.0	8.0	9.0	8.0	9.0	8.0
6 GHz WIFI (40MHz BW) - LPI	UNII-5			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0
	UNII-6			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0
	UNII-7			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0
	UNII-8			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0
6 GHz WIFI (80MHz BW) - LPI	UNII-5			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0
	UNII-6			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0
	UNII-7			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0
	UNII-8			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0
6 GHz WIFI (160MHz BW) - LPI	UNII-5			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0
	UNII-6			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0
	UNII-7			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0
	UNII-8			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0
6 GHz WIFI (320MHz BW) - LPI	UNII-5					9.0	8.0					9.0	8.0					9.0	8.0
	UNII-6					9.0	8.0					9.0	8.0					9.0	8.0
	UNII-7					9.0	8.0					9.0	8.0					9.0	8.0
	UNII-8					9.0	8.0					9.0	8.0					9.0	8.0

Mode	Band	IEEE 802.11 Modulated/Frame 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.
6 GHz WIFI (20MHz BW) - SP	UNII-5	9.0 ch. 2: 8.0	8.0 7.0	9.0 ch. 2: 7.0	8.0 6.0	9.0 ch. 2: 7.0	8.0 6.0	9.0 ch. 2: 8.0	8.0 7.0	9.0 ch. 2: 7.0	8.0 6.0	9.0 ch. 2: 7.0	8.0 6.0	9.0 ch. 2: 8.0	8.0 7.0	9.0 ch. 2: 7.0	8.0 6.0	9.0 ch. 2: 7.0	8.0 6.0
	UNII-7	9.0	8.0	9.0	8.0	9.0	8.0	9.0	8.0	9.0	8.0	9.0	8.0	9.0	8.0	9.0	8.0	9.0	8.0
6 GHz WIFI (40MHz BW) - SP	UNII-5			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0
	UNII-7			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0
6 GHz WIFI (80MHz BW) - SP	UNII-5			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0
	UNII-7			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0
6 GHz WIFI (160MHz BW) - SP	UNII-5			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0
	UNII-7			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0
6 GHz WIFI (320MHz BW) - SP	UNII-5					9.0	8.0					9.0	8.0					9.0	8.0
	UNII-7					9.0	8.0					9.0	8.0					9.0	8.0

Mode	Band	IEEE 802.11 Modulated/Frame 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.
6 GHz WIFI (20MHz BW) - VLP	UNII-5	5.5	4.5	6.0	5.0	6.0	5.0	5.5	4.5	6.0	5.0	6.0	5.0	5.5	4.5	6.0	5.0	6.0	5.0
	UNII-7	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			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0
	UNII-7			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0
6 GHz WIFI (80MHz BW) - VLP	UNII-5			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0
	UNII-7			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0
6 GHz WIFI (160MHz BW) VLP	UNII-5			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0
	UNII-7			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0			9.0	8.0	9.0	8.0
6 GHz WIFI (320MHz BW) VLP	UNII-5					9.0	8.0					9.0	8.0					9.0	8.0
	UNII-7					9.0	8.0					9.0	8.0					9.0	8.0

2.4.5 2.4 GHz Bluetooth Output Power

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

- Pmax, DSI=0 (Body-worn, Hotspot or Phablet), DSI=1 (Head)

Mode	Data Rate	Modulated Output Power (in dBm)									
		Single Antenna				Dual Mode					
		Antenna H		Antenna J		Antenna H		Antenna J		MIMO	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
Bluetooth	1Mbps	19.5	18.5	19.5	18.5	15.0	14.0	14.0	13.0	17.5	16.5
Bluetooth EDR	2Mbps	16.5	15.5	16.5	15.5	12.5	11.5	12.5	11.5	15.5	14.5
Bluetooth EDR	3Mbps	16.0	15.0	16.0	15.0	12.5	11.5	12.5	11.5	15.5	14.5
Bluetooth LE	1Mbps	20.5	19.5	20.0	19.0	13.0	12.0	12.0	11.0	15.5	14.5
Bluetooth LE	2Mbps	20.5	19.5	20.0	19.0	13.0	12.0	12.0	11.0	15.5	14.5
Bluetooth LE	125kbps	13.0	12.0	11.0	10.0	N/A	N/A	N/A	N/A	N/A	N/A
Bluetooth LE	500kbps	13.0	12.0	11.0	10.0	N/A	N/A	N/A	N/A	N/A	N/A

2.5 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	Yes	No
C	Yes	Yes	No	Yes	Yes	No
D	Yes	Yes	No	Yes	No	Yes
E	Yes	Yes	Yes	No	Yes	No
F	Yes	Yes	Yes	No	No	Yes
H	Yes	Yes	Yes	No	No	Yes
I	Yes	Yes	No	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, U-NII-1, U-NII-2A, U-NII-2C, U-NII-4, and WIFI6E operations are disabled.

2.6 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.

2.7 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.

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	Yes	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	N/A	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
106	GPRS/EDGE + 2.4 GHz Bluetooth SISO + 5 GHz WLAN MIMO	N/A	N/A	Yes^	Yes	^ Bluetooth Tethering is considered
107	GPRS/EDGE + 2.4 GHz Bluetooth SISO + 5 GHz WLAN SISO	N/A	N/A	Yes^	Yes	^ Bluetooth Tethering is considered
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	Yes	Yes	
111	GPRS/EDGE + 2.4 GHz Bluetooth Dual + 5 GHz WLAN SISO	N/A	N/A	Yes	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
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
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	

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. UWB and NFC were evaluated for phablet based on expected usage conditions.

2.8 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. 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. The downlink carrier aggregation exclusion analysis can be found in Downlink LTE CA RF Conducted Powers Appendix.

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 both Power Class 2 (PC2) and Power Class 3 (PC3) for LTE Band 41. Per May 2017 TCB Workshop Notes, SAR tests were performed with Power Class 3 (given the specific UL/DL limitations for Power Class 2). Additionally, SAR testing for the power class 2 condition was evaluated for the highest configuration in Power Class 3 for each test configuration to confirm the results were scalable linearly (See Section 15).

This device can transmit with antenna switching for bands/modes on antenna A,B,D,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 2.4.1 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.

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.

$$SAR\_design\_target\_extremity \leq \frac{SAR\_design\_target\_hotspot}{1g\ SAR\ limit} * 10g\ SAR\ limit$$

2.9 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

2.10 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.

2.11 Bibliography

Report Type	Report Serial Number
RF Exposure Part 0 Test Report – Reference Model	1M2408260067-31.A3L
RF Exposure Part 1 Test Report – Reference Model	1M2408260067-23.A3L
RF Exposure Part 2 Test Report – Reference Model	1M2408260067-24.A3L
RF Exposure Part 0 Test Report	1M2408260069-27.A3L
RF Exposure Part 2 Test Report	1M2408260069-02.A3L
RF Exposure Compliance Summary Report	1M2408260069-03.A3L

3 LTE AND NR INFORMATION

LTE Information					
Form Factor	Portable Handset				
Frequency Range of each LTE transmission band	LTE Band 12: 699.7 - 715.3 MHz				
	LTE Band 17: 706.5 - 713.5 MHz				
	LTE Band 13: 779.5 - 784.5 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 41: 2498.5 - 2687.5 MHz				
Channel Bandwidths	LTE Band 12: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 17: 5 MHz, 10 MHz				
	LTE Band 13: 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 41: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
Channel Numbers and Frequencies (MHz)	Low	Low-Mid	Mid	Mid-High	High
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 17: 5 MHz	706.5 (23755)		710 (23790)	713.5 (23825)	
LTE Band 17: 10 MHz	709 (23780)		710 (23790)	711 (23800)	
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 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 41: 5 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 10 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 15 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 20 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
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, downlink MIMO features as shown in the RF Conducted Powers section of this report and the Downlink LTE CA RF Conducted Powers Appendix. 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.				

NR Information								
Form Factor	Portable Handset							
Frequency Range of each NR transmission band	NR Band n5: 826.5 - 846.5 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 n41: 2501.01 - 2685 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 n5: 5 MHz, 10 MHz, 15 MHz, 20 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 n41: 10 MHz, 15 MHz, 20 MHz, 25 MHz, 30 MHz, 35 MHz, 40 MHz, 45 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							
	NR Band n77 DoD: 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 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 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	1732.5 (346500)		1745 (349000)			1757.5 (351500)		
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 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)	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	2592.99 (518598)		2592.99 (518598)			2640 (528000)		
NR Band n77 DoD: 10 MHz	3455.01 (630334)		3500.01 (633334)			3544.98 (636332)		
NR Band n77 DoD: 15 MHz	3457.5 (630500)		3500.01 (633334)			3542.49 (636166)		
NR Band n77 DoD: 20 MHz	3460.02 (630668)		3500.01 (633334)			3540 (636000)		
NR Band n77 DoD: 25 MHz	3462.51 (630834)		3500.01 (633334)			3537.48 (635832)		
NR Band n77 DoD: 30 MHz	3465 (631000)		3500.01 (633334)			3534.99 (635666)		
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 n5, n66, n25, n2	15 kHz							
SCS for NR Band n41, n77, n77 DoD	30 kHz							
Modulations Supported in UL	DFT-s-OFDM: π/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 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 n5	2/66							
LTE Anchor Bands for NR Band n66	2/5/12/13							
LTE Anchor Bands for NR Band n25	12/13							
LTE Anchor Bands for NR Band n2	4/5/12/13/66							
LTE Anchor Bands for NR Band n41	2/4/5/12/26/66							
LTE Anchor Bands for NR Band n77	2/5/12/13/66							
LTE Anchor Bands for NR Band n77 DoD	2/5/12/13/66							

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]

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:

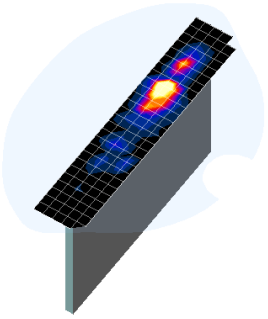


Figure 5-1
Sample SAR Area Scan

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*$\Delta z_{zoom}(n-1)$	≥ 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

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].

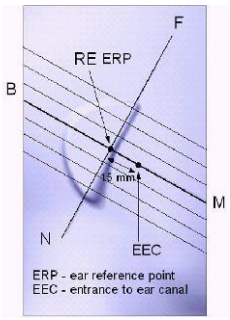


Figure 6-1
Close-Up Side view of ERP

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

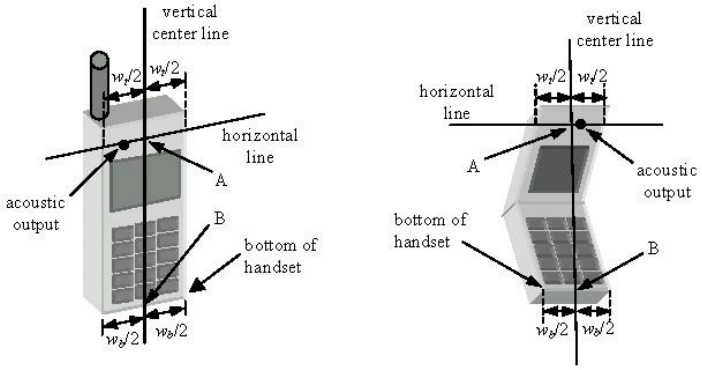


Figure 6-3
Handset Vertical Center & Horizontal Line Reference Points

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.

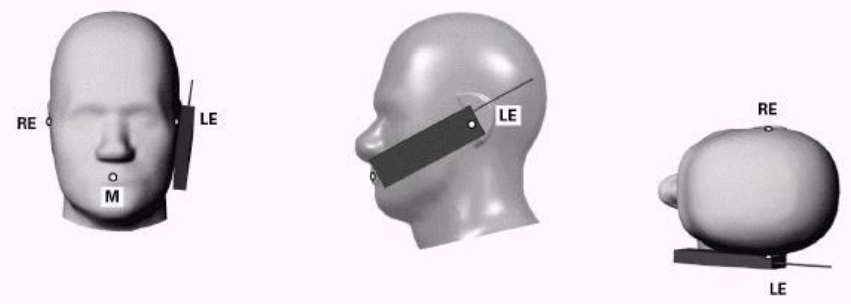


Figure 7-1 Front, Side and Top View of Cheek Position

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).

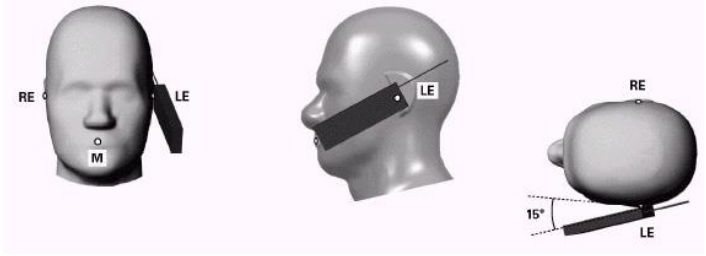


Figure 7-2 Front, Side and Top View of Ear/15º Tilt Position

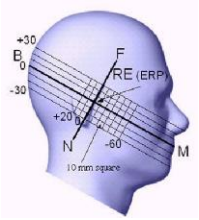


Figure 7-3
Side view w/ relevant markings

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.

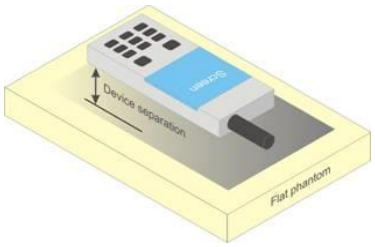


Figure 7-4
Sample Body-Worn Diagram

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

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

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.

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.

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

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.

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).

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

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

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

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.

10 RF CONDUCTED POWERS

All conducted power measurements for Sub6 WWAN technologies and bands in this section were performed by setting *Reserve_power_margin* (Qualcomm® Smart Transmit EFS entry) to 0dB, so that the EUT transmits continuously at minimum (P_{limit}, maximum tune up output power P_{max}).

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	33.36	33.32	31.73	**29.65**	27.92	27.76	25.89	23.52	22.58
	190	33.21	33.13	31.70	**29.85**	27.94	27.05	25.88	23.73	22.67
	251	33.02	32.91	31.31	**29.43**	27.48	27.11	25.25	23.67	22.91
GSM 1900	512	27.84	27.91	24.80	22.80	**21.29**	25.33	23.93	21.89	20.94
	661	27.55	27.51	24.65	23.27	**21.83**	25.41	24.07	22.06	21.17
	810	27.75	27.66	24.58	23.21	**21.75**	25.90	23.90	21.90	20.92
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	24.16	24.12	25.54	**25.22**	24.74	18.56	19.70	19.09	19.40
	190	24.01	23.93	25.51	**25.42**	24.76	17.85	19.69	19.30	19.49
	251	23.82	23.71	25.12	**25.00**	24.30	17.91	19.06	19.24	19.73
GSM 1900	512	18.64	18.71	18.61	18.37	**18.11**	16.13	17.74	17.46	17.76
	661	18.35	18.31	18.46	18.84	**18.65**	16.21	17.88	17.63	17.99
	810	18.55	18.46	18.39	18.78	**18.57**	16.70	17.71	17.47	17.74
GSM 850	**Frame Avg.Targets:**	23.40	23.40	25.01	**25.07**	24.32	17.80	18.81	18.57	18.82
GSM 1900		18.80	18.80	18.81	18.77	**18.82**	16.80	17.81	17.57	17.82

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	29.62	29.58	27.09	**25.93**	24.06	25.01	23.62	21.51	20.61
	661	29.43	29.31	27.19	**26.19**	24.12	25.18	23.73	21.64	20.91
	810	29.52	29.36	27.23	**26.13**	24.14	25.51	23.61	21.61	20.63
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	20.42	20.38	20.90	**21.50**	20.88	15.81	17.43	17.08	17.43
	661	20.23	20.11	21.00	**21.76**	20.94	15.98	17.54	17.21	17.73
	810	20.32	20.16	21.04	**21.70**	20.96	16.31	17.42	17.18	17.45
GSM 1900	**Frame Avg.Targets:**	20.60	20.60	21.51	**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	33.47	33.48	31.78	**29.75**	27.98	27.13	25.48	23.60	22.57
	190	33.47	33.43	31.75	**29.77**	28.01	27.00	25.48	23.40	22.52
	251	32.94	32.86	31.35	**29.45**	27.74	27.13	25.20	23.13	22.23
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	24.27	24.28	25.59	**25.32**	24.80	17.93	19.29	19.17	19.39
	190	24.27	24.23	25.56	**25.34**	24.83	17.80	19.29	18.97	19.34
	251	23.74	23.66	25.16	**25.02**	24.56	17.93	19.01	18.70	19.05
GSM 850	**Frame Avg.Targets:**	23.40	23.40	25.01	**25.07**	24.32	17.80	18.81	18.57	18.82

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	30.77	30.81	27.61	25.98	**24.77**	27.20	25.55	23.60	22.62
	190	30.66	30.74	27.59	25.91	**24.44**	27.19	25.46	23.43	22.58
	251	30.25	30.34	27.22	25.30	**24.01**	26.71	25.21	23.16	22.10
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	21.57	21.61	21.42	21.55	**21.59**	18.00	19.36	19.17	19.44
	190	21.46	21.54	21.40	21.48	**21.26**	17.99	19.27	19.00	19.40
	251	21.05	21.14	21.03	20.87	**20.83**	17.51	19.02	18.73	18.92
GSM 850	**Frame Avg.Targets:**	21.00	21.00	21.01	20.97	**21.02**	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

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	24.12	24.42	**24.61**	19.46	19.50	**19.58**	**18.38**	18.21	18.24	-
99		12.2 kbps AMR	24.10	24.47	24.63	19.44	19.52	19.56	18.39	18.20	18.25	-
6	HSDPA	Subtest 1	23.10	23.42	23.60	18.43	18.49	18.57	17.36	17.19	17.20	0
6		Subtest 2	23.10	23.43	23.62	18.44	18.50	18.53	17.35	17.18	17.16	0
6		Subtest 3	22.60	22.92	23.09	17.94	17.99	18.03	16.85	16.68	16.68	0.5
6		Subtest 4	22.59	22.91	23.09	17.94	17.96	18.04	16.84	16.68	16.68	0.5
6	HSUPA	Subtest 1	23.13	23.43	23.57	18.41	18.52	18.53	17.37	17.18	17.19	0
6		Subtest 2	21.10	21.44	21.59	16.40	16.50	16.53	15.35	15.18	15.18	2
6		Subtest 3	22.11	22.41	22.61	17.46	17.51	17.54	16.34	16.21	16.21	1
6		Subtest 4	21.06	21.45	21.59	16.46	16.49	16.57	15.36	15.17	15.20	2
6		Subtest 5	23.11	23.41	23.63	18.50	18.55	18.54	17.37	17.26	17.27	0
8	DC-HSDPA	Subtest 1	23.08	23.42	23.61	18.47	18.51	18.57	17.36	17.21	17.25	0
8		Subtest 2	23.10	23.42	23.62	18.46	18.53	18.54	17.32	17.17	17.24	0
8		Subtest 3	22.61	22.90	23.12	17.96	18.02	18.07	16.85	16.71	16.70	0.5
8		Subtest 4	22.60	22.90	23.11	17.98	17.99	18.01	16.85	16.72	16.76	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	22.77	22.76	**22.81**	**22.69**	22.57	22.68	-
99		12.2 kbps AMR	22.77	22.80	22.81	22.70	22.55	22.62	-
6	HSDPA	Subtest 1	21.93	21.97	22.07	22.02	21.85	21.89	0
6		Subtest 2	21.92	21.99	22.05	21.92	21.99	22.05	0
6		Subtest 3	21.44	21.49	21.53	21.44	21.49	21.53	0.5
6		Subtest 4	21.45	21.50	21.54	21.51	21.34	21.37	0.5
6	HSUPA	Subtest 1	21.98	22.06	22.13	22.09	21.88	21.86	0
6		Subtest 2	20.01	20.01	20.06	20.02	19.80	19.81	2
6		Subtest 3	20.95	20.98	21.08	21.05	20.83	20.83	1
6		Subtest 4	19.93	20.02	20.06	19.99	19.84	19.79	2
6		Subtest 5	21.95	22.15	22.09	22.03	21.85	21.88	0
8	DC-HSDPA	Subtest 1	21.99	22.10	22.08	22.10	21.85	21.93	0
8		Subtest 2	21.96	22.05	22.06	22.03	21.80	21.83	0
8		Subtest 3	21.52	21.56	21.54	21.51	21.37	21.37	0.5
8		Subtest 4	21.48	21.49	21.54	21.53	21.35	21.42	0.5

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	24.25	24.58	**24.78**	-
99		12.2 kbps AMR	24.30	24.59	24.63	-
6	HSDPA	Subtest 1	23.28	23.57	23.74	0
6		Subtest 2	23.28	23.60	23.75	0
6		Subtest 3	22.76	23.07	23.23	0.5
6		Subtest 4	22.74	23.08	23.23	0.5
6	HSUPA	Subtest 1	23.23	23.56	23.73	0
6		Subtest 2	21.19	21.49	21.71	2
6		Subtest 3	22.18	22.47	22.68	1
6		Subtest 4	21.16	21.49	21.71	2
6		Subtest 5	23.17	23.51	23.70	0
8	DC-HSDPA	Subtest 1	23.08	23.35	23.63	0
8		Subtest 2	23.09	23.37	23.60	0
8		Subtest 3	23.12	22.82	23.12	0.5
8		Subtest 4	22.57	22.85	23.09	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	21.00	21.33	**21.48**	-
99		12.2 kbps AMR	21.04	21.36	21.49	-
6	HSDPA	Subtest 1	19.91	20.19	20.42	0
6		Subtest 2	19.92	20.21	20.44	0
6		Subtest 3	19.41	19.69	19.88	0.5
6		Subtest 4	19.42	19.69	19.91	0.5
6	HSUPA	Subtest 1	19.89	20.18	20.42	0
6		Subtest 2	17.92	18.17	18.41	2
6		Subtest 3	18.88	19.16	19.41	1
6		Subtest 4	17.89	18.18	18.39	2
6		Subtest 5	19.93	20.19	20.41	0
8	DC-HSDPA	Subtest 1	19.87	20.15	20.42	0
8		Subtest 2	19.88	20.17	20.40	0
8		Subtest 3	19.38	19.64	19.89	0.5
8		Subtest 4	19.37	19.64	19.92	0.5

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.

10.3.1 LTE Band 12

Table 10-9
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	24.07	0	0
	1	25	**24.27**		0
	1	49	24.18		0
	25	0	23.05	0-1	1
	25	12	**23.16**		1
	25	25	23.15		1
	50	0	23.04		1
16QAM	1	0	23.18	0-1	1
	1	25	23.32		1
	1	49	23.12		1
	25	0	22.04	0-2	2
	25	12	22.15		2
	25	25	22.14		2
	50	0	22.07		2
64QAM	1	0	22.32	0-2	2
	1	25	22.38		2
	1	49	22.45		2
	25	0	21.08	0-3	3
	25	12	21.13		3
	25	25	21.15		3
	50	0	21.07		3
256QAM	1	0	19.09	0-5	5
	1	25	19.30		5
	1	49	19.18		5
	25	0	19.05		5
	25	12	19.14		5
	25	25	19.14		5
	50	0	19.01		5

Table 10-10
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	24.06	0	0
	1	25	**24.15**		0
	1	49	24.12		0
	25	0	23.19	0-1	1
	25	12	23.26		1
	25	25	**23.29**		1
	50	0	23.18		1
16QAM	1	0	23.37	0-1	1
	1	25	23.46		1
	1	49	23.27		1
	25	0	22.18	0-2	2
	25	12	22.31		2
	25	25	22.27		2
	50	0	22.18		2
64QAM	1	0	22.34	0-2	2
	1	25	22.54		2
	1	49	22.39		2
	25	0	21.18	0-3	3
	25	12	21.31		3
	25	25	21.26		3
	50	0	21.15		3
256QAM	1	0	19.19	0-5	5
	1	25	19.40		5
	1	49	19.33		5
	25	0	19.14		5
	25	12	19.26		5
	25	25	19.24		5
	50	0	19.15		5

Table 10-11
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	21.28	0	0
	1	25	21.36		0
	1	49	**21.45**		0
	25	0	21.39	0-1	0
	25	12	**21.51**		0
	25	25	21.49		0
	50	0	21.43		0
16QAM	1	0	21.56	0-1	0
	1	25	21.60		0
	1	49	21.62		0
	25	0	21.42	0-2	0
	25	12	21.54		0
	25	25	21.51		0
	50	0	21.44		0
64QAM	1	0	21.60	0-2	0
	1	25	21.80		0
	1	49	21.69		0
	25	0	21.18	0-3	0.2
	25	12	21.28		0.2
	25	25	21.26		0.2
	50	0	21.17		0.2
256QAM	1	0	19.21	0-5	2.2
	1	25	19.40		2.2
	1	49	19.25		2.2
	25	0	19.12		2.2
	25	12	19.23		2.2
	25	25	19.26		2.2
	50	0	19.13		2.2

10.3.2 LTE Band 13

Table 10-12
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	24.25	0	0
	1	25	**24.28**		0
	1	49	24.24		0
	25	0	23.43	0-1	1
	25	12	23.44		1
	25	25	**23.45**		1
	50	0	23.38		1
16QAM	1	0	23.51	0-1	1
	1	25	23.67		1
	1	49	23.63		1
	25	0	22.44	0-2	2
	25	12	22.44		2
	25	25	22.48		2
	50	0	22.41		2
64QAM	1	0	22.61	0-2	2
	1	25	22.65		2
	1	49	22.71		2
	25	0	21.46	0-3	3
	25	12	21.45		3
	25	25	21.46		3
	50	0	21.39		3
256QAM	1	0	19.68	0-5	5
	1	25	19.66		5
	1	49	19.53		5
	25	0	19.39		5
	25	12	19.44		5
	25	25	19.40		5
	50	0	19.37		5

Table 10-13
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	24.40	0	0
	1	25	**24.52**		0
	1	49	24.44		0
	25	0	23.53	0-1	1
	25	12	23.57		1
	25	25	**23.59**		1
	50	0	23.55		1
16QAM	1	0	23.61	0-1	1
	1	25	23.87		1
	1	49	23.76		1
	25	0	22.57	0-2	2
	25	12	22.62		2
	25	25	22.63		2
	50	0	22.55		2
64QAM	1	0	22.72	0-2	2
	1	25	22.85		2
	1	49	22.75		2
	25	0	21.57	0-3	3
	25	12	21.59		3
	25	25	21.61		3
	50	0	21.55		3
256QAM	1	0	19.85	0-5	5
	1	25	19.71		5
	1	49	19.63		5
	25	0	19.47		5
	25	12	19.54		5
	25	25	19.62		5
	50	0	19.50		5

Table 10-14
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	21.97	0	0
	1	25	**22.05**		0
	1	49	21.91		0
	25	0	21.83	0-1	0
	25	12	21.84		0
	25	25	**21.85**		0
	50	0	21.83		0
16QAM	1	0	22.04	0-1	0
	1	25	22.27		0
	1	49	22.24		0
	25	0	21.89	0-2	0
	25	12	21.91		0
	25	25	21.94		0
	50	0	21.83		0
64QAM	1	0	22.10	0-2	0
	1	25	22.20		0
	1	49	22.06		0
	25	0	21.58	0-3	0.5
	25	12	21.55		0.5
	25	25	21.61		0.5
	50	0	21.55		0.5
256QAM	1	0	19.51	0-5	2.5
	1	25	19.84		2.5
	1	49	19.65		2.5
	25	0	19.51		2.5
	25	12	19.55		2.5
	25	25	19.61		2.5
	50	0	19.52		2.5

10.3.3 LTE Band 26

Table 10-15
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	24.29	0	0
	1	36	**24.33**		0
	1	74	24.16		0
	36	0	23.18	0-1	1
	36	18	23.17		1
	36	37	**23.21**		1
	75	0	23.15		1
16QAM	1	0	23.33	0-1	1
	1	36	23.41		1
	1	74	23.32		1
	36	0	22.24	0-2	2
	36	18	22.23		2
	36	37	22.24		2
	75	0	22.27		2
64QAM	1	0	22.37	0-2	2
	1	36	22.29		2
	1	74	22.18		2
	36	0	21.27	0-3	3
	36	18	21.24		3
	36	37	21.27		3
	75	0	21.23		3
256QAM	1	0	19.45	0-5	5
	1	36	19.52		5
	1	74	19.36		5
	36	0	19.21		5
	36	18	19.24		5
	36	37	19.23		5
	75	0	19.26		5

Table 10-16
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	24.11	0	0
	1	36	**24.23**		0
	1	74	24.17		0
	36	0	**23.30**	0-1	1
	36	18	23.26		1
	36	37	23.22		1
	75	0	23.25		1
16QAM	1	0	23.31	0-1	1
	1	36	23.51		1
	1	74	23.32		1
	36	0	22.31	0-2	2
	36	18	22.32		2
	36	37	22.33		2
	75	0	22.32		2
64QAM	1	0	22.52	0-2	2
	1	36	22.61		2
	1	74	22.49		2
	36	0	21.32	0-3	3
	36	18	21.27		3
	36	37	21.32		3
	75	0	21.35		3
256QAM	1	0	19.41	0-5	5
	1	36	19.53		5
	1	74	19.46		5
	36	0	19.28		5
	36	18	19.27		5
	36	37	19.31		5
	75	0	19.32		5

Table 10-17
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	20.90	0	0
	1	36	**20.97**		0
	1	74	20.87		0
	36	0	**21.01**	0-1	0
	36	18	21.00		0
	36	37	21.00		0
	75	0	20.93		0
16QAM	1	0	21.10	0-1	0
	1	36	21.23		0
	1	74	21.04		0
	36	0	21.05	0-2	0
	36	18	21.07		0
	36	37	21.04		0
	75	0	21.07		0
64QAM	1	0	21.10	0-2	0
	1	36	21.31		0
	1	74	21.16		0
	36	0	20.94	0-3	0
	36	18	21.07		0
	36	37	21.08		0
	75	0	21.11		0
256QAM	1	0	19.42	0-5	2
	1	36	19.48		2
	1	74	19.29		2
	36	0	19.26		2
	36	18	19.24		2
	36	37	19.26		2
	75	0	19.32		2

10.3.4 LTE Band 66

Table 10-18
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	19.24	19.24	**19.39**	0	0
	1	50	19.30	19.24	19.36		0
	1	99	19.24	19.13	19.30		0
	50	0	19.28	19.32	**19.38**	0-1	0
	50	25	19.36	19.33	19.30		0
	50	50	19.31	19.31	19.29		0
	100	0	19.33	19.33	19.36		0
16QAM	1	0	19.45	19.64	19.61	0-1	0
	1	50	19.50	19.78	19.61		0
	1	99	19.41	19.50	19.56		0
	50	0	19.32	19.35	19.31	0-2	0
	50	25	19.37	19.43	19.32		0
	50	50	19.33	19.34	19.33		0
	100	0	19.38	19.39	19.24		0
64QAM	1	0	19.48	19.63	19.48	0-2	0
	1	50	19.48	19.58	19.53		0
	1	99	19.34	19.43	19.51		0
	50	0	19.26	19.33	19.30	0-3	0
	50	25	19.38	19.38	19.27		0
	50	50	19.32	19.30	19.31		0
	100	0	19.34	19.35	19.25		0
256QAM	1	0	18.52	18.51	18.52	0-5	0.5
	1	50	18.62	18.63	18.66		0.5
	1	99	18.60	18.50	18.44		0.5
	50	0	18.42	18.39	18.39		0.5
	50	25	18.47	18.47	18.40		0.5
	50	50	18.40	18.44	18.40		0.5
	100	0	18.45	18.43	18.37		0.5

Table 10-19
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	23.36	23.44	**23.54**	0	0
	1	50	23.42	23.47	23.48		0
	1	99	23.39	23.36	23.51		0
	50	0	22.39	22.43	**22.50**	0-1	1
	50	25	22.46	22.45	22.45		1
	50	50	22.42	22.43	22.47		1
	100	0	22.47	22.47	22.48		1
16QAM	1	0	22.64	22.74	22.71	0-1	1
	1	50	22.66	22.73	22.70		1
	1	99	22.65	22.48	22.69		1
	50	0	21.39	21.46	21.45	0-2	2
	50	25	21.48	21.52	21.45		2
	50	50	21.46	21.47	21.46		2
	100	0	21.45	21.52	21.40		2
64QAM	1	0	21.62	21.58	21.75	0-2	2
	1	50	21.73	21.72	21.73		2
	1	99	21.56	21.55	21.66		2
	50	0	20.37	20.46	20.40	0-3	3
	50	25	20.46	20.51	20.40		3
	50	50	20.41	20.44	20.43		3
	100	0	20.43	20.51	20.39		3
256QAM	1	0	18.59	18.62	18.57	0-5	5
	1	50	18.48	18.75	18.61		5
	1	99	18.46	18.45	18.52		5
	50	0	18.35	18.46	18.44		5
	50	25	18.45	18.50	18.39		5
	50	50	18.43	18.43	18.42		5
	100	0	18.43	18.49	18.37		5

Table 10-20
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	20.82	20.76	**20.93**	0	0
	1	50	20.85	20.74	20.92		0
	1	99	20.87	20.73	20.91		0
	50	0	20.89	20.89	**20.96**	0-1	0
	50	25	20.92	20.91	20.92		0
	50	50	20.90	20.91	20.91		0
	100	0	20.91	20.87	20.90		0
16QAM	1	0	21.01	21.12	21.06	0-1	0
	1	50	20.99	21.33	21.23		0
	1	99	21.09	21.05	21.13		0
	50	0	20.90	20.86	20.83	0-2	0
	50	25	20.92	20.93	20.97		0
	50	50	20.87	20.93	20.91		0
	100	0	20.88	20.90	20.90		0
64QAM	1	0	21.06	21.10	21.00	0-2	0
	1	50	21.02	21.22	21.12		0
	1	99	21.00	21.03	21.09		0
	50	0	20.11	20.07	20.04	0-3	0.5
	50	25	20.13	20.17	20.12		0.5
	50	50	20.09	20.11	20.12		0.5
	100	0	20.10	20.10	20.15		0.5
256QAM	1	0	18.16	18.27	18.18	0-5	2.5
	1	50	18.24	18.31	18.20		2.5
	1	99	18.30	18.35	18.27		2.5
	50	0	18.10	18.09	18.03		2.5
	50	25	18.12	18.16	18.16		2.5
	50	50	18.10	18.14	18.11		2.5
	100	0	18.11	18.11	18.11		2.5

Table 10-21
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	18.22	18.22	**18.39**	0	0
	1	50	18.28	18.28	18.36		0
	1	99	18.29	18.17	18.38		0
	50	0	18.36	18.33	**18.38**	0-1	0
	50	25	18.35	18.34	18.33		0
	50	50	18.32	18.35	18.35		0
	100	0	18.32	18.34	18.36		0
16QAM	1	0	18.51	18.65	18.58	0-1	0
	1	50	18.54	18.60	18.73		0
	1	99	18.49	18.48	18.66		0
	50	0	18.35	18.33	18.33	0-2	0
	50	25	18.36	18.42	18.45		0
	50	50	18.35	18.37	18.35		0
	100	0	18.35	18.39	18.39		0
64QAM	1	0	18.42	18.48	18.56	0-2	0
	1	50	18.53	18.60	18.56		0
	1	99	18.54	18.50	18.50		0
	50	0	18.33	18.33	18.28	0-3	0
	50	25	18.35	18.41	18.40		0
	50	50	18.33	18.38	18.35		0
	100	0	18.32	18.39	18.36		0
256QAM	1	0	18.08	18.28	18.21	0-5	0
	1	50	18.28	18.46	18.23		0
	1	99	18.20	18.18	18.23		0
	50	0	18.08	18.05	18.05		0
	50	25	18.09	18.13	18.14		0
	50	50	18.11	18.06	18.09		0
	100	0	18.08	18.10	18.15		0

10.3.5 LTE Band 25

Table 10-22
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	18.21	18.22	18.33	0	0
	1	50	18.23	18.29	**18.36**		0
	1	99	18.25	18.27	18.35		0
	50	0	18.23	18.35	18.32	0-1	0
	50	25	18.30	18.36	18.32		0
	50	50	18.28	18.39	**18.40**		0
	100	0	18.26	18.31	18.32		0
16QAM	1	0	18.40	18.59	18.54	0-1	0
	1	50	18.49	18.73	18.65		0
	1	99	18.43	18.70	18.49		0
	50	0	18.21	18.34	18.33	0-2	0
	50	25	18.30	18.37	18.34		0
	50	50	18.28	18.41	18.39		0
	100	0	18.26	18.33	18.30		0
64QAM	1	0	18.43	18.58	18.46	0-2	0
	1	50	18.40	18.58	18.51		0
	1	99	18.48	18.55	18.57		0
	50	0	18.23	18.36	18.33	0-3	0
	50	25	18.28	18.37	18.35		0
	50	50	18.27	18.43	18.44		0
	100	0	18.23	18.32	18.35		0
256QAM	1	0	18.27	18.46	18.46	0-5	0
	1	50	18.42	18.51	18.53		0
	1	99	18.51	18.53	18.40		0
	50	0	18.19	18.34	18.29		0
	50	25	18.27	18.40	18.34		0
	50	50	18.26	18.35	18.36		0
	100	0	18.26	18.33	18.27		0

Table 10-23
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	23.30	23.41	23.42	0	0
	1	50	23.36	**23.55**	23.51		0
	1	99	23.41	23.50	23.42		0
	50	0	22.35	22.45	22.44	0-1	1
	50	25	22.45	22.48	22.49		1
	50	50	22.40	**22.56**	22.52		1
	100	0	22.41	22.46	22.47		1
16QAM	1	0	22.62	22.64	22.61	0-1	1
	1	50	22.65	22.79	22.70		1
	1	99	22.70	22.68	22.58		1
	50	0	21.33	21.47	21.48	0-2	2
	50	25	21.45	21.50	21.47		2
	50	50	21.44	21.54	21.55		2
	100	0	21.42	21.45	21.45		2
64QAM	1	0	21.56	21.58	21.74	0-2	2
	1	50	21.65	21.70	21.81		2
	1	99	21.72	21.73	21.74		2
	50	0	20.32	20.46	20.44	0-3	3
	50	25	20.45	20.51	20.48		3
	50	50	20.41	20.52	20.53		3
	100	0	20.43	20.45	20.44		3
256QAM	1	0	18.52	18.56	18.49	0-5	5
	1	50	18.68	18.65	18.67		5
	1	99	18.63	18.50	18.58		5
	50	0	18.32	18.47	18.41		5
	50	25	18.45	18.47	18.44		5
	50	50	18.39	18.50	18.50		5
	100	0	18.37	18.46	18.41		5

Table 10-24
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	19.77	20.10	20.04	0	0
	1	50	19.86	**20.25**	20.09		0
	1	99	19.84	20.11	20.05		0
	50	0	19.85	20.03	20.09	0-1	0
	50	25	19.98	20.06	20.10		0
	50	50	19.98	**20.16**	20.15		0
	100	0	19.90	20.10	20.07		0
16QAM	1	0	20.12	20.21	20.31	0-1	0
	1	50	20.22	20.41	20.40		0
	1	99	20.27	20.32	20.30		0
	50	0	19.88	20.06	20.12	0-2	0
	50	25	20.01	20.08	20.12		0
	50	50	20.00	20.19	20.15		0
	100	0	19.96	20.04	20.09		0
64QAM	1	0	20.09	20.21	20.34	0-2	0
	1	50	20.11	20.33	20.32		0
	1	99	20.15	20.21	20.20		0
	50	0	19.89	20.03	20.08	0-3	0
	50	25	19.96	20.11	20.13		0
	50	50	19.99	20.16	20.17		0
	100	0	19.93	20.04	20.07		0
256QAM	1	0	18.26	18.23	18.50	0-5	2
	1	50	18.31	18.47	18.52		2
	1	99	18.26	18.39	18.50		2
	50	0	18.08	18.24	18.28		2
	50	25	18.20	18.31	18.31		2
	50	50	18.15	18.31	18.32		2
	100	0	18.16	18.25	18.29		2

Table 10-25
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	18.93	18.96	19.02	0	0
	1	50	18.96	**19.10**	18.98		0
	1	99	18.92	19.06	19.00		0
	50	0	18.86	19.00	19.05	0-1	0
	50	25	18.98	19.05	19.07		0
	50	50	18.97	**19.18**	19.16		0
	100	0	18.90	19.08	19.04		0
16QAM	1	0	19.07	19.16	19.37	0-1	0
	1	50	19.11	19.25	19.46		0
	1	99	19.06	19.24	19.32		0
	50	0	18.84	19.01	19.06	0-2	0
	50	25	18.96	19.02	19.08		0
	50	50	18.94	19.12	19.15		0
	100	0	18.92	18.99	19.08		0
64QAM	1	0	19.10	19.15	19.36	0-2	0
	1	50	19.20	19.35	19.40		0
	1	99	19.05	19.23	19.33		0
	50	0	18.88	18.99	19.10	0-3	0
	50	25	18.99	19.05	19.08		0
	50	50	18.95	19.12	19.16		0
	100	0	18.94	19.05	19.05		0
256QAM	1	0	18.17	18.38	18.50	0-5	1
	1	50	18.27	18.59	18.51		1
	1	99	18.28	18.44	18.46		1
	50	0	18.07	18.24	18.26		1
	50	25	18.20	18.25	18.34		1
	50	50	18.13	18.31	18.34		1
	100	0	18.16	18.23	18.29		1

10.3.6 LTE Band 41

Table 10-26

LTE Band 41 PC3 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	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	21.65	21.44	21.31	21.35	21.52	0	0
	1	50	21.63	21.39	21.39	21.48	21.66		0
	1	99	**21.67**	21.36	21.36	21.41	21.53		0
	50	0	21.70	21.49	21.50	21.54	21.71	0-1	0
	50	25	21.66	21.42	21.54	21.60	21.67		0
	50	50	**21.73**	21.40	21.40	21.57	21.72		0
	100	0	21.64	21.38	21.50	21.58	21.53		0
16QAM	1	0	21.72	21.49	21.23	21.51	21.38	0-1	0
	1	50	21.73	21.57	21.48	21.51	21.55		0
	1	99	21.61	21.49	21.31	21.50	21.62		0
	50	0	21.73	21.52	21.50	21.59	21.71	0-2	0
	50	25	21.67	21.43	21.52	21.61	21.74		0
	50	50	21.65	21.40	21.44	21.57	21.72		0
	100	0	21.62	21.39	21.49	21.55	21.72		0
64QAM	1	0	21.56	21.47	21.21	21.34	21.59	0-2	0
	1	50	21.68	21.39	21.41	21.49	21.72		0
	1	99	21.58	21.43	21.35	21.48	21.56		0
	50	0	21.55	21.32	21.32	21.36	21.50	0-3	0
	50	25	21.49	21.27	21.40	21.40	21.58		0
	50	50	21.45	21.21	21.26	21.40	21.53		0
	100	0	21.45	21.21	21.35	21.40	21.50		0
256QAM	1	0	19.38	19.24	19.21	19.18	19.34	0-5	2
	1	50	19.52	19.28	19.24	19.33	19.40		2
	1	99	19.27	19.04	19.04	19.11	19.40		2
	50	0	19.52	19.30	19.29	19.34	19.50		2
	50	25	19.46	19.23	19.33	19.40	19.54		2
	50	50	19.43	19.20	19.21	19.39	19.52		2
	100	0	19.41	19.20	19.30	19.37	19.49		2

Table 10-27

LTE Band 41 PC2 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	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	23.38	23.16	23.00	23.11	23.28	0	0
	1	50	23.33	23.12	23.08	23.18	23.38		0
	1	99	**23.41**	23.07	22.92	23.11	23.27		0
	50	0	23.35	23.17	23.12	23.19	23.38	0-1	0
	50	25	23.36	23.11	23.19	23.29	23.36		0
	50	50	**23.40**	23.06	23.08	23.23	23.33		0
	100	0	23.30	23.08	23.12	23.22	23.31		0

Table 10-28
LTE Band 41 PC3 Ant B Measured P_{Max} 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	24.54	24.34	24.24	24.31	24.42	0	0
	1	50	24.56	24.32	24.38	24.48	24.51		0
	1	99	**24.65**	24.25	24.33	24.41	24.52		0
	50	0	23.65	23.44	23.47	23.48	23.63	0-1	1
	50	25	23.59	23.40	23.50	23.58	23.64		1
	50	50	**23.68**	23.35	23.42	23.54	23.62		1
	100	0	23.60	23.31	23.44	23.50	23.59		1
16QAM	1	0	23.63	23.52	23.26	23.27	23.65	0-1	1
	1	50	23.66	23.44	23.43	23.49	23.71		1
	1	99	23.55	23.43	23.34	23.38	23.58		1
	50	0	22.63	22.42	22.44	22.49	22.61	0-2	2
	50	25	22.61	22.35	22.51	22.54	22.68		2
	50	50	22.57	22.31	22.38	22.52	22.62		2
	100	0	22.55	22.33	22.46	22.50	22.63		2
64QAM	1	0	22.67	22.25	22.30	22.20	22.43	0-2	2
	1	50	22.50	22.36	22.50	22.40	22.63		2
	1	99	22.48	22.28	22.26	22.25	22.61		2
	50	0	21.64	21.44	21.44	21.49	21.61	0-3	3
	50	25	21.58	21.36	21.46	21.54	21.62		3
	50	50	21.53	21.34	21.39	21.55	21.66		3
	100	0	21.52	21.31	21.46	21.51	21.61		3
256QAM	1	0	19.47	19.31	19.16	19.29	19.40	0-5	5
	1	50	19.63	19.25	19.32	19.47	19.71		5
	1	99	19.43	19.20	19.17	19.39	19.44		5
	50	0	19.57	19.37	19.40	19.45	19.52		5
	50	25	19.52	19.32	19.44	19.51	19.58		5
	50	50	19.46	19.27	19.31	19.49	19.59		5
	100	0	19.49	19.27	19.39	19.48	19.55		5

Table 10-29
LTE Band 41 PC2 Ant B Measured P_{Max} 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	25.11	25.15	25.11	25.13	25.17	0	0
	1	50	25.14	25.12	25.14	25.16	25.07		0
	1	99	**25.18**	25.15	25.17	25.12	25.09		0
	50	0	24.50	24.34	24.30	24.40	24.48	0-1	1
	50	25	24.48	24.27	24.37	24.45	24.52		1
	50	50	**24.55**	24.24	24.26	24.39	24.52		1
	100	0	24.54	24.25	24.33	24.39	24.53		1

Table 10-30
LTE Band 41 PC3 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 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	21.36	21.20	21.16	21.00	21.01	0	0
	1	50	21.37	21.18	21.30	21.12	21.09		0
	1	99	**21.40**	21.14	21.16	20.95	21.03		0
	50	0	21.48	21.29	21.32	21.21	21.24	0-1	0
	50	25	21.50	21.27	21.35	21.24	21.22		0
	50	50	**21.51**	21.29	21.30	21.09	21.19		0
	100	0	21.37	21.26	21.26	21.19	21.19		0
16QAM	1	0	21.55	21.20	21.24	21.24	21.27	0-1	0
	1	50	21.56	21.21	21.48	21.25	21.29		0
	1	99	21.48	21.30	21.21	21.22	21.12		0
	50	0	21.50	21.30	21.31	21.21	21.19	0-2	0
	50	25	21.49	21.31	21.33	21.22	21.20		0
	50	50	21.37	21.27	21.26	21.15	21.22		0
	100	0	21.48	21.25	21.35	21.24	21.18		0
64QAM	1	0	21.43	21.18	21.29	21.17	21.11	0-2	0
	1	50	21.42	21.21	21.26	21.18	21.07		0
	1	99	21.30	21.03	21.20	21.04	21.05		0
	50	0	21.45	21.27	21.27	21.20	21.16	0-3	0
	50	25	21.45	21.30	21.28	21.20	21.19		0
	50	50	21.34	21.23	21.24	21.09	21.14		0
	100	0	21.43	21.25	21.25	21.17	21.17		0
256QAM	1	0	19.47	19.10	19.21	19.03	18.96	0-5	2
	1	50	19.41	19.12	19.25	19.26	19.13		2
	1	99	19.25	19.06	19.13	18.97	19.08		2
	50	0	19.43	19.23	19.26	19.15	19.18		2
	50	25	19.44	19.27	19.28	19.24	19.18		2
	50	50	19.34	19.22	19.25	19.08	19.14		2
	100	0	19.44	19.25	19.27	19.18	19.18		2

Table 10-31
LTE Band 41 PC2 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 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	23.10	22.93	22.85	22.74	22.81	0	0
	1	50	23.16	22.93	23.00	22.91	22.87		0
	1	99	**23.18**	22.80	22.86	22.70	22.77		0
	50	0	23.16	22.99	22.99	22.95	22.95	0-1	0
	50	25	23.22	23.01	23.02	22.97	22.98		0
	50	50	**23.23**	22.96	23.01	22.85	22.90		0
	100	0	23.15	22.95	23.00	22.93	22.95		0

Table 10-32
LTE Band 41 PC3 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	17.80	17.65	17.67	17.62	17.59	0	0
	1	50	17.78	17.65	17.80	17.73	17.77		0
	1	99	**17.84**	17.67	17.68	17.58	17.65		0
	50	0	17.88	17.76	17.78	17.73	17.72	0-1	0
	50	25	17.87	17.74	17.82	17.76	17.76		0
	50	50	**17.89**	17.74	17.80	17.70	17.81		0
	100	0	17.83	17.73	17.79	17.76	17.71		0
16QAM	1	0	17.86	17.83	17.64	17.60	17.70	0-1	0
	1	50	17.77	17.85	17.71	17.77	17.88		0
	1	99	17.64	17.81	17.72	17.49	17.76		0
	50	0	17.89	17.76	17.75	17.73	17.67	0-2	0
	50	25	17.91	17.78	17.77	17.81	17.73		0
	50	50	17.85	17.75	17.73	17.66	17.78		0
	100	0	17.85	17.73	17.75	17.74	17.70		0
64QAM	1	0	17.78	17.77	17.74	17.55	17.69	0-2	0
	1	50	17.78	17.67	17.78	17.70	17.81		0
	1	99	17.70	17.64	17.62	17.57	17.64		0
	50	0	17.91	17.77	17.75	17.75	17.68	0-3	0
	50	25	17.93	17.74	17.81	17.81	17.74		0
	50	50	17.88	17.75	17.75	17.69	17.80		0
	100	0	17.86	17.75	17.76	17.76	17.66		0
256QAM	1	0	17.78	17.71	17.65	17.70	17.62	0-5	0
	1	50	17.84	17.73	17.77	17.71	17.80		0
	1	99	17.61	17.64	17.75	17.65	17.76		0
	50	0	17.89	17.78	17.80	17.78	17.72		0
	50	25	17.93	17.82	17.81	17.86	17.74		0
	50	50	17.84	17.78	17.79	17.73	17.79		0
	100	0	17.88	17.74	17.79	17.80	17.70		0

Table 10-33
LTE Band 41 PC2 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	19.68	19.40	19.39	19.37	19.35	0	0
	1	50	19.69	19.46	19.64	19.48	19.49		0
	1	99	**19.71**	19.41	19.41	19.44	19.28		0
	50	0	19.70	19.58	19.52	19.51	19.41	0-1	0
	50	25	19.72	19.55	19.55	19.53	19.45		0
	50	50	**19.74**	19.54	19.53	19.42	19.52		0
	100	0	19.67	19.52	19.50	19.50	19.43		0

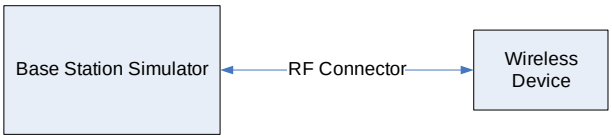


Figure 10-3
Power Measurement Setup

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 was 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 n5

Table 10-34
NR Band n5 Ant A Measured P_{Max} for all DSI - 20 MHz Bandwidth

NR Band n5 20 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	167300 (836.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	23.89	0	0.0
	1	53	**23.93**		0.0
	1	104	23.87		0.0
	50	0	22.77	0-1	1.0
	50	28	**23.83**	0	0.0
	50	56	22.76	0-1	1.0
	100	0	22.87		1.0
DFT-s-OFDM 16QAM	1	1	22.59	0-1	1.0
CP-OFDM QPSK	1	1	22.37	0-1.5	1.5

Table 10-35
NR Band n5 Ant E Measured P_{Max} for DSI = 0 (Body-worn, Hotspot or Phablet) - 20 MHz Bandwidth

NR Band n5 20 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	167300 (836.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	23.90	0	0.0
	1	53	23.95		0.0
	1	104	**24.01**		0.0
	50	0	22.90	0-1	1.0
	50	28	**23.95**	0	0.0
	50	56	22.86	0-1	1.0
	100	0	23.01		1.0
DFT-s-OFDM 16QAM	1	1	22.68	0-1	1.0
CP-OFDM QPSK	1	1	22.44	0-1.5	1.5

Table 10-36
NR Band n5 Ant E Measured P_{Limit} for DSI = 1 (Head) - 20 MHz Bandwidth

NR Band n5 20 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	167300 (836.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	20.76	0	0.0
	1	53	**20.79**		0.0
	1	104	20.70		0.0
	50	0	20.66	0-1	0.0
	50	28	**20.73**	0	0.0
	50	56	20.63	0-1	0.0
	100	0	20.72		0.0
DFT-s-OFDM 16QAM	1	1	20.45	0-1	0.0
CP-OFDM QPSK	1	1	20.76	0-1.5	0.0

10.4.2 NR Band n66

Table 10-37
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	18.95	0	0.0
	1	121	19.02		0.0
	1	240	**19.15**		0.0
	120	0	**19.05**	0-1	0.0
	120	61	18.98	0	0.0
	120	122	18.96	0-1	0.0
	240	0	18.95		0.0
DFT-s-OFDM 16QAM	1	1	18.99	0-1	0.0
CP-OFDM QPSK	1	1	19.19	0-1.5	0.0

Table 10-38
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	22.52	0	0.0
	1	121	22.43		0.0
	1	240	**22.53**		0.0
	120	0	21.48	0-1	1.0
	120	61	**22.48**	0	0.0
	120	122	21.39	0-1	1.0
	240	0	21.40		1.0
DFT-s-OFDM 16QAM	1	1	21.32	0-1	1.0
CP-OFDM QPSK	1	1	21.07	0-1.5	1.5

Table 10-39
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	**20.83**	0	0.0
	1	121	20.72		0.0
	1	240	20.75		0.0
	120	0	**20.75**	0-1	0.0
	120	61	20.71	0	0.0
	120	122	20.66	0-1	0.0
	240	0	20.66		0.0
DFT-s-OFDM 16QAM	1	1	20.75	0-1	0.0
CP-OFDM QPSK	1	1	20.82	0-1.5	0.0

Table 10-40
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	17.96	0	0.0
	1	121	**17.98**		0.0
	1	240	17.92		0.0
	120	0	**17.98**	0-1	0.0
	120	61	17.86	0	0.0
	120	122	17.72	0-1	0.0
	240	0	17.93		0.0
DFT-s-OFDM 16QAM	1	1	17.88	0-1	0.0
CP-OFDM QPSK	1	1	17.99	0-1.5	0.0

10.4.3 NR Band n25

Table 10-41
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	**18.15**	0	0.0
	1	108	18.00		0.0
	1	214	18.14		0.0
	108	0	17.97	0-1	0.0
	108	54	**18.05**	0	0.0
	108	108	17.91	0-1	0.0
	216	0	18.00		0.0
DFT-s-OFDM 16QAM	1	1	18.09	0-1	0.0
CP-OFDM QPSK	1	1	18.28	0-1.5	0.0

Table 10-42
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	**22.78**	0	0.0
	1	108	22.62		0.0
	1	214	22.61		0.0
	108	0	21.68	0-1	1.0
	108	54	**22.68**	0	0.0
	108	108	21.53	0-1	1.0
	216	0	21.65		1.0
DFT-s-OFDM 16QAM	1	1	21.72	0-1	1.0
CP-OFDM QPSK	1	1	21.26	0-1.5	1.5

Table 10-43
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	19.70	0	0.0
	1	108	19.73		0.0
	1	214	**19.85**		0.0
	108	0	19.62	0-1	0.0
	108	54	**19.83**	0	0.0
	108	108	19.69	0-1	0.0
	216	0	19.78		0.0
DFT-s-OFDM 16QAM	1	1	19.65	0-1	0.0
CP-OFDM QPSK	1	1	19.84	0-1.5	0.0

Table 10-44
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	18.64	0	0.0
	1	108	18.69		0.0
	1	214	**18.90**		0.0
	108	0	18.53	0-1	0.0
	108	54	**18.72**	0	0.0
	108	108	18.62	0-1	0.0
	216	0	18.64		0.0
DFT-s-OFDM 16QAM	1	1	18.57	0-1	0.0
CP-OFDM QPSK	1	1	18.84	0-1.5	0.0

10.4.4 NR Band n41

Table 10-45
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	19.49	0	0.0
	1	137	**19.50**		0.0
	1	271	19.37		0.0
	135	0	19.47	0-1	0.0
	135	69	**19.49**	0	0.0
	135	138	19.42	0-1	0.0
	270	0	19.41		0.0
DFT-s-OFDM 16QAM	1	1	19.48	0-1	0.0
CP-OFDM QPSK	1	1	19.48	0-1.5	0.0

Table 10-46
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	17.03	0	0.0
	1	137	**17.17**		0.0
	1	271	16.94		0.0
	135	0	17.08	0-1	0.0
	135	69	**17.14**	0	0.0
	135	138	17.05	0-1	0.0
	270	0	17.13		0.0
DFT-s-OFDM 16QAM	1	1	17.08	0-1	0.0
CP-OFDM QPSK	1	1	17.11	0-1.5	0.0

Table 10-47
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	19.50
SRS #3 Ant E	16.17
SRS #4 Ant D	16.58

Table 10-48
NR Band n41 PC2 Antenna B & E & D Path 1 Measured P_{Limit} 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	17.03
SRS #3 Ant E	13.79
SRS #4 Ant D	14.05

Table 10-49
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	20.77	0	0.0
	1	137	**20.95**		0.0
	1	271	20.93		0.0
	135	0	20.87	0-1	0.0
	135	69	**20.93**	0	0.0
	135	138	20.91	0-1	0.0
	270	0	20.89		0.0
DFT-s-OFDM 16QAM	1	1	20.91	0-1	0.0
CP-OFDM QPSK	1	1	20.92	0-1.5	0.0

Table 10-50
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	21.78	0	0.0
	1	137	**21.87**		0.0
	1	271	21.81		0.0
	135	0	21.81	0-1	0.0
	135	69	**21.88**	0	0.0
	135	138	21.85	0-1	0.0
	270	0	21.81		0.0
DFT-s-OFDM 16QAM	1	1	21.81	0-1	0.0
CP-OFDM QPSK	1	1	21.84	0-1.5	0.0

Table 10-51
NR Band n41 PC2 Antenna F & D Path 2 Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot or Phablet) and NR Band n41 PC2 Antenna E Path 2 Measured P_{Limit} for all DSI – 100 MHz Bandwidth

NR Band n41 100 MHz Bandwidth	
	Channel
Antenna	518598 (2592.99 MHz)
	Conducted Power [dBm]
SRS #2 Ant F	19.20
SRS #3 Ant D	18.38
SRS #4 Ant E	16.33

Table 10-52
NR Band n41 PC2 Antenna F & D Path 2 Measured P_{Limit} 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 F	17.27
SRS #3 Ant D	19.45

10.4.5 NR Band n77

Table 10-53
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	19.12	0	0.0
	1	137	18.90		0.0
	1	271	**19.31**		0.0
	135	0	19.03	0-1	0.0
	135	69	18.95	0	0.0
	135	138	**19.07**	0-1	0.0
	270	0	19.02		0.0
DFT-s-OFDM 16QAM	1	1	19.02	0-1	0.0
CP-OFDM QPSK	1	1	19.02	0-1.5	0.0

Table 10-54
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	15.09	0	0.0
	1	137	14.86		0.0
	1	271	**15.22**		0.0
	135	0	14.97	0-1	0.0
	135	69	14.94	0	0.0
	135	138	**15.15**	0-1	0.0
	270	0	15.01		0.0
DFT-s-OFDM 16QAM	1	1	15.02	0-1	0.0
CP-OFDM QPSK	1	1	15.05	0-1.5	0.0

Table 10-55
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	14.45
SRS #3 Ant I	18.49
SRS #4 Ant D	14.76

Table 10-56
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	10.51
SRS #3 Ant I	14.58
SRS #4 Ant D	10.71

Table 10-57
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	19.08	**19.40**	0	0.0
	1	137	18.89	19.16		0.0
	1	271	19.05	19.05		0.0
	135	0	18.98	**19.28**	0-1	0.0
	135	69	18.87	19.25	0	0.0
	135	138	18.85	19.13	0-1	0.0
	270	0	18.88	19.17		0.0
DFT-s-OFDM 16QAM	1	1	18.86	19.26	0-1	0.0
CP-OFDM QPSK	1	1	18.90	19.27	0-1.5	0.0

Table 10-58
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	15.04	**15.32**	0	0.0
	1	137	14.80	15.12		0.0
	1	271	14.99	15.04		0.0
	135	0	14.95	**15.19**	0-1	0.0
	135	69	14.87	15.15	0	0.0
	135	138	14.85	15.10	0-1	0.0
	270	0	14.88	15.15		0.0
DFT-s-OFDM 16QAM	1	1	14.83	15.11	0-1	0.0
CP-OFDM QPSK	1	1	14.94	15.18	0-1.5	0.0

Table 10-59
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	13.47	**13.69**
SRS #3 Ant I	18.63	**19.34**
SRS #4 Ant D	**14.34**	13.92

Table 10-60
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	9.46	**9.68**
SRS #3 Ant I	14.62	**15.35**
SRS #4 Ant D	**10.30**	9.88

Figure 10-4
Power Measurement Setup – NR FDD

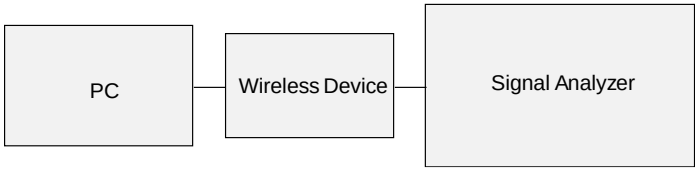


Figure 10-5
Power Measurement Setup – NR TDD

10.5 WLAN Conducted Powers

Table 10-61
2.4 GHz WLAN Measured for Data Referencing P_{Limit} Average RF Power for DSI = 1 (Head) – Ant H

2.4GHz WIFI (20MHz 802.11b SISO ANT1)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	16.80
2437	6		16.90
2462	11		16.60

Table 10-62
2.4 GHz WLAN Measured for Data Referencing P_{Limit} Average RF Power for DSI = 1 (Head) – Ant J

2.4GHz WIFI (20MHz 802.11b SISO ANT2)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	16.99
2437	6		16.80
2462	11		16.80

Table 10-63
2.4 GHz WLAN Measured for Data Referencing P_{Limit} Average RF Power for DSI = 1 (Head) – MIMO

2.4GHz WIFI (20MHz 802.11g MIMO)					
Freq [MHz]	Channel	Detector	Conducted Power [dBm]		
			ANT1	ANT2	MIMO
2412	1	Average	15.87	16.87	19.41
2437	6		15.49	16.59	19.09
2462	11		15.90	16.53	19.24

Table 10-64
2.4 GHz WLAN Measured for Data Referencing P_{Max} Average RF Power for DSI = 0 (Body-worn, Hotspot or Phablet) – Ant H

2.4GHz WIFI (20MHz 802.11b SISO ANT1)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	19.60
2437	6		19.80
2462	11		19.97

Table 10-65
2.4 GHz WLAN Measured for Data Referencing P_{Max} Average RF Power for DSI = 0 (Body-worn, Hotspot or Phablet) – Ant J

2.4GHz WIFI (20MHz 802.11b SISO ANT2)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	19.30
2437	6		19.70
2462	11		19.50

Table 10-66
2.4 GHz WLAN Measured for Data Referencing P_{Max} Average RF Power for DSI = 0 (Body-worn, Hotspot or Phablet) – MIMO

2.4GHz WIFI (20MHz 802.11g MIMO)					
Freq [MHz]	Channel	Detector	Conducted Power [dBm]		
			ANT1	ANT2	MIMO
2412	1	Average	17.56	17.33	20.46
2437	6		17.37	17.24	20.32
2462	11		17.61	17.27	20.45

Table 10-67
5 GHz WLAN Measured for Data Referencing P_{Limit} Average RF Power for all DSI – Ant H

5GHz WIFI (80MHz 802.11ac SISO ANT1)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5210	42	14.96
UNII-2A	5290	58	15.62
UNII-2C	5530	106	15.23
	5610	122	14.95
	5690	138	14.85
UNII-3	5775	155	15.20
UNII-4	5885	171	15.55

Table 10-68
5 GHz WLAN Measured for Data Referencing P_{Limit} Average RF Power for all DSI – Ant E

5GHz WIFI (80MHz 802.11ac SISO ANT2)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5210	42	15.37
UNII-2A	5290	58	15.52
UNII-2C	5530	106	15.31
	5610	122	15.82
	5690	138	15.67
UNII-3	5775	155	15.84
UNII-4	5885	171	15.96

Table 10-69
5 GHz WLAN Measured for Data Referencing P_{Limit} Average RF Power for all DSI – MIMO

5GHz WIFI (80MHz 802.11ac MIMO)					
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]		
			ANT1	ANT2	MIMO
UNII-1	5210	42	15.08	15.29	18.20
UNII-2A	5290	58	15.68	15.36	18.53
UNII-2C	5530	106	14.70	15.49	18.12
	5610	122	14.36	15.76	18.13
	5690	138	14.15	15.66	17.98
UNII-3	5775	155	14.60	15.88	18.30
UNII-4	5885	171	14.94	15.93	18.47

Table 10-70
6 GHz WLAN Measured for Data Referencing P_{Limit} Average RF Power for DSI = 0 (Body-worn or Phablet), – Ant H

6GHz WIFI (160MHz 802.11ax SISO ANT1)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-5	6025	15	8.75
	6345	79	8.55
UNII-6	6505	111	8.60
UNII-7	6665	143	8.50
UNII-8	6985	207	8.74

Table 10-71
6 GHz WLAN Measured for Data Referencing P_{Limit} Average RF Power for DSI = 0 (Body-worn or Phablet), – Ant E

6GHz WIFI (160MHz 802.11ax SISO ANT2)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-5	6025	15	8.98
	6345	79	8.99
UNII-6	6505	111	8.98
UNII-7	6665	143	8.19
UNII-8	6985	207	8.70

Table 10-72
6 GHz WLAN Measured for Data Referencing P_{Limit} Average RF Power for DSI = 0 (Body-worn or Phablet), – MIMO

6GHz WIFI (160MHz 802.11ax MIMO)					
Band	**Freq [MHz]**	**Channel**	**Avg. Conducted Powers [dBm]**		
			ANT1	**ANT2**	**MIMO**
UNII-5	6025	15	8.80	8.52	11.67
	6345	79	8.57	8.94	11.77
UNII-6	6505	111	8.35	8.84	11.61
UNII-7	6665	143	8.00	8.56	11.30
UNII-8	6985	207	8.14	8.90	11.55

Table 10-73
6 GHz WLAN Measured for Data Referencing P_{Max} Average RF Power for DSI = 1 (Head) – Ant H

6GHz WIFI (40MHz 802.11ax SISO ANT1)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-5	5965	3	16.87
	6285	67	16.75
UNII-7	6685	147	16.16

6GHz WIFI (80MHz 802.11ax SISO ANT1)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-6	6465	103	15.56
UNII-8	7025	215	15.30

Table 10-74
6 GHz WLAN Measured for Data Referencing P_{Max} Average RF Power for DSI = 1 (Head) – Ant E

6GHz WIFI (40MHz 802.11ax SISO ANT2)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-5	5965	3	16.79
	6285	67	16.49
UNII-7	6685	147	16.00

6GHz WIFI (80MHz 802.11ax SISO ANT2)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-6	6465	103	15.28
UNII-8	7025	215	14.95

Table 10-75
6 GHz WLAN Measured for Data Referencing P_{Max} Average RF Power for DSI = 1 (Head) – MIMO

6GHz WIFI (40MHz 802.11ax MIMO)					
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]		
			ANT1	ANT2	MIMO
UNII-5	5965	3	16.93	16.64	19.80
	6285	67	16.80	16.68	19.75
UNII-7	6685	147	16.64	16.52	19.59
6GHz WIFI (80MHz 802.11ax MIMO)					
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]		
			ANT1	ANT2	MIMO
UNII-6	6465	103	15.54	15.20	18.38
UNII-8	7025	215	15.37	15.03	18.21

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.

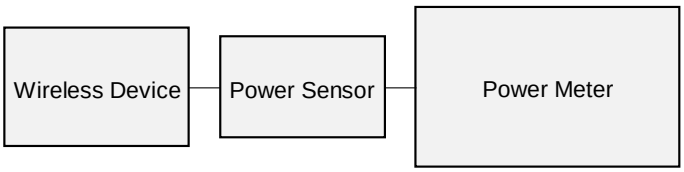


Figure 10-6
Power Measurement Setup

10.6 Bluetooth Conducted Powers

Table 10-76
Bluetooth Measured for Data Referencing P_{Max} Average RF Power for all DSI – Ant H

Frequency [MHz]	Data Rate [Mbps]	Mod.	Power Scheme	Channel No.	Avg Conducted Power	
					[dBm]	[mW]
2402	1.0	GFSK	ePA	0	16.96	49.659
2441	1.0	GFSK	ePA	39	18.38	68.865
2480	1.0	GFSK	ePA	78	17.47	55.847

Table 10-77
Bluetooth Measured for Data Referencing P_{Max} Average RF Power for all DSI – Ant J

Frequency [MHz]	Data Rate [Mbps]	Mod.	Power Scheme	Channel No.	Avg Conducted Power	
					[dBm]	[mW]
2402	1.0	GFSK	ePA	0	17.95	62.373
2441	1.0	GFSK	ePA	39	18.48	70.469
2480	1.0	GFSK	ePA	78	17.52	56.494

Table 10-78
Bluetooth P_{Limit} Average RF Power for all DSI – MIMO

Frequency [MHz]	Data Rate [Mbps]	Mod.	Power Scheme	Channel No.	ANT1 Avg Conducted Power		ANT2 Avg Conducted Power		Dual Avg Conducted Power	
					[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]
2402	1.0	GFSK	iPA	0	12.48	17.701	12.36	17.219	15.43	34.920
2441	1.0	GFSK	iPA	39	13.70	23.442	12.72	18.707	16.25	42.149
2480	1.0	GFSK	iPA	78	13.05	20.184	12.07	16.106	15.60	36.290
2402	2.0	π/4-DQPSK	iPA	0	9.53	8.974	9.28	8.472	12.42	17.447
2441	2.0	π/4-DQPSK	iPA	39	10.77	11.940	9.55	9.016	13.21	20.956
2480	2.0	π/4-DQPSK	iPA	78	10.05	10.116	8.97	7.889	12.55	18.004
2402	3.0	8DPSK	iPA	0	9.82	9.594	9.28	8.472	12.57	18.066
2441	3.0	8DPSK	iPA	39	10.76	11.912	9.54	8.995	13.20	20.907
2480	3.0	8DPSK	iPA	78	10.07	10.162	8.99	7.925	12.57	18.088

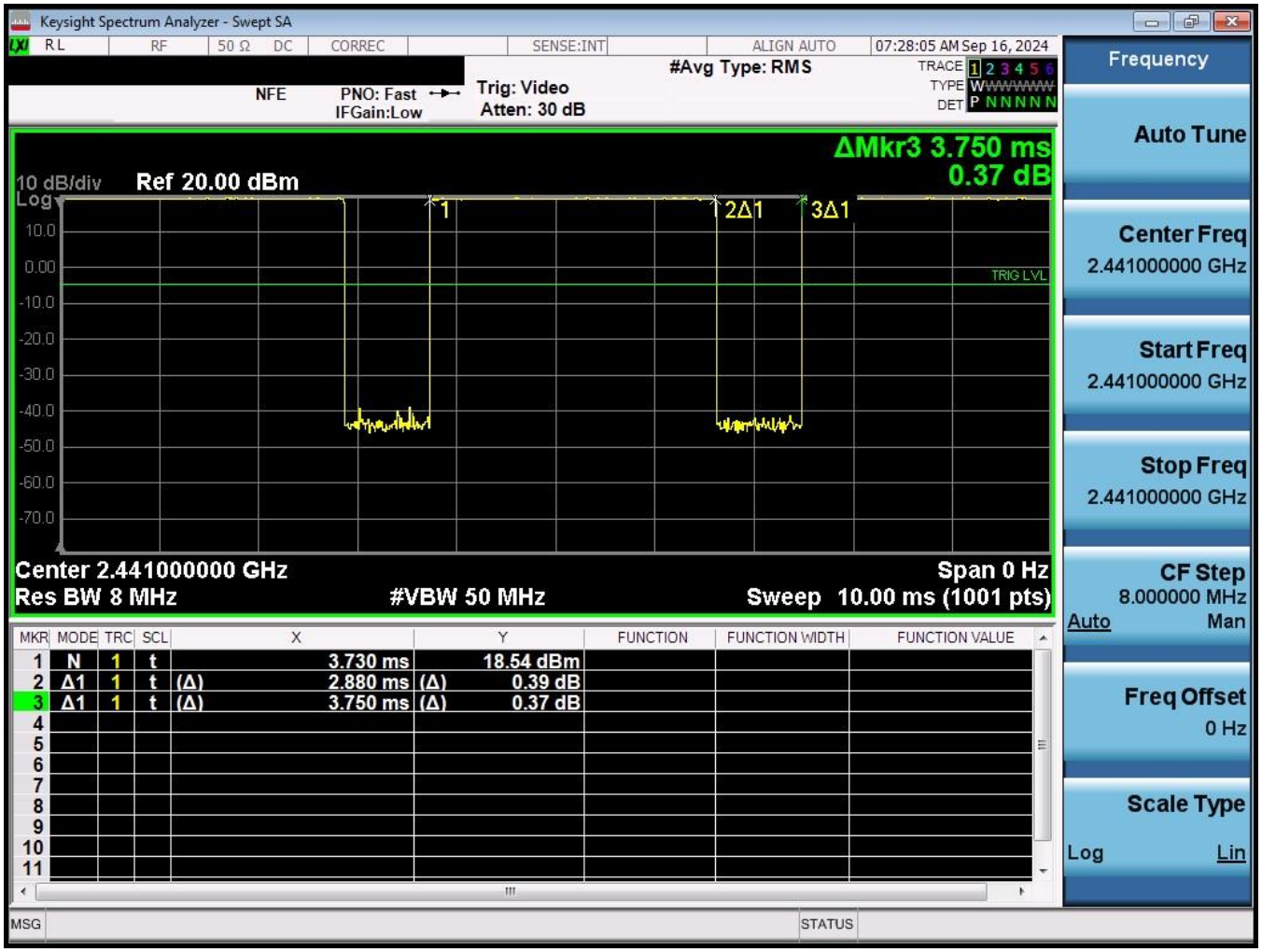
Table 10-79
Bluetooth LE Measured for Data Referencing P_{Max} Average RF Power for all DSI – Ant H

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Bluetooth Mode	Peak Conducted Power	
				[dBm]	[mW]
2402	1 Mbps	0	LE	19.39	86.816
2440	1 Mbps	19	LE	20.15	103.610
2480	1 Mbps	39	LE	19.27	84.450

Table 10-80
Bluetooth Measured for Data Referencing P_{Max} Average RF Power for all DSI – Ant J

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Bluetooth Mode	Peak Conducted Power	
				[dBm]	[mW]
2402	1 Mbps	0	LE	19.52	89.433
2440	1 Mbps	19	LE	19.61	91.411
2480	1 Mbps	39	LE	19.08	80.816

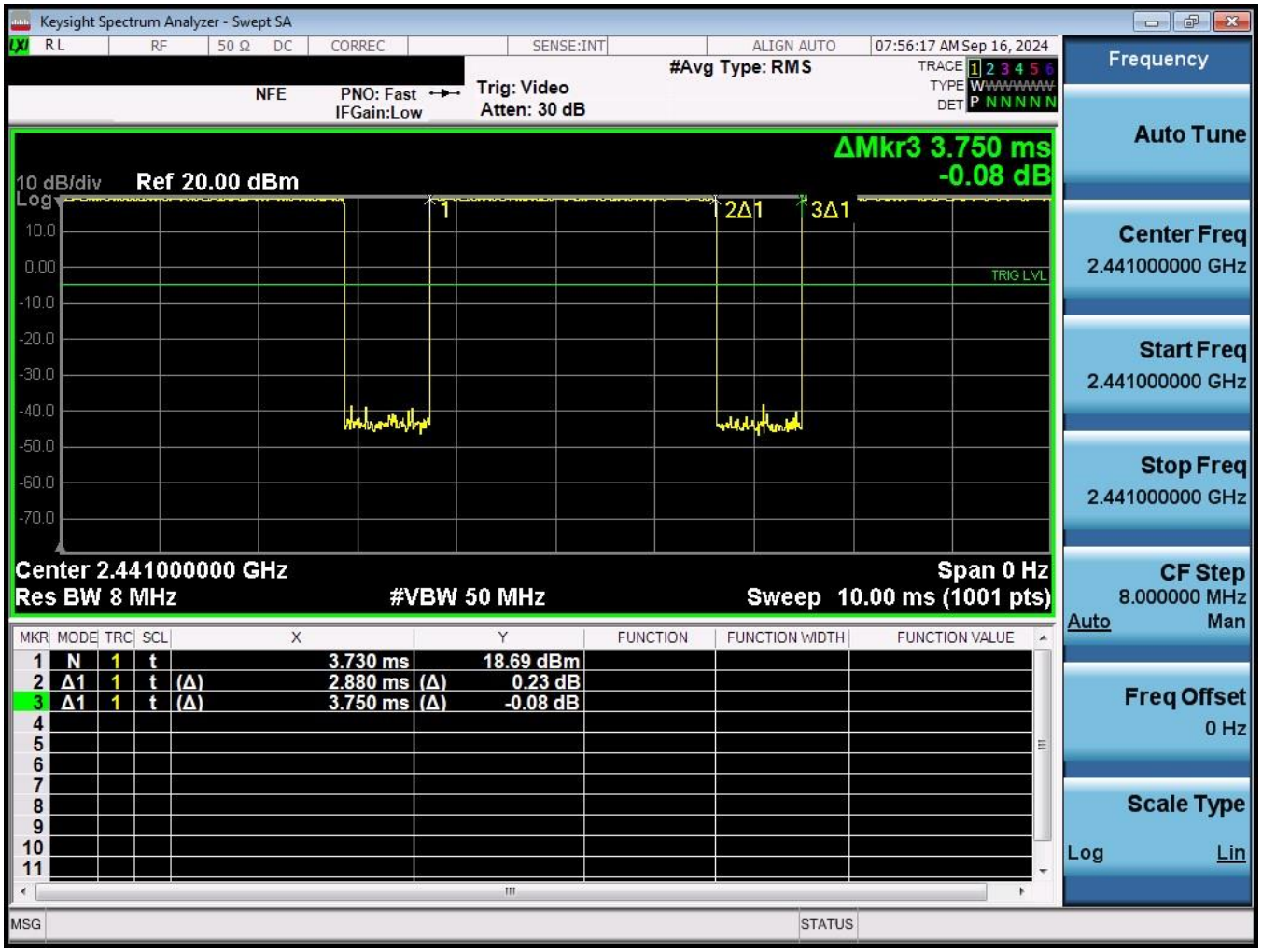
Figure 10-7
Bluetooth Antenna H Transmission Plot



Equation 10-1
Bluetooth Antenna H Duty Cycle Calculation

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{2.88ms}{3.75ms} * 100\% = 76.8\%$$

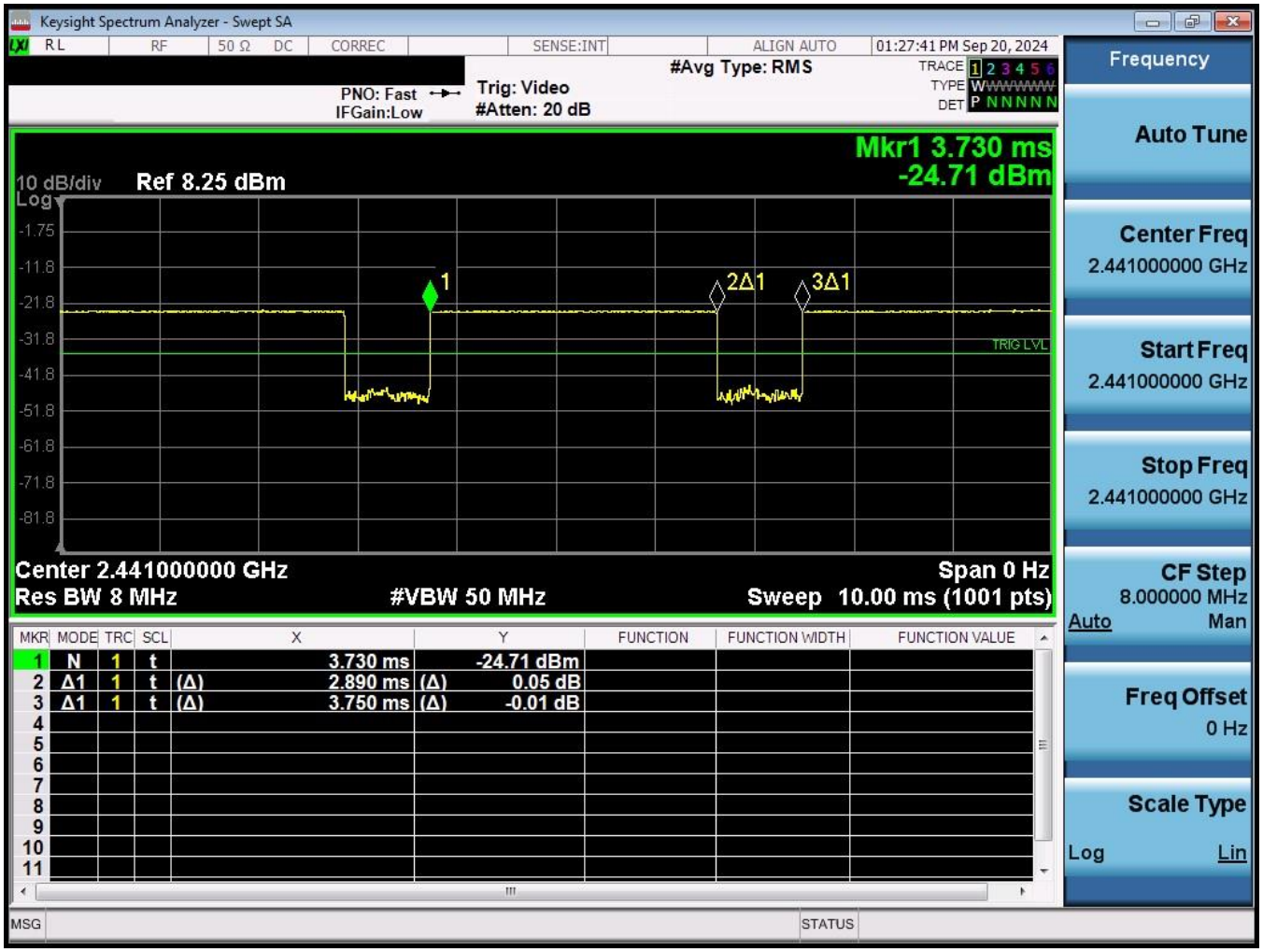
Figure 10-8
Bluetooth Antenna J Transmission Plot



Equation 10-2
Bluetooth Antenna J Duty Cycle Calculation

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{2.88ms}{3.75ms} * 100\% = 76.8\%$$

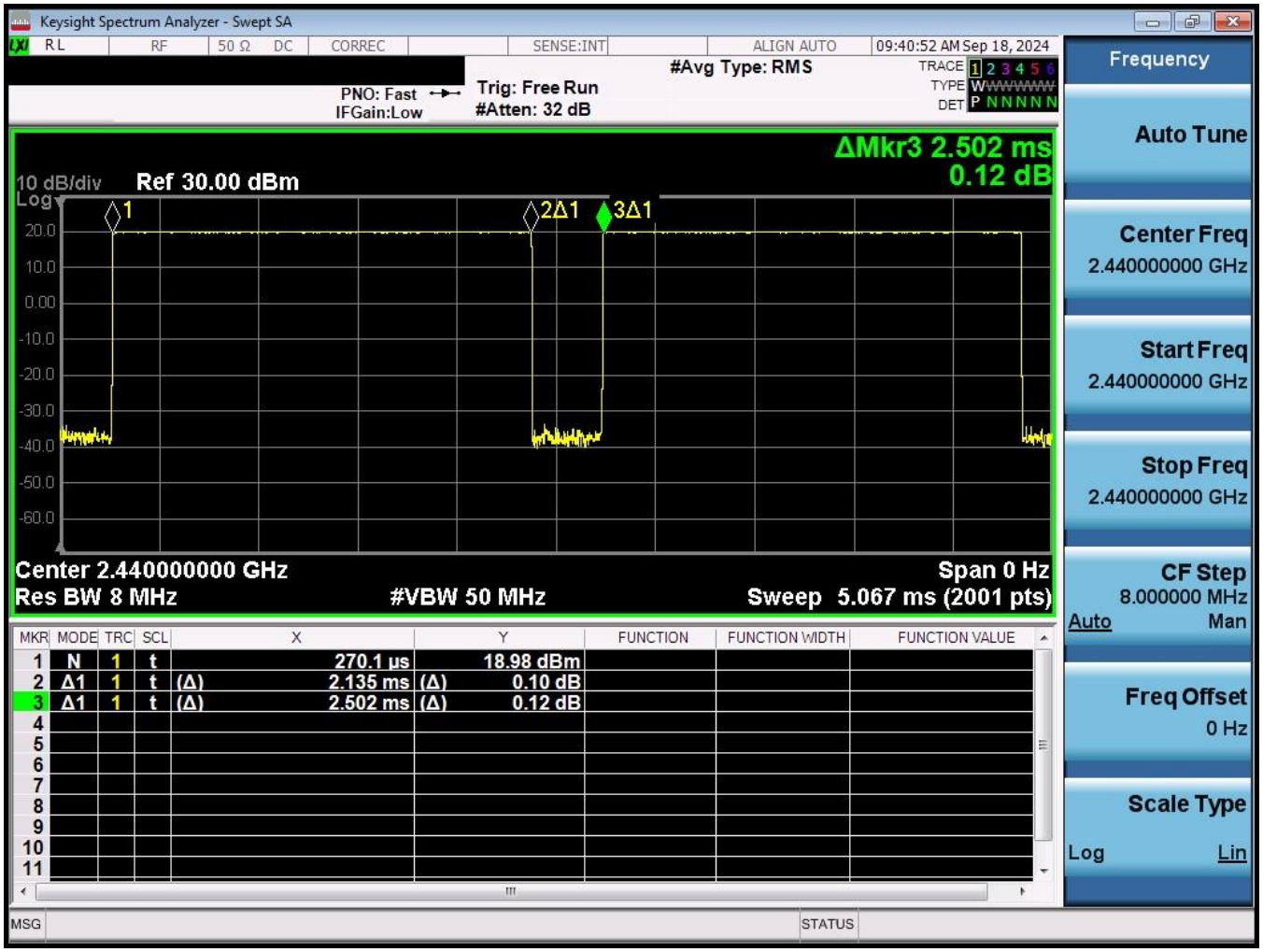
Figure 10-9
Bluetooth MIMO Transmission Plot



Equation 10-3
Bluetooth MIMO Duty Cycle Calculation

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{2.890ms}{3.750ms} * 100\% = 77.07\%$$

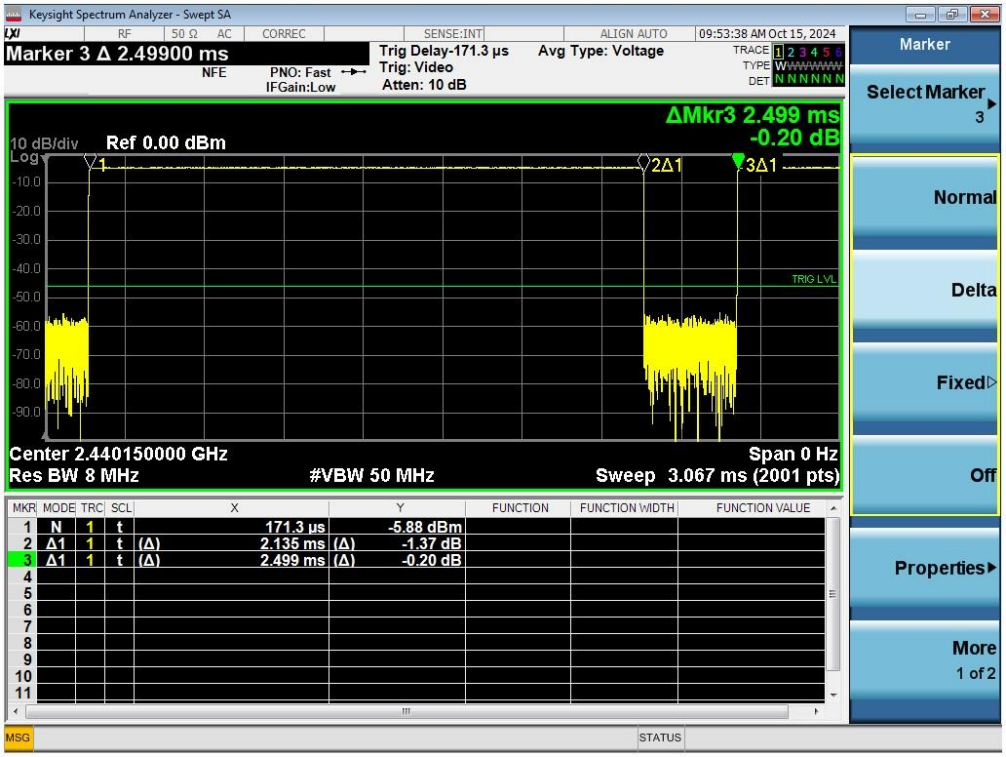
Figure 10-10
Bluetooth LE Antenna H Transmission Plot



Equation 10-4
Bluetooth LE Antenna H Duty Cycle Calculation

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

Figure 10-11
Bluetooth LE Antenna J Transmission Plot



Equation 10-5
Bluetooth LE Antenna J Duty Cycle Calculation

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{2.135ms}{2.499ms} * 100\% = 85.43\%$$

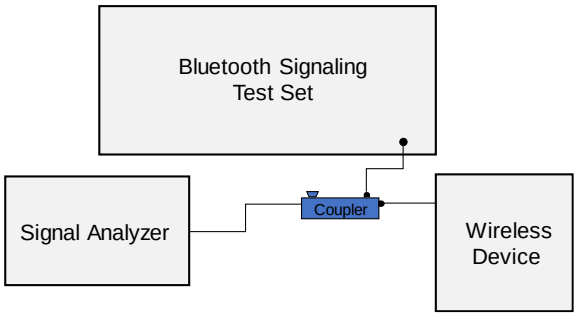


Figure 10-12
Power Measurement Setup

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
10/07/2024	30 Head	24.5	4	0.724	54.414	0.750	55.000	-3.47%	-1.07%
			6	0.724	53.759	0.750	55.000	-3.47%	-2.26%
			12	0.725	52.535	0.750	55.000	-3.33%	-4.48%
			13	0.725	52.450	0.750	55.000	-3.33%	-4.64%
			14	0.725	52.387	0.750	55.000	-3.33%	-4.75%
			60	0.736	52.200	0.753	54.325	-2.26%	-3.91%
			65	0.737	52.144	0.753	54.213	-2.12%	-3.82%
			150	0.765	50.609	0.760	52.300	0.66%	-3.23%
09/17/2024	750 Head	22.5	680	0.885	40.339	0.888	42.305	-0.34%	-4.65%
			695	0.890	40.285	0.889	42.227	0.11%	-4.60%
			700	0.892	40.269	0.889	42.201	0.34%	-4.58%
			710	0.895	40.234	0.890	42.149	0.56%	-4.54%
			725	0.901	40.188	0.891	42.071	1.12%	-4.48%
			750	0.911	40.115	0.894	41.942	1.90%	-4.36%
			770	0.918	40.048	0.895	41.838	2.57%	-4.28%
			785	0.923	39.991	0.896	41.760	3.01%	-4.24%
			800	0.928	39.939	0.897	41.682	3.46%	-4.18%
10/09/2024	750 Head	23.6	680	0.858	43.688	0.888	42.305	-3.38%	3.27%
			695	0.863	43.626	0.889	42.227	-2.92%	3.31%
			710	0.867	43.584	0.890	42.149	-2.58%	3.40%
			725	0.873	43.558	0.891	42.071	-2.02%	3.53%
			750	0.882	43.538	0.894	41.942	-1.34%	3.81%
			770	0.888	43.487	0.895	41.838	-0.78%	3.94%
			785	0.892	43.420	0.896	41.760	-0.45%	3.98%
			800	0.897	43.344	0.897	41.682	0.00%	3.99%
09/15/2024	835 Head	23.1	815	0.936	39.883	0.898	41.594	4.23%	-4.11%
			820	0.938	39.874	0.899	41.578	4.34%	-4.10%
			835	0.943	39.844	0.900	41.500	4.78%	-3.99%
			850	0.948	39.808	0.916	41.500	3.49%	-4.08%
09/17/2024	835 Head	22.5	815	0.934	39.897	0.898	41.594	4.01%	-4.08%
			820	0.936	39.888	0.899	41.578	4.12%	-4.06%
			835	0.942	39.861	0.900	41.500	4.67%	-3.95%
			850	0.947	39.820	0.916	41.500	3.38%	-4.05%
10/02/2024	835 Head	21.7	815	0.902	42.668	0.898	41.594	0.45%	2.58%
			820	0.904	42.650	0.899	41.578	0.56%	2.58%
			835	0.910	42.598	0.900	41.500	1.11%	2.65%
			850	0.916	42.550	0.916	41.500	0.00%	2.53%
10/23/2024	835 Head	20.5	815	0.912	42.211	0.898	41.594	1.56%	1.48%
			820	0.914	42.198	0.899	41.578	1.67%	1.49%
			835	0.920	42.165	0.900	41.500	2.22%	1.60%
			850	0.926	42.126	0.916	41.500	1.09%	1.51%
09/15/2024	1750 Head	22.1	1700	1.282	40.369	1.343	40.145	-4.54%	0.56%
			1705	1.284	40.360	1.345	40.141	-4.54%	0.55%
			1710	1.287	40.351	1.348	40.136	-4.53%	0.54%
			1720	1.292	40.336	1.354	40.126	-4.58%	0.52%
			1745	1.306	40.308	1.368	40.087	-4.53%	0.55%
			1750	1.309	40.303	1.371	40.079	-4.52%	0.56%
			1770	1.319	40.294	1.383	40.047	-4.63%	0.62%
			1790	1.329	40.262	1.394	40.016	-4.66%	0.61%
09/16/2024	1750 Head	22.0	1700	1.335	39.286	1.343	40.145	-0.60%	-2.14%
			1705	1.338	39.282	1.345	40.141	-0.52%	-2.14%
			1710	1.341	39.280	1.348	40.136	-0.52%	-2.13%
			1720	1.347	39.276	1.354	40.126	-0.52%	-2.12%
			1745	1.362	39.257	1.368	40.087	-0.44%	-2.07%
			1750	1.365	39.251	1.371	40.079	-0.44%	-2.07%
			1770	1.377	39.212	1.383	40.047	-0.43%	-2.09%
			1790	1.390	39.171	1.394	40.016	-0.29%	-2.11%
09/16/2024	1750 Head	21.8	1700	1.333	40.502	1.343	40.145	-0.74%	0.89%
			1705	1.336	40.490	1.345	40.141	-0.67%	0.87%
			1710	1.340	40.479	1.348	40.136	-0.59%	0.85%
			1720	1.346	40.458	1.354	40.126	-0.59%	0.83%
			1745	1.361	40.411	1.368	40.087	-0.51%	0.81%
			1750	1.364	40.401	1.371	40.079	-0.51%	0.80%
			1770	1.374	40.365	1.383	40.047	-0.65%	0.79%
			1790	1.385	40.335	1.394	40.016	-0.65%	0.80%
09/16/2024	1750 Head	21.2	1700	1.286	39.286	1.343	40.145	-4.24%	-2.14%
			1705	1.289	39.280	1.345	40.141	-4.16%	-2.14%
			1710	1.292	39.275	1.348	40.136	-4.15%	-2.15%
			1720	1.298	39.271	1.354	40.126	-4.14%	-2.13%
			1745	1.313	39.256	1.368	40.087	-4.02%	-2.07%
			1750	1.316	39.253	1.371	40.079	-4.01%	-2.06%
			1770	1.327	39.219	1.383	40.047	-4.05%	-2.07%
			1790	1.340	39.176	1.394	40.016	-3.87%	-2.10%

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
10/02/2024	1750 Head	19.3	1700	1.323	39.517	1.343	40.145	-1.49%	-1.56%
			1705	1.326	39.507	1.345	40.141	-1.41%	-1.58%
			1710	1.329	39.495	1.348	40.136	-1.41%	-1.60%
			1720	1.335	39.473	1.354	40.126	-1.40%	-1.63%
			1745	1.351	39.417	1.368	40.087	-1.24%	-1.67%
			1750	1.354	39.407	1.371	40.079	-1.24%	-1.68%
			1770	1.366	39.366	1.383	40.047	-1.23%	-1.70%
			1790	1.378	39.331	1.394	40.016	-1.15%	-1.71%
10/02/2024	1750 Head	21.3	1700	1.326	39.663	1.343	40.145	-1.27%	-1.20%
			1705	1.329	39.656	1.345	40.141	-1.19%	-1.21%
			1710	1.332	39.648	1.348	40.136	-1.19%	-1.22%
			1720	1.338	39.628	1.354	40.126	-1.18%	-1.24%
			1745	1.353	39.573	1.368	40.087	-1.10%	-1.28%
			1750	1.356	39.562	1.371	40.079	-1.09%	-1.29%
			1770	1.368	39.526	1.383	40.047	-1.08%	-1.30%
			1790	1.380	39.497	1.394	40.016	-1.00%	-1.30%
10/16/2024	1750 Head	21.9	1700	1.316	40.679	1.343	40.145	-2.01%	1.33%
			1705	1.319	40.672	1.345	40.141	-1.93%	1.32%
			1710	1.322	40.666	1.348	40.136	-1.93%	1.32%
			1720	1.328	40.647	1.354	40.126	-1.92%	1.30%
			1745	1.344	40.586	1.368	40.087	-1.75%	1.24%
			1750	1.346	40.577	1.371	40.079	-1.82%	1.24%
			1770	1.359	40.541	1.383	40.047	-1.74%	1.23%
			1790	1.370	40.504	1.394	40.016	-1.72%	1.22%
09/15/2024	1900 Head	22.1	1850	1.360	40.152	1.400	40.000	-2.86%	0.38%
			1860	1.366	40.145	1.400	40.000	-2.43%	0.36%
			1880	1.377	40.136	1.400	40.000	-1.64%	0.34%
			1900	1.388	40.108	1.400	40.000	-0.86%	0.27%
			1905	1.390	40.099	1.400	40.000	-0.71%	0.25%
			1910	1.393	40.090	1.400	40.000	-0.50%	0.23%
			1920	1.398	40.070	1.400	40.000	-0.14%	0.18%
09/16/2024	1900 Head	21.2	1850	1.376	39.081	1.400	40.000	-1.71%	-2.30%
			1860	1.381	39.064	1.400	40.000	-1.36%	-2.34%
			1880	1.393	39.029	1.400	40.000	-0.50%	-2.43%
			1900	1.407	38.998	1.400	40.000	0.50%	-2.51%
			1905	1.410	38.990	1.400	40.000	0.71%	-2.52%
			1910	1.413	38.983	1.400	40.000	0.93%	-2.54%
			1920	1.420	38.970	1.400	40.000	1.43%	-2.58%
09/16/2024	1900 Head	22.0	1850	1.425	39.077	1.400	40.000	1.79%	-2.31%
			1860	1.431	39.059	1.400	40.000	2.21%	-2.35%
			1880	1.443	39.024	1.400	40.000	3.07%	-2.44%
			1900	1.456	38.994	1.400	40.000	4.00%	-2.52%
			1905	1.459	38.987	1.400	40.000	4.21%	-2.53%
			1910	1.463	38.981	1.400	40.000	4.50%	-2.55%
			1920	1.470	38.966	1.400	40.000	5.00%	-2.59%
09/16/2024	1900 Head	21.8	1850	1.422	40.236	1.400	40.000	1.57%	0.59%
			1860	1.427	40.214	1.400	40.000	1.93%	0.53%
			1880	1.438	40.183	1.400	40.000	2.71%	0.46%
			1900	1.448	40.166	1.400	40.000	3.43%	0.41%
			1905	1.451	40.163	1.400	40.000	3.64%	0.41%
			1910	1.454	40.160	1.400	40.000	3.86%	0.40%
			1920	1.460	40.153	1.400	40.000	4.29%	0.38%
10/02/2024	1900 Head	19.3	1850	1.414	39.230	1.400	40.000	1.00%	-1.93%
			1860	1.420	39.214	1.400	40.000	1.43%	-1.97%
			1880	1.432	39.186	1.400	40.000	2.29%	-2.04%
			1900	1.445	39.165	1.400	40.000	3.21%	-2.09%
			1905	1.448	39.160	1.400	40.000	3.43%	-2.10%
			1910	1.451	39.156	1.400	40.000	3.64%	-2.11%
			1920	1.458	39.145	1.400	40.000	4.14%	-2.14%
10/07/2024	1900 Head	19.8	1850	1.380	41.848	1.400	40.000	-1.43%	4.62%
			1860	1.386	41.830	1.400	40.000	-1.00%	4.58%
			1880	1.400	41.798	1.400	40.000	0.00%	4.50%
			1900	1.413	41.771	1.400	40.000	0.93%	4.43%
			1905	1.416	41.764	1.400	40.000	1.14%	4.41%
			1910	1.419	41.758	1.400	40.000	1.36%	4.40%
			1920	1.425	41.742	1.400	40.000	1.79%	4.35%
10/16/2024	1900 Head	21.9	1850	1.405	40.444	1.400	40.000	0.36%	1.11%
			1860	1.412	40.432	1.400	40.000	0.86%	1.08%
			1880	1.423	40.413	1.400	40.000	1.64%	1.03%
			1900	1.435	40.402	1.400	40.000	2.50%	1.01%
			1905	1.438	40.399	1.400	40.000	2.71%	1.00%
			1910	1.441	40.396	1.400	40.000	2.93%	0.99%
			1920	1.447	40.390	1.400	40.000	3.36%	0.98%
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	37.986	1.920	39.060	1.15%	-2.75%
			2600	1.974	37.908	1.964	39.009	0.51%	-2.82%
			2650	2.016	37.819	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%

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
10/07/2024	2450 Head	21.0	2300	1.692	38.258	1.670	39.500	1.32%	-3.14%
			2310	1.699	38.239	1.679	39.480	1.19%	-3.14%
			2320	1.707	38.220	1.687	39.460	1.19%	-3.14%
			2400	1.762	38.097	1.756	39.289	0.34%	-3.03%
			2450	1.799	38.018	1.800	39.200	-0.06%	-3.02%
			2480	1.821	37.974	1.833	39.162	-0.65%	-3.03%
			2500	1.836	37.938	1.855	39.136	-1.02%	-3.06%
			2510	1.844	37.923	1.866	39.123	-1.18%	-3.07%
			2535	1.864	37.890	1.893	39.092	-1.53%	-3.07%
			2550	1.876	37.873	1.909	39.073	-1.73%	-3.07%
			2560	1.884	37.861	1.920	39.060	-1.88%	-3.07%
			2600	1.915	37.805	1.964	39.009	-2.49%	-3.09%
			2650	1.956	37.735	2.018	38.945	-3.07%	-3.11%
			2680	1.980	37.691	2.051	38.907	-3.46%	-3.13%
			2700	1.996	37.655	2.073	38.882	-3.71%	-3.16%
10/09/2024	2450 Head	21.0	2300	1.676	38.553	1.670	39.500	0.36%	-2.40%
			2310	1.684	38.535	1.679	39.480	0.30%	-2.39%
			2320	1.692	38.517	1.687	39.460	0.30%	-2.39%
			2400	1.753	38.388	1.756	39.289	-0.17%	-2.29%
			2450	1.792	38.302	1.800	39.200	-0.44%	-2.29%
			2480	1.815	38.256	1.833	39.162	-0.98%	-2.31%
			2500	1.829	38.219	1.855	39.136	-1.40%	-2.34%
			2510	1.837	38.200	1.866	39.123	-1.55%	-2.36%
			2535	1.857	38.164	1.893	39.092	-1.90%	-2.37%
			2550	1.869	38.147	1.909	39.073	-2.10%	-2.37%
			2560	1.877	38.136	1.920	39.060	-2.24%	-2.37%
			2600	1.908	38.078	1.964	39.009	-2.85%	-2.39%
			2650	1.950	38.008	2.018	38.945	-3.37%	-2.41%
			2680	1.974	37.960	2.051	38.907	-3.75%	-2.43%
			2700	1.990	37.923	2.073	38.882	-4.00%	-2.47%
10/14/2024	2450 Head	20.8	2300	1.694	39.170	1.670	39.500	1.44%	-0.84%
			2310	1.701	39.157	1.679	39.480	1.31%	-0.82%
			2320	1.709	39.143	1.687	39.460	1.30%	-0.80%
			2400	1.770	39.042	1.756	39.289	0.80%	-0.63%
			2450	1.811	38.974	1.800	39.200	0.61%	-0.58%
			2480	1.834	38.930	1.833	39.162	0.05%	-0.59%
			2500	1.849	38.893	1.855	39.136	-0.32%	-0.62%
			2510	1.858	38.876	1.866	39.123	-0.43%	-0.63%
			2535	1.880	38.839	1.893	39.092	-0.69%	-0.65%
			2550	1.893	38.820	1.909	39.073	-0.84%	-0.65%
			2560	1.901	38.809	1.920	39.060	-0.99%	-0.64%
			2600	1.933	38.743	1.964	39.009	-1.58%	-0.68%
			2650	1.976	38.658	2.018	38.945	-2.08%	-0.74%
			2680	2.000	38.612	2.051	38.907	-2.49%	-0.76%
			2700	2.016	38.578	2.073	38.882	-2.75%	-0.78%
10/21/2024	2450 Head	21.0	2300	1.691	40.762	1.670	39.500	1.26%	3.19%
			2310	1.698	40.741	1.679	39.480	1.13%	3.19%
			2320	1.704	40.722	1.687	39.460	1.01%	3.20%
			2400	1.768	40.618	1.756	39.289	0.68%	3.38%
			2450	1.809	40.548	1.800	39.200	0.50%	3.44%
			2480	1.836	40.499	1.833	39.162	0.16%	3.41%
			2500	1.852	40.450	1.855	39.136	-0.16%	3.36%
			2510	1.860	40.431	1.866	39.123	-0.32%	3.34%
			2535	1.883	40.397	1.893	39.092	-0.53%	3.34%
			2550	1.899	40.374	1.909	39.073	-0.52%	3.33%
			2560	1.909	40.360	1.920	39.060	-0.57%	3.33%
			2600	1.943	40.293	1.964	39.009	-1.07%	3.29%
			2650	1.989	40.221	2.018	38.945	-1.44%	3.28%
			2680	2.016	40.157	2.051	38.907	-1.71%	3.21%
			2700	2.030	40.133	2.073	38.882	-2.07%	3.22%
10/23/2024	2450 Head	20.2	2300	1.722	38.592	1.670	39.500	3.11%	-2.30%
			2310	1.729	38.578	1.679	39.480	2.98%	-2.28%
			2320	1.738	38.563	1.687	39.460	3.02%	-2.27%
			2400	1.801	38.442	1.756	39.289	2.56%	-2.16%
			2450	1.843	38.349	1.800	39.200	2.39%	-2.17%
			2480	1.867	38.295	1.833	39.162	1.85%	-2.21%
			2500	1.883	38.258	1.855	39.136	1.51%	-2.24%
			2510	1.891	38.238	1.866	39.123	1.34%	-2.26%
			2535	1.912	38.184	1.893	39.092	1.00%	-2.32%
			2550	1.924	38.154	1.909	39.073	0.79%	-2.35%
			2560	1.932	38.138	1.920	39.060	0.63%	-2.36%
			2600	1.964	38.063	1.964	39.009	0.00%	-2.43%
			2650	2.003	37.968	2.018	38.945	-0.74%	-2.51%
			2680	2.027	37.922	2.051	38.907	-1.17%	-2.53%
			2700	2.043	37.882	2.073	38.882	-1.45%	-2.57%

element

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
11/04/2024	2450 Head	21.0	2300	1.722	38.312	1.670	39.500	3.11%	-3.01%
			2310	1.730	38.292	1.679	39.480	3.04%	-3.01%
			2320	1.737	38.275	1.687	39.460	2.96%	-3.00%
			2400	1.796	38.142	1.756	39.289	2.28%	-2.92%
			2450	1.835	38.051	1.800	39.200	1.94%	-2.93%
			2480	1.857	37.995	1.833	39.162	1.31%	-2.98%
			2500	1.872	37.953	1.855	39.136	0.92%	-3.02%
			2510	1.880	37.936	1.866	39.123	0.75%	-3.03%
			2535	1.900	37.895	1.893	39.092	0.37%	-3.06%
			2550	1.912	37.875	1.909	39.073	0.16%	-3.07%
			2560	1.920	37.860	1.920	39.060	0.00%	-3.07%
			2600	1.951	37.790	1.964	39.009	-0.66%	-3.12%
			2650	1.992	37.713	2.018	38.945	-1.29%	-3.16%
			2680	2.015	37.670	2.051	38.907	-1.76%	-3.18%
			2700	2.031	37.635	2.073	38.882	-2.03%	-3.21%
10/07/2024	3600 Head	19.1	3300	2.594	37.760	2.708	38.157	-4.21%	-1.04%
			3350	2.640	37.686	2.759	38.100	-4.31%	-1.09%
			3450	2.730	37.514	2.861	37.986	-4.58%	-1.24%
			3500	2.777	37.415	2.913	37.929	-4.67%	-1.36%
			3550	2.825	37.342	2.964	37.871	-4.69%	-1.40%
			3560	2.834	37.316	2.974	37.860	-4.71%	-1.44%
			3600	2.873	37.243	3.015	37.814	-4.71%	-1.51%
			3650	2.925	37.158	3.066	37.757	-4.60%	-1.59%
			3690	2.964	37.091	3.107	37.711	-4.60%	-1.64%
			3700	2.975	37.067	3.117	37.700	-4.56%	-1.68%
			3750	3.026	36.982	3.169	37.643	-4.51%	-1.76%
			3900	3.178	36.723	3.323	37.471	-4.36%	-2.00%
			3930	3.209	36.658	3.353	37.437	-4.29%	-2.08%
			4100	3.388	36.372	3.528	37.243	-3.97%	-2.34%
			4150	3.443	36.285	3.579	37.186	-3.80%	-2.42%
10/14/2024	3600 Head	20.8	3300	2.587	39.028	2.708	38.157	-4.47%	2.28%
			3350	2.632	38.954	2.759	38.100	-4.60%	2.24%
			3450	2.725	38.785	2.861	37.986	-4.75%	2.10%
			3500	2.770	38.681	2.913	37.929	-4.91%	1.98%
			3550	2.818	38.589	2.964	37.871	-4.93%	1.90%
			3560	2.827	38.565	2.974	37.860	-4.94%	1.86%
			3600	2.867	38.508	3.015	37.814	-4.91%	1.84%
			3650	2.917	38.426	3.066	37.757	-4.86%	1.77%
			3690	2.953	38.359	3.107	37.711	-4.96%	1.72%
			3700	2.964	38.342	3.117	37.700	-4.91%	1.70%
			3750	3.013	38.269	3.169	37.643	-4.92%	1.66%
			3900	3.165	38.018	3.323	37.471	-4.75%	1.46%
			3930	3.195	37.969	3.353	37.437	-4.71%	1.42%
			4100	3.376	37.695	3.528	37.243	-4.31%	1.21%
			4150	3.430	37.625	3.579	37.186	-4.16%	1.18%
10/14/2024	5200-5800 Head	20.8	5150	4.562	34.739	4.608	36.050	-1.00%	-3.64%
			5160	4.575	34.726	4.618	36.040	-0.93%	-3.65%
			5170	4.588	34.703	4.629	36.030	-0.89%	-3.68%
			5180	4.600	34.679	4.635	36.009	-0.76%	-3.69%
			5190	4.613	34.662	4.645	35.998	-0.69%	-3.71%
			5200	4.625	34.648	4.655	35.986	-0.64%	-3.72%
			5210	4.638	34.625	4.666	35.975	-0.60%	-3.75%
			5220	4.650	34.601	4.676	35.963	-0.56%	-3.79%
			5240	4.674	34.571	4.696	35.940	-0.47%	-3.81%
			5250	4.687	34.557	4.706	35.929	-0.40%	-3.82%
			5260	4.697	34.539	4.717	35.917	-0.42%	-3.84%
			5270	4.707	34.523	4.727	35.906	-0.42%	-3.85%
			5280	4.716	34.501	4.737	35.894	-0.44%	-3.88%
			5290	4.728	34.480	4.748	35.883	-0.42%	-3.91%
			5300	4.743	34.458	4.758	35.871	-0.32%	-3.94%
			5310	4.755	34.441	4.768	35.860	-0.27%	-3.96%
			5320	4.766	34.426	4.778	35.849	-0.25%	-3.97%
			5500	4.956	34.105	4.963	35.643	-0.14%	-4.32%
			5510	4.968	34.076	4.973	35.632	-0.10%	-4.37%
			5520	4.982	34.057	4.983	35.620	-0.02%	-4.39%
			5530	4.998	34.032	4.994	35.609	0.08%	-4.43%
			5540	5.010	34.013	5.004	35.597	0.12%	-4.45%
			5550	5.021	34.003	5.014	35.586	0.14%	-4.45%
			5560	5.033	33.993	5.024	35.574	0.18%	-4.44%
			5580	5.057	33.942	5.045	35.551	0.24%	-4.53%
			5600	5.080	33.886	5.065	35.529	0.30%	-4.62%
			5610	5.096	33.863	5.076	35.518	0.39%	-4.66%
			5620	5.114	33.843	5.086	35.506	0.55%	-4.68%
			5640	5.139	33.819	5.106	35.483	0.65%	-4.69%
			5660	5.162	33.791	5.127	35.460	0.68%	-4.71%
			5670	5.177	33.768	5.137	35.449	0.78%	-4.74%
			5680	5.192	33.746	5.147	35.437	0.87%	-4.77%
			5690	5.206	33.729	5.158	35.426	0.93%	-4.79%
			5700	5.219	33.717	5.168	35.414	0.99%	-4.79%
			5710	5.230	33.704	5.178	35.403	1.00%	-4.80%
			5720	5.243	33.694	5.188	35.391	1.06%	-4.80%
			5745	5.271	33.653	5.214	35.363	1.09%	-4.84%
			5750	5.277	33.639	5.219	35.357	1.11%	-4.86%
			5755	5.282	33.631	5.224	35.351	1.11%	-4.87%
			5765	5.294	33.620	5.234	35.340	1.15%	-4.87%
			5775	5.305	33.621	5.245	35.329	1.14%	-4.83%
			5785	5.317	33.617	5.255	35.317	1.18%	-4.81%
			5795	5.330	33.602	5.265	35.305	1.23%	-4.82%
			5800	5.336	33.589	5.270	35.300	1.25%	-4.85%
			5800	5.336	33.589	5.270	35.300	1.25%	-4.85%
			5805	5.341	33.576	5.275	35.294	1.25%	-4.87%
			5825	5.364	33.544	5.296	35.271	1.28%	-4.90%
			5835	5.379	33.524	5.305	35.230	1.39%	-4.84%
			5845	5.391	33.505	5.315	35.210	1.43%	-4.84%
			5850	5.394	33.498	5.320	35.200	1.39%	-4.84%
			5855	5.398	33.493	5.325	35.197	1.37%	-4.84%
			5865	5.409	33.491	5.336	35.190	1.37%	-4.83%
			5865	5.409	33.491	5.336	35.190	1.37%	-4.83%
			5865	5.409	33.491	5.336	35.190	1.37%	-4.83%
			5865	5.409	33.491	5.336	35.190	1.37%	-4.83%
			5875	5.422	33.486	5.347	35.183	1.40%	-4.82%
			5885	5.436	33.459	5.357	35.177	1.47%	-4.88%
			5905	5.453	33.409	5.379	35.163	1.38%	-4.99%

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
10/14/2024	6000 Head	20.6	5935	5.355	34.518	5.411	35.143	-1.03%	-1.78%
			5970	5.387	34.462	5.448	35.120	-1.12%	-1.87%
			5985	5.408	34.426	5.464	35.110	-1.02%	-1.95%
			6000	5.433	34.390	5.480	35.100	-0.86%	-2.02%
			6025	5.471	34.341	5.510	35.070	-0.71%	-2.08%
			6065	5.511	34.283	5.557	35.022	-0.83%	-2.11%
			6075	5.523	34.266	5.569	35.010	-0.83%	-2.13%
			6085	5.538	34.246	5.580	34.998	-0.75%	-2.15%
			6185	5.658	34.080	5.698	34.878	-0.70%	-2.29%
			6275	5.772	33.893	5.805	34.770	-0.57%	-2.52%
			6285	5.780	33.874	5.816	34.758	-0.62%	-2.54%
			6305	5.805	33.839	5.840	34.734	-0.60%	-2.58%
			6345	5.858	33.788	5.887	34.686	-0.49%	-2.59%
			6475	6.001	33.575	6.041	34.530	-0.66%	-2.77%
			6485	6.010	33.552	6.052	34.518	-0.69%	-2.80%
			6500	6.029	33.510	6.070	34.500	-0.68%	-2.87%
			6505	6.035	33.497	6.076	34.494	-0.67%	-2.89%
			6545	6.094	33.418	6.122	34.446	-0.46%	-2.98%
			6665	6.240	33.197	6.265	34.302	-0.40%	-3.22%
			6675	6.250	33.195	6.273	34.290	-0.37%	-3.19%
			6685	6.257	33.181	6.285	34.278	-0.45%	-3.20%
			6715	6.275	33.111	6.319	34.242	-0.70%	-3.30%
			6785	6.382	33.025	6.400	34.158	-0.28%	-3.32%
			6825	6.406	32.936	6.447	34.110	-0.64%	-3.44%
			6985	6.613	32.656	6.633	33.918	-0.30%	-3.72%
			7025	6.638	32.633	6.680	33.870	-0.63%	-3.65%
			7500	7.242	31.752	7.240	33.300	0.03%	-4.65%
10/21/2024	6000 Head	21.0	5935	5.313	34.736	5.411	35.143	-1.81%	-1.16%
			5970	5.344	34.681	5.448	35.120	-1.91%	-1.25%
			5985	5.367	34.641	5.464	35.110	-1.78%	-1.34%
			6000	5.402	34.629	5.480	35.100	-1.42%	-1.34%
			6025	5.469	34.661	5.510	35.070	-0.74%	-1.17%
			6065	5.498	34.645	5.557	35.022	-1.06%	-1.08%
			6075	5.500	34.605	5.569	35.010	-1.24%	-1.16%
			6085	5.507	34.558	5.580	34.998	-1.31%	-1.26%
			6185	5.628	34.372	5.698	34.878	-1.23%	-1.45%
			6275	5.747	34.208	5.805	34.770	-1.00%	-1.62%
			6285	5.754	34.187	5.816	34.758	-1.07%	-1.64%
			6305	5.762	34.157	5.840	34.734	-1.34%	-1.66%
			6345	5.822	34.061	5.887	34.686	-1.10%	-1.80%
			6475	5.990	33.844	6.041	34.530	-0.84%	-1.99%
			6485	5.999	33.843	6.052	34.518	-0.88%	-1.96%
			6500	6.006	33.848	6.070	34.500	-1.05%	-1.89%
			6505	6.008	33.840	6.076	34.494	-1.12%	-1.90%
			6545	6.048	33.683	6.122	34.446	-1.21%	-2.22%
			6665	6.196	33.484	6.265	34.302	-1.10%	-2.38%
			6675	6.208	33.435	6.273	34.290	-1.04%	-2.49%
			6685	6.221	33.420	6.285	34.278	-1.02%	-2.50%
			6715	6.269	33.431	6.319	34.242	-0.79%	-2.37%
			6785	6.340	33.221	6.400	34.158	-0.94%	-2.74%
			6825	6.396	33.236	6.447	34.110	-0.79%	-2.56%
			6985	6.553	33.003	6.633	33.918	-1.21%	-2.70%
			6995	6.558	32.963	6.644	33.906	-1.29%	-2.78%
			7000	6.560	32.943	6.650	33.900	-1.35%	-2.82%
			7005	6.563	32.928	6.656	33.894	-1.40%	-2.85%
			7025	6.590	32.867	6.680	33.870	-1.35%	-2.96%
			7500	7.129	32.080	7.240	33.300	-1.53%	-3.66%
			7980	7.732	31.341	7.816	32.724	-1.07%	-4.23%
			8000	7.787	31.449	7.840	32.700	-0.68%	-3.83%
11/04/2024	6000 Head	20.1	5935	5.591	35.234	5.411	35.143	3.33%	0.26%
			5970	5.604	35.002	5.448	35.120	2.86%	-0.34%
			5985	5.655	34.929	5.464	35.110	3.50%	-0.52%
			6000	5.683	34.961	5.480	35.100	3.70%	-0.40%
			6025	5.656	34.903	5.510	35.070	2.65%	-0.48%
			6065	5.735	34.746	5.557	35.022	3.20%	-0.79%
			6075	5.757	34.726	5.569	35.010	3.38%	-0.81%
			6085	5.789	34.723	5.580	34.998	3.75%	-0.79%
			6185	5.916	34.565	5.698	34.878	3.83%	-0.90%
			6275	6.019	34.384	5.805	34.770	3.69%	-1.11%
			6285	6.033	34.404	5.816	34.758	3.73%	-1.02%
			6305	6.046	34.437	5.840	34.734	3.53%	-0.86%
			6345	6.077	34.250	5.887	34.686	3.23%	-1.26%
			6475	6.254	34.015	6.041	34.530	3.53%	-1.49%
			6485	6.262	33.992	6.052	34.518	3.47%	-1.52%
			6500	6.267	34.028	6.070	34.500	3.25%	-1.37%
			6505	6.274	34.027	6.076	34.494	3.26%	-1.35%
			6545	6.320	33.827	6.122	34.446	3.23%	-1.80%
			6665	6.517	33.607	6.265	34.302	4.02%	-2.03%
			6675	6.518	33.642	6.273	34.290	3.91%	-1.89%
			6685	6.520	33.708	6.285	34.278	3.74%	-1.66%
			6715	6.540	33.609	6.319	34.242	3.50%	-1.85%
			6785	6.637	33.544	6.400	34.158	3.70%	-1.80%
			6825	6.632	33.313	6.447	34.110	2.87%	-2.34%
			6985	6.838	33.053	6.633	33.918	3.09%	-2.55%
			6995	6.837	33.012	6.644	33.906	2.90%	-2.64%
			7000	6.829	32.982	6.650	33.900	2.69%	-2.71%
			7005	6.819	32.954	6.656	33.894	2.45%	-2.77%
			7025	6.826	32.865	6.680	33.870	2.19%	-2.97%

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.

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 11-6
System Verification Results – Head

System Verification TARGET & MEASURED																				
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 (W/m2)	Deviation 4cm2 APD (%)
AM14	13	HEAD	10-07-2024	22.8	23.2	1.00	1004	7308	534	0.55	0.58	0.55	-4.50%	0.34	0.36	0.34	-4.78%	N/A	N/A	N/A	N/A
J	750	HEAD	09-17-2024	23.9	23.0	0.20	1161	7406	1677	1.73	8.44	8.65	2.49%	1.13	5.51	5.65	2.54%	N/A	N/A	N/A	N/A
S	750	HEAD	10-09-2024	23.2	22.6	0.20	1054	7803	1583	1.77	8.52	8.85	3.87%	1.18	5.60	5.90	5.36%	N/A	N/A	N/A	N/A
J	835	HEAD	09-15-2024	24.3	23.1	0.20	4d047	7406	1677	2.05	9.65	10.25	6.22%	1.33	6.31	6.65	5.39%	N/A	N/A	N/A	N/A
J	835	HEAD	09-17-2024	23.9	23.0	0.20	4d047	7406	1677	2.07	9.65	10.35	7.25%	1.34	6.31	6.70	6.18%	N/A	N/A	N/A	N/A
K3	835	HEAD	10-02-2024	22.7	21.7	0.20	4d119	7558	1364	1.95	9.96	9.75	-2.11%	1.28	6.48	6.40	-1.23%	N/A	N/A	N/A	N/A
K6	835	HEAD	10-23-2024	20.5	20.5	0.20	4d119	7402	1502	2.10	9.96	10.50	5.42%	1.38	6.48	6.90	6.48%	N/A	N/A	N/A	N/A
S	1750	HEAD	09-15-2024	22.5	21.1	0.10	1148	7803	1583	3.72	37.20	37.20	0.00%	2.01	19.40	20.10	3.61%	N/A	N/A	N/A	N/A
C	1750	HEAD	09-16-2024	22.6	21.8	0.10	1150	7659	1407	3.83	36.90	38.30	3.79%	2.05	19.40	20.50	5.67%	N/A	N/A	N/A	N/A
E	1750	HEAD	09-16-2024	22.3	22.0	0.10	1150	7409	1334	3.87	36.90	38.70	4.88%	2.07	19.40	20.70	6.70%	N/A	N/A	N/A	N/A
O	1750	HEAD	09-16-2024	21.9	21.0	0.10	1148	3914	728	3.82	37.20	38.20	2.69%	2.05	19.40	20.50	5.67%	N/A	N/A	N/A	N/A
K4	1750	HEAD	10-02-2024	20.0	19.3	0.10	1092	7565	1466	3.80	36.80	38.00	3.26%	2.02	19.40	20.20	4.12%	N/A	N/A	N/A	N/A
E	1750	HEAD	10-02-2024	23.5	22.4	0.10	1148	7409	1334	3.67	37.20	36.70	-1.34%	1.95	19.40	19.50	0.52%	N/A	N/A	N/A	N/A
K4	1750	HEAD	10-16-2024	22.2	21.9	0.10	1051	7565	1466	3.87	37.00	38.70	4.59%	2.06	19.50	20.60	5.64%	N/A	N/A	N/A	N/A
S	1900	HEAD	09-15-2024	22.5	21.1	0.10	5d080	7803	1583	4.32	39.60	43.20	9.09%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
E	1900	HEAD	09-16-2024	22.3	22.0	0.10	5d148	7409	1334	4.25	40.10	42.50	5.99%	2.20	21.00	22.00	4.76%	N/A	N/A	N/A	N/A
C	1900	HEAD	09-16-2024	22.6	21.8	0.10	5d148	7659	1407	4.18	40.10	41.80	4.24%	2.16	21.00	21.60	2.86%	N/A	N/A	N/A	N/A
O	1900	HEAD	09-16-2024	21.9	21.0	0.10	5d080	3914	728	4.20	39.60	42.00	6.06%	2.20	20.70	22.00	6.28%	N/A	N/A	N/A	N/A
K4	1900	HEAD	10-02-2024	20.0	19.3	0.10	5d026	7565	1466	4.14	39.80	41.40	4.02%	2.14	20.70	21.40	3.38%	N/A	N/A	N/A	N/A
O	1900	HEAD	10-07-2024	21.9	21.1	0.10	5d148	3914	728	4.23	40.10	42.30	5.49%	2.21	21.00	22.10	5.24%	N/A	N/A	N/A	N/A
K4	1900	HEAD	10-16-2024	22.2	21.9	0.10	5d141	7565	1466	4.09	40.30	40.90	1.49%	2.12	21.00	21.20	0.95%	N/A	N/A	N/A	N/A
K2	2450	HEAD	10-02-2024	20.9	20.9	0.10	945	7640	1645	5.62	53.40	56.20	5.24%	2.62	25.10	26.20	4.38%	N/A	N/A	N/A	N/A
K2	2450	HEAD	10-14-2024	21.0	20.8	0.10	945	7640	1645	5.46	53.40	54.60	2.25%	2.55	25.10	25.50	1.59%	N/A	N/A	N/A	N/A
K3	2450	HEAD	10-21-2024	22.2	21.0	0.10	882	7558	1364	5.53	53.00	55.30	4.34%	2.59	24.90	25.90	4.02%	N/A	N/A	N/A	N/A
K2	2450	HEAD	10-23-2024	20.0	20.2	0.10	945	7640	1645	5.52	53.40	55.20	3.37%	2.57	25.10	25.70	2.39%	N/A	N/A	N/A	N/A
K2	2450	HEAD	11-04-2024	20.7	21.0	0.10	945	7640	1645	5.54	53.40	55.40	3.75%	2.58	25.10	25.80	2.79%	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
K2	2600	HEAD	10-07-2024	21.0	21.1	0.10	1009	7640	1645	5.53	56.60	55.30	-2.30%	2.49	25.50	24.90	-2.35%	N/A	N/A	N/A	N/A
K2	2600	HEAD	10-09-2024	21.0	21.0	0.10	1009	7640	1645	5.26	56.60	52.60	-7.07%	2.37	25.50	23.70	-7.06%	N/A	N/A	N/A	N/A
K2	2600	HEAD	10-14-2024	21.0	20.8	0.10	1009	7640	1645	5.56	56.60	55.60	-1.77%	2.50	25.50	25.00	-1.96%	N/A	N/A	N/A	N/A
K4	3500	HEAD	10-07-2024	21.4	20.4	0.10	1127	7565	1466	6.40	65.60	64.00	-2.44%	2.45	24.80	24.50	-1.21%	N/A	N/A	N/A	N/A
K4	3500	HEAD	10-14-2024	21.4	20.8	0.10	1127	7565	1466	6.37	65.60	63.70	-2.90%	2.44	24.80	24.40	-1.61%	N/A	N/A	N/A	N/A
K4	3700	HEAD	10-07-2024	21.4	20.4	0.10	1096	7565	1466	6.78	67.60	67.80	0.30%	2.52	24.70	25.20	2.02%	N/A	N/A	N/A	N/A
K4	3700	HEAD	10-14-2024	21.4	20.8	0.10	1096	7565	1466	6.68	67.60	66.80	-1.18%	2.48	24.70	24.80	0.40%	N/A	N/A	N/A	N/A
K4	3900	HEAD	10-07-2024	21.4	20.4	0.10	1074	7565	1466	7.02	68.70	70.20	2.18%	2.47	24.00	24.70	2.92%	N/A	N/A	N/A	N/A
K4	3900	HEAD	10-14-2024	21.4	20.8	0.10	1074	7565	1466	6.67	68.70	66.70	-2.91%	2.36	24.00	23.60	-1.67%	N/A	N/A	N/A	N/A
K6	5250	HEAD	10-14-2024	20.8	20.8	0.05	1237	7402	1502	3.73	80.10	74.60	-6.87%	1.06	22.90	21.20	-7.42%	N/A	N/A	N/A	N/A
K6	5600	HEAD	10-14-2024	20.8	20.8	0.05	1237	7402	1502	4.08	82.00	81.60	-0.49%	1.16	23.30	23.20	-0.43%	N/A	N/A	N/A	N/A
K6	5750	HEAD	10-14-2024	20.8	20.8	0.05	1237	7402	1502	4.03	79.20	80.60	1.77%	1.15	22.50	23.00	2.22%	N/A	N/A	N/A	N/A
K6	5850	HEAD	10-14-2024	20.8	20.8	0.05	1237	7402	1502	3.99	80.40	79.80	-0.75%	1.14	22.80	22.80	0.00%	N/A	N/A	N/A	N/A
AM7	6500	HEAD	10-14-2024	21.0	19.8	0.03	1018	7421	604	6.89	293.00	275.60	-5.94%	1.27	53.90	50.80	-5.75%	31.00	1310.00	1240.00	-5.34%
R	6500	HEAD	10-21-2024	21.0	21.0	0.03	1111	7527	1272	7.89	291.00	315.60	8.45%	1.45	53.50	58.00	8.41%	35.20	1300.00	1408.00	8.31%
C	6500	HEAD	11-04-2024	20.7	20.1	0.03	1111	7659	1407	6.73	291.00	269.20	-7.49%	1.26	53.50	50.40	-5.79%	30.40	1300.00	1216.00	-6.46%
R	8000	HEAD	10-21-2024	21.0	21.0	0.03	1007	7527	1272	6.83	269.00	273.20	1.56%	1.14	45.30	45.60	0.66%	27.60	1110.00	1104.00	-0.54%

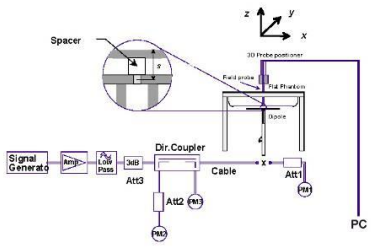


Figure 11-1
System Verification Setup Diagram

Figure 11-2
System Verification Setup Photo

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.

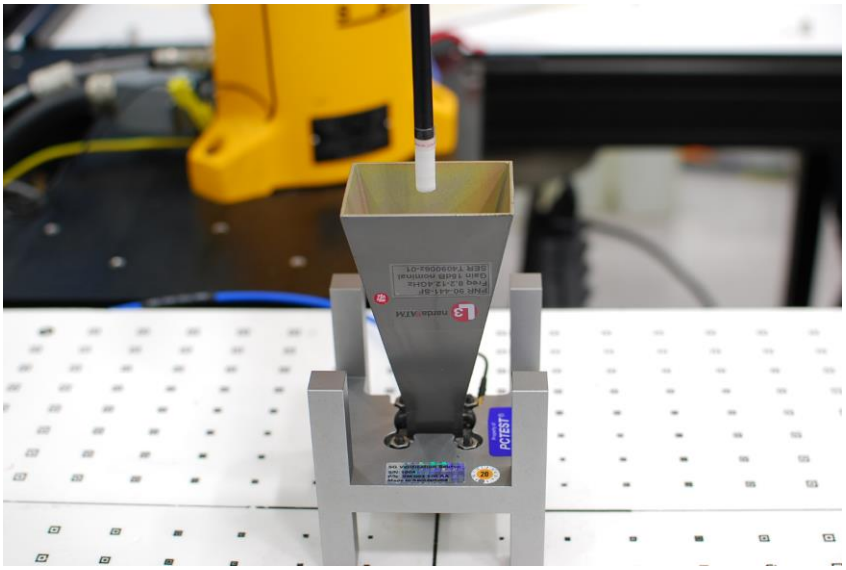


Figure 11-3
System Verification Setup Photo

Table 11-7
10 GHz Verifications

System Verification											
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	10/20/2024	1002	9622	93.3	58.50	54.60	0.30	58.80	54.90	0.30
Q	10	10/27/2024	1002	9622	93.3	56.40	54.60	0.14	56.70	54.90	0.14

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

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	0832M	1:8.3	0.04	824.20	128	33.6	33.36	Right Cheek	0	0.066	1.057	0.070	0.242	0.151		35.9	34.4	29.8
Head	GSM 850	GSM	A	0832M	1:8.3	-0.04	824.20	128	33.6	33.36	Right Tilt	0	0.044	1.057	0.047	0.161	0.101		37.7		
Head	GSM 850	GSM	A	0832M	1:8.3	0.16	824.20	128	33.6	33.36	Left Cheek	0	0.093	1.057	0.098	0.341	0.213		34.4		
Head	GSM 850	GSM	A	0832M	1:8.3	0.06	824.20	128	33.6	33.36	Left Tilt	0	0.045	1.057	0.048	0.165	0.103		37.6		
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 12-2

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	0832M	1:8.3	0.04	824.20	128	31.2	30.77	Right Cheek	0	0.717	1.104	0.792	0.792	0.495		23.0	21.8	21.0
Head	GSM 850	GSM	E	0832M	1:8.3	0.01	824.20	128	31.2	30.77	Right Tilt	0	0.583	1.104	0.644	0.644	0.403		23.9		
Head	GSM 850	GSM	E	0832M	1:8.3	0.01	824.20	128	31.2	30.77	Left Cheek	0	0.930	1.104	1.027	1.027	0.642	A1	21.8		
Head	GSM 850	GSM	E	0832M	1:8.3	0.06	836.60	190	31.2	30.66	Left Cheek	0	0.800	1.132	0.906	0.906	0.566		22.4		
Head	GSM 850	GSM	E	0832M	1:8.3	0.03	848.80	251	31.2	30.25	Left Cheek	0	0.709	1.245	0.883	0.883	0.552		22.5		
Head	GSM 850	GSM	E	0832M	1:8.3	0.04	824.20	128	31.2	30.77	Left Tilt	0	0.750	1.104	0.828	0.828	0.518		22.8		
Head	GSM 850	GSM	E	0832M	1:8.3	0.05	836.60	190	31.2	30.66	Left Tilt	0	0.663	1.132	0.751	0.751	0.469		23.2		
Head	GSM 850	GSM	E	0832M	1:8.3	0.05	848.80	251	31.2	30.25	Left Tilt	0	0.604	1.245	0.752	0.752	0.470		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 12-3

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	0832M	1:2.76	-0.14	836.60	190	30.5	29.85	Back	10	0.337	1.161	0.391	0.918	0.574		30.1	30.1	29.8
Hotspot	GPRS 850	GPRS 3 Tx Slots	A	0832M	1:2.76	-0.03	836.60	190	30.5	29.85	Front	10	0.182	1.161	0.211	0.496	0.310		32.8		
Hotspot	GPRS 850	GPRS 3 Tx Slots	A	0832M	1:2.76	0.02	836.60	190	30.5	29.85	Bottom	10	0.113	1.161	0.131	0.308	0.193		34.8		
Hotspot	GPRS 850	GPRS 3 Tx Slots	A	0832M	1:2.76	-0.19	836.60	190	30.5	29.85	Right	10	0.065	1.161	0.075	0.177	0.111		37.2		
Hotspot	GPRS 850	GPRS 3 Tx Slots	A	0832M	1:2.76	0.00	836.60	190	30.5	29.85	Left	10	0.147	1.161	0.171	0.400	0.250		33.7		
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 12-4

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	0832M	1:2.76	-0.01	836.60	190	30.5	29.77	Back	10	0.443	1.183	0.524	0.575	0.359	A2	28.8	27.6	26.5
Hotspot	GPRS 850	GPRS 3 Tx Slots	E	0832M	1:2.76	-0.06	836.60	190	30.5	29.77	Front	10	0.551	1.183	0.652	0.715	0.447		27.9		
Hotspot	GPRS 850	GPRS 3 Tx Slots	E	0832M	1:2.76	0.01	836.60	190	30.5	29.77	Top	10	0.592	1.183	0.700	0.768	0.480	A3	27.6		
Hotspot	GPRS 850	GPRS 3 Tx Slots	E	0832M	1:2.76	-0.02	836.60	190	30.5	29.77	Right	10	0.342	1.183	0.405	0.444	0.278		30.0		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Body 1.6 W/kg (mW/g) averaged over 1 gram										

12.2 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	0820M	1:8.3	0.10	1850.20	512	30.8	29.62	Right Cheek	0	0.032	1.312	0.042	0.541	0.338	A4	35.3		
Head	GSM 1900	GSM	A	0820M	1:8.3	0.06	1850.20	512	30.8	29.62	Right Tilt	0	0.012	1.312	0.016	0.203	0.127		39.6	35.3	32.7
Head	GSM 1900	GSM	A	0820M	1:8.3	0.03	1850.20	512	30.8	29.62	Left Cheek	0	0.020	1.312	0.026	0.338	0.211		37.4		
Head	GSM 1900	GSM	A	0820M	1:8.3	-0.07	1850.20	512	30.8	29.62	Left Tilt	0	0.026	1.312	0.034	0.440	0.275		36.2		
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 12-6

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	0820M	1:2.076	-0.05	1880.00	661	23.0	21.83	Back	10	0.323	1.309	0.423	0.423	0.264	A5	23.5		
Hotspot	GPRS 1900	GPRS 4 Tx Slots	A	0820M	1:2.076	-0.07	1880.00	661	23.0	21.83	Front	10	0.229	1.309	0.300	0.300	0.188		25.0		
Hotspot	GPRS 1900	GPRS 4 Tx Slots	A	0820M	1:2.076	0.01	1850.20	512	23.0	21.29	Bottom	10	0.416	1.483	0.617	0.617	0.386		21.9		
Hotspot	GPRS 1900	GPRS 4 Tx Slots	A	0820M	1:2.076	-0.06	1880.00	661	23.0	21.83	Bottom	10	0.642	1.309	0.840	0.840	0.525		20.5	20.2	18.8
Hotspot	GPRS 1900	GPRS 4 Tx Slots	A	0820M	1:2.076	0.01	1909.80	810	23.0	21.75	Bottom	10	0.675	1.334	0.900	0.900	0.563	A6	20.2		
Hotspot	GPRS 1900	GPRS 4 Tx Slots	A	0820M	1:2.076	-0.05	1880.00	661	23.0	21.83	Right	10	0.025	1.309	0.033	0.033	0.021		34.6		
Hotspot	GPRS 1900	GPRS 4 Tx Slots	A	0820M	1:2.076	-0.01	1880.00	661	23.0	21.83	Left	10	0.027	1.309	0.035	0.035	0.022		34.3		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Body 1.6 W/kg (mW/g) averaged over 1 gram										

12.3 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	0832M	1:1	-0.18	846.60	4233	25.0	24.61	Right Cheek	0	10	0.075	1.094	0.082	0.278	0.174		35.8		
Head	UMTS 850	RMC	A	0832M	1:1	0.08	846.60	4233	25.0	24.61	Right Tilt	0	10	0.047	1.094	0.051	0.174	0.109		37.8	34.9	30.3
Head	UMTS 850	RMC	A	0832M	1:1	0.11	846.60	4233	25.0	24.61	Left Cheek	0	10	0.092	1.094	0.101	0.341	0.213		34.9		
Head	UMTS 850	RMC	A	0832M	1:1	0.08	846.60	4233	25.0	24.61	Left Tilt	0	10	0.044	1.094	0.048	0.163	0.102		38.1		
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 12-8

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	0832M	1:1	0.09	846.60	4233	21.5	21.48	Right Cheek	0	0.651	1.005	0.654	0.654	0.409		23.3		
Head	UMTS 850	RMC	E	0832M	1:1	0.02	846.60	4233	21.5	21.48	Right Tilt	0	0.588	1.005	0.591	0.591	0.369		23.7		
Head	UMTS 850	RMC	E	0832M	1:1	0.04	826.40	4132	21.5	21.00	Left Cheek	0	0.855	1.122	0.959	0.959	0.599		21.6	21.6	20.5
Head	UMTS 850	RMC	E	0832M	1:1	0.04	836.60	4183	21.5	21.33	Left Cheek	0	0.872	1.040	0.907	0.907	0.567	A7	21.9		
Head	UMTS 850	RMC	E	0832M	1:1	0.06	846.60	4233	21.5	21.48	Left Cheek	0	0.830	1.005	0.834	0.834	0.521		22.2		
Head	UMTS 850	RMC	E	0832M	1:1	0.06	846.60	4233	21.5	21.48	Left Tilt	0	0.790	1.005	0.794	0.794	0.496		22.5		
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 12-9

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	0832M	1:1	-0.02	846.60	4233	25.0	24.61	Back	10	12	0.327	1.094	0.358	0.801	0.501		29.4		
Hotspot	UMTS 850	RMC	A	0832M	1:1	0.01	846.60	4233	25.0	24.61	Front	10	12	0.176	1.094	0.193	0.431	0.269		32.1		
Hotspot	UMTS 850	RMC	A	0832M	1:1	0.02	846.60	4233	25.0	24.61	Bottom	10	11	0.116	1.094	0.127	0.284	0.178		33.9	29.4	28.5
Hotspot	UMTS 850	RMC	A	0832M	1:1	-0.03	846.60	4233	25.0	24.61	Right	10	11	0.049	1.094	0.054	0.120	0.075		37.7		
Hotspot	UMTS 850	RMC	A	0832M	1:1	0.00	846.60	4233	25.0	24.61	Left	10	11	0.123	1.094	0.135	0.301	0.188		33.7		
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 12-10

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	0832M	1:1	0.01	846.60	4233	25.0	24.78	Back	10	0.473	1.052	0.498	0.788	0.493	A8	28.0		
Hotspot	UMTS 850	RMC	E	0832M	1:1	0.00	846.60	4233	25.0	24.78	Front	10	0.477	1.052	0.502	0.795	0.497		27.9		
Hotspot	UMTS 850	RMC	E	0832M	1:1	-0.02	846.60	4233	25.0	24.78	Top	10	0.589	1.052	0.620	0.982	0.614	A9	27.0	27.0	27.0
Hotspot	UMTS 850	RMC	E	0832M	1:1	0.00	846.60	4233	25.0	24.78	Right	10	0.346	1.052	0.364	0.577	0.361		29.3		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Body 1.6 W/kg (mW/g) averaged over 1 gram											

12.4 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	0820M	1:1	-0.02	1752.60	1513	24.0	22.81	Right Cheek	0	99	0.102	1.315	0.134	0.613	0.383	A10	32.7		
Head	UMTS 1750	RMC	A	0820M	1:1	-0.12	1752.60	1513	24.0	22.81	Right Tilt	0	99	0.045	1.315	0.059	0.271	0.169		36.2	32.7	30.6
Head	UMTS 1750	RMC	A	0820M	1:1	-0.01	1752.60	1513	24.0	22.81	Left Cheek	0	99	0.056	1.315	0.074	0.337	0.211		35.3		
Head	UMTS 1750	RMC	A	0820M	1:1	-0.10	1752.60	1513	24.0	22.81	Left Tilt	0	99	0.044	1.315	0.058	0.265	0.166		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 12-12

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	0820M	1:1	0.01	1752.60	1513	20.0	19.58	Back	10	99	0.625	1.102	0.689	0.689	0.431	A11	21.6		
Hotspot	UMTS 1750	RMC	A	0820M	1:1	-0.01	1752.60	1513	20.0	19.58	Front	10	99	0.483	1.102	0.532	0.532	0.333		22.7		
Hotspot	UMTS 1750	RMC	A	0820M	1:1	0.00	1712.40	1312	20.0	19.46	Bottom	10	107	0.801	1.132	0.907	0.907	0.567		20.4		
Hotspot	UMTS 1750	RMC	A	0820M	1:1	-0.02	1732.40	1412	20.0	19.50	Bottom	10	107	0.843	1.122	0.946	0.946	0.591		20.2		
Hotspot	UMTS 1750	RMC	A	0820M	1:1	0.01	1752.60	1513	20.0	19.58	Bottom	10	27	0.917	1.102	1.011	1.011	0.632	A12	19.9	19.9	19.0
Hotspot	UMTS 1750	RMC	A	0820M	1:1	-0.03	1752.60	1513	20.0	19.58	Bottom	10	27	0.908	1.102	1.001	1.001	0.626		19.9		
Hotspot	UMTS 1750	RMC	A	0820M	1:1	0.00	1752.60	1513	20.0	19.58	Right	10	99	0.076	1.102	0.084	0.084	0.053		30.7		
Hotspot	UMTS 1750	RMC	A	0820M	1:1	0.01	1752.60	1513	20.0	19.58	Left	10	99	0.074	1.102	0.082	0.082	0.051		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											

Note: Blue entry represents variability measurement

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	0820M	1:1	0.06	1852.40	9262	24.0	22.69	Right Cheek	0	108	0.085	1.352	0.115	0.479	0.299	A13	33.3		
Head	UMTS 1900	RMC	A	0820M	1:1	-0.15	1852.40	9262	24.0	22.69	Right Tilt	0	109	0.070	1.352	0.095	0.395	0.247		34.2	33.3	30.2
Head	UMTS 1900	RMC	A	0820M	1:1	-0.20	1852.40	9262	24.0	22.69	Left Cheek	0	109	0.060	1.352	0.081	0.338	0.211		34.9		
Head	UMTS 1900	RMC	A	0820M	1:1	0.02	1852.40	9262	24.0	22.69	Left Tilt	0	109	0.064	1.352	0.087	0.361	0.226		34.6		
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 12-14

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	0820M	1:1	0.01	1852.40	9262	19.0	18.38	Back	10	108	0.461	1.153	0.532	0.532	0.333	A14	21.7		
Hotspot	UMTS 1900	RMC	A	0820M	1:1	-0.01	1852.40	9262	19.0	18.38	Front	10	108	0.361	1.153	0.416	0.416	0.260		22.8		
Hotspot	UMTS 1900	RMC	A	0820M	1:1	-0.02	1852.40	9262	19.0	18.38	Bottom	10	99	0.883	1.153	1.018	1.018	0.636		18.9		
Hotspot	UMTS 1900	RMC	A	0820M	1:1	0.01	1880.00	9400	19.0	18.21	Bottom	10	108	0.802	1.199	0.962	0.962	0.601		19.1	18.2	18.0
Hotspot	UMTS 1900	RMC	A	0820M	1:1	0.01	1907.60	9538	19.0	18.24	Bottom	10	99	0.987	1.191	1.176	1.176	0.735	A15	18.2		
Hotspot	UMTS 1900	RMC	A	0820M	1:1	0.10	1852.40	9262	19.0	18.38	Right	10	108	0.043	1.153	0.050	0.050	0.031		32.0		
Hotspot	UMTS 1900	RMC	A	0820M	1:1	-0.01	1852.40	9262	19.0	18.38	Left	10	109	0.053	1.153	0.061	0.061	0.038		31.1		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Body 1.6 W/kg (mW/g) averaged over 1 gram											

12.6 LTE Band 12 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 12	10	QPSK	A	0833M	1:1	-0.17	707.50	23095	0.0	25.3	24.27	1	25	Right Cheek	0	63	0.125	1.268	0.159	0.331	0.207		33.3		
Head	LTE Band 12	10	QPSK	A	0833M	1:1	-0.05	707.50	23095	1.0	24.3	23.16	25	12	Right Cheek	0	63	0.097	1.300	0.126	0.332	0.208		33.2		
Head	LTE Band 12	10	QPSK	A	0833M	1:1	0.03	707.50	23095	0.0	25.3	24.27	1	25	Right Tilt	0	63	0.063	1.268	0.080	0.167	0.104		36.2		
Head	LTE Band 12	10	QPSK	A	0833M	1:1	-0.03	707.50	23095	1.0	24.3	23.16	25	12	Right Tilt	0	63	0.050	1.300	0.065	0.171	0.107		36.1	33.2	28.5
Head	LTE Band 12	10	QPSK	A	0833M	1:1	0.02	707.50	23095	0.0	25.3	24.27	1	25	Left Cheek	0	63	0.126	1.268	0.160	0.334	0.209		33.2		
Head	LTE Band 12	10	QPSK	A	0833M	1:1	-0.03	707.50	23095	1.0	24.3	23.16	25	12	Left Cheek	0	63	0.099	1.300	0.129	0.339	0.212		33.2		
Head	LTE Band 12	10	QPSK	A	0833M	1:1	0.14	707.50	23095	0.0	25.3	24.27	1	25	Left Tilt	0	63	0.075	1.268	0.095	0.199	0.124		35.5		
Head	LTE Band 12	10	QPSK	A	0833M	1:1	-0.08	707.50	23095	1.0	24.3	23.16	25	12	Left Tilt	0	63	0.054	1.300	0.070	0.185	0.116		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 12-16

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 12	10	QPSK	E	0833M	1:1	-0.04	707.50	23095	0.0	22.5	21.45	1	49	Right Cheek	0	0.481	1.274	0.613	0.613	0.383		24.6		
Head	LTE Band 12	10	QPSK	E	0833M	1:1	-0.05	707.50	23095	0.0	22.5	21.51	25	12	Right Cheek	0	0.443	1.256	0.556	0.556	0.348		25.0		
Head	LTE Band 12	10	QPSK	E	0833M	1:1	0.14	707.50	23095	0.0	22.5	21.45	1	49	Right Tilt	0	0.416	1.274	0.530	0.530	0.331		25.2		
Head	LTE Band 12	10	QPSK	E	0833M	1:1	-0.02	707.50	23095	0.0	22.5	21.51	25	12	Right Tilt	0	0.390	1.256	0.490	0.490	0.306		25.5		
Head	LTE Band 12	10	QPSK	E	0833M	1:1	-0.01	707.50	23095	0.0	22.5	21.45	1	49	Left Cheek	0	0.929	1.274	1.184	1.184	0.740	A16	21.7	21.7	21.5
Head	LTE Band 12	10	QPSK	E	0833M	1:1	-0.02	707.50	23095	0.0	22.5	21.51	25	12	Left Cheek	0	0.825	1.256	1.036	1.036	0.648		22.3		
Head	LTE Band 12	10	QPSK	E	0833M	1:1	-0.03	707.50	23095	0.0	22.5	21.43	50	0	Left Cheek	0	0.800	1.279	1.023	1.023	0.639		22.3		
Head	LTE Band 12	10	QPSK	E	0833M	1:1	-0.05	707.50	23095	0.0	22.5	21.45	1	49	Left Tilt	0	0.580	1.274	0.739	0.739	0.462		23.8		
Head	LTE Band 12	10	QPSK	E	0833M	1:1	-0.01	707.50	23095	0.0	22.5	21.51	25	12	Left Tilt	0	0.517	1.256	0.649	0.649	0.406		24.3		
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 12-17

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 12	10	QPSK	A	0833M	1:1	-0.06	707.50	23095	0.0	25.3	24.27	1	25	Back	10	63	0.220	1.268	0.279	0.463	0.289		30.8		
Body-worn/Hotspot	LTE Band 12	10	QPSK	A	0833M	1:1	0.01	707.50	23095	1.0	24.3	23.16	25	12	Back	10	63	0.170	1.300	0.221	0.462	0.289		30.8		
Hotspot	LTE Band 12	10	QPSK	A	0833M	1:1	0.02	707.50	23095	0.0	25.3	24.27	1	25	Front	10	63	0.181	1.268	0.230	0.381	0.238		31.6		
Hotspot	LTE Band 12	10	QPSK	A	0833M	1:1	-0.02	707.50	23095	1.0	24.3	23.16	25	12	Front	10	63	0.140	1.300	0.182	0.380	0.238		31.6		
Hotspot	LTE Band 12	10	QPSK	A	0388M	1:1	0.03	707.50	23095	0.0	25.3	24.27	1	25	Bottom	10	63	0.047	1.268	0.060	0.099	0.062		37.5		
Hotspot	LTE Band 12	10	QPSK	A	0388M	1:1	0.05	707.50	23095	1.0	24.3	23.16	25	12	Bottom	10	63	0.036	1.300	0.047	0.098	0.061		37.5	30.5	27.5
Hotspot	LTE Band 12	10	QPSK	A	0833M	1:1	0.04	707.50	23095	0.0	25.3	24.27	1	25	Right	10	63	0.235	1.268	0.298	0.494	0.309		30.5		
Hotspot	LTE Band 12	10	QPSK	A	0833M	1:1	0.07	707.50	23095	1.0	24.3	23.16	25	12	Right	10	63	0.184	1.300	0.239	0.500	0.313		30.5		
Hotspot	LTE Band 12	10	QPSK	A	0833M	1:1	-0.01	707.50	23095	0.0	25.3	24.27	1	25	Left	10	63	0.225	1.268	0.285	0.473	0.296		30.7		
Hotspot	LTE Band 12	10	QPSK	A	0833M	1:1	-0.03	707.50	23095	1.0	24.3	23.16	25	12	Left	10	63	0.173	1.300	0.225	0.470	0.294		30.7		
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 12	10	QPSK	E	0833M	1:1	-0.09	707.50	23095	0.0	25.3	24.15	1	25	Back	10	0.275	1.303	0.358	0.421	0.263	A17	29.7		
Body-worn/Hotspot	LTE Band 12	10	QPSK	E	0833M	1:1	-0.02	707.50	23095	1.0	24.3	23.29	25	25	Back	10	0.221	1.262	0.279	0.412	0.258		29.8		
Hotspot	LTE Band 12	10	QPSK	E	0833M	1:1	0.04	707.50	23095	0.0	25.3	24.15	1	25	Front	10	0.296	1.303	0.386	0.453	0.283		29.4		
Hotspot	LTE Band 12	10	QPSK	E	0833M	1:1	0.01	707.50	23095	1.0	24.3	23.29	25	25	Front	10	0.265	1.262	0.334	0.494	0.309		29.0		
Hotspot	LTE Band 12	10	QPSK	E	0833M	1:1	0.10	707.50	23095	0.0	25.3	24.15	1	25	Top	10	0.312	1.303	0.407	0.478	0.299		29.2		
Hotspot	LTE Band 12	10	QPSK	E	0833M	1:1	0.08	707.50	23095	1.0	24.3	23.29	25	25	Top	10	0.261	1.262	0.329	0.487	0.304		29.1		
Hotspot	LTE Band 12	10	QPSK	E	0824M	1:1	-0.02	707.50	23095	0.0	25.3	24.15	1	25	Right	10	0.361	1.303	0.470	0.553	0.346	A18	28.5	28.4	26.0
Hotspot	LTE Band 12	10	QPSK	E	0824M	1:1	0.04	707.50	23095	1.0	24.3	23.29	25	25	Right	10	0.308	1.262	0.389	0.575	0.359		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								

12.7 LTE Band 13 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 13	10	QPSK	A	0833M	1:1	-0.09	782.00	23230	0.0	25.0	24.28	1	25	Right Cheek	0	0	0.087	1.180	0.103	0.210	0.131		34.8	32.7	28.1
Head	LTE Band 13	10	QPSK	A	0833M	1:1	-0.06	782.00	23230	1.0	24.0	23.45	25	25	Right Cheek	0	0	0.070	1.135	0.079	0.204	0.128		34.9		
Head	LTE Band 13	10	QPSK	A	0833M	1:1	0.05	782.00	23230	0.0	25.0	24.28	1	25	Right Tilt	0	0	0.065	1.180	0.077	0.157	0.098		36.1		
Head	LTE Band 13	10	QPSK	A	0833M	1:1	0.05	782.00	23230	1.0	24.0	23.45	25	25	Right Tilt	0	0	0.047	1.135	0.053	0.137	0.086		36.7		
Head	LTE Band 13	10	QPSK	A	0833M	1:1	0.11	782.00	23230	0.0	25.0	24.28	1	25	Left Cheek	0	0	0.142	1.180	0.168	0.342	0.214		32.7		
Head	LTE Band 13	10	QPSK	A	0833M	1:1	0.06	782.00	23230	1.0	24.0	23.45	25	25	Left Cheek	0	0	0.107	1.135	0.121	0.312	0.195		33.1		
Head	LTE Band 13	10	QPSK	A	0833M	1:1	0.08	782.00	23230	0.0	25.0	24.28	1	25	Left Tilt	0	0	0.055	1.180	0.065	0.133	0.083		36.8		
Head	LTE Band 13	10	QPSK	A	0833M	1:1	0.12	782.00	23230	1.0	24.0	23.45	25	25	Left Tilt	0	0	0.045	1.135	0.051	0.131	0.082		36.9		
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 12-20

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 13	10	QPSK	E	0833M	1:1	-0.13	782.00	23230	0.0	22.5	22.05	1	25	Right Cheek	0	0.673	1.109	0.746	0.746	0.466		23.7	22.2	21.5
Head	LTE Band 13	10	QPSK	E	0833M	1:1	-0.01	782.00	23230	0.0	22.5	21.85	25	25	Right Cheek	0	0.643	1.161	0.747	0.747	0.467		23.7		
Head	LTE Band 13	10	QPSK	E	0833M	1:1	-0.02	782.00	23230	0.0	22.5	22.05	1	25	Right Tilt	0	0.603	1.109	0.669	0.669	0.418		24.2		
Head	LTE Band 13	10	QPSK	E	0833M	1:1	0.01	782.00	23230	0.0	22.5	21.85	25	25	Right Tilt	0	0.590	1.161	0.685	0.685	0.428		24.1		
Head	LTE Band 13	10	QPSK	E	0833M	1:1	-0.13	782.00	23230	0.0	22.5	22.05	1	25	Left Cheek	0	0.940	1.109	1.042	1.042	0.651	A19	22.3		
Head	LTE Band 13	10	QPSK	E	0833M	1:1	0.00	782.00	23230	0.0	22.5	22.05	1	25	Left Cheek	0	0.930	1.109	0.929	0.929	0.558		22.9		
Head	LTE Band 13	10	QPSK	E	0833M	1:1	0.02	782.00	23230	0.0	22.5	21.85	25	25	Left Cheek	0	0.897	1.161	1.041	1.041	0.651		22.3		
Head	LTE Band 13	10	QPSK	E	0833M	1:1	-0.03	782.00	23230	0.0	22.5	21.83	50	0	Left Cheek	0	0.913	1.167	1.065	1.065	0.666		22.2		
Head	LTE Band 13	10	QPSK	E	0833M	1:1	0.10	782.00	23230	0.0	22.5	22.05	1	25	Left Tilt	0	0.764	1.109	0.847	0.847	0.529		23.2		
Head	LTE Band 13	10	QPSK	E	0833M	1:1	0.04	782.00	23230	0.0	22.5	21.85	25	25	Left Tilt	0	0.785	1.161	0.911	0.911	0.569		22.9		
Head	LTE Band 13	10	QPSK	E	0833M	1:1	-0.05	782.00	23230	0.0	22.5	21.83	50	0	Left Tilt	0	0.792	1.167	0.924	0.924	0.578		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										

Note: Blue entry represents variability measurement

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 13	10	QPSK	A	0833M	1:1	-0.05	782.00	23230	0.0	25.0	24.28	1	25	Back	10	0	0.290	1.180	0.342	0.568	0.355		29.6	29.6	27.2
Body-worn/Hotspot	LTE Band 13	10	QPSK	A	0833M	1:1	0.01	782.00	23230	1.0	24.0	23.45	25	25	Back	10	0	0.233	1.135	0.264	0.552	0.345		29.7		
Hotspot	LTE Band 13	10	QPSK	A	0833M	1:1	-0.03	782.00	23230	0.0	25.0	24.28	1	25	Front	10	0	0.184	1.180	0.217	0.360	0.225		31.6		
Hotspot	LTE Band 13	10	QPSK	A	0833M	1:1	0.01	782.00	23230	1.0	24.0	23.45	25	25	Front	10	0	0.143	1.135	0.162	0.339	0.212		31.8		
Hotspot	LTE Band 13	10	QPSK	A	0388M	1:1	-0.13	782.00	23230	0.0	25.0	24.28	1	25	Bottom	10	0	0.075	1.180	0.089	0.147	0.092		35.5		
Hotspot	LTE Band 13	10	QPSK	A	0833M	1:1	-0.03	782.00	23230	1.0	24.0	23.45	25	25	Bottom	10	0	0.061	1.135	0.069	0.145	0.091		35.5		
Hotspot	LTE Band 13	10	QPSK	A	0833M	1:1	0.08	782.00	23230	0.0	25.0	24.28	1	25	Right	10	0	0.190	1.180	0.224	0.372	0.233		31.4		
Hotspot	LTE Band 13	10	QPSK	A	0833M	1:1	0.03	782.00	23230	1.0	24.0	23.45	25	25	Right	10	0	0.129	1.135	0.146	0.306	0.191		32.3		
Hotspot	LTE Band 13	10	QPSK	A	0833M	1:1	0.06	782.00	23230	0.0	25.0	24.28	1	25	Left	10	0	0.216	1.180	0.255	0.423	0.264		30.9		
Hotspot	LTE Band 13	10	QPSK	A	0833M	1:1	-0.04	782.00	23230	1.0	24.0	23.45	25	25	Left	10	0	0.168	1.135	0.191	0.398	0.249		31.1		
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 12-22

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 13	10	QPSK	E	0833M	1:1	-0.05	782.00	23230	0.0	25.0	24.52	1	25	Back	10	0.454	1.117	0.507	0.700	0.438	A20	27.9	26.4	26.4
Body-worn/Hotspot	LTE Band 13	10	QPSK	E	0833M	1:1	-0.10	782.00	23230	1.0	24.0	23.59	25	25	Back	10	0.365	1.099	0.401	0.697	0.436		27.9		
Hotspot	LTE Band 13	10	QPSK	E	0824M	1:1	0.03	782.00	23230	0.0	25.0	24.52	1	25	Front	10	0.484	1.117	0.541	0.746	0.466		27.6		
Hotspot	LTE Band 13	10	QPSK	E	0824M	1:1	-0.01	782.00	23230	1.0	24.0	23.59	25	25	Front	10	0.378	1.099	0.415	0.722	0.451		27.8		
Hotspot	LTE Band 13	10	QPSK	E	0833M	1:1	-0.20	782.00	23230	0.0	25.0	24.52	1	25	Top	10	0.639	1.117	0.714	0.985	0.616	A21	26.4		
Hotspot	LTE Band 13	10	QPSK	E	0833M	1:1	0.07	782.00	23230	1.0	24.0	23.59	25	25	Top	10	0.403	1.099	0.443	0.770	0.481		27.5		
Hotspot	LTE Band 13	10	QPSK	E	0824M	1:1	-0.10	782.00	23230	0.0	25.0	24.52	1	25	Right	10	0.449	1.117	0.502	0.692	0.433		27.9		
Hotspot	LTE Band 13	10	QPSK	E	0824M	1:1	-0.02	782.00	23230	1.0	24.0	23.59	25	25	Right	10	0.452	1.099	0.497	0.863	0.539		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										

12.8 LTE Band 26 (Cell) 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 26	15	QPSK	A	0833M	1:1	0.06	831.50	26865	0.0	25.0	24.33	1	36	Right Cheek	0	10	0.066	1.167	0.077	0.217	0.136		36.1	34.1	29.5
Head	LTE Band 26	15	QPSK	A	0833M	1:1	-0.07	831.50	26865	1.0	24.0	23.21	36	37	Right Cheek	0	10	0.054	1.199	0.065	0.230	0.144		35.8		
Head	LTE Band 26	15	QPSK	A	0833M	1:1	-0.08	831.50	26865	0.0	25.0	24.33	1	36	Right Tilt	0	10	0.059	1.167	0.069	0.194	0.121		36.6		
Head	LTE Band 26	15	QPSK	A	0833M	1:1	-0.01	831.50	26865	1.0	24.0	23.21	36	37	Right Tilt	0	10	0.045	1.199	0.054	0.192	0.120		36.6		
Head	LTE Band 26	15	QPSK	A	0833M	1:1	0.03	831.50	26865	0.0	25.0	24.33	1	36	Left Cheek	0	10	0.104	1.167	0.121	0.342	0.214		34.1		
Head	LTE Band 26	15	QPSK	A	0833M	1:1	0.02	831.50	26865	1.0	24.0	23.21	36	37	Left Cheek	0	10	0.080	1.199	0.096	0.340	0.213		34.1		
Head	LTE Band 26	15	QPSK	A	0833M	1:1	0.11	831.50	26865	0.0	25.0	24.33	1	36	Left Tilt	0	10	0.035	1.167	0.041	0.115	0.072		38.8		
Head	LTE Band 26	15	QPSK	A	0833M	1:1	0.13	831.50	26865	1.0	24.0	23.21	36	37	Left Tilt	0	10	0.028	1.199	0.034	0.119	0.074		38.7		
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 12-24

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 26	15	QPSK	E	0833M	1:1	-0.06	831.50	26865	0.0	22.0	20.97	1	36	Right Cheek	0	0.580	1.268	0.735	0.735	0.459		23.3	21.3	21.0
Head	LTE Band 26	15	QPSK	E	0833M	1:1	0.00	831.50	26865	0.0	22.0	21.01	36	0	Right Cheek	0	0.545	1.256	0.685	0.685	0.428		23.6		
Head	LTE Band 26	15	QPSK	E	0833M	1:1	0.00	831.50	26865	0.0	22.0	20.97	1	36	Right Tilt	0	0.565	1.268	0.716	0.716	0.448		23.4		
Head	LTE Band 26	15	QPSK	E	0833M	1:1	-0.06	831.50	26865	0.0	22.0	21.01	36	0	Right Tilt	0	0.528	1.256	0.663	0.663	0.414		23.7		
Head	LTE Band 26	15	QPSK	E	0833M	1:1	-0.01	831.50	26865	0.0	22.0	20.97	1	36	Left Cheek	0	0.925	1.268	1.173	1.173	0.733	A22	21.3		
Head	LTE Band 26	15	QPSK	E	0833M	1:1	0.00	831.50	26865	0.0	22.0	21.01	36	0	Left Cheek	0	0.897	1.256	1.127	1.127	0.704		21.4		
Head	LTE Band 26	15	QPSK	E	0833M	1:1	0.00	831.50	26865	0.0	22.0	20.93	75	0	Left Cheek	0	0.872	1.279	1.115	1.115	0.697		21.5		
Head	LTE Band 26	15	QPSK	E	0833M	1:1	0.10	831.50	26865	0.0	22.0	20.97	1	36	Left Tilt	0	0.844	1.268	1.070	1.070	0.669		21.7		
Head	LTE Band 26	15	QPSK	E	0833M	1:1	0.03	831.50	26865	0.0	22.0	21.01	36	0	Left Tilt	0	0.856	1.256	1.075	1.075	0.672		21.6		
Head	LTE Band 26	15	QPSK	E	0833M	1:1	0.03	831.50	26865	0.0	22.0	20.93	75	0	Left Tilt	0	0.829	1.279	1.060	1.060	0.663		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 12-25

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 26	15	QPSK	A	0833M	1:1	0.04	831.50	26865	0.0	25.0	24.33	1	36	Back	10	11	0.405	1.167	0.473	0.987	0.617		28.2	28.2	28.2
Body-worn/Hotspot	LTE Band 26	15	QPSK	A	0833M	1:1	-0.02	831.50	26865	1.0	24.0	23.21	36	37	Back	10	11	0.311	1.199	0.373	0.981	0.613		28.2		
Hotspot	LTE Band 26	15	QPSK	A	0833M	1:1	0.01	831.50	26865	0.0	25.0	24.33	1	36	Front	10	11	0.209	1.167	0.244	0.510	0.319		31.1		
Hotspot	LTE Band 26	15	QPSK	A	0833M	1:1	0.01	831.50	26865	1.0	24.0	23.21	36	37	Front	10	11	0.164	1.199	0.197	0.517	0.323		31.0		
Hotspot	LTE Band 26	15	QPSK	A	0833M	1:1	0.04	831.50	26865	0.0	25.0	24.33	1	36	Bottom	10	11	0.118	1.167	0.138	0.288	0.180		33.6		
Hotspot	LTE Band 26	15	QPSK	A	0833M	1:1	0.02	831.50	26865	1.0	24.0	23.21	36	37	Bottom	10	11	0.087	1.199	0.104	0.274	0.171		33.8		
Hotspot	LTE Band 26	15	QPSK	A	0833M	1:1	-0.07	831.50	26865	0.0	25.0	24.33	1	36	Right	10	11	0.057	1.167	0.067	0.139	0.087		36.7		
Hotspot	LTE Band 26	15	QPSK	A	0833M	1:1	0.04	831.50	26865	1.0	24.0	23.21	36	37	Right	10	11	0.032	1.199	0.038	0.101	0.063		38.1		
Hotspot	LTE Band 26	15	QPSK	A	0833M	1:1	0.04	831.50	26865	0.0	25.0	24.33	1	36	Left	10	11	0.141	1.167	0.165	0.344	0.215		32.8		
Hotspot	LTE Band 26	15	QPSK	A	0833M	1:1	-0.07	831.50	26865	1.0	24.0	23.21	36	37	Left	10	11	0.105	1.199	0.126	0.331	0.207		32.9		
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 12-26

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 26	15	QPSK	E	0833M	1:1	-0.06	831.50	26865	0.0	25.0	24.23	1	36	Back	10	0.433	1.194	0.517	0.730	0.456	A23	27.8	26.6	26.5
Body-worn/Hotspot	LTE Band 26	15	QPSK	E	0833M	1:1	-0.06	831.50	26865	1.0	24.0	23.30	36	0	Back	10	0.314	1.175	0.369	0.656	0.410		28.3		
Hotspot	LTE Band 26	15	QPSK	E	0824M	1:1	-0.13	831.50	26865	0.0	25.0	24.23	1	36	Front	10	0.434	1.194	0.518	0.732	0.458		27.8		
Hotspot	LTE Band 26	15	QPSK	E	0824M	1:1	-0.02	831.50	26865	1.0	24.0	23.30	36	0	Front	10	0.338	1.175	0.397	0.706	0.441		28.0		
Hotspot	LTE Band 26	15	QPSK	E	0833M	1:1	-0.03	831.50	26865	0.0	25.0	24.23	1	36	Top	10	0.568	1.194	0.678	0.958	0.599	A24	26.6		
Hotspot	LTE Band 26	15	QPSK	E	0833M	1:1	0.01	831.50	26865	1.0	24.0	23.30	36	0	Top	10	0.424	1.175	0.498	0.886	0.554		27.0		
Hotspot	LTE Band 26	15	QPSK	E	0824M	1:1	-0.04	831.50	26865	0.0	25.0	24.23	1	36	Right	10	0.462	1.194	0.552	0.779	0.487		27.5		
Hotspot	LTE Band 26	15	QPSK	E	0824M	1:1	0.02	831.50	26865	1.0	24.0	23.30	36	0	Right	10	0.308	1.175	0.362	0.643	0.402		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										

12.9 LTE Band 66 (AWS) 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 66	20	QPSK	A	0833M	1:1	0.07	1770.00	132572	0.0	24.5	23.54	1	0	Right Cheek	0	99	0.094	1.247	0.117	0.548	0.343		33.8		
Head	LTE Band 66	20	QPSK	A	0738M	1:1	-0.07	1770.00	132572	1.0	23.5	22.50	50	0	Right Cheek	0	99	0.079	1.259	0.099	0.586	0.366		33.5		
Head	LTE Band 66	20	QPSK	A	0738M	1:1	-0.10	1770.00	132572	0.0	24.5	23.54	1	0	Right Tilt	0	141	0.019	1.247	0.024	0.111	0.069		40.7		
Head	LTE Band 66	20	QPSK	A	0738M	1:1	0.09	1770.00	132572	1.0	23.5	22.50	50	0	Right Tilt	0	141	0.017	1.259	0.021	0.126	0.079		40.1	33.5	31.2
Head	LTE Band 66	20	QPSK	A	0738M	1:1	0.04	1770.00	132572	0.0	24.5	23.54	1	0	Left Cheek	0	99	0.058	1.247	0.072	0.338	0.211		35.9		
Head	LTE Band 66	20	QPSK	A	0738M	1:1	-0.05	1770.00	132572	1.0	23.5	22.50	50	0	Left Cheek	0	99	0.043	1.259	0.054	0.319	0.199		36.1		
Head	LTE Band 66	20	QPSK	A	0738M	1:1	0.04	1770.00	132572	0.0	24.5	23.54	1	0	Left Tilt	0	99	0.066	1.247	0.082	0.385	0.241		35.3		
Head	LTE Band 66	20	QPSK	A	0738M	1:1	-0.03	1770.00	132572	1.0	23.5	22.50	50	0	Left Tilt	0	99	0.045	1.259	0.057	0.334	0.209		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 12-28

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 66	20	QPSK	F	0827M	1:1	0.04	1720.00	132072	0.0	19.5	18.29	1	99	Right Cheek	0	0.571	1.321	0.754	0.754	0.471		20.7		
Head	LTE Band 66	20	QPSK	F	0827M	1:1	0.04	1745.00	132322	0.0	19.5	18.28	1	50	Right Cheek	0	0.695	1.324	0.920	0.920	0.575		19.8		
Head	LTE Band 66	20	QPSK	F	0827M	1:1	0.04	1770.00	132572	0.0	19.5	18.39	1	0	Right Cheek	0	0.671	1.291	0.866	0.866	0.541		20.1		
Head	LTE Band 66	20	QPSK	F	0827M	1:1	0.05	1720.00	132072	0.0	19.5	18.36	50	0	Right Cheek	0	0.630	1.300	0.819	0.819	0.512		20.3		
Head	LTE Band 66	20	QPSK	F	0827M	1:1	0.04	1745.00	132322	0.0	19.5	18.35	50	50	Right Cheek	0	0.685	1.303	0.893	0.893	0.558		19.9		
Head	LTE Band 66	20	QPSK	F	0827M	1:1	0.03	1770.00	132572	0.0	19.5	18.38	50	0	Right Cheek	0	0.678	1.294	0.877	0.877	0.548		20.0		
Head	LTE Band 66	20	QPSK	F	0827M	1:1	0.04	1770.00	132572	0.0	19.5	18.36	100	0	Right Cheek	0	0.772	1.300	1.004	1.004	0.628	A25	19.4		
Head	LTE Band 66	20	QPSK	F	0827M	1:1	0.03	1720.00	132072	0.0	19.5	18.29	1	99	Right Tilt	0	0.707	1.321	0.934	0.934	0.584		19.7		
Head	LTE Band 66	20	QPSK	F	0827M	1:1	0.02	1745.00	132322	0.0	19.5	18.28	1	50	Right Tilt	0	0.755	1.324	1.000	1.000	0.625		19.5	19.4	18.5
Head	LTE Band 66	20	QPSK	F	0827M	1:1	0.02	1770.00	132572	0.0	19.5	18.39	1	0	Right Tilt	0	0.770	1.291	0.994	0.994	0.621		19.5		
Head	LTE Band 66	20	QPSK	F	0827M	1:1	0.03	1720.00	132072	0.0	19.5	18.36	50	0	Right Tilt	0	0.711	1.300	0.924	0.924	0.578		19.8		
Head	LTE Band 66	20	QPSK	F	0827M	1:1	0.03	1745.00	132322	0.0	19.5	18.35	50	50	Right Tilt	0	0.738	1.303	0.962	0.962	0.601		19.6		
Head	LTE Band 66	20	QPSK	F	0827M	1:1	0.04	1770.00	132572	0.0	19.5	18.38	50	0	Right Tilt	0	0.756	1.294	0.978	0.978	0.611		19.5		
Head	LTE Band 66	20	QPSK	F	0827M	1:1	0.02	1770.00	132572	0.0	19.5	18.36	100	0	Right Tilt	0	0.752	1.300	0.978	0.978	0.611		19.5		
Head	LTE Band 66	20	QPSK	F	0827M	1:1	-0.01	1770.00	132572	0.0	19.5	18.39	1	0	Left Cheek	0	0.439	1.291	0.567	0.567	0.354		21.9		
Head	LTE Band 66	20	QPSK	F	0827M	1:1	-0.02	1770.00	132572	0.0	19.5	18.38	50	0	Left Cheek	0	0.453	1.294	0.586	0.586	0.366		21.8		
Head	LTE Band 66	20	QPSK	F	0827M	1:1	-0.02	1770.00	132572	0.0	19.5	18.39	1	0	Left Tilt	0	0.528	1.291	0.682	0.682	0.426		21.1		
Head	LTE Band 66	20	QPSK	F	0827M	1:1	-0.03	1770.00	132572	0.0	19.5	18.38	50	0	Left Tilt	0	0.548	1.294	0.709	0.709	0.443		20.9		
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 12-29

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 66	20	QPSK	A	0738M	1:1	-0.17	1770.00	132572	0.0	20.0	19.39	1	0	Back	10	141	0.391	1.151	0.450	0.450	0.281	A26	23.4		
Body-worn/Hotspot	LTE Band 66	20	QPSK	A	0738M	1:1	0.13	1770.00	132572	0.0	20.0	19.38	50	0	Back	10	141	0.384	1.153	0.443	0.443	0.277		23.5		
Hotspot	LTE Band 66	20	QPSK	A	0738M	1:1	0.03	1770.00	132572	0.0	20.0	19.39	1	0	Front	10	99	0.352	1.151	0.405	0.405	0.253		23.9		
Hotspot	LTE Band 66	20	QPSK	A	0738M	1:1	0.15	1770.00	132572	0.0	20.0	19.38	50	0	Front	10	99	0.358	1.153	0.413	0.413	0.258		23.8		
Hotspot	LTE Band 66	20	QPSK	A	0827M	1:1	-0.01	1720.00	132072	0.0	20.0	19.30	1	50	Bottom	10	99	0.831	1.175	0.976	0.976	0.610		20.1		
Hotspot	LTE Band 66	20	QPSK	A	0827M	1:1	-0.03	1745.00	132322	0.0	20.0	19.24	1	0	Bottom	10	28	0.847	1.191	1.009	1.009	0.631		19.9		
Hotspot	LTE Band 66	20	QPSK	A	0827M	1:1	-0.07	1770.00	132572	0.0	20.0	19.39	1	0	Bottom	10	28	0.910	1.151	1.047	1.047	0.654		19.7		
Hotspot	LTE Band 66	20	QPSK	A	0827M	1:1	0.01	1720.00	132072	0.0	20.0	19.36	50	25	Bottom	10	28	0.836	1.159	0.969	0.969	0.606		20.1	19.7	19.0
Hotspot	LTE Band 66	20	QPSK	A	0827M	1:1	0.00	1745.00	132322	0.0	20.0	19.33	50	25	Bottom	10	28	0.859	1.167	1.002	1.002	0.626		19.9		
Hotspot	LTE Band 66	20	QPSK	A	0827M	1:1	0.01	1770.00	132572	0.0	20.0	19.38	50	0	Bottom	10	28	0.915	1.153	1.055	1.055	0.659	A27	19.7		
Hotspot	LTE Band 66	20	QPSK	A	0827M	1:1	-0.02	1770.00	132572	0.0	20.0	19.36	100	0	Bottom	10	101	0.845	1.159	0.979	0.979	0.612		20.0		
Hotspot	LTE Band 66	20	QPSK	A	0738M	1:1	0.12	1770.00	132572	0.0	20.0	19.39	1	0	Right	10	141	0.062	1.151	0.071	0.071	0.044		31.4		
Hotspot	LTE Band 66	20	QPSK	A	0738M	1:1	0.06	1770.00	132572	0.0	20.0	19.38	50	0	Right	10	141	0.066	1.153	0.076	0.076	0.048		31.1		
Hotspot	LTE Band 66	20	QPSK	A	0738M	1:1	-0.17	1770.00	132572	0.0	20.0	19.39	1	0	Left	10	141	0.039	1.151	0.045	0.045	0.028		33.4		
Hotspot	LTE Band 66	20	QPSK	A	0738M	1:1	0.05	1770.00	132572	0.0	20.0	19.38	50	0	Left	10	141	0.040	1.153	0.046	0.046	0.029		33.3		
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 12-30

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 66	20	QPSK	F	0827M	1:1	-0.12	1770.00	132572	0.0	22.0	20.93	1	0	Back	10	0.258	1.279	0.330	0.330	0.206		26.8		
Body-worn/Hotspot	LTE Band 66	20	QPSK	F	0827M	1:1	-0.03	1770.00	132572	0.0	22.0	20.96	50	0	Back	10	0.262	1.271	0.333	0.333	0.208		26.7		
Hotspot	LTE Band 66	20	QPSK	F	0827M	1:1	-0.13	1770.00	132572	0.0	22.0	20.93	1	0	Front	10	0.224	1.279	0.286	0.286	0.179		27.4		
Hotspot	LTE Band 66	20	QPSK	F	0827M	1:1	-0.08	1770.00	132572	0.0	22.0	20.96	50	0	Front	10	0.221	1.271	0.281	0.281	0.176		27.5	23.5	21.0
Hotspot	LTE Band 66	20	QPSK	F	0827M	1:1	-0.02	1770.00	132572	0.0	22.0	20.93	1	0	Top	10	0.542	1.279	0.693	0.693	0.433		23.5		
Hotspot	LTE Band 66	20	QPSK	F	0827M	1:1	0.04	1770.00	132572	0.0	22.0	20.96	50	0	Top	10	0.539	1.271	0.685	0.685	0.428		23.6		
Hotspot	LTE Band 66	20	QPSK	F	0827M	1:1	-0.05	1770.00	132572	0.0	22.0	20.93	1	0	Left	10	0.114	1.279	0.146	0.146	0.091		30.3		
Hotspot	LTE Band 66	20	QPSK	F	0827M	1:1	0.01	1770.00	132572	0.0	22.0	20.96	50	0	Left	10	0.119	1.271	0.151	0.151	0.094		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										

12.10 LTE Band 25 (PCS) 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 25	20	QPSK	A	0833M	1:1	0.03	1882.50	26365	0.0	24.0	23.55	1	50	Right Cheek	0	108	0.121	1.109	0.134	0.573	0.358		32.7		
Head	LTE Band 25	20	QPSK	A	0738M	1:1	-0.09	1882.50	26365	1.0	23.0	22.56	50	50	Right Cheek	0	99	0.081	1.107	0.090	0.481	0.301		33.4		
Head	LTE Band 25	20	QPSK	A	0738M	1:1	0.04	1882.50	26365	0.0	24.0	23.55	1	50	Right Tilt	0	141	0.009	1.109	0.010	0.043	0.027		44.0		
Head	LTE Band 25	20	QPSK	A	0738M	1:1	0.18	1882.50	26365	1.0	23.0	22.56	50	50	Right Tilt	0	141	0.010	1.107	0.011	0.059	0.037		42.5	32.7	30.3
Head	LTE Band 25	20	QPSK	A	0738M	1:1	0.09	1882.50	26365	0.0	24.0	23.55	1	50	Left Cheek	0	108	0.072	1.109	0.080	0.341	0.213		34.9		
Head	LTE Band 25	20	QPSK	A	0738M	1:1	0.01	1882.50	26365	1.0	23.0	22.56	50	50	Left Cheek	0	108	0.056	1.107	0.062	0.333	0.208		35.0		
Head	LTE Band 25	20	QPSK	A	0738M	1:1	-0.11	1882.50	26365	0.0	24.0	23.55	1	50	Left Tilt	0	108	0.067	1.109	0.074	0.317	0.198		35.2		
Head	LTE Band 25	20	QPSK	A	0738M	1:1	-0.07	1882.50	26365	1.0	23.0	22.56	50	50	Left Tilt	0	108	0.066	1.107	0.073	0.392	0.245		34.3		
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 12-32

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 25	20	QPSK	F	0827M	1:1	0.05	1860.00	26140	0.0	20.0	18.96	1	50	Right Cheek	0	0.769	1.271	0.977	0.977	0.611		20.1		
Head	LTE Band 25	20	QPSK	F	0827M	1:1	0.06	1882.50	26365	0.0	20.0	19.10	1	50	Right Cheek	0	0.752	1.230	0.925	0.925	0.578		20.3		
Head	LTE Band 25	20	QPSK	F	0827M	1:1	0.04	1905.00	26590	0.0	20.0	19.02	1	0	Right Cheek	0	0.764	1.253	0.957	0.957	0.598		20.1		
Head	LTE Band 25	20	QPSK	F	0827M	1:1	0.04	1860.00	26140	0.0	20.0	18.98	50	25	Right Cheek	0	0.788	1.265	0.997	0.997	0.623		20.0		
Head	LTE Band 25	20	QPSK	F	0827M	1:1	0.05	1882.50	26365	0.0	20.0	19.18	50	50	Right Cheek	0	0.754	1.208	0.911	0.911	0.569		20.4		
Head	LTE Band 25	20	QPSK	F	0827M	1:1	0.02	1905.00	26590	0.0	20.0	19.16	50	50	Right Cheek	0	0.771	1.213	0.935	0.935	0.584		20.2		
Head	LTE Band 25	20	QPSK	F	0827M	1:1	0.01	1882.50	26365	0.0	20.0	19.08	100	0	Right Cheek	0	0.767	1.236	0.948	0.948	0.593		20.2		
Head	LTE Band 25	20	QPSK	F	0827M	1:1	0.02	1860.00	26140	0.0	20.0	18.96	1	50	Right Tilt	0	0.847	1.271	1.077	1.077	0.673		19.6		
Head	LTE Band 25	20	QPSK	F	0827M	1:1	0.00	1882.50	26365	0.0	20.0	19.10	1	50	Right Tilt	0	0.884	1.230	1.087	1.087	0.679		19.6		
Head	LTE Band 25	20	QPSK	F	0827M	1:1	-0.02	1905.00	26590	0.0	20.0	19.02	1	0	Right Tilt	0	0.870	1.253	1.090	1.090	0.681		19.6		
Head	LTE Band 25	20	QPSK	F	0827M	1:1	0.03	1860.00	26140	0.0	20.0	18.98	50	25	Right Tilt	0	0.858	1.265	1.085	1.085	0.678		19.6		
Head	LTE Band 25	20	QPSK	F	0827M	1:1	0.03	1882.50	26365	0.0	20.0	19.18	50	50	Right Tilt	0	0.872	1.208	1.053	1.053	0.658		19.7	19.6	19.0
Head	LTE Band 25	20	QPSK	F	0827M	1:1	0.01	1905.00	26590	0.0	20.0	19.16	50	50	Right Tilt	0	0.900	1.213	1.092	1.092	0.683	A28	19.6		
Head	LTE Band 25	20	QPSK	F	0827M	1:1	0.03	1905.00	26590	0.0	20.0	19.16	50	50	Right Tilt	0	0.849	1.213	1.030	1.030	0.644		19.9		
Head	LTE Band 25	20	QPSK	F	0827M	1:1	0.03	1882.50	26365	0.0	20.0	19.08	100	0	Right Tilt	0	0.859	1.236	1.062	1.062	0.664		19.7		
Head	LTE Band 25	20	QPSK	F	0827M	1:1	-0.03	1882.50	26365	0.0	20.0	19.10	1	50	Left Cheek	0	0.518	1.230	0.637	0.637	0.398		21.9		
Head	LTE Band 25	20	QPSK	F	0827M	1:1	-0.01	1882.50	26365	0.0	20.0	19.18	50	50	Left Cheek	0	0.519	1.208	0.627	0.627	0.392		22.0		
Head	LTE Band 25	20	QPSK	F	0827M	1:1	0.00	1860.00	26140	0.0	20.0	18.96	1	50	Left Tilt	0	0.644	1.271	0.819	0.819	0.512		20.8		
Head	LTE Band 25	20	QPSK	F	0827M	1:1	0.01	1882.50	26365	0.0	20.0	19.10	1	50	Left Tilt	0	0.667	1.230	0.820	0.820	0.513		20.8		
Head	LTE Band 25	20	QPSK	F	0827M	1:1	-0.03	1905.00	26590	0.0	20.0	19.02	1	0	Left Tilt	0	0.644	1.253	0.807	0.807	0.504		20.9		
Head	LTE Band 25	20	QPSK	F	0827M	1:1	-0.02	1882.50	26365	0.0	20.0	19.18	50	50	Left Tilt	0	0.660	1.208	0.797	0.797	0.498		20.9		
Head	LTE Band 25	20	QPSK	F	0827M	1:1	0.00	1882.50	26365	0.0	20.0	19.08	100	0	Left Tilt	0	0.646	1.236	0.798	0.798	0.499		20.9		
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: Blue entry represents variability measurement

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 25	20	QPSK	A	0738M	1:1	-0.04	1905.00	26590	0.0	19.0	18.36	1	50	Back	10	99	0.375	1.159	0.435	0.435	0.272		22.6		
Body-worn/Hotspot	LTE Band 25	20	QPSK	A	0738M	1:1	-0.10	1905.00	26590	0.0	19.0	18.40	50	50	Back	10	99	0.382	1.148	0.439	0.439	0.274	A29	22.5		
Hotspot	LTE Band 25	20	QPSK	A	0738M	1:1	-0.10	1905.00	26590	0.0	19.0	18.36	1	50	Front	10	108	0.342	1.159	0.396	0.396	0.248		23.0		
Hotspot	LTE Band 25	20	QPSK	A	0738M	1:1	0.08	1905.00	26590	0.0	19.0	18.40	50	50	Front	10	108	0.355	1.148	0.408	0.408	0.255		22.8		
Hotspot	LTE Band 25	20	QPSK	A	0827M	1:1	-0.02	1860.00	26140	0.0	19.0	18.35	1	99	Bottom	10	99	0.981	1.189	1.166	1.166	0.729		18.3		
Hotspot	LTE Band 25	20	QPSK	A	0827M	1:1	0.01	1882.50	26365	0.0	19.0	18.29	1	50	Bottom	10	99	0.976	1.178	1.150	1.150	0.719		18.3		
Hotspot	LTE Band 25	20	QPSK	A	0827M	1:1	-0.01	1905.00	26590	0.0	19.0	18.36	1	50	Bottom	10	99	1.020	1.159	1.182	1.182	0.739	A30	18.2		
Hotspot	LTE Band 25	20	QPSK	A	0824M	1:1	0.01	1905.00	26590	0.0	19.0	18.36	1	50	Bottom	10	108	0.968	1.159	1.122	1.122	0.701		18.5	18.2	18.0
Hotspot	LTE Band 25	20	QPSK	A	0827M	1:1	-0.01	1860.00	26140	0.0	19.0	18.30	50	25	Bottom	10	99	0.964	1.175	1.133	1.133	0.708		18.4		
Hotspot	LTE Band 25	20	QPSK	A	0827M	1:1	0.00	1882.50	26365	0.0	19.0	18.39	50	50	Bottom	10	99	0.993	1.151	1.143	1.143	0.714		18.4		
Hotspot	LTE Band 25	20	QPSK	A	0827M	1:1	-0.01	1905.00	26590	0.0	19.0	18.40	50	50	Bottom	10	99	1.000	1.148	1.148	1.148	0.718		18.3		
Hotspot	LTE Band 25	20	QPSK	A	0827M	1:1	-0.01	1905.00	26590	0.0	19.0	18.32	100	0	Bottom	10	99	1.010	1.169	1.181	1.181	0.738		18.2		
Hotspot	LTE Band 25	20	QPSK	A	0738M	1:1	-0.16	1905.00	26590	0.0	19.0	18.36	1	50	Right	10	109	0.049	1.159	0.057	0.057	0.036		31.4		
Hotspot	LTE Band 25	20	QPSK	A	0738M	1:1	-0.02	1905.00	26590	0.0	19.0	18.40	50	50	Right	10	109	0.047	1.148	0.054	0.054	0.034		31.6		
Hotspot	LTE Band 25	20	QPSK	A	0824M	1:1	0.06	1905.00	26590	0.0	19.0	18.36	1	50	Left	10	109	0.056	1.159	0.065	0.065	0.041		30.8		
Hotspot	LTE Band 25	20	QPSK	A	0824M	1:1	0.02	1905.00	26590	0.0	19.0	18.40	50	50	Left	10	109	0.059	1.148	0.068	0.068	0.043		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								

Note: Blue entry represents variability measurement

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 25	20	QPSK	F	0827M	1:1	-0.16	1882.50	26365	0.0	21.0	20.25	1	50	Back	10	0.237	1.189	0.282	0.282	0.176		26.5		
Body-worn/Hotspot	LTE Band 25	20	QPSK	F	0827M	1:1	-0.18	1882.50	26365	0.0	21.0	20.16	50	50	Back	10	0.236	1.213	0.286	0.286	0.179		26.4		
Hotspot	LTE Band 25	20	QPSK	F	0827M	1:1	-0.09	1882.50	26365	0.0	21.0	20.25	1	50	Front	10	0.167	1.189	0.199	0.199	0.124		28.0		
Hotspot	LTE Band 25	20	QPSK	F	0827M	1:1	-0.04	1882.50	26365	0.0	21.0	20.16	50	50	Front	10	0.163	1.213	0.198	0.198	0.124		28.0		
Hotspot	LTE Band 25	20	QPSK	F	0827M	1:1	0.00	1882.50	26365	0.0	21.0	20.25	1	50	Top	10	0.525	1.189	0.624	0.624	0.390		23.0		
Hotspot	LTE Band 25	20	QPSK	F	0827M	1:1	-0.01	1882.50	26365	0.0	21.0	20.16	50	50	Top	10	0.521	1.213	0.632	0.632	0.395		22.9		
Hotspot	LTE Band 25	20	QPSK	F	0827M	1:1	-0.05	1882.50	26365	0.0	21.0	20.25	1	50	Left	10	0.057	1.189	0.068	0.068	0.043		32.6		
Hotspot	LTE Band 25	20	QPSK	F	0827M	1:1	-0.08	1882.50	26365	0.0	21.0	20.16	50	50	Left	10	0.053	1.213	0.064	0.064	0.040		32.9	22.9	20.0
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 41 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]	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	0820M	1:1.58	-0.02	2506.00	39750	0.0	25.0	24.65	1	99	Right Cheek	0	0.056	1.084	0.061	0.764	0.478		35.1		
Head	LTE Band 41	20	QPSK	B	0820M	1:2.31	0.05	2506.00	39750	0.0	26.0	25.18	1	99	Right Cheek	0	0.039	1.208	0.047	0.681	0.426		35.6		
Head	LTE Band 41	20	QPSK	B	0820M	1:1.58	0.00	2506.00	39750	1.0	24.0	23.68	50	50	Right Cheek	0	0.044	1.076	0.047	0.751	0.469		35.2		
Head	LTE Band 41	20	QPSK	B	0820M	1:1.58	0.06	2506.00	39750	0.0	25.0	24.65	1	99	Right Tilt	0	0.025	1.084	0.027	0.341	0.213		38.6		
Head	LTE Band 41	20	QPSK	B	0820M	1:1.58	0.12	2506.00	39750	1.0	24.0	23.68	50	50	Right Tilt	0	0.019	1.076	0.020	0.324	0.203		38.9	35.1	34.0
Head	LTE Band 41	20	QPSK	B	0820M	1:1.58	0.01	2506.00	39750	0.0	25.0	24.65	1	99	Left Cheek	0	0.019	1.084	0.021	0.259	0.162		39.8		
Head	LTE Band 41	20	QPSK	B	0820M	1:1.58	0.07	2506.00	39750	1.0	24.0	23.68	50	50	Left Cheek	0	0.023	1.076	0.025	0.392	0.245		38.0		
Head	LTE Band 41	20	QPSK	B	0820M	1:1.58	0.15	2506.00	39750	0.0	25.0	24.65	1	99	Left Tilt	0	0.021	1.084	0.023	0.287	0.179		39.4		
Head	LTE Band 41	20	QPSK	B	0820M	1:1.58	0.01	2506.00	39750	1.0	24.0	23.68	50	50	Left Tilt	0	0.013	1.076	0.014	0.222	0.139		40.5		
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: Green entry represents HPUE measurement

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 41	20	QPSK	F	0829M	1:1.58	-0.01	2506.00	39750	0.0	18.5	17.84	1	99	Right Cheek	0	0.473	1.164	0.551	0.551	0.344		19.1		
Head	LTE Band 41	20	QPSK	F	0829M	1:1.58	-0.02	2506.00	39750	0.0	18.5	17.89	50	50	Right Cheek	0	0.496	1.151	0.571	0.571	0.357		18.9		
Head	LTE Band 41	20	QPSK	F	0829M	1:1.58	0.01	2506.00	39750	0.0	18.5	17.84	1	99	Right Tilt	0	0.586	1.164	0.682	0.682	0.426		18.1		
Head	LTE Band 41	20	QPSK	F	0829M	1:1.58	0.03	2549.50	40185	0.0	18.5	17.67	1	99	Right Tilt	0	0.528	1.211	0.639	0.639	0.399		18.4		
Head	LTE Band 41	20	QPSK	F	0829M	1:1.58	-0.03	2593.00	40620	0.0	18.5	17.80	1	50	Right Tilt	0	0.584	1.175	0.686	0.686	0.429		18.1		
Head	LTE Band 41	20	QPSK	F	0829M	1:1.58	0.01	2636.50	41055	0.0	18.5	17.73	1	50	Right Tilt	0	0.694	1.194	0.829	0.829	0.518		17.3		
Head	LTE Band 41	20	QPSK	F	0829M	1:1.58	-0.01	2680.00	41490	0.0	18.5	17.77	1	50	Right Tilt	0	0.867	1.183	1.026	1.026	0.641		16.4		
Head	LTE Band 41	20	QPSK	F	0829M	1:1.58	0.05	2506.00	39750	0.0	18.5	17.89	50	50	Right Tilt	0	0.606	1.151	0.698	0.698	0.436		18.0		
Head	LTE Band 41	20	QPSK	F	0829M	1:1.58	0.01	2549.50	40185	0.0	18.5	17.76	50	0	Right Tilt	0	0.537	1.186	0.637	0.637	0.398		18.4		
Head	LTE Band 41	20	QPSK	F	0829M	1:1.58	0.00	2593.00	40620	0.0	18.5	17.82	50	25	Right Tilt	0	0.585	1.169	0.684	0.684	0.428		18.1	16.2	15.5
Head	LTE Band 41	20	QPSK	F	0829M	1:1.58	0.02	2636.50	41055	0.0	18.5	17.76	50	25	Right Tilt	0	0.707	1.186	0.839	0.839	0.524		17.2		
Head	LTE Band 41	20	QPSK	F	0829M	1:1.58	0.02	2680.00	41490	0.0	18.5	17.81	50	50	Right Tilt	0	0.887	1.172	1.040	1.040	0.650		16.3		
Head	LTE Band 41	20	QPSK	F	0829M	1:2.31	0.02	2680.00	41490	0.0	20.1	19.52	50	50	Right Tilt	0	0.916	1.143	1.047	1.047	0.654	A31	16.2		
Head	LTE Band 41	20	QPSK	F	0829M	1:1.58	-0.01	2506.00	39750	0.0	18.5	17.83	100	0	Right Tilt	0	0.621	1.167	0.725	0.725	0.453		17.9		
Head	LTE Band 41	20	QPSK	F	0829M	1:1.58	0.02	2506.00	39750	0.0	18.5	17.84	1	99	Left Cheek	0	0.260	1.164	0.303	0.303	0.189		21.7		
Head	LTE Band 41	20	QPSK	F	0829M	1:1.58	0.04	2506.00	39750	0.0	18.5	17.89	50	50	Left Cheek	0	0.270	1.151	0.311	0.311	0.194		21.5		
Head	LTE Band 41	20	QPSK	F	0829M	1:1.58	-0.02	2506.00	39750	0.0	18.5	17.84	1	99	Left Tilt	0	0.273	1.164	0.318	0.318	0.199		21.4		
Head	LTE Band 41	20	QPSK	F	0829M	1:1.58	0.03	2506.00	39750	0.0	18.5	17.89	50	50	Left Tilt	0	0.284	1.151	0.327	0.327	0.204		21.3		
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: Green entry represents HPUE measurement

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]	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	0829M	1:1.58	0.00	2506.00	39750	0.0	22.0	21.67	1	99	Back	10	0.366	1.079	0.395	0.395	0.247	A32	24.0		
Body-worn/Hotspot	LTE Band 41	20	QPSK	B	0829M	1:1.58	0.01	2506.00	39750	0.0	22.0	21.73	50	50	Back	10	0.362	1.064	0.385	0.385	0.241		24.1		
Hotspot	LTE Band 41	20	QPSK	B	0829M	1:1.58	0.03	2506.00	39750	0.0	22.0	21.67	1	99	Front	10	0.289	1.079	0.312	0.312	0.195		25.0		
Hotspot	LTE Band 41	20	QPSK	B	0829M	1:1.58	-0.01	2506.00	39750	0.0	22.0	21.73	50	50	Front	10	0.287	1.064	0.305	0.305	0.191		25.1		
Hotspot	LTE Band 41	20	QPSK	B	0829M	1:1.58	0.00	2506.00	39750	0.0	22.0	21.67	1	99	Bottom	10	0.392	1.079	0.423	0.423	0.264		23.7	23.6	19.0
Hotspot	LTE Band 41	20	QPSK	B	0829M	1:1.58	0.01	2506.00	39750	0.0	22.0	21.73	50	50	Bottom	10	0.390	1.064	0.415	0.415	0.259		23.8		
Hotspot	LTE Band 41	20	QPSK	B	0829M	1:1.58	-0.09	2506.00	39750	0.0	22.0	21.67	1	99	Right	10	0.400	1.079	0.432	0.432	0.270		23.6		
Hotspot	LTE Band 41	20	QPSK	B	0829M	1:2.31	0.02	2506.00	39750	0.0	23.6	23.41	1	99	Right	10	0.396	1.045	0.414	0.414	0.259		23.8		
Hotspot	LTE Band 41	20	QPSK	B	0829M	1:1.58	0.00	2506.00	39750	0.0	22.0	21.73	50	50	Right	10	0.387	1.064	0.412	0.412	0.258		23.8		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram										

Note: Green entry represents HPUE measurement

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 41	20	QPSK	F	0829M	1:1.58	-0.01	2506.00	39750	0.0	22.0	21.40	1	99	Back	10	0.233	1.148	0.267	0.267	0.167		25.7		
body-worn/Hotspot	LTE Band 41	20	QPSK	F	0829M	1:1.58	0.01	2506.00	39750	0.0	22.0	21.51	50	50	Back	10	0.253	1.119	0.283	0.283	0.177		25.4		
Hotspot	LTE Band 41	20	QPSK	F	0829M	1:1.58	0.02	2506.00	39750	0.0	22.0	21.40	1	99	Front	10	0.238	1.148	0.273	0.273	0.171		25.6		
Hotspot	LTE Band 41	20	QPSK	F	0829M	1:1.58	0.00	2506.00	39750	0.0	22.0	21.51	50	50	Front	10	0.250	1.119	0.280	0.280	0.175		25.5		
Hotspot	LTE Band 41	20	QPSK	F	0829M	1:1.58	-0.01	2506.00	39750	0.0	22.0	21.40	1	99	Top	10	0.425	1.148	0.488	0.488	0.305		23.1	23.0	19.0
Hotspot	LTE Band 41	20	QPSK	F	0829M	1:1.58	-0.01	2506.00	39750	0.0	22.0	21.51	50	50	Top	10	0.448	1.119	0.501	0.501	0.313		23.0		
Hotspot	LTE Band 41	20	QPSK	F	0829M	1:2.31	-0.01	2506.00	39750	0.0	23.6	23.23	50	50	Top	10	0.452	1.089	0.492	0.492	0.308	A33	23.0		
Hotspot	LTE Band 41	20	QPSK	F	0829M	1:1.58	0.03	2506.00	39750	0.0	22.0	21.40	1	99	Left	10	0.059	1.148	0.068	0.068	0.043		31.7		
Hotspot	LTE Band 41	20	QPSK	F	0829M	1:1.58	-0.02	2506.00	39750	0.0	22.0	21.51	50	50	Left	10	0.058	1.119	0.065	0.065	0.041		31.8		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram										

Note: Green entry represents HPUE measurement

12.12 NR Band n5 Standalone SAR

Table 12-39

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 n5	20	QPSK	A	0827M	1:1	-0.02	836.50	167300	DFT-s-OFDM	0.0	25.0	23.93	1	53	Right Cheek	0	0	0.082	1.279	0.105	0.339	0.212		34.7		
Head	NR Band n5	20	QPSK	A	0827M	1:1	-0.06	836.50	167300	DFT-s-OFDM	0.0	25.0	23.83	50	28	Right Cheek	0	0	0.086	1.309	0.113	0.364	0.228		34.4		
Head	NR Band n5	20	QPSK	A	0827M	1:1	-0.21	836.50	167300	CP-OFDM	1.5	23.5	22.37	1	1	Right Cheek	0	0	0.070	1.297	0.091	0.415	0.259		33.9		
Head	NR Band n5	20	QPSK	A	0827M	1:1	0.11	836.50	167300	DFT-s-OFDM	0.0	25.0	23.93	1	53	Right Tilt	0	0	0.053	1.279	0.068	0.219	0.137		36.6		
Head	NR Band n5	20	QPSK	A	0827M	1:1	0.05	836.50	167300	DFT-s-OFDM	0.0	25.0	23.83	50	28	Right Tilt	0	0	0.055	1.309	0.072	0.233	0.146		36.4	33.9	30.1
Head	NR Band n5	20	QPSK	A	0827M	1:1	0.13	836.50	167300	DFT-s-OFDM	0.0	25.0	23.93	1	53	Left Cheek	0	0	0.075	1.279	0.096	0.311	0.194		35.1		
Head	NR Band n5	20	QPSK	A	0827M	1:1	0.05	836.50	167300	DFT-s-OFDM	0.0	25.0	23.83	50	28	Left Cheek	0	0	0.081	1.309	0.106	0.343	0.214		34.7		
Head	NR Band n5	20	QPSK	A	0827M	1:1	-0.07	836.50	167300	DFT-s-OFDM	0.0	25.0	23.93	1	53	Left Tilt	0	0	0.054	1.279	0.069	0.224	0.140		36.6		
Head	NR Band n5	20	QPSK	A	0827M	1:1	-0.02	836.50	167300	DFT-s-OFDM	0.0	25.0	23.83	50	28	Left Tilt	0	0	0.056	1.309	0.073	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 12-40

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 n5	20	QPSK	E	0833M	1:1	0.05	836.50	167300	DFT-s-OFDM	0.0	22.0	20.79	1	53	Right Cheek	0	0.692	1.321	0.914	0.914	0.571		22.3		
Head	NR Band n5	20	QPSK	E	0833M	1:1	0.01	836.50	167300	DFT-s-OFDM	0.0	22.0	20.73	50	28	Right Cheek	0	0.697	1.340	0.934	0.934	0.584		22.2		
Head	NR Band n5	20	QPSK	E	0833M	1:1	-0.01	836.50	167300	DFT-s-OFDM	0.0	22.0	20.72	100	0	Right Cheek	0	0.704	1.343	0.945	0.945	0.591		22.2		
Head	NR Band n5	20	QPSK	E	0833M	1:1	0.09	836.50	167300	DFT-s-OFDM	0.0	22.0	20.79	1	53	Right Tilt	0	0.601	1.321	0.794	0.794	0.496		23.0		
Head	NR Band n5	20	QPSK	E	0833M	1:1	0.05	836.50	167300	DFT-s-OFDM	0.0	22.0	20.73	50	28	Right Tilt	0	0.596	1.340	0.799	0.799	0.499		22.9		
Head	NR Band n5	20	QPSK	E	0833M	1:1	0.10	836.50	167300	DFT-s-OFDM	0.0	22.0	20.79	1	53	Left Cheek	0	0.790	1.321	1.044	1.044	0.653		21.8		
Head	NR Band n5	20	QPSK	E	0833M	1:1	0.01	836.50	167300	DFT-s-OFDM	0.0	22.0	20.73	50	28	Left Cheek	0	0.780	1.340	1.045	1.045	0.653		21.8	21.0	21.0
Head	NR Band n5	20	QPSK	E	0833M	1:1	-0.01	836.50	167300	DFT-s-OFDM	0.0	22.0	20.72	100	0	Left Cheek	0	0.936	1.343	1.257	1.257	0.786	A34	21.0		
Head	NR Band n5	20	QPSK	E	0833M	1:1	0.14	836.50	167300	DFT-s-OFDM	0.0	22.0	20.79	100	0	Left Cheek	0	0.847	1.343	1.137	1.137	0.711		21.4		
Head	NR Band n5	20	QPSK	E	0833M	1:1	0.01	836.50	167300	CP-OFDM	0.0	22.0	20.76	1	1	Left Cheek	0	0.905	1.330	1.204	1.204	0.753		21.1		
Head	NR Band n5	20	QPSK	E	0833M	1:1	0.05	836.50	167300	DFT-s-OFDM	0.0	22.0	20.79	1	53	Left Tilt	0	0.802	1.321	1.059	1.059	0.662		21.7		
Head	NR Band n5	20	QPSK	E	0833M	1:1	0.01	836.50	167300	DFT-s-OFDM	0.0	22.0	20.73	50	28	Left Tilt	0	0.819	1.340	1.097	1.097	0.686		21.5		
Head	NR Band n5	20	QPSK	E	0833M	1:1	0.02	836.50	167300	DFT-s-OFDM	0.0	22.0	20.72	100	0	Left Tilt	0	0.808	1.343	1.085	1.085	0.678		21.6		
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 12-41

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 n5	20	QPSK	A	0827M	1:1	0.02	836.50	167300	DFT-s-OFDM	0.0	25.0	23.93	1	53	Back	10	10	0.397	1.279	0.508	0.625	0.391		27.9		
Body-worn/Hotspot	NR Band n5	20	QPSK	A	0827M	1:1	-0.02	836.50	167300	DFT-s-OFDM	0.0	25.0	23.83	50	28	Back	10	10	0.407	1.309	0.533	0.656	0.410		27.7		
Body-worn/Hotspot	NR Band n5	20	QPSK	A	0827M	1:1	-0.18	836.50	167300	CP-OFDM	1.5	23.5	22.37	1	1	Back	10	10	0.272	1.297	0.353	0.613	0.383		28.0		
Hotspot	NR Band n5	20	QPSK	A	0827M	1:1	-0.10	836.50	167300	DFT-s-OFDM	0.0	25.0	23.93	1	53	Front	10	10	0.213	1.279	0.272	0.335	0.209		30.6		
Hotspot	NR Band n5	20	QPSK	A	0827M	1:1	-0.09	836.50	167300	DFT-s-OFDM	0.0	25.0	23.83	50	28	Front	10	10	0.209	1.309	0.274	0.337	0.211		30.6		
Hotspot	NR Band n5	20	QPSK	A	0827M	1:1	-0.10	836.50	167300	DFT-s-OFDM	0.0	25.0	23.93	1	53	Bottom	10	10	0.120	1.279	0.153	0.189	0.118		33.1	27.7	25.9
Hotspot	NR Band n5	20	QPSK	A	0827M	1:1	-0.02	836.50	167300	DFT-s-OFDM	0.0	25.0	23.83	50	28	Bottom	10	10	0.116	1.309	0.152	0.187	0.117		33.1		
Hotspot	NR Band n5	20	QPSK	A	0827M	1:1	-0.04	836.50	167300	DFT-s-OFDM	0.0	25.0	23.93	1	53	Right	10	10	0.051	1.279	0.065	0.080	0.050		36.8		
Hotspot	NR Band n5	20	QPSK	A	0827M	1:1	-0.12	836.50	167300	DFT-s-OFDM	0.0	25.0	23.83	50	28	Right	10	10	0.050	1.309	0.065	0.081	0.051		36.8		
Hotspot	NR Band n5	20	QPSK	A	0827M	1:1	-0.11	836.50	167300	DFT-s-OFDM	0.0	25.0	23.93	1	53	Left	10	10	0.123	1.279	0.157	0.194	0.121		33.0		
Hotspot	NR Band n5	20	QPSK	A	0827M	1:1	-0.20	836.50	167300	DFT-s-OFDM	0.0	25.0	23.83	50	28	Left	10	10	0.122	1.309	0.160	0.197	0.123		32.9		
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 12-42

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 n5	20	QPSK	E	0833M	1:1	-0.06	836.50	167300	DFT-s-OFDM	0.0	25.0	24.01	1	104	Back	10	0.465	1.256	0.584	0.825	0.516	A35	27.3		
Body-worn/Hotspot	NR Band n5	20	QPSK	E	0833M	1:1	-0.13	836.50	167300	DFT-s-OFDM	0.0	25.0	23.95	50	28	Back	10	0.451	1.274	0.575	0.811	0.507		27.4		
Hotspot	NR Band n5	20	QPSK	E	0833M	1:1	0.01	836.50	167300	DFT-s-OFDM	0.0	25.0	24.01	1	104	Front	10	0.522	1.256	0.656	0.926	0.579		26.8		
Hotspot	NR Band n5	20	QPSK	E	0833M	1:1	0.02	836.50	167300	DFT-s-OFDM	0.0	25.0	23.95	50	28	Front	10	0.525	1.274	0.669	0.944	0.590		26.7		
Hotspot	NR Band n5	20	QPSK	E	0833M	1:1	-0.10	836.50	167300	DFT-s-OFDM	0.0	25.0	24.01	1	104	Top	10	0.557	1.256	0.700	0.988	0.618	A36	26.5	26.5	26.5
Hotspot	NR Band n5	20	QPSK	E	0833M	1:1	-0.04	836.50	167300	DFT-s-OFDM	0.0	25.0	23.95	50	28	Top	10	0.544	1.274	0.693	0.979	0.612		26.5		
Hotspot	NR Band n5	20	QPSK	E	0833M	1:1	-0.06	836.50	167300	CP-OFDM	1.5	23.5	22.44	1	1	Top	10	0.359	1.276	0.458	0.914	0.571		26.8		
Hotspot	NR Band n5	20	QPSK	E	0833M	1:1	-0.08	836.50	167300	DFT-s-OFDM	0.0	25.0	24.01	1	104	Right	10	0.385	1.256	0.484	0.683	0.427		28.1		
Hotspot	NR Band n5	20	QPSK	E	0833M	1:1	-0.04	836.50	167300	DFT-s-OFDM	0.0	25.0	23.95	50	28	Right	10	0.382	1.274	0.487	0.687	0.429		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 NR Band n66 Standalone SAR

Table 12-43

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	0744M	1:1	-0.07	1745.00	349000	DFT-s-OFDM	0.0	24.0	22.53	1	240	Right Cheek	0	99	0.085	1.403	0.119	0.671	0.419		33.2		
Head	NR Band n66	45	QPSK	A	0744M	1:1	0.02	1745.00	349000	DFT-s-OFDM	0.0	24.0	22.48	120	61	Right Cheek	0	99	0.074	1.419	0.105	0.591	0.369		33.7		
Head	NR Band n66	45	QPSK	A	0744M	1:1	0.16	1745.00	349000	CP-OFDM	1.5	22.5	21.07	1	1	Right Cheek	0	100	0.056	1.390	0.078	0.618	0.386		33.5		
Head	NR Band n66	45	QPSK	A	0744M	1:1	0.02	1745.00	349000	DFT-s-OFDM	0.0	24.0	22.53	1	240	Right Tilt	0	99	0.031	1.403	0.043	0.245	0.153		37.6		
Head	NR Band n66	45	QPSK	A	0744M	1:1	0.17	1745.00	349000	DFT-s-OFDM	0.0	24.0	22.48	120	61	Right Tilt	0	99	0.046	1.419	0.065	0.367	0.229		35.8	33.2	31.5
Head	NR Band n66	45	QPSK	A	0744M	1:1	-0.18	1745.00	349000	DFT-s-OFDM	0.0	24.0	22.53	1	240	Left Cheek	0	99	0.043	1.403	0.060	0.339	0.212		36.1		
Head	NR Band n66	45	QPSK	A	0744M	1:1	-0.14	1745.00	349000	DFT-s-OFDM	0.0	24.0	22.48	120	61	Left Cheek	0	99	0.033	1.419	0.047	0.263	0.164		37.2		
Head	NR Band n66	45	QPSK	A	0744M	1:1	-0.09	1745.00	349000	DFT-s-OFDM	0.0	24.0	22.53	1	240	Left Tilt	0	99	0.039	1.403	0.055	0.308	0.193		36.6		
Head	NR Band n66	45	QPSK	A	0744M	1:1	0.08	1745.00	349000	DFT-s-OFDM	0.0	24.0	22.48	120	61	Left Tilt	0	99	0.039	1.419	0.055	0.311	0.194		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 12-44

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	0744M	1:1	0.00	1745.00	349000	DFT-s-OFDM	0.0	19.5	17.98	1	121	Right Cheek	0	0.683	1.419	0.969	0.969	0.606		19.6		
Head	NR Band n66	45	QPSK	F	0744M	1:1	0.01	1745.00	349000	DFT-s-OFDM	0.0	19.5	17.98	120	0	Right Cheek	0	0.690	1.419	0.979	0.979	0.612		19.5		
Head	NR Band n66	45	QPSK	F	0744M	1:1	0.01	1745.00	349000	DFT-s-OFDM	0.0	19.5	17.93	240	0	Right Cheek	0	0.701	1.435	1.006	1.006	0.629		19.4		
Head	NR Band n66	45	QPSK	F	0744M	1:1	-0.03	1745.00	349000	DFT-s-OFDM	0.0	19.5	17.98	1	121	Right Tilt	0	0.697	1.419	0.989	0.989	0.618		19.5		
Head	NR Band n66	45	QPSK	F	0744M	1:1	-0.02	1745.00	349000	DFT-s-OFDM	0.0	19.5	17.98	120	0	Right Tilt	0	0.709	1.419	1.006	1.006	0.629	A37	19.4		
Head	NR Band n66	45	QPSK	F	0744M	1:1	0.03	1745.00	349000	DFT-s-OFDM	0.0	19.5	17.93	240	0	Right Tilt	0	0.703	1.435	1.009	1.009	0.631		19.4		
Head	NR Band n66	45	QPSK	F	0744M	1:1	-0.02	1745.00	349000	CP-OFDM	0.0	19.5	17.99	1	1	Right Tilt	0	0.682	1.416	0.966	0.966	0.604		19.6	19.4	18.5
Head	NR Band n66	45	QPSK	F	0827M	1:1	-0.04	1745.00	349000	DFT-s-OFDM	0.0	19.5	17.98	1	121	Left Cheek	0	0.470	1.419	0.667	0.667	0.417		21.2		
Head	NR Band n66	45	QPSK	F	0827M	1:1	-0.05	1745.00	349000	DFT-s-OFDM	0.0	19.5	17.98	120	0	Left Cheek	0	0.463	1.419	0.657	0.657	0.411		21.3		
Head	NR Band n66	45	QPSK	F	0827M	1:1	0.08	1745.00	349000	DFT-s-OFDM	0.0	19.5	17.98	1	121	Left Tilt	0	0.576	1.419	0.817	0.817	0.511		20.3		
Head	NR Band n66	45	QPSK	F	0827M	1:1	-0.02	1745.00	349000	DFT-s-OFDM	0.0	19.5	17.98	120	0	Left Tilt	0	0.585	1.419	0.830	0.830	0.519		20.3		
Head	NR Band n66	45	QPSK	F	0827M	1:1	-0.01	1745.00	349000	DFT-s-OFDM	0.0	19.5	17.93	240	0	Left Tilt	0	0.559	1.435	0.802	0.802	0.501		20.4		
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 12-45

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	0744M	1:1	-0.08	1745.00	349000	DFT-s-OFDM	0.0	20.0	19.15	1	240	Back	10	99	0.641	1.216	0.779	0.779	0.487	A38	21.0		
Body-worn/Hotspot	NR Band n66	45	QPSK	A	0744M	1:1	-0.05	1745.00	349000	DFT-s-OFDM	0.0	20.0	19.05	120	0	Back	10	99	0.549	1.245	0.684	0.684	0.428		21.6		
Hotspot	NR Band n66	45	QPSK	A	0744M	1:1	0.02	1745.00	349000	DFT-s-OFDM	0.0	20.0	19.15	1	240	Front	10	99	0.443	1.216	0.539	0.539	0.337		22.6		
Hotspot	NR Band n66	45	QPSK	A	0744M	1:1	0.02	1745.00	349000	DFT-s-OFDM	0.0	20.0	19.05	120	0	Front	10	99	0.398	1.245	0.496	0.496	0.310		23.0		
Hotspot	NR Band n66	45	QPSK	A	0744M	1:1	-0.01	1745.00	349000	DFT-s-OFDM	0.0	20.0	19.15	1	240	Bottom	10	27	0.813	1.216	0.989	0.989	0.618	A39	20.0		
Hotspot	NR Band n66	45	QPSK	A	0744M	1:1	-0.05	1745.00	349000	DFT-s-OFDM	0.0	20.0	19.05	120	0	Bottom	10	27	0.800	1.245	0.996	0.996	0.623		20.0		
Hotspot	NR Band n66	45	QPSK	A	0744M	1:1	0.01	1745.00	349000	DFT-s-OFDM	0.0	20.0	18.95	240	0	Bottom	10	27	0.801	1.274	1.020	1.020	0.638		19.9	19.9	19.0
Hotspot	NR Band n66	45	QPSK	A	0744M	1:1	-0.11	1745.00	349000	CP-OFDM	0.0	20.0	19.19	1	1	Bottom	10	27	0.782	1.205	0.942	0.942	0.589		20.2		
Hotspot	NR Band n66	45	QPSK	A	0824M	1:1	-0.01	1745.00	349000	DFT-s-OFDM	0.0	20.0	19.15	1	240	Right	10	27	0.070	1.216	0.085	0.085	0.053		30.6		
Hotspot	NR Band n66	45	QPSK	A	0824M	1:1	0.06	1745.00	349000	DFT-s-OFDM	0.0	20.0	19.05	120	0	Right	10	27	0.061	1.245	0.076	0.076	0.048		31.1		
Hotspot	NR Band n66	45	QPSK	A	0074M	1:1	-0.11	1745.00	349000	DFT-s-OFDM	0.0	20.0	19.15	1	240	Left	10	27	0.051	1.216	0.062	0.062	0.039		32.0		
Hotspot	NR Band n66	45	QPSK	A	0074M	1:1	-0.13	1745.00	349000	DFT-s-OFDM	0.0	20.0	19.05	120	0	Left	10	27	0.053	1.245	0.066	0.066	0.041		31.8		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram										

Table 12-46

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	0824M	1:1	0.03	1745.00	349000	DFT-s-OFDM	0.0	22.0	20.83	1	1	Back	10	0.204	1.309	0.267	0.267	0.167		27.7		
Body-worn/Hotspot	NR Band n66	45	QPSK	F	0824M	1:1	-0.02	1745.00	349000	DFT-s-OFDM	0.0	22.0	20.75	120	0	Back	10	0.211	1.334	0.281	0.281	0.176		27.5		
Hotspot	NR Band n66	45	QPSK	F	0824M	1:1	-0.04	1745.00	349000	DFT-s-OFDM	0.0	22.0	20.83	1	1	Front	10	0.186	1.309	0.243	0.243	0.152		28.1		
Hotspot	NR Band n66	45	QPSK	F	0824M	1:1	-0.03	1745.00	349000	DFT-s-OFDM	0.0	22.0	20.75	120	0	Front	10	0.181	1.334	0.241	0.241	0.151		28.1		
Hotspot	NR Band n66	45	QPSK	F	0824M	1:1	-0.02	1745.00	349000	DFT-s-OFDM	0.0	22.0	20.83	1	1	Top	10	0.505	1.309	0.661	0.661	0.413		23.7	23.5	21.0
Hotspot	NR Band n66	45	QPSK	F	0824M	1:1	0.00	1745.00	349000	DFT-s-OFDM	0.0	22.0	20.75	120	0	Top	10	0.504	1.334	0.672	0.672	0.420		23.7		
Hotspot	NR Band n66	45	QPSK	F	0824M	1:1	0.07	1745.00	349000	CP-OFDM	0.0	22.0	20.82	1	1	Top	10	0.529	1.312	0.694	0.694	0.434		23.5		
Hotspot	NR Band n66	45	QPSK	F	0824M	1:1	-0.07	1745.00	349000	DFT-s-OFDM	0.0	22.0	20.83	1	1	Left	10	0.126	1.309	0.165	0.165	0.103		29.8		
Hotspot	NR Band n66	45	QPSK	F	0824M	1:1	-0.01	1745.00	349000	DFT-s-OFDM	0.0	22.0	20.75	120	0	Left	10	0.129	1.334	0.172	0.172	0.108		29.6		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram										

12.14 NR Band n25 Standalone SAR

Table 12-47

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	0744M	1:1	0.04	1882.50	376500	DFT-s-OFDM	0.0	23.5	22.78	1	1	Right Cheek	0	108	0.096	1.180	0.113	0.393	0.246		32.9		
Head	NR Band n25	40	QPSK	A	0744M	1:1	0.02	1882.50	376500	DFT-s-OFDM	0.0	23.5	22.68	108	54	Right Cheek	0	108	0.102	1.208	0.123	0.427	0.267		32.5		
Head	NR Band n25	40	QPSK	A	0744M	1:1	0.04	1882.50	376500	CP-OFDM	1.5	22.0	21.26	1	1	Right Cheek	0	108	0.085	1.186	0.077	0.378	0.236		33.1		
Head	NR Band n25	40	QPSK	A	0744M	1:1	-0.06	1882.50	376500	DFT-s-OFDM	0.0	23.5	22.78	1	1	Right Tilt	0	108	0.051	1.180	0.060	0.209	0.131		35.7		
Head	NR Band n25	40	QPSK	A	0744M	1:1	0.08	1882.50	376500	DFT-s-OFDM	0.0	23.5	22.68	108	54	Right Tilt	0	108	0.032	1.208	0.039	0.134	0.084		37.6	32.5	28.9
Head	NR Band n25	40	QPSK	A	0744M	1:1	0.06	1882.50	376500	DFT-s-OFDM	0.0	23.5	22.78	1	1	Left Cheek	0	108	0.066	1.180	0.078	0.270	0.169		34.5		
Head	NR Band n25	40	QPSK	A	0744M	1:1	0.01	1882.50	376500	DFT-s-OFDM	0.0	23.5	22.68	108	54	Left Cheek	0	108	0.085	1.208	0.103	0.356	0.223		33.3		
Head	NR Band n25	40	QPSK	A	0744M	1:1	0.03	1882.50	376500	DFT-s-OFDM	0.0	23.5	22.78	1	1	Left Tilt	0	108	0.059	1.180	0.070	0.241	0.151		35.0		
Head	NR Band n25	40	QPSK	A	0744M	1:1	-0.15	1882.50	376500	DFT-s-OFDM	0.0	23.5	22.68	108	54	Left Tilt	0	108	0.062	1.208	0.075	0.260	0.163		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 12-48

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	0744M	1:1	-0.01	1882.50	376500	DFT-s-OFDM	0.0	20.0	18.90	1	214	Right Cheek	0	0.710	1.288	0.914	0.914	0.571		20.3		
Head	NR Band n25	40	QPSK	F	0744M	1:1	0.01	1882.50	376500	DFT-s-OFDM	0.0	20.0	18.72	108	54	Right Cheek	0	0.736	1.343	0.988	0.988	0.618		20.0		
Head	NR Band n25	40	QPSK	F	0744M	1:1	-0.01	1882.50	376500	DFT-s-OFDM	0.0	20.0	18.64	216	0	Right Cheek	0	0.730	1.368	0.999	0.999	0.624		20.0		
Head	NR Band n25	40	QPSK	F	0744M	1:1	0.00	1882.50	376500	CP-OFDM	0.0	20.0	18.84	1	1	Right Cheek	0	0.764	1.306	0.998	0.998	0.624		20.0		
Head	NR Band n25	40	QPSK	F	0744M	1:1	0.02	1882.50	376500	DFT-s-OFDM	0.0	20.0	18.90	1	214	Right Tilt	0	0.753	1.288	0.970	0.970	0.606		20.1		
Head	NR Band n25	40	QPSK	F	0744M	1:1	0.02	1882.50	376500	DFT-s-OFDM	0.0	20.0	18.72	108	54	Right Tilt	0	0.764	1.343	1.026	1.026	0.641		19.8	19.8	19.0
Head	NR Band n25	40	QPSK	F	0744M	1:1	0.02	1882.50	376500	DFT-s-OFDM	0.0	20.0	18.64	216	0	Right Tilt	0	0.764	1.368	1.045	1.045	0.653		19.8		
Head	NR Band n25	40	QPSK	F	0744M	1:1	0.05	1882.50	376500	CP-OFDM	0.0	20.0	18.84	1	1	Right Tilt	0	0.766	1.306	1.000	1.000	0.625	A40	19.9		
Head	NR Band n25	40	QPSK	F	0827M	1:1	-0.04	1882.50	376500	DFT-s-OFDM	0.0	20.0	18.90	1	214	Left Cheek	0	0.533	1.288	0.687	0.687	0.429		21.6		
Head	NR Band n25	40	QPSK	F	0827M	1:1	-0.03	1882.50	376500	DFT-s-OFDM	0.0	20.0	18.72	108	54	Left Cheek	0	0.533	1.343	0.716	0.716	0.448		21.4		
Head	NR Band n25	40	QPSK	F	0827M	1:1	0.01	1882.50	376500	DFT-s-OFDM	0.0	20.0	18.90	1	214	Left Tilt	0	0.684	1.288	0.881	0.881	0.551		20.5		
Head	NR Band n25	40	QPSK	F	0827M	1:1	-0.03	1882.50	376500	DFT-s-OFDM	0.0	20.0	18.72	108	54	Left Tilt	0	0.670	1.343	0.900	0.900	0.563		20.4		
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 12-49

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	0744M	1:1	-0.06	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.15	1	1	Back	10	99	0.510	1.216	0.620	0.620	0.388		21.0		
Body-worn/Hotspot	NR Band n25	40	QPSK	A	0744M	1:1	0.04	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.05	108	54	Back	10	99	0.532	1.245	0.662	0.662	0.414	A41	20.7		
Hotspot	NR Band n25	40	QPSK	A	0744M	1:1	-0.02	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.15	1	1	Front	10	99	0.332	1.216	0.404	0.404	0.253		22.9		
Hotspot	NR Band n25	40	QPSK	A	0744M	1:1	-0.02	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.05	108	54	Front	10	99	0.360	1.245	0.448	0.448	0.280		22.4		
Hotspot	NR Band n25	40	QPSK	A	0744M	1:1	0.01	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.15	1	1	Bottom	10	99	0.934	1.216	1.136	1.136	0.710		18.4		
Hotspot	NR Band n25	40	QPSK	A	0744M	1:1	-0.01	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.05	108	54	Bottom	10	99	0.936	1.245	1.165	1.165	0.728		18.3		
Hotspot	NR Band n25	40	QPSK	A	0744M	1:1	-0.02	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.00	216	0	Bottom	10	99	0.943	1.259	1.187	1.187	0.742		18.2	18.2	18.0
Hotspot	NR Band n25	40	QPSK	A	0744M	1:1	-0.01	1882.50	376500	CP-OFDM	0.0	19.0	18.28	1	1	Bottom	10	99	0.943	1.180	1.113	1.113	0.696	A42	18.5		
Hotspot	NR Band n25	40	QPSK	A	0824M	1:1	-0.01	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.15	1	1	Right	10	99	0.044	1.216	0.054	0.054	0.034		31.7		
Hotspot	NR Band n25	40	QPSK	A	0824M	1:1	-0.06	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.05	108	54	Right	10	99	0.048	1.245	0.060	0.060	0.038		31.2		
Hotspot	NR Band n25	40	QPSK	A	0074M	1:1	-0.03	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.15	1	1	Left	10	99	0.048	1.216	0.058	0.058	0.036		31.3		
Hotspot	NR Band n25	40	QPSK	A	0074M	1:1	-0.07	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.05	108	54	Left	10	99	0.048	1.245	0.060	0.060	0.038		31.2		
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 12-50

Exposure	Band / Mode	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	QPSK	F	0824M	1:1	0.00	1882.50	376500	DFT-s-OFDM	0.0	21.0	19.85	1	214	Back	10	0.186	1.303	0.242	0.242	0.151		27.1		
Body-worn/Hotspot	NR Band n25	QPSK	F	0824M	1:1	-0.02	1882.50	376500	DFT-s-OFDM	0.0	21.0	19.83	108	54	Back	10	0.192	1.309	0.251	0.251	0.157		26.9		
Hotspot	NR Band n25	QPSK	F	0824M	1:1	0.03	1882.50	376500	DFT-s-OFDM	0.0	21.0	19.85	1	214	Front	10	0.134	1.303	0.175	0.175	0.109		28.3		
Hotspot	NR Band n25	QPSK	F	0824M	1:1	-0.01	1882.50	376500	DFT-s-OFDM	0.0	21.0	19.83	108	54	Front	10	0.140	1.309	0.183	0.183	0.114		28.3		
Hotspot	NR Band n25	QPSK	F	0824M	1:1	0.01	1882.50	376500	DFT-s-OFDM	0.0	21.0	19.85	1	214	Top	10	0.425	1.303	0.554	0.554	0.346		23.5	23.3	20.0
Hotspot	NR Band n25	QPSK	F	0824M	1:1	-0.03	1882.50	376500	DFT-s-OFDM	0.0	21.0	19.83	108	54	Top	10	0.441	1.309	0.577	0.577	0.361		23.3		
Hotspot	NR Band n25	QPSK	F	0824M	1:1	-0.05	1882.50	376500	CP-OFDM	0.0	21.0	19.84	1	1	Top	10	0.450	1.306	0.588	0.588	0.368		23.3		
Hotspot	NR Band n25	QPSK	F	0824M	1:1	-0.01	1882.50	376500	DFT-s-OFDM	0.0	21.0	19.85	1	214	Left	10	0.057	1.303	0.074	0.074	0.046		32.2		
Hotspot	NR Band n25	QPSK	F	0824M	1:1	-0.18	1882.50	376500	DFT-s-OFDM	0.0	21.0	19.83	108	54	Left	10	0.048	1.309	0.063	0.063	0.039		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										

12.15 NR Band n41 Standalone SAR

Table 12-51

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	0832M	1:1	0.05	2592.99	518598	DFT-s-OFDM	0.0	17.5	17.17	1	137	Right Cheek	0	0.779	1.079	0.841	0.841	0.526		18.2		
Head	NR Band n41	100	QPSK	F	1	0832M	1:1	0.01	2592.99	518598	DFT-s-OFDM	0.0	17.5	17.14	135	69	Right Cheek	0	0.772	1.086	0.838	0.838	0.524		18.2		
Head	NR Band n41	100	QPSK	F	1	0832M	1:1	0.00	2592.99	518598	DFT-s-OFDM	0.0	17.5	17.13	270	0	Right Cheek	0	0.789	1.089	0.859	0.859	0.537		18.1		
Head	NR Band n41	100	QPSK	F	1	0832M	1:1	0.01	2592.99	518598	DFT-s-OFDM	0.0	17.5	17.17	1	137	Right Tilt	0	1.080	1.079	1.165	1.165	0.728		16.8		
Head	NR Band n41	100	QPSK	F	1	0832M	1:1	0.02	2592.99	518598	DFT-s-OFDM	0.0	17.5	17.14	135	69	Right Tilt	0	1.090	1.086	1.184	1.184	0.740		16.7		
Head	NR Band n41	100	QPSK	F	1	0832M	1:1	0.01	2592.99	518598	DFT-s-OFDM	0.0	17.5	17.13	270	0	Right Tilt	0	1.170	1.089	1.231	1.231	0.769		16.5	16.5	16.5
Head	NR Band n41	100	QPSK	F	1	0832M	1:1	0.02	2592.99	518598	DFT-s-OFDM	0.0	17.5	17.13	270	0	Right Tilt	0	1.150	1.089	1.252	1.252	0.783	A43	16.5		
Head	NR Band n41	100	QPSK	F	1	0832M	1:1	-0.05	2592.99	518598	CP-OFDM	0.0	17.5	17.11	1	1	Right Tilt	0	1.060	1.094	1.160	1.160	0.725		16.8		
Head	NR Band n41	100	QPSK	F	1	0832M	1:1	0.03	2592.99	518598	DFT-s-OFDM	0.0	17.5	17.17	1	137	Left Cheek	0	0.292	1.079	0.315	0.315	0.197		22.5		
Head	NR Band n41	100	QPSK	F	1	0832M	1:1	-0.01	2592.99	518598	DFT-s-OFDM	0.0	17.5	17.14	135	69	Left Cheek	0	0.286	1.086	0.311	0.311	0.194		22.5		
Head	NR Band n41	100	QPSK	F	1	0832M	1:1	0.00	2592.99	518598	DFT-s-OFDM	0.0	17.5	17.17	1	137	Left Tilt	0	0.383	1.079	0.413	0.413	0.258		21.3		
Head	NR Band n41	100	QPSK	F	1	0832M	1:1	0.01	2592.99	518598	DFT-s-OFDM	0.0	17.5	17.14	135	69	Left Tilt	0	0.376	1.086	0.408	0.408	0.255		21.3		
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: Blue entry represents variability measurement

Table 12-52

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	0829M	1:1	0.05	2592.99	518598	DFT-s-OFDM	0.0	22.0	21.87	1	137	Right Cheek	0	0.082	1.030	0.084	0.084	0.053		32.7		
Head	NR Band n41	100	QPSK	B	2	0829M	1:1	0.10	2592.99	518598	DFT-s-OFDM	0.0	22.0	21.88	135	69	Right Cheek	0	0.084	1.028	0.086	0.086	0.054		32.6		
Head	NR Band n41	100	QPSK	B	2	0829M	1:1	-0.03	2592.99	518598	CP-OFDM	0.0	22.0	21.84	1	1	Right Cheek	0	0.088	1.038	0.091	0.091	0.057		32.3		
Head	NR Band n41	100	QPSK	B	2	0829M	1:1	0.01	2592.99	518598	DFT-s-OFDM	0.0	22.0	21.87	1	137	Right Tilt	0	0.043	1.030	0.044	0.044	0.028		35.5		
Head	NR Band n41	100	QPSK	B	2	0829M	1:1	-0.02	2592.99	518598	DFT-s-OFDM	0.0	22.0	21.88	135	69	Right Tilt	0	0.041	1.028	0.042	0.042	0.026		35.7	32.3	21.0
Head	NR Band n41	100	QPSK	B	2	0829M	1:1	0.02	2592.99	518598	DFT-s-OFDM	0.0	22.0	21.87	1	137	Left Cheek	0	0.031	1.030	0.032	0.032	0.020		36.9		
Head	NR Band n41	100	QPSK	B	2	0829M	1:1	-0.10	2592.99	518598	DFT-s-OFDM	0.0	22.0	21.88	135	69	Left Cheek	0	0.034	1.028	0.035	0.035	0.022		36.5		
Head	NR Band n41	100	QPSK	B	2	0829M	1:1	0.04	2592.99	518598	DFT-s-OFDM	0.0	22.0	21.87	1	137	Left Tilt	0	0.034	1.030	0.035	0.035	0.022		36.5		
Head	NR Band n41	100	QPSK	B	2	0829M	1:1	0.10	2592.99	518598	DFT-s-OFDM	0.0	22.0	21.88	135	69	Left Tilt	0	0.035	1.028	0.036	0.036	0.023		36.4		
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 12-53

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	2	0832M	1:1	0.09	2592.99	518598	CW/SRS	20.0	19.45	Right Cheek	0	0.000	1.135	0.000	0.000	0.000		59.4		
Head	NR Band n41	100	D	2	0832M	1:1	0.09	2592.99	518598	CW/SRS	20.0	19.45	Right Tilt	0	0.000	1.135	0.000	0.000	0.000		59.4	59.4	19.0
Head	NR Band n41	100	D	2	0832M	1:1	0.01	2592.99	518598	CW/SRS	20.0	19.45	Left Cheek	0	0.000	1.135	0.000	0.000	0.000		59.4		
Head	NR Band n41	100	D	2	0832M	1:1	0.05	2592.99	518598	CW/SRS	20.0	19.45	Left Tilt	0	0.000	1.135	0.000	0.000	0.000		59.4		
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 12-54

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	2	0832M	1:1	-0.10	2592.99	518598	CW/SRS	17.0	16.33	Right Cheek	0	0.317	1.167	0.370	0.370	0.231		21.3		
Head	NR Band n41	100	E	2	0832M	1:1	-0.08	2592.99	518598	CW/SRS	17.0	16.33	Right Tilt	0	0.308	1.167	0.359	0.359	0.224		21.4	17.6	16.0
Head	NR Band n41	100	E	2	0832M	1:1	-0.13	2592.99	518598	CW/SRS	17.0	16.33	Left Cheek	0	0.736	1.167	0.859	0.859	0.537		17.6		
Head	NR Band n41	100	E	2	0832M	1:1	-0.01	2592.99	518598	CW/SRS	17.0	16.33	Left Tilt	0	0.579	1.167	0.676	0.676	0.423		18.7		
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 12-55

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	0832M	1:1	0.00	2592.99	518598	DFT-s-OFDM	0.0	19.5	19.50	1	137	Back	10	0.158	1.000	0.158	0.158	0.099		27.5		
Body-worn/Hotspot	NR Band n41	100	QPSK	F	1	0832M	1:1	-0.06	2592.99	518598	DFT-s-OFDM	0.0	19.5	19.49	135	69	Back	10	0.159	1.002	0.159	0.159	0.099		27.4		
Hotspot	NR Band n41	100	QPSK	F	1	0832M	1:1	0.01	2592.99	518598	DFT-s-OFDM	0.0	19.5	19.50	1	137	Front	10	0.202	1.000	0.202	0.202	0.126		26.4		
Hotspot	NR Band n41	100	QPSK	F	1	0832M	1:1	-0.01	2592.99	518598	DFT-s-OFDM	0.0	19.5	19.49	135	69	Front	10	0.201	1.002	0.201	0.201	0.126		26.4		
Hotspot	NR Band n41	100	QPSK	F	1	0832M	1:1	0.02	2592.99	518598	DFT-s-OFDM	0.0	19.5	19.50	1	137	Top	10	0.396	1.000	0.396	0.396	0.248		23.5	23.5	18.5
Hotspot	NR Band n41	100	QPSK	F	1	0832M	1:1	0.02	2592.99	518598	DFT-s-OFDM	0.0	19.5	19.49	135	69	Top	10	0.390	1.002	0.391	0.391	0.244		23.5		
Hotspot	NR Band n41	100	QPSK	F	1	0832M	1:1	0.03	2592.99	518598	CP-OFDM	0.0	19.5	19.48	1	1	Top	10	0.357	1.005	0.359	0.359	0.224		23.9		
Hotspot	NR Band n41	100	QPSK	F	1	0832M	1:1	-0.12	2592.99	518598	DFT-s-OFDM	0.0	19.5	19.50	1	137	Left	10	0.043	1.000	0.043	0.043	0.027		33.1		
Hotspot	NR Band n41	100	QPSK	F	1	0832M	1:1	-0.02	2592.99	518598	DFT-s-OFDM	0.0	19.5	19.49	135	69	Left	10	0.044	1.002	0.044	0.044	0.028		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										

Table 12-56

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	0829M	1:1	-0.04	2592.99	518598	DFT-s-OFDM	0.0	21.0	20.95	1	137	Back	10	0.409	1.012	0.414	0.414	0.259	A44	24.8		
Body-worn/Hotspot	NR Band n41	100	QPSK	B	2	0829M	1:1	-0.06	2592.99	518598	DFT-s-OFDM	0.0	21.0	20.93	135	69	Back	10	0.394	1.016	0.400	0.400	0.250		24.9		
Hotspot	NR Band n41	100	QPSK	B	2	0829M	1:1	-0.04	2592.99	518598	DFT-s-OFDM	0.0	21.0	20.95	1	137	Front	10	0.247	1.012	0.250	0.250	0.156		27.0		
Hotspot	NR Band n41	100	QPSK	B	2	0829M	1:1	0.02	2592.99	518598	DFT-s-OFDM	0.0	21.0	20.93	135	69	Front	10	0.244	1.016	0.248	0.248	0.155		27.0		
Hotspot	NR Band n41	100	QPSK	B	2	0829M	1:1	-0.09	2592.99	518598	DFT-s-OFDM	0.0	21.0	20.95	1	137	Bottom	10	0.417	1.012	0.422	0.422	0.264		24.7	24.2	20.0
Hotspot	NR Band n41	100	QPSK	B	2	0829M	1:1	-0.05	2592.99	518598	DFT-s-OFDM	0.0	21.0	20.93	135	69	Bottom	10	0.414	1.016	0.421	0.421	0.263		24.7		
Hotspot	NR Band n41	100	QPSK	B	2	0829M	1:1	0.08	2592.99	518598	DFT-s-OFDM	0.0	21.0	20.95	1	137	Right	10	0.467	1.012	0.473	0.473	0.296	A45	24.2		
Hotspot	NR Band n41	100	QPSK	B	2	0829M	1:1	0.06	2592.99	518598	DFT-s-OFDM	0.0	21.0	20.93	135	69	Right	10	0.456	1.016	0.463	0.463	0.289		24.3		
Hotspot	NR Band n41	100	QPSK	B	2	0829M	1:1	-0.03	2592.99	518598	CP-OFDM	0.0	21.0	20.92	1	1	Right	10	0.456	1.019	0.465	0.465	0.291		24.3		
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 12-57

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	2	0832M	1:1	-0.09	2592.99	518598	CW/SRS	19.0	18.38	Back	10	0.255	1.153	0.294	0.294	0.184		24.3	24.3	18.0
Hotspot	NR Band n41	100	D	2	0832M	1:1	0.07	2592.99	518598	CW/SRS	19.0	18.38	Front	10	0.025	1.153	0.029	0.029	0.018		34.4		
Hotspot	NR Band n41	100	D	2	0832M	1:1	-0.12	2592.99	518598	CW/SRS	19.0	18.38	Bottom	10	0.044	1.153	0.051	0.051	0.032		31.9		
Hotspot	NR Band n41	100	D	2	0832M	1:1	0.20	2592.99	518598	CW/SRS	19.0	18.38	Left	10	0.022	1.153	0.025	0.025	0.016		34.9		
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 12-58

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	2	0829M	1:1	0.04	2592.99	518598	CW/SRS	17.0	16.33	Back	10	0.069	1.167	0.081	0.081	0.051		27.9	24.9	16.0
Hotspot	NR Band n41	100	E	2	0829M	1:1	-0.06	2592.99	518598	CW/SRS	17.0	16.33	Front	10	0.105	1.167	0.123	0.123	0.077		26.1		
Hotspot	NR Band n41	100	E	2	0829M	1:1	-0.18	2592.99	518598	CW/SRS	17.0	16.33	Top	10	0.136	1.167	0.159	0.159	0.099		24.9		
Hotspot	NR Band n41	100	E	2	0829M	1:1	-0.07	2592.99	518598	CW/SRS	17.0	16.33	Right	10	0.120	1.167	0.140	0.140	0.088		25.5		
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 NR Band n77 Standalone SAR

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]	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	0820M	1:1	0.04	3750.00	650000	DFT-s-OFDM	0.0	15.5	15.04	1	1	Right Cheek	0	0.637	1.112	0.708	0.708	0.443		16.9		
Head	NR Band n77	100	QPSK	F	0820M	1:1	-0.02	3930.00	662000	DFT-s-OFDM	0.0	15.5	15.32	1	1	Right Cheek	0	0.569	1.042	0.593	0.593	0.371		17.7		
Head	NR Band n77	100	QPSK	F	0820M	1:1	-0.08	3750.00	650000	DFT-s-OFDM	0.0	15.5	14.95	135	0	Right Cheek	0	0.607	1.135	0.689	0.689	0.431		17.1		
Head	NR Band n77	100	QPSK	F	0820M	1:1	-0.10	3930.00	662000	DFT-s-OFDM	0.0	15.5	15.19	135	0	Right Cheek	0	0.531	1.074	0.570	0.570	0.356		17.9		
Head	NR Band n77 DoD	100	QPSK	F	0820M	1:1	-0.01	3500.01	633334	DFT-s-OFDM	0.0	15.5	15.22	1	271	Right Tilt	0	0.666	1.067	0.711	0.711	0.444		16.9		
Head	NR Band n77	100	QPSK	F	0820M	1:1	0.02	3750.00	650000	DFT-s-OFDM	0.0	15.5	15.04	1	1	Right Tilt	0	0.732	1.112	0.814	0.814	0.509	A46	16.3		
Head	NR Band n77	100	QPSK	F	0820M	1:1	0.00	3930.00	662000	DFT-s-OFDM	0.0	15.5	15.32	1	1	Right Tilt	0	0.663	1.042	0.691	0.691	0.432		17.1		
Head	NR Band n77	100	QPSK	F	0820M	1:1	0.01	3750.00	650000	DFT-s-OFDM	0.0	15.5	14.95	135	0	Right Tilt	0	0.694	1.135	0.788	0.788	0.493		16.5	16.3	14.5
Head	NR Band n77	100	QPSK	F	0820M	1:1	-0.04	3930.00	662000	DFT-s-OFDM	0.0	15.5	15.19	135	0	Right Tilt	0	0.622	1.074	0.668	0.668	0.418		17.2		
Head	NR Band n77	100	QPSK	F	0820M	1:1	-0.01	3930.00	662000	DFT-s-OFDM	0.0	15.5	15.15	270	0	Right Tilt	0	0.540	1.084	0.585	0.585	0.366		17.8		
Head	NR Band n77	100	QPSK	F	0820M	1:1	-0.04	3930.00	662000	CP-OFDM	0.0	15.5	15.18	1	1	Right Tilt	0	0.604	1.076	0.650	0.650	0.406		17.3		
Head	NR Band n77	100	QPSK	F	0820M	1:1	-0.02	3930.00	662000	DFT-s-OFDM	0.0	15.5	15.32	1	1	Left Cheek	0	0.248	1.042	0.258	0.258	0.161		21.3		
Head	NR Band n77	100	QPSK	F	0820M	1:1	0.01	3930.00	662000	DFT-s-OFDM	0.0	15.5	15.19	135	0	Left Cheek	0	0.225	1.074	0.242	0.242	0.151		21.6		
Head	NR Band n77	100	QPSK	F	0820M	1:1	-0.06	3930.00	662000	DFT-s-OFDM	0.0	15.5	15.32	1	1	Left Tilt	0	0.224	1.042	0.233	0.233	0.146		21.8		
Head	NR Band n77	100	QPSK	F	0820M	1:1	0.01	3930.00	662000	DFT-s-OFDM	0.0	15.5	15.19	135	0	Left Tilt	0	0.206	1.074	0.221	0.221	0.138		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 12-60

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	C	0820M	1:1	0.03	3500.01	633334	CW/SRS	11.0	10.51	Right Cheek	0	0.000	1.119	0.000	0.000	0.000		50.5		
Head	NR Band n77	100	C	0820M	1:1	0.01	3930.00	662000	CW/SRS	11.0	9.68	Right Cheek	0	0.011	1.355	0.015	0.015	0.009		29.2		
Head	NR Band n77	100	C	0820M	1:1	0.04	3930.00	662000	CW/SRS	11.0	9.68	Right Tilt	0	0.003	1.355	0.004	0.004	0.003		29.2	29.2	10.0
Head	NR Band n77	100	C	0820M	1:1	0.06	3930.00	662000	CW/SRS	11.0	9.68	Left Cheek	0	0.003	1.355	0.004	0.004	0.003		34.9		
Head	NR Band n77	100	C	0820M	1:1	0.05	3930.00	662000	CW/SRS	11.0	9.68	Left Tilt	0	0.006	1.355	0.008	0.008	0.005		31.8		
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 12-61

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	0820M	1:1	0.02	3500.01	633334	CW/SRS	15.5	14.58	Right Cheek	0	0.234	1.236	0.289	0.289	0.181		20.8		
Head	NR Band n77	100	I	0820M	1:1	-0.09	3930.00	662000	CW/SRS	15.5	15.35	Right Cheek	0	0.301	1.035	0.312	0.312	0.195		20.5		
Head	NR Band n77	100	I	0820M	1:1	0.03	3930.00	662000	CW/SRS	15.5	15.35	Right Tilt	0	0.026	1.035	0.027	0.027	0.017		31.2	20.5	14.5
Head	NR Band n77	100	I	0820M	1:1	0.00	3930.00	662000	CW/SRS	15.5	15.35	Left Cheek	0	0.272	1.035	0.282	0.282	0.176		21.0		
Head	NR Band n77	100	I	0820M	1:1	0.04	3930.00	662000	CW/SRS	15.5	15.35	Left Tilt	0	0.030	1.035	0.031	0.031	0.019		30.5		
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 12-62

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	D	0820M	1:1	0.02	3500.01	633334	CW/SRS	11.0	10.71	Right Cheek	0	0.000	1.069	0.000	0.000	0.000		50.7		
Head	NR Band n77	100	D	0820M	1:1	0.09	3750.00	650000	CW/SRS	11.0	10.30	Right Cheek	0	0.000	1.175	0.000	0.000	0.000		50.2		
Head	NR Band n77	100	D	0820M	1:1	0.01	3750.00	650000	CW/SRS	11.0	10.30	Right Tilt	0	0.000	1.175	0.000	0.000	0.000		50.2	50.2	10.0
Head	NR Band n77	100	D	0820M	1:1	0.04	3750.00	650000	CW/SRS	11.0	10.30	Left Cheek	0	0.000	1.175	0.000	0.000	0.000		50.2		
Head	NR Band n77	100	D	0820M	1:1	0.05	3750.00	650000	CW/SRS	11.0	10.30	Left Tilt	0	0.000	1.175	0.000	0.000	0.000		50.2		
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 12-63

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]	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	0820M	1:1	-0.02	3500.01	633334	DFT-s-OFDM	0.0	19.5	19.31	1	271	Back	10	0.250	1.045	0.261	0.261	0.163		25.3		
Body-worn/Hotspot	NR Band n77	100	QPSK	F	0820M	1:1	0.03	3930.00	662000	DFT-s-OFDM	0.0	19.5	19.40	1	1	Back	10	0.362	1.023	0.370	0.370	0.231		23.8		
Body-worn/Hotspot	NR Band n77	100	QPSK	F	0820M	1:1	0.02	3930.00	662000	DFT-s-OFDM	0.0	19.5	19.28	135	0	Back	10	0.367	1.052	0.386	0.386	0.241	A47	23.6		
Hotspot	NR Band n77	100	QPSK	F	0820M	1:1	-0.02	3930.00	662000	DFT-s-OFDM	0.0	19.5	19.40	1	1	Front	10	0.151	1.023	0.154	0.154	0.096		27.6		
Hotspot	NR Band n77	100	QPSK	F	0820M	1:1	-0.02	3930.00	662000	DFT-s-OFDM	0.0	19.5	19.28	135	0	Front	10	0.150	1.052	0.158	0.158	0.099		27.5		
Hotspot	NR Band n77 DoD	100	QPSK	F	0820M	1:1	0.01	3500.01	633334	DFT-s-OFDM	0.0	19.5	19.31	1	271	Top	10	0.513	1.045	0.536	0.536	0.335	A48	22.2	22.2	18.5
Hotspot	NR Band n77	100	QPSK	F	0820M	1:1	0.05	3930.00	662000	DFT-s-OFDM	0.0	19.5	19.40	1	1	Top	10	0.386	1.023	0.395	0.395	0.247		23.5		
Hotspot	NR Band n77	100	QPSK	F	0820M	1:1	0.01	3930.00	662000	DFT-s-OFDM	0.0	19.5	19.28	135	0	Top	10	0.359	1.052	0.378	0.378	0.236		23.7		
Hotspot	NR Band n77	100	QPSK	F	0820M	1:1	0.02	3930.00	662000	CP-OFDM	0.0	19.5	19.27	1	1	Top	10	0.402	1.054	0.424	0.424	0.265		23.2		
Hotspot	NR Band n77	100	QPSK	F	0820M	1:1	0.05	3930.00	662000	DFT-s-OFDM	0.0	19.5	19.40	1	1	Left	10	0.106	1.023	0.108	0.108	0.068		29.1		
Hotspot	NR Band n77	100	QPSK	F	0820M	1:1	0.08	3930.00	662000	DFT-s-OFDM	0.0	19.5	19.28	135	0	Left	10	0.110	1.052	0.116	0.116	0.073		28.8		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram										

Table 12-64

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	0820M	1:1	0.03	3500.01	633334	CW/SRS	15.0	14.45	Back	10	0.096	1.135	0.109	0.109	0.068		24.6		
Body-worn/Hotspot	NR Band n77	100	C	0820M	1:1	-0.02	3930.00	662000	CW/SRS	15.0	13.69	Back	10	0.094	1.352	0.127	0.127	0.079		23.9		
Hotspot	NR Band n77	100	C	0820M	1:1	0.12	3930.00	662000	CW/SRS	15.0	13.69	Front	10	0.056	1.352	0.076	0.076	0.048		26.2		
Hotspot	NR Band n77	100	C	0820M	1:1	0.08	3930.00	662000	CW/SRS	15.0	13.69	Bottom	10	0.024	1.352	0.032	0.032	0.020		29.8	22.2	14.0
Hotspot	NR Band n77 DoD	100	C	0820M	1:1	0.00	3500.01	633334	CW/SRS	15.0	14.45	Right	10	0.138	1.135	0.157	0.157	0.098		23.0		
Hotspot	NR Band n77	100	C	0820M	1:1	-0.05	3930.00	662000	CW/SRS	15.0	13.69	Right	10	0.139	1.352	0.188	0.188	0.118		22.2		
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 12-65

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	0820M	1:1	0.04	3500.01	633334	CW/SRS	19.5	18.49	Back	10	0.085	1.262	0.107	0.107	0.067		29.1		
Body-worn/Hotspot	NR Band n77	100	I	0820M	1:1	0.19	3930.00	662000	CW/SRS	19.5	19.34	Back	10	0.088	1.038	0.091	0.091	0.057		29.8		
Hotspot	NR Band n77 DoD	100	I	0820M	1:1	0.05	3500.01	633334	CW/SRS	19.5	18.49	Front	10	0.099	1.262	0.125	0.125	0.078		28.5	26.9	18.5
Hotspot	NR Band n77	100	I	0820M	1:1	0.13	3930.00	662000	CW/SRS	19.5	19.34	Front	10	0.173	1.038	0.180	0.180	0.113		26.9		
Hotspot	NR Band n77	100	I	0820M	1:1	0.14	3930.00	662000	CW/SRS	19.5	19.34	Left	10	0.074	1.038	0.077	0.077	0.048		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										

Table 12-66

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	0820M	1:1	-0.02	3500.01	633334	CW/SRS	15.0	14.76	Back	10	0.117	1.057	0.124	0.124	0.078		24.0		
Body-worn/Hotspot	NR Band n77	100	D	0820M	1:1	0.05	3750.00	650000	CW/SRS	15.0	14.34	Back	10	0.093	1.164	0.108	0.108	0.068		24.6		
Hotspot	NR Band n77	100	D	0820M	1:1	0.04	3750.00	650000	CW/SRS	15.0	14.34	Front	10	0.005	1.164	0.006	0.006	0.004		37.3	24.0	14.0
Hotspot	NR Band n77	100	D	0820M	1:1	0.13	3750.00	650000	CW/SRS	15.0	14.34	Bottom	10	0.024	1.164	0.028	0.028	0.018		30.5		
Hotspot	NR Band n77	100	D	0820M	1:1	0.07	3750.00	650000	CW/SRS	15.0	14.34	Left	10	0.003	1.164	0.003	0.003	0.002		39.5		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Body 1.6 W/kg (mW/g) averaged over 1 gram										

12.17 2.4 GHz WIFI SISO Standalone SAR

Table 12-67
2.4 GHz WIFI Antenna H Head Spot-check Verification for Data Referencing

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]	Reported 1g SAR for Reference model [W/kg]
Head	2.4 GHz WiFi / IEEE 802.11b	22	DSSS	H	0742M	98.74	0.01	2412.00	1	1	17.0	16.80	Right Cheek	0	0.720	1.047	1.013	0.764	0.764	0.478	A49	18.1	18.1	16.0	0.784
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 12-68
2.4 GHz WIFI Antenna J Head Spot-check Verification for Data Referencing

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]	Reported 1g SAR for Reference model [W/kg]
Head	2.4 GHz WiFi / IEEE 802.11b	22	DSSS	J	0742M	97.51	0.00	2412.00	1	1	17.0	16.99	Left Cheek	0	0.294	1.002	1.026	0.302	0.302	0.189		22.1	22.1	16.0	0.431
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 12-69
2.4 GHz WIFI Antenna H Body-worn/Hotspot Spot-check Verification for Data Referencing

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]	Reported 1g SAR for Reference model [W/kg]
Body-worn	2.4 GHz WiFi / IEEE 802.11b	22	DSSS	H	0742M	98.74	0.02	2462.00	11	1	20.0	19.97	Back	10	0.329	1.007	1.013	0.336	0.336	0.210	A50	24.7	20.9	19.5	0.394
Hotspot	2.4 GHz WiFi / IEEE 802.11b	22	DSSS	H	0742M	98.74	0.03	2462.00	11	1	20.0	19.97	Left	10	0.794	1.007	1.013	0.810	0.810	0.506	A51	20.9			0.795
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 12-70
2.4 GHz WIFI Antenna J Body-worn/Hotspot Spot-check Verification for Data Referencing

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]	Reported 1g SAR for Reference model [W/kg]
Body-worn	2.4 GHz WiFi / IEEE 802.11b	22	DSSS	J	0742M	97.51	-0.05	2412.00	1	1	20.0	19.30	Back	10	0.065	1.175	1.026	0.078	0.272	0.170		31.0	30.3	25.4	0.071
Hotspot	2.4 GHz WiFi / IEEE 802.11b	22	DSSS	J	0742M	97.51	0.09	2412.00	1	1	20.0	19.30	Front	10	0.077	1.175	1.026	0.093	0.322	0.201		30.3			0.079
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 2.4 GHz WIFI MIMO Standalone SAR

Table 12-71
2.4 GHz WIFI Antenna MIMO Head Spot-check Verification for Data Referencing

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]	Reported 1g SAR for Reference model [W/kg]
Head	2.4 GHz WiFi / IEEE 802.11g	20	OFDM	MIMO	0742M	97.64	0.00	2412.00	1	6	17.0	15.87	17.0	16.87	Right Cheek	0	0.561	1.297	1.024	0.745	0.745	0.466		18.2	18.2	16.0	0.635
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Head 2 W/kg (mW/g) averaged over 10 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.

Table 12-72
2.4 GHz WIFI Antenna MIMO Body-worn/Hotspot Spot-check Verification for Data Referencing

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]	Reported 1g SAR for Reference model [W/kg]
Body-worn	2.4 GHz WiFi / IEEE 802.11g	20	OFDM	MIMO	0742M	97.64	0.03	2412.00	1	6	18.0	17.56	18.0	17.33	Back	10	0.221	1.168	1.024	0.264	0.365	0.228		23.7	20.6	19.4	0.274
Hotspot	2.4 GHz WiFi / IEEE 802.11g	20	OFDM	MIMO	0742M	97.64	0.03	2412.00	1	6	18.0	17.56	18.0	17.33	Left	10	0.455	1.168	1.024	0.544	0.752	0.470		20.6			0.467
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 5 GHz WIFI SISO Standalone SAR

Table 12-73
5 GHz WIFI Antenna H Head Spot-check Verification for Data Referencing

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]	Reported 1g SAR for Reference model [W/kg]
Head	5 GHz WIFI / IEEE 802.11ac	80	OFDM	H	0742M	91.35	0.00	5610.00	122	U-NII-2C	29.3	16.0	14.95	Right Cheek	0	0.639	1.274	1.095	0.891	0.891	0.557	AS2	16.5	16.5	15.0	0.798
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
5 GHz WIFI Antenna E Head Spot-check Verification for Data Referencing

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]	Reported 1g SAR for Reference model [W/kg]
Head	5 GHz WIFI / IEEE 802.11ac	80	OFDM	E	0742M	96.96	0.09	5290.00	58	U-NII-2A	29.3	16.0	15.52	Right Tilt	0	0.342	1.117	1.031	0.394	0.394	0.246		20.0	20.0	15.0	0.508
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 12-75
5 GHz WIFI Antenna H Body-worn/Hotspot Spot-check Verification for Data Referencing

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]	Reported 1g SAR for Reference model [W/kg]
Body-worn	5 GHz WIFI / IEEE 802.11ac	80	OFDM	H	0700M	91.35	0.06	5610.00	122	U-NII-2C	58.5	16.0	14.95	Back	10	0.196	1.274	1.095	0.273	0.273	0.171		21.6	19.1	15.0	0.232
Hotspot	5 GHz WIFI / IEEE 802.11ac	80	OFDM	H	0742M	91.35	-0.03	5775.00	155	U-NII-3	58.5	16.0	15.20	Left	10	0.364	1.202	1.095	0.479	0.479	0.299	AS4	19.1			0.402
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
5 GHz WIFI Antenna E Body-worn/Hotspot Spot-check Verification for Data Referencing

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]	Reported 1g SAR for Reference model [W/kg]
Body-worn	5 GHz WIFI / IEEE 802.11ac	80	OFDM	E	0742M	96.96	0.07	5855.00	171	U-NII-4	29.3	16.0	15.96	Back	10	0.334	1.009	1.031	0.347	0.347	0.217		20.5	20.5	15.0	0.383
Hotspot	5 GHz WIFI / IEEE 802.11ac	80	OFDM	E	0742M	96.96	-0.11	5775.00	155	U-NII-3	29.3	16.0	15.84	Back	10	0.264	1.038	1.031	0.283	0.283	0.177		21.4			0.293
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 12-77
5 GHz WIFI Antenna H Phablet Spot-check Verification for Data Referencing

	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]	Reported 10g SAR for Reference model [W/kg]
Phablet	5 GHz WIFI / IEEE 802.11ac	80	OFDM	H	0742M	91.35	0.05	5610.00	122	U-NII-2C	58.5	16.0	14.95	Left	0	1.300	1.274	1.095	1.814	1.814	0.454	AS5	17.3	17.3	15.0	1.871
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 12-78
5 GHz WIFI Antenna E Phablet Spot-check Verification for Data Referencing

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]	Reported 10g SAR for Reference model [W/kg]
Phablet	5 GHz WIFI / IEEE 802.11ac	80	OFDM	E	0742M	96.96	-0.07	5855.00	171	U-NII-4	29.3	16.0	15.96	Back	0	0.343	1.009	1.031	0.357	0.357	0.089		24.4	24.4	15.0	0.383
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Phablet 4.0 W/kg (mW/g) averaged over 10 grams												

12.20 5 GHz WIFI MIMO Standalone SAR

Table 12-79
5 GHz WIFI Antenna MIMO Head Spot-check Verification for Data Referencing

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]	Reported 1g SAR for Reference model [W/kg]
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	0742M	92.29	0.02	5610.00	122	U-NII-2C	58.5	16.0	14.36	16.0	15.76	Right Cheek	0	0.474	1.459	1.084	0.750	0.750	0.469		17.2	17.2	15.0	0.797
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 19 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 16 dBm.

Table 12-80
5 GHz WIFI Antenna MIMO Body-worn/Hotspot Spot-check Verification for Data Referencing

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]	Reported 1g SAR for Reference model [W/kg]
Body-worn	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	0742M	92.29	-0.21	5855.00	171	U-NII-4	58.5	16.0	14.94	16.0	15.93	Back	10	0.345	1.276	1.084	0.477	0.477	0.298	AS3	19.2			0.410
Hotspot	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	0742M	92.29	0.08	5775.00	155	U-NII-3	58.5	16.0	14.60	16.0	15.88	Back	10	0.249	1.380	1.084	0.372	0.372	0.233		20.2	19.2	15.0	0.496
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 19 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 16 dBm.

Table 12-81
5 GHz WIFI Antenna MIMO Phablet Spot-check Verification for Data Referencing

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]	Reported 10g SAR for Reference model [W/kg]
Phablet	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	0742M	92.29	-0.01	5610.00	122	U-NII-2C	58.5	16.0	14.36	16.0	15.76	Left	0	1.000	1.459	1.084	1.582	1.582	0.396		17.9	17.9	15.0	1.836
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 19 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 16 dBm.

12.21 6 GHz WIFI SISO Standalone SAR and APD

Table 12-82

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	40	OFDM	H	0835M	99.67	-0.15	5965.00	3	16.3	17.0	16.87	Right Cheek	0	0.809	1.030	1.003	0.836	0.836	0.523		17.7		
Head	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	H	0835M	99.67	-0.04	6285.00	67	16.3	17.0	16.75	Right Cheek	0	0.981	1.059	1.003	1.042	1.042	0.651	AS6	16.8		
Head	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	H	0835M	99.67	0.04	6285.00	67	16.3	17.0	16.75	Right Cheek	0	0.897	1.059	1.003	0.937	0.937	0.586		17.2		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	0835M	99.67	0.00	6465.00	103	34.0	16.0	15.56	Right Cheek	0	0.676	1.107	1.003	0.751	0.902	0.564		17.2		
Head	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	H	0835M	99.67	0.03	6685.00	147	16.3	17.0	16.16	Right Cheek	0	0.611	1.213	1.003	0.743	0.743	0.464		18.2		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	0835M	99.67	0.03	7025.00	215	34.0	15.5	15.30	Right Cheek	0	0.225	1.047	1.003	0.236	0.319	0.199		21.7		
Head	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	H	0835M	99.67	0.05	5965.00	3	16.3	17.0	16.87	Right Tilt	0	0.319	1.030	1.003	0.330	0.330	0.206		21.8	16.8	16.8
Head	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	H	0835M	99.67	0.09	6285.00	67	16.3	17.0	16.75	Right Tilt	0	0.406	1.059	1.003	0.431	0.431	0.269		20.6		
Head	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	H	0835M	99.67	0.02	5965.00	3	16.3	17.0	16.87	Left Cheek	0	0.182	1.030	1.003	0.188	0.188	0.118		24.2		
Head	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	H	0835M	99.67	-0.09	6285.00	67	16.3	17.0	16.75	Left Cheek	0	0.182	1.059	1.003	0.193	0.193	0.121		24.1		
Head	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	H	0835M	99.67	0.17	5965.00	3	16.3	17.0	16.87	Left Tilt	0	0.209	1.030	1.003	0.216	0.216	0.135		23.6		
Head	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	H	0835M	99.67	-0.12	6285.00	67	16.3	17.0	16.75	Left Tilt	0	0.212	1.059	1.003	0.225	0.225	0.141		23.4		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Head 1.6 W/kg (mW/g) averaged over 1 gram									

Note: Blue entry represents variability measurement

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 #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	H	0835M	99.67	-0.15	5965.00	3	16.3	17.0	16.87	Right Cheek	0	4.960	1.030	1.003	5.124	5.124	0.256		21.9		
Head	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	H	0835M	99.67	-0.04	6285.00	67	16.3	17.0	16.75	Right Cheek	0	6.010	1.059	1.003	6.384	6.384	0.319		21.0		
Head	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	H	0835M	99.67	0.04	6285.00	67	16.3	17.0	16.75	Right Cheek	0	5.410	1.059	1.003	5.746	5.746	0.287		21.4		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	0835M	99.67	0.00	6465.00	103	34.0	16.0	15.56	Right Cheek	0	4.340	1.107	1.003	4.819	5.790	0.290		21.2		
Head	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	H	0835M	99.67	0.03	6685.00	147	16.3	17.0	16.16	Right Cheek	0	3.510	1.213	1.003	4.270	4.270	0.214		22.7		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	H	0835M	99.67	0.03	7025.00	215	34.0	15.5	15.30	Right Cheek	0	1.210	1.047	1.003	1.271	1.715	0.086		26.5		
Head	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	H	0835M	99.67	0.05	5965.00	3	16.3	17.0	16.87	Right Tilt	0	2.170	1.030	1.003	2.242	2.242	0.112		25.5	21.0	16.8
Head	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	H	0835M	99.67	0.09	6285.00	67	16.3	17.0	16.75	Right Tilt	0	2.600	1.059	1.003	2.762	2.762	0.138		24.6		
Head	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	H	0835M	99.67	0.02	5965.00	3	16.3	17.0	16.87	Left Cheek	0	1.340	1.030	1.003	1.384	1.384	0.069		27.6		
Head	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	H	0835M	99.67	-0.09	6285.00	67	16.3	17.0	16.75	Left Cheek	0	1.480	1.059	1.003	1.572	1.572	0.079		27.1		
Head	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	H	0835M	99.67	0.17	5965.00	3	16.3	17.0	16.87	Left Tilt	0	1.600	1.030	1.003	1.653	1.653	0.083		26.9		
Head	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	H	0835M	99.67	-0.12	6285.00	67	16.3	17.0	16.75	Left Tilt	0	1.640	1.059	1.003	1.742	1.742	0.087		26.6		

Table 12-83
6 GHz WIFI Antenna E Head Spot-check Verification for Data Referencing

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]	Reported 1g SAR for Reference model [W/kg]
Head	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	E	0835M	99.67	0.01	6685.00	147	16.3	17.0	16.00	Right Cheek	0	0.123	1.259	1.003	0.155	0.604	0.378		25.0	25.0	22.9	0.256
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 #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]	Reported 1g APD for Reference Model [W/m² (4cm²)]
Head	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	E	0835M	99.67	0.01	6685.00	147	16.3	17.0	16.00	Right Cheek	0	0.782	1.259	1.003	0.987	3.842	0.192		29.1	29.1	22.9	1.482

Table 12-84
6 GHz WIFI Antenna H Body-worn Spot-check Verification for Data Referencing

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]	Reported 1g SAR for Reference model [W/kg]
Body-worn	6 GHz WIFI/ IEEE 802.11ax	160	OFDM	H	0835M	99.67	0.01	6985.00	207	68.1	9.0	8.74	Back	10	0.014	1.062	1.003	0.015	0.015	0.009		27.2	27.2	8.0	0.004
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 #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]	Reported 1g APD for Reference Model [W/m² (4cm²)]
Body-worn	6 GHz WIFI/ IEEE 802.11ax	160	OFDM	H	0835M	99.67	0.01	6985.00	207	68.1	9.0	8.74	Back	10	0.127	1.062	1.003	0.135	0.135	0.007		29.7	29.7	8.0	0.057

Table 12-85
6 GHz WIFI Antenna E Body-worn Spot-check Verification for Data Referencing

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]	Reported 1g SAR for Reference model [W/kg]
Body-worn	6 GHz WIFI/ IEEE 802.11ax	160	OFDM	E	0747M	99.67	0.02	6025.00	15	68.1	9.0	8.98	Back	10	0.053	1.005	1.003	0.053	0.053	0.033		21.7	21.7	8.0	0.064
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 #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]	Reported 1g APD for Reference Model [W/m² (4cm²)]
Body-worn	6 GHz WIFI/ IEEE 802.11ax	160	OFDM	E	0747M	99.67	0.02	6025.00	15	68.1	9.0	8.98	Back	10	0.427	1.005	1.003	0.430	0.430	0.022		24.7	24.7	8.0	0.517

Table 12-86
6 GHz WIFI Antenna H Phablet Spot-check Verification for Data Referencing

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 [dBm]	Reported 10g SAR for Reference model [W/kg]
Phablet	6 GHz WIFI/ IEEE 802.11ax	160	OFDM	H	0747M	99.67	-0.09	6025.00	15	68.1	9.0	8.75	Left	0	0.353	1.059	1.003	0.375	0.375	0.094	AS8	17.2	17.2	8.0	0.377
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 #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]	Reported 10g APD for Reference Model [W/m² (4cm²)]
Phablet	6 GHz WIFI/ IEEE 802.11ax	160	OFDM	H	0747M	99.67	-0.09	6025.00	15	68.1	9.0	8.75	Left	0	8.380	1.059	1.003	8.901	8.901	0.445	AS8	11.5	11.5	8.0	8.939

Table 12-87
6 GHz WIFI Antenna E Phablet Spot-check Verification for Data Referencing

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 [dBm]	Reported 10g SAR for Reference model [W/kg]
Phablet	6 GHz WIFI/ IEEE 802.11ax	160	OFDM	E	0747M	99.67	-0.09	6025.00	15	68.1	9.0	8.98	Back	0	0.083	1.005	1.003	0.084	0.084	0.021		23.7	23.7	8.0	0.096
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 #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]	Reported 10g APD for Reference Model [W/m² (4cm²)]
Phablet	6 GHz WIFI/ IEEE 802.11ax	160	OFDM	E	0747M	99.67	-0.09	6025.00	15	68.1	9.0	8.98	Back	0	1.920	1.005	1.003	1.935	1.935	0.097		18.2	18.2	8.0	2.232

12.22 6 GHz WIFI MIMO Standalone SAR and APD

Table 12-88
6 GHz WIFI Antenna MIMO Head Spot-check Verification for Data Referencing

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]	Reported 1g SAR for Reference model [W/kg]
Head	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO	0835M	99.67	0.03	6285.00	67	32.5	17.0	16.80	17.0	16.68	Right Cheek	0	0.884	1.076	1.003	0.954	0.954	0.596		17.2	17.2	17.0	0.806
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 20 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 17 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 #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]	Reported 1g APD for Reference model [W/kg]
Head	6 GHz WIFI/ IEEE 802.11ax	40	OFDM	MIMO	0835M	99.67	0.03	6285.00	67	32.5	17.0	16.80	17.0	16.68	Right Cheek	0	5.490	1.076	1.003	5.925	5.925	0.296		21.3	21.3	17.0	4.958

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.

Table 12-89
6 GHz WIFI Antenna MIMO Body-worn Spot-check Verification for Data Referencing

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]	Reported 1g SAR for Reference model [W/kg]
Body-worn	6 GHz WIFI/ IEEE 802.11ax	160	OFDM	MIMO	0747M	99.67	0.08	6025.00	15	136.1	9.0	8.80	9.0	8.52	Back	10	0.060	1.117	1.003	0.067	0.067	0.042	AS7	20.7	20.7	8.0	0.063
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 12 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 9 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 #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]	Reported 1g APD for Reference model [W/kg]
Body-worn	6 GHz WIFI/ IEEE 802.11ax	160	OFDM	MIMO	0747M	99.67	0.08	6025.00	15	136.1	9.0	8.80	9.0	8.52	Back	10	0.482	1.117	1.003	0.540	0.540	0.027	AS7	23.7	23.7	8.0	0.513

Note: To achieve the 12 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 9 dBm.

Table 12-90
6 GHz WIFI Antenna MIMO Phablet Spot-check Verification for Data Referencing

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 [dBm]	Reported 10g SAR for Reference model [W/kg]
Phablet	6 GHz WIFI/ IEEE 802.11ax	160	OFDM	MIMO	0835M	99.67	-0.09	6505.00	111	136.1	9.0	8.35	9.0	8.84	Left	0	0.276	1.161	1.003	0.321	0.321	0.080		17.9	17.9	8.0	0.346
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 12 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 9 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 #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]	Reported 10g APD for Reference model [W/kg]
Phablet	6 GHz WIFI/ IEEE 802.11ax	160	OFDM	MIMO	0835M	99.67	-0.09	6505.00	111	136.1	9.0	8.35	9.0	8.84	Left	0	6.510	1.161	1.003	7.581	7.581	0.379		12.2	12.2	8.0	8.158

Note: To achieve the 12 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 9 dBm.

12.23 2.4 GHz Bluetooth SISO Standalone SAR

Table 12-91
2.4 GHz Bluetooth Antenna H Head Spot-check Verification for Data Referencing

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]	Reported 1g SAR for Reference model [W/kg]
Head	2.4 GHz Bluetooth	FHSS	H	0742M	76.80	0.00	2441.00	39	1	19.5	18.38	Right Cheek	0	0.747	1.294	1.016	0.982	1.005	0.628	A59	18.5	18.5	18.5	0.919
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 12-92
2.4 GHz Bluetooth Antenna J Head Spot-check Verification for Data Referencing

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]	Reported 1g SAR for Reference model [W/kg]
Head	2.4 GHz Bluetooth LE	DSSS	J	0742M	85.33	0.00	2440.00	19	1	20.0	19.61	Left Cheek	0	0.516	1.094	1.020	0.576	0.725	0.453		21.7	21.7	20.4	0.703
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 12-93
2.4 GHz Bluetooth Antenna H Body-worn/Hotspot Spot-check Verification for Data Referencing

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]	Reported 1g SAR for Reference model [W/kg]
Body-worn/Hotspot	2.4 GHz Bluetooth LE	DSSS	H	0742M	85.33	0.04	2440.00	19	1	20.5	20.15	Back	10	0.159	1.083	1.020	0.176	0.242	0.151	A60	27.4	22.7	21.3	0.210
Hotspot	2.4 GHz Bluetooth LE	DSSS	H	0742M	85.33	0.02	2440.00	19	1	20.5	20.15	Left	10	0.467	1.083	1.020	0.516	0.712	0.445	A61	22.7			0.490
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 12-94
2.4 GHz Bluetooth Antenna J Body-worn/Hotspot Spot-check Verification for Data Referencing

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]	Reported 1g SAR for Reference model [W/kg]
Body-worn/Hotspot	2.4 GHz Bluetooth LE	DSSS	J	0742M	85.33	0.09	2440.00	19	1	20.0	19.61	Back	10	0.056	1.094	1.020	0.062	0.279	0.174		31.4	30.3	25.9	0.052
Hotspot	2.4 GHz Bluetooth LE	DSSS	J	0742M	85.33	0.01	2440.00	19	1	20.0	19.61	Front	10	0.072	1.094	1.020	0.080	0.359	0.224		30.3			0.087
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 2.4 GHz Bluetooth Dual Standalone SAR

Table 12-95

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	FHSS	MIMO	0742M	77.07	-0.04	2441.00	39	1	15.0	13.70	14.0	12.72	Right Cheek	0	0.273	1.349	1.025	0.377	0.988	0.618		17.2		
Head	2.4 GHz Bluetooth	FHSS	MIMO	0742M	77.07	0.01	2441.00	39	1	15.0	13.70	14.0	12.72	Right Tilt	0	0.147	1.349	1.025	0.203	0.532	0.333		19.9	17.2	17.2
Head	2.4 GHz Bluetooth	FHSS	MIMO	0742M	77.07	-0.01	2441.00	39	1	15.0	13.70	14.0	12.72	Left Cheek	0	0.108	1.349	1.025	0.149	0.391	0.244		21.2		
Head	2.4 GHz Bluetooth	FHSS	MIMO	0742M	77.07	0.10	2441.00	39	1	15.0	13.70	14.0	12.72	Left Tilt	0	0.053	1.349	1.025	0.073	0.192	0.120		24.3		
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 17.5 dBm maximum allowed MIMO power shown in the documentation, Antenna H transmits at a maximum allowed power of 15.0 dBm, and Antenna J transmits at a maximum allowed power of 14.0 dBm.

Table 12-96

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	FHSS	MIMO	0742M	77.07	0.02	2441.00	39	1	15.0	13.70	14.0	12.72	Back	10	0.060	1.349	1.025	0.083	0.255	0.159		23.8		
Hotspot	2.4 GHz Bluetooth	FHSS	MIMO	0742M	77.07	-0.01	2441.00	39	1	15.0	13.70	14.0	12.72	Front	10	0.061	1.349	1.025	0.084	0.259	0.162		23.7		
Hotspot	2.4 GHz Bluetooth	FHSS	MIMO	0742M	77.07	0.17	2441.00	39	1	15.0	13.70	14.0	12.72	Top	10	0.039	1.349	1.025	0.054	0.166	0.104		25.6	20.4	17.9
Hotspot	2.4 GHz Bluetooth	FHSS	MIMO	0742M	77.07	0.02	2441.00	39	1	15.0	13.70	14.0	12.72	Right	10	0.003	1.349	1.025	0.004	0.013	0.008		36.8		
Hotspot	2.4 GHz Bluetooth	FHSS	MIMO	0742M	77.07	0.11	2441.00	39	1	15.0	13.70	14.0	12.72	Left	10	0.130	1.349	1.025	0.180	0.553	0.346		20.4		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram										

Note: To achieve the 17.5 dBm maximum allowed MIMO power shown in the documentation, Antenna H transmits at a maximum allowed power of 15.0 dBm, and Antenna J transmits at a maximum allowed power of 14.0 dBm.

12.25 UWB Standalone SAR

Table 12-97

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	0710M	1:1	0.05	6489.60	5	Back	0	0.000	0.000	
Phablet	UWB	CW	1	0710M	1:1	0.04	7987.20	9	Back	0	0.000	0.000	
Phablet	UWB	CW	1	0710M	1:1	0.07	6489.60	5	Front	0	0.000	0.000	
Phablet	UWB	CW	1	0710M	1:1	0.07	7987.20	9	Front	0	0.000	0.000	
Phablet	UWB	CW	1	0710M	1:1	0.03	6489.60	5	Top	0	0.001	0.000	
Phablet	UWB	CW	1	0710M	1:1	0.02	7987.20	9	Top	0	0.001	0.000	
Phablet	UWB	CW	1	0710M	1:1	0.05	6489.60	5	Left	0	0.002	0.001	A62
Phablet	UWB	CW	1	0710M	1:1	0.08	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	0710M	1:1	0.05	6489.60	5	Back	0	0.010	0.001	
Phablet	UWB	CW	1	0710M	1:1	0.04	7987.20	9	Back	0	0.002	0.000	
Phablet	UWB	CW	1	0710M	1:1	0.07	6489.60	5	Front	0	0.003	0.000	
Phablet	UWB	CW	1	0710M	1:1	0.07	7987.20	9	Front	0	0.000	0.000	
Phablet	UWB	CW	1	0710M	1:1	0.03	6489.60	5	Top	0	0.027	0.001	
Phablet	UWB	CW	1	0710M	1:1	0.02	7987.20	9	Top	0	0.028	0.001	
Phablet	UWB	CW	1	0710M	1:1	0.05	6489.60	5	Left	0	0.041	0.002	A62
Phablet	UWB	CW	1	0710M	1:1	0.08	7987.20	9	Left	0	0.024	0.001	

12.26 NFC Standalone SAR

Table 12-98

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	0839M	0.05	13.60	Back	0	0.009	0.002	A63
Phablet	NFC	B	NFC	0839M	0.03	13.60	Front	0	0.000	0.000	
Phablet	NFC	B	NFC	0839M	0.03	13.60	Top	0	0.000	0.000	
Phablet	NFC	B	NFC	0839M	0.08	13.60	Bottom	0	0.000	0.000	
Phablet	NFC	B	NFC	0839M	0.08	13.60	Right	0	0.000	0.000	
Phablet	NFC	B	NFC	0839M	0.01	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				

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 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.

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 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 n41 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.
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.

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 #
6025.00	15	802.11ax	OFDM	160	9.00	8.75	-	-	-0.07	2	1	0821M	MCS0	Back	99.67	0.125	1.130	1.554	1.059	1.003	1.030	1.700	1.120	1.849	
6025.00	15	802.11ax	OFDM	160	9.00	8.75	-	-	-0.86	2	1	0821M	MCS0	Front	99.67	0.125	0.634	1.554	1.059	1.003	0.287	0.474	0.411	0.678	
6025.00	15	802.11ax	OFDM	160	9.00	8.75	-	-	-0.11	2	1	0821M	MCS0	Top	99.67	0.125	0.310	1.554	1.059	1.003	0.281	0.464	0.456	0.753	
6025.00	15	802.11ax	OFDM	160	9.00	8.75	-	-	-0.04	2	1	0821M	MCS0	Left	99.67	0.125	0.848	1.554	1.059	1.003	1.700	2.806	2.240	3.697	
6345.00	79	802.11ax	OFDM	160	9.00	8.55	-	-	-0.09	2	1	0821M	MCS0	Left	99.67	0.125	0.738	1.554	1.109	1.003	1.110	1.919	1.380	2.385	
6505.00	111	802.11ax	OFDM	160	9.00	8.60	-	-	0.04	2	1	0821M	MCS0	Left	99.67	0.125	1.350	1.554	1.096	1.003	1.940	3.314	2.220	3.792	
6665.00	143	802.11ax	OFDM	160	9.00	8.50	-	-	0.08	2	1	0821M	MCS0	Left	99.67	0.125	1.150	1.554	1.122	1.003	1.660	2.903	2.090	3.655	
6985.00	207	802.11ax	OFDM	160	9.00	8.74	-	-	-0.26	2	1	0821M	MCS0	Left	99.67	0.125	0.810	1.554	1.062	1.003	0.623	1.031	0.803	1.329	
6025.00	15	802.11ax	OFDM	160	9.00	8.75	-	-	0.40	9.95	1	0821M	MCS0	Left	99.67	0.125	0.862	1.554	1.059	1.003	0.725	1.197	0.927	1.530	
6025.00	15	802.11ax	OFDM	160	9.00	8.75	-	-	0.40	9.95	1	0821M	MCS0	Left	99.67	0.125	0.862	1.554	1.059	1.003	0.725	1.197	0.927	1.530	
6345.00	79	802.11ax	OFDM	160	-	-	9.00	8.99	0.18	2	2	0821M	MCS0	Back	99.67	0.125	1.060	1.554	1.002	1.003	1.230	1.921	1.460	2.280	
6345.00	79	802.11ax	OFDM	160	-	-	9.00	8.99	0.87	2	2	0821M	MCS0	Front	99.67	0.125	0.376	1.554	1.002	1.003	0.287	0.448	0.329	0.514	
6345.00	79	802.11ax	OFDM	160	-	-	9.00	8.99	0.14	2	2	0821M	MCS0	Top	99.67	0.125	0.540	1.554	1.002	1.003	0.346	0.540	0.486	0.759	
6345.00	79	802.11ax	OFDM	160	-	-	9.00	8.99	0.23	2	2	0821M	MCS0	Right	99.67	0.125	0.893	1.554	1.002	1.003	0.384	0.600	0.444	0.693	
6025.00	15	802.11ax	OFDM	160	-	-	9.00	8.98	0.11	2	2	0821M	MCS0	Back	99.67	0.125	1.070	1.554	1.005	1.003	1.380	2.162	1.550	2.428	
6505.00	111	802.11ax	OFDM	160	-	-	9.00	8.80	-0.09	2	2	0821M	MCS0	Back	99.67	0.125	1.280	1.554	1.047	1.003	1.080	1.762	1.320	2.154	
6665.00	143	802.11ax	OFDM	160	-	-	9.00	8.19	-0.24	2	2	0821M	MCS0	Back	99.67	0.125	1.280	1.554	1.205	1.003	0.768	1.442	0.866	1.627	
6985.00	207	802.11ax	OFDM	160	-	-	9.00	8.70	-0.15	2	2	0821M	MCS0	Back	99.67	0.125	1.110	1.554	1.072	1.003	0.656	1.096	0.755	1.262	
6345.00	79	802.11ax	OFDM	160	-	-	9.00	8.99	-1.73	9.45	2	0821M	MCS0	Back	99.67	0.125	0.477	1.554	1.002	1.003	0.223	0.348	0.232	0.362	
6345.00	79	802.11ax	OFDM	160	9.00	8.57	9.00	8.94	3.13	2	MIMO	0830M	MCS0	Back	99.67	0.125	-	1.554	1.104	1.003	2.770	4.767	2.900	4.990	
6345.00	79	802.11ax	OFDM	160	9.00	8.57	9.00	8.94	0.16	2	MIMO	0830M	MCS0	Front	99.67	0.125	-	1.554	1.104	1.003	0.401	0.690	0.441	0.759	
6345.00	79	802.11ax	OFDM	160	9.00	8.57	9.00	8.94	0.55	2	MIMO	0830M	MCS0	Top	99.67	0.125	-	1.554	1.104	1.003	1.650	2.839	1.770	3.046	
6345.00	79	802.11ax	OFDM	160	9.00	8.57	9.00	8.94	2.40	2	MIMO	0830M	MCS0	Right	99.67	0.125	-	1.554	1.104	1.003	2.380	4.095	2.550	4.388	
6345.00	79	802.11ax	OFDM	160	9.00	8.57	9.00	8.94	0.14	2	MIMO	0830M	MCS0	Left	99.67	0.125	-	1.554	1.104	1.003	2.830	4.870	3.240	5.575	A64
6025.00	15	802.11ax	OFDM	160	9.00	8.80	9.00	8.52	-0.06	2	MIMO	0830M	MCS0	Left	99.67	0.125	-	1.554	1.117	1.003	2.220	3.865	2.810	4.892	
6505.00	111	802.11ax	OFDM	160	9.00	8.35	9.00	8.84	-0.04	2	MIMO	0830M	MCS0	Left	99.67	0.125	-	1.554	1.161	1.003	2.140	3.873	3.150	5.700	
6665.00	143	802.11ax	OFDM	160	9.00	8.00	9.00	8.56	-0.06	2	MIMO	0830M	MCS0	Left	99.67	0.125	-	1.554	1.259	1.003	0.948	1.860	1.270	2.492	
6985.00	207	802.11ax	OFDM	160	9.00	8.14	9.00	8.90	-0.04	2	MIMO	0830M	MCS0	Left	99.67	0.125	-	1.554	1.219	1.003	0.471	0.895	0.716	1.360	
47 CFR §1.1310 - SAFETY LIMIT Spatial Average Uncontrolled Exposure / General Population																		Power Density 10 W/m² averaged over 4 cm²							

13.2 UWB Power Density Results

Table 13-2

MEASUREMENT RESULTS															
Frequency (MHz)	Channel	Mode	Power Drift (dB)	Spacing (mm)	Antenna Config.	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	0.12	2	1	0710M	Back	0.125	-	1.554	0.266	0.413	0.275	0.427	
6489.60	5	CW	-0.16	2	1	0710M	Front	0.125	-	1.554	0.301	0.468	0.309	0.480	
6489.60	5	CW	-0.11	2	1	0710M	Top	0.125	0.860	1.554	0.232	0.361	0.241	0.375	
6489.60	5	CW	0.12	2	9.24	0710M	Top	0.125	0.452	1.554	0.127	0.197	0.131	0.204	
6489.60	5	CW	0.17	2	1	0710M	Left	0.125	-	1.554	0.533	0.828	0.573	0.890	A65
7987.20	9	CW	-0.11	2	1	0710M	Back	0.125	-	1.554	0.139	0.216	0.143	0.222	
7987.20	9	CW	0.18	2	1	0710M	Front	0.125	-	1.554	0.486	0.755	0.500	0.777	
7987.20	9	CW	0.15	2	1	0710M	Top	0.125	-	1.554	0.081	0.126	0.083	0.129	
7987.20	9	CW	0.13	2	1	0710M	Left	0.125	-	1.554	0.221	0.343	0.230	0.357	
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.

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	782.00	23230	LTE Band 13, 10 MHz Bandwidth	QPSK, 1 RB, 25 RB Offset	Left	Cheek	E	0.940	0.820	1.15	N/A	N/A	N/A	N/A
835	836.50	167300	NR Band n5, 20 MHz Bandwidth	DFT-s-OFDM, QPSK, 100 RB, 0 RB Offset	Left	Cheek	E	0.936	0.847	1.11	N/A	N/A	N/A	N/A
1900	1905.00	26590	LTE Band 25, 20 MHz Bandwidth	QPSK, 50 RB, 50 RB Offset	Right	Tilt	F	0.900	0.835	1.08	N/A	N/A	N/A	N/A
2600	2592.99	518598	NR Band n41, 100 MHz Bandwidth	DFT-s-OFDM, QPSK, 270 RB, 0 RB Offset	Right	Tilt	F	1.150	1.130	1.02	N/A	N/A	N/A	N/A
6500	6285.00	67	6 GHz WIFI/IEEE 802.11ax	OFDM	Right	Cheek	H	0.981	0.882	1.11	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	0.917	0.908	1.01	N/A	N/A	N/A	N/A
1900	1905.00	26590	LTE Band 25, 20 MHz Bandwidth	QPSK, 1 RB, 50 RB Offset	Bottom	10 mm	A	1.020	0.968	1.05	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									

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.

15 ADDITIONAL TESTING PER FCC GUIDANCE

15.1 LTE Band 41 Power Class 2 and Power Class 3 Linearity

This device supports Power Class 2 and Power Class 3 operations for LTE Band 41. The highest available duty cycle for Power Class 2 operations is 43.3 % using UL-DL configuration 1. Per May 2017 TCB Workshop Notes based on the device behavior, all SAR tests were performed using Power Class 3. SAR with Power Class 2 at the highest power and available duty factor was additionally performed for the Power Class 3 configuration with the highest SAR for each exposure condition. The linearity between the Power Class 2 and Power Class 3 SAR results and the respective frame averaged powers was calculated to determine that the results were linear.
Per May 2017 TCB Workshop, no additional SAR measurements were required since the linearity between power classes was < 10% and all reported SAR values were < 1.4 W/kg for 1g and < 3.5 W/kg for 10g.

Table 15-1
LTE Band 41 Antenna B Head Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	25.00	26.00
Measured Output Power (dBm)	24.65	25.18
Measured SAR (W/kg)	0.056	0.039
Measured Power (mW)	291.74	329.61
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	184.67	142.72
% deviation from expected linearity		-9.89%

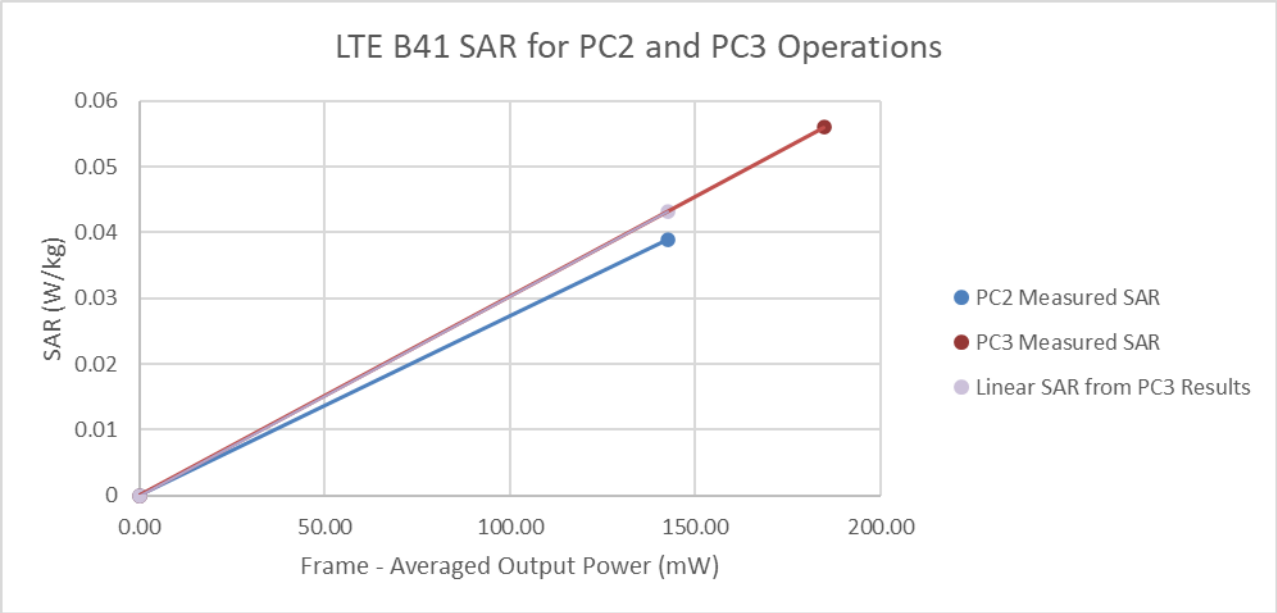


Figure 15-1
LTE Band 41 Antenna B Head Linearity

Table 15-2
LTE Band 41 Antenna F Head Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	18.50	20.10
Measured Output Power (dBm)	17.81	19.52
Measured SAR (W/kg)	0.887	0.916
Measured Power (mW)	60.39	89.54
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	38.23	38.77
% deviation from expected linearity		1.83%

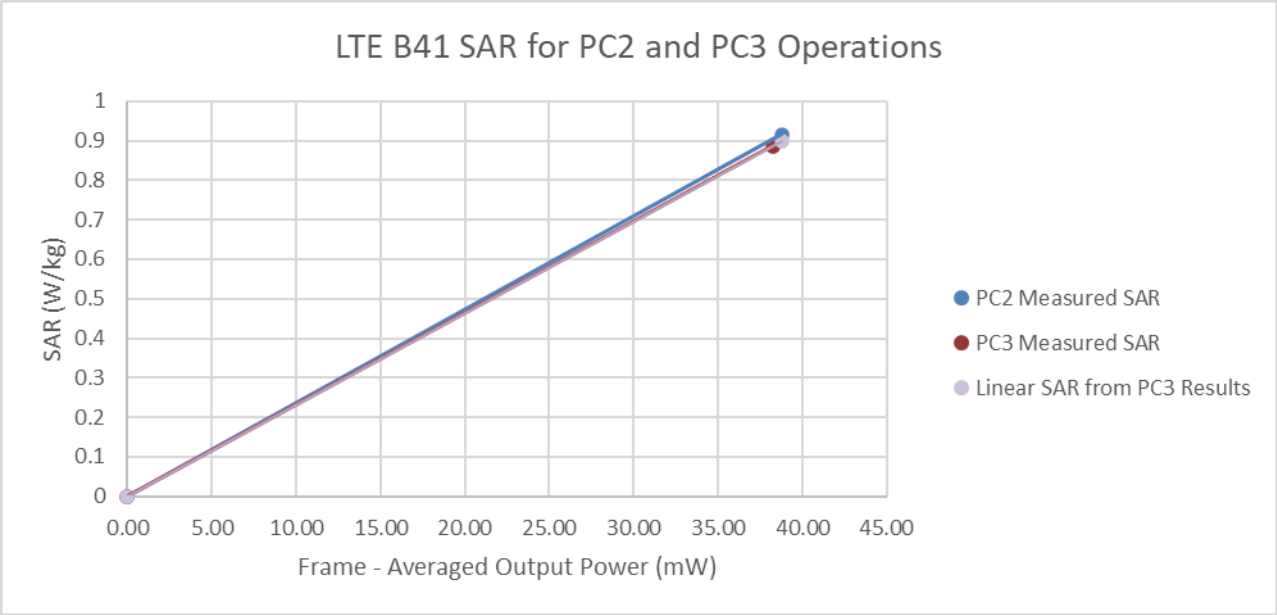


Figure 15-2
LTE Band 41 Antenna F Head Linearity

Table 15-3
LTE Band 41 Antenna B Body-Worn/Hotspot Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	22.00	23.60
Measured Output Power (dBm)	21.67	23.41
Measured SAR (W/kg)	0.400	0.396
Measured Power (mW)	146.89	219.28
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	92.98	94.95
% deviation from expected linearity		-3.05%

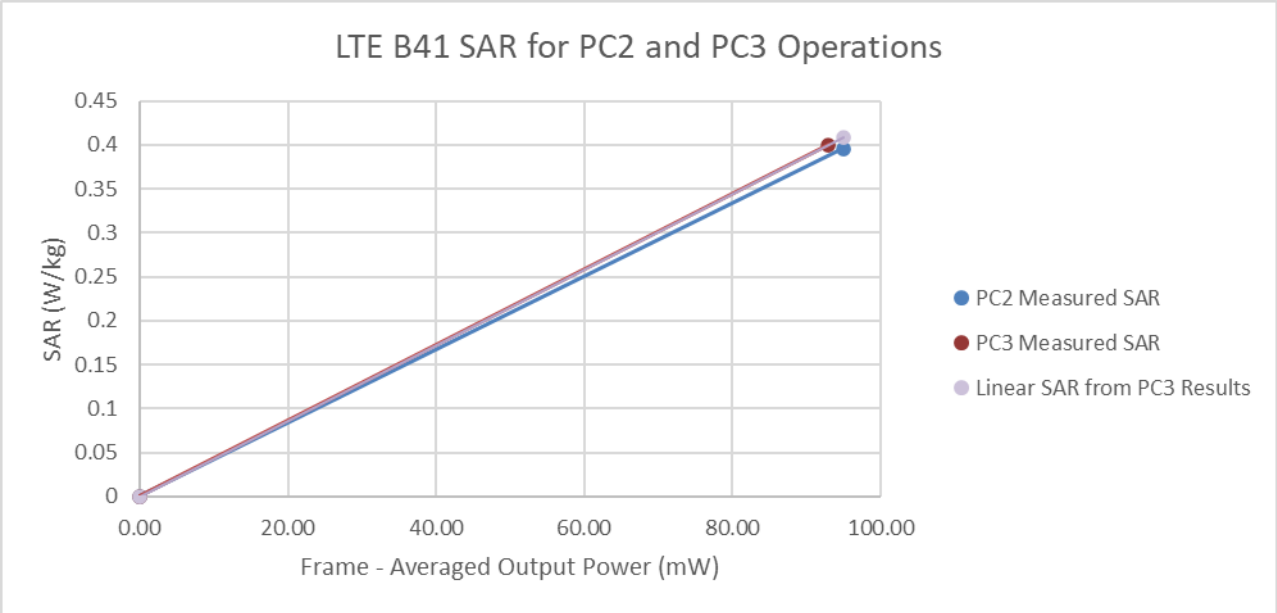


Figure 15-3
LTE Band 41 Antenna B Body-Worn/hotspot Linearity

Table 15-4
LTE Band 41 Antenna F Body-worn/Hotspot Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	22.00	23.60
Measured Output Power (dBm)	21.51	23.23
Measured SAR (W/kg)	0.448	0.452
Measured Power (mW)	141.58	210.38
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	89.62	91.09
% deviation from expected linearity		-0.74%

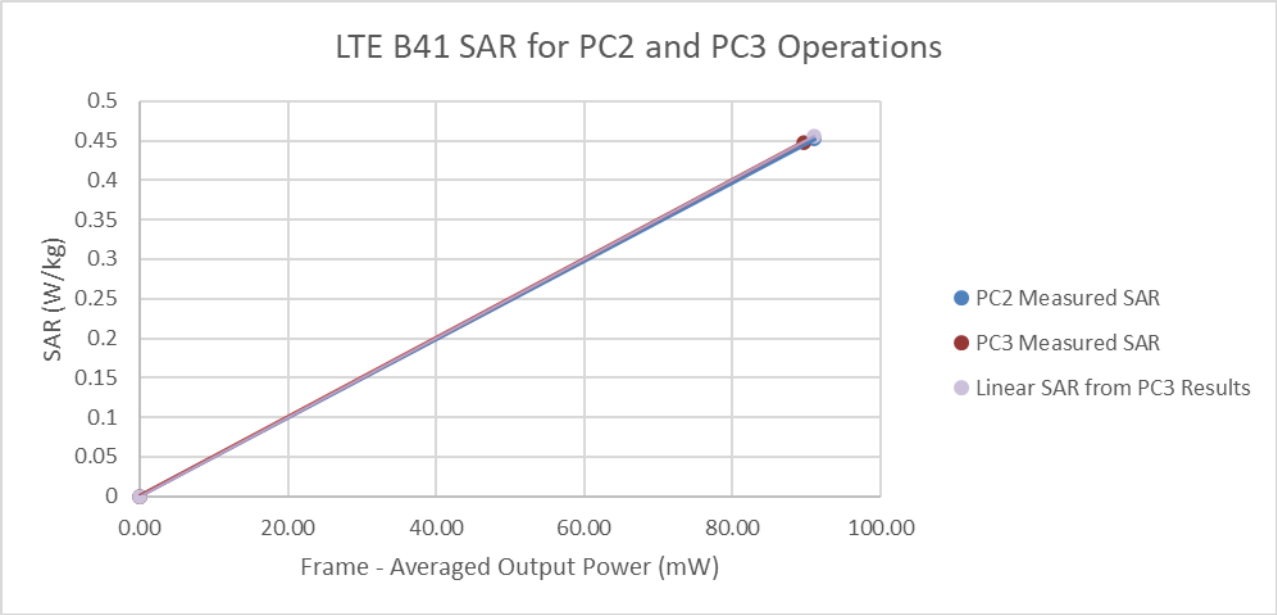


Figure 15-4
LTE Band 41 Antenna F Body-worn/Hotspot Linearity

15.2 Tuner Testing

Per April 2019 TCB Workshop Notes, the following test procedures were followed to demonstrate that the SAR results in Section 11 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 144 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 144 states.

The operational description contains more information about the design and implementation of the dynamic antenna tuning.

Table 15-5
UMTS Supplemental Head SAR Data

Supplemental Head SAR Data					
UMTS B5		UMTS B4		UMTS B2	
RMC		RMC		RMC	
Test Position	Left Cheek	Test Position	Right Cheek	Test Position	Right Cheek
Frequency (MHz)	846.60	Frequency (MHz)	1752.60	Frequency (MHz)	1852.40
Channel	4233	Channel	1513	Channel	9262
Measured 1g SAR (W/kg)	0.092	Measured 1g SAR (W/kg)	0.102	Measured 1g SAR (W/kg)	0.085
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 10)	0.095	Auto-tune (State 99)	0.113	Auto-tune (State 108)	0.096
Default (State 0)	0.065	Default (State 0)	0.081	Default (State 0)	0.061
State 0	0.065	State 1	0.075	State 2	0.054
State 10	0.086	State 46	0.099	State 45	0.092
State 47	0.080	State 94	0.021	State 93	0.012
State 95	0.037	State 97	0.015	State 98	0.005
State 96	0.031	State 99	0.109	State 108	0.092
State 117	0.064	State 118	0.096	State 119	0.016
State 141	0.055	State 142	0.088	State 141	0.094

Table 15-6
LTE Supplemental Head SAR Data

Supplemental Head SAR Data									
LTE B12		LTE B13		LTE B26		LTE B66		LTE B25	
QPSK, 10 MHz Bandwidth, 1 RB, 25 RB Offset		QPSK, 10 MHz Bandwidth, 1 RB, 25RB 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, 50 RB Offset	
Test Position	Left Cheek	Test Position	Left Cheek	Test Position	Left Cheek	Test Position	Right Cheek	Test Position	Right Cheek
Frequency (MHz)	707.50	Frequency (MHz)	782.00	Frequency (MHz)	831.50	Frequency (MHz)	1770.00	Frequency (MHz)	1882.50
Channel	23095	Channel	23230	Channel	26865	Channel	132572	Channel	26365
Measured 1g SAR (W/kg)	0.126	Measured 1g SAR (W/kg)	0.142	Measured 1g SAR (W/kg)	0.104	Measured 1g SAR (W/kg)	0.094	Measured 1g SAR (W/kg)	0.121
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 63)	0.137	Auto-tune (State 0)	0.132	Auto-tune (State 10)	0.118	Auto-tune (State 99)	0.101	Auto-tune (State 108)	0.121
Default (State 0)	0.100	Default (State 0)	0.150	Default (State 0)	0.080	Default (State 0)	0.088	Default (State 0)	0.071
State 4	0.061	State 0	0.150	State 7	0.030	State 11	0.094	State 13	0.094
State 43	0.037	State 5	0.126	State 10	0.109	State 36	0.009	State 34	0.073
State 63	0.119	State 42	0.045	State 40	0.024	State 84	0.092	State 82	0.109
State 91	0.083	State 90	0.079	State 88	0.026	State 99	0.107	State 104	0.109
State 99	0.096	State 100	0.078	State 101	0.059	State 103	0.114	State 108	0.116
State 120	0.117	State 121	0.138	State 122	0.059	State 124	0.107	State 125	0.008
State 140	0.089	State 139	0.050	State 138	0.078	State 136	0.020	State 135	0.125

Table 15-7
NR Supplemental Head SAR Data

Supplemental Head SAR Data					
NR Band n5		NR Band n66		NR Band n25	
DFT-s-OFDM QPSK, 20 MHz Bandwidth, 50 RB, 28 RB Offset		DFTs-OFDM QPSK, 45 MHz Bandwidth, 1 RB, 240 RB Offset		DFTs-OFDM QPSK, 40 MHz Bandwidth, 108 RB, 54 RB Offset	
Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Right Cheek
Frequency (MHz)	836.50	Frequency (MHz)	1745.00	Frequency (MHz)	1882.50
Channel	167300	Channel	349000	Channel	376500
Measured 1g SAR (W/kg)	0.086	Measured 1g SAR (W/kg)	0.085	Measured 1g SAR (W/kg)	0.102
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)	0.083	Auto-tune (State 99)	0.082	Auto-tune (State 108)	0.111
Default (State 0)	0.084	Default (State 0)	0.049	Default (State 0)	0.063
State 0	0.084	State 21	0.007	State 22	0.005
State 19	0.069	State 26	0.001	State 25	0.002
State 28	0.070	State 74	0.005	State 73	0.005
State 76	0.044	State 99	0.078	State 107	0.072
State 105	0.032	State 106	0.059	State 108	0.106
State 126	0.036	State 127	0.015	State 128	0.096
State 134	0.072	State 133	0.068	State 132	0.012

Table 15-8
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)	1907.60
Channel	4233	Channel	1513	Channel	9538
Measured 1g SAR (W/kg)	0.327	Measured 1g SAR (W/kg)	0.917	Measured 1g SAR (W/kg)	0.987
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 12)	0.362	Auto-tune (State 27)	1.020	Auto-tune (State 99)	1.100
Default (State 0)	0.315	Default (State 0)	0.898	Default (State 0)	0.788
State 12	0.378	State 22	0.160	State 21	0.124
State 23	0.213	State 25	0.119	State 26	0.071
State 24	0.185	State 27	1.060	State 69	0.773
State 72	0.316	State 70	0.712	State 99	1.100
State 108	0.199	State 109	0.876	State 110	1.020
State 129	0.198	State 130	0.732	State 129	0.991
State 131	0.249	State 132	0.225	State 133	1.030

Table 15-9
LTE Supplemental Body SAR Data

Supplemental Body SAR Data									
LTE B12		LTE B13		LTE B26		LTE B66		LTE B25	
QPSK, 10 MHz Bandwidth,1 RB, 25 RB Offset		QPSK, 10 MHz Bandwidth, 1 RB, 25 RB Offset		QPSK, 15 MHz Bandwidth,1 RB, 36 RB Offset		QPSK, 20 MHz Bandwidth, 50 RB, 0 RB Offset		QPSK, 20 MHz Bandwidth, 1 RB, 50 RB Offset	
Test Position	Right	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
Frequency (MHz)	707.50	Frequency (MHz)	782.00	Frequency (MHz)	831.50	Frequency (MHz)	1770.00	Frequency (MHz)	1905.00
Channel	23095	Channel	23230	Channel	26865	Channel	132572	Channel	26590
Measured 1g SAR (W/kg)	0.235	Measured 1g SAR (W/kg)	0.290	Measured 1g SAR (W/kg)	0.405	Measured 1g SAR (W/kg)	0.915	Measured 1g SAR (W/kg)	1.020
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 63)	0.244	Auto-tune (State 0)	0.326	Auto-tune (State 11)	0.438	Auto-tune (State 28)	1.010	Auto-tune (State 99)	1.160
Default (State 0)	0.224	Default (State 0)	0.325	Default (State 0)	0.336	Default (State 0)	0.658	Default (State 0)	1.130
State 19	0.170	State 0	0.325	State 11	0.453	State 12	0.608	State 10	1.040
State 28	0.280	State 18	0.218	State 16	0.140	State 28	1.010	State 37	0.131
State 63	0.270	State 29	0.221	State 31	0.245	State 35	0.745	State 58	0.182
State 67	0.217	State 66	0.233	State 64	0.303	State 60	0.195	State 99	1.15
State 111	0.148	State 112	0.208	State 113	0.290	State 115	0.567	State 116	0.996
State 128	0.217	State 127	0.155	State 126	0.270	State 124	0.746	State 123	0.208
State 134	0.238	State 135	0.090	State 136	0.269	State 138	0.107	State 139	1.1

Table 15-10
NR Supplemental Body SAR Data

Supplemental Body SAR Data					
NR Band n5		NR Band n66		NR Band n25	
DFT-s-OFDM QPSK, 20 MHz Bandwidth, 50 RB, 28 RB Offset		DFTs-OFDM QPSK, 45 MHz Bandwidth, 1 RB, 240 RB Offset		CP-OFDM QPSK, 40 MHz Bandwidth, 1 RB, 1 RB Offset	
Test Position	Back	Test Position	Bottom	Test Position	Bottom
Spacing	10 mm	Spacing	10 mm	Spacing	10 mm
Frequency (MHz)	836.50	Frequency (MHz)	1745.00	Frequency (MHz)	1882.50
Channel	167300	Channel	349000	Channel	376500
Measured 1g SAR (W/kg)	0.407	Measured 1g SAR (W/kg)	0.813	Measured 1g SAR (W/kg)	0.943
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 10)	0.445	Auto-tune (State 27)	0.946	Auto-tune (State 99)	1.030
Default (State 0)	0.337	Default (State 0)	0.845	Default (State 0)	0.715
State 4	0.215	State 2	0.754	State 1	0.627
State 10	0.418	State 27	0.951	State 46	0.958
State 43	0.055	State 45	0.630	State 62	0.120
State 59	0.225	State 61	0.251	State 99	1.040
State 117	0.334	State 118	0.760	State 119	0.147
State 122	0.243	State 121	0.156	State 120	0.942
State 140	0.289	State 141	0.738	State 142	0.868

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	N9020A	MXG Vector Signal Generator	7/8/2024	Annual	7/8/2025	MY48010233
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	3/6/2024	Annual	3/6/2025	MY40000670
Agilent	E5515C	Wireless Communications Test Set	CBT	N/A	CBT	GB46310798
Agilent	E5515C	Wireless Communications Test Set	CBT	N/A	CBT	US41140256
Agilent	E5515C	Wireless Communications Test Set	1/10/2024	Annual	1/10/2025	MY50262130
Agilent	N4010A	Wireless Connectivity Test Set	N/A	N/A	N/A	GB46170464
Amplifier Research	1551G	Amplifier	CBT	N/A	CBT	433973
Amplifier Research	1551G6	Amplifier	CBT	N/A	CBT	433974
Amplifier Research	150A100C	Amplifier	CBT	N/A	CBT	350132
Amplifier Research	1551G6M3	Amplifier	7/10/2024	Annual	7/10/2025	390882
Anritsu	MN8110B	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	1039008
Anritsu	MA2411B	Pulse Power Sensor	9/5/2024	Annual	9/5/2025	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	4/23/2024	N/A	4/23/2025	6272337439
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	MA2416SA	USB Power Sensor	12/4/2023	Annual	12/4/2024	1520501
Anritsu	MA2416A	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
Anritsu	MA2440BA	Microwave Peak Power Sensor	4/8/2024	Annual	4/8/2025	11679
Anritsu	MA2410BA	USB Power Sensor	7/9/2024	Annual	7/9/2025	1244512
Anritsu	MA2410BA	USB Power Sensor	1/10/2024	Annual	1/10/2025	1344557
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	240171096
Control Company	4052	Long Stem Thermometer	2/27/2024	Biennial	2/27/2026	240171059
Control Company	4352	Ultra Long Stem Thermometer	1/15/2024	Annual	1/15/2025	160508097
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
Testo	608-H1	ALARM-HYGROMETER	4/11/2024	Annual	4/11/2025	83316971
Testo	608-H1	ALARM-HYGROMETER	4/11/2024	Annual	4/11/2025	83316952
Testo	608-H1	ALARM-HYGROMETER	4/11/2024	Annual	4/11/2025	83316953
Mitutoyo	500-196-30	CD-6"ASX 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
Keysight Technologies	N9020A	MXA Signal Analyzer	7/8/2024	Annual	7/8/2025	MY48010233
MCL	BW-N6W5+	6dB Attenuator	CBT	N/A	CBT	1139
MCL	BW-N10W5+	Attenuator	7/9/2024	Annual	7/9/2025	1507
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	7/10/2024	Annual	7/10/2025	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 1000 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-1200+	Low Pass Filter DC to 1000 MHz	7/10/2024	Annual	7/10/2025	UU13301538
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	7/10/2024	Annual	7/10/2025	UU19201507
Mini-Circuits	BW-N20W5	Power Attenuator	CBT	N/A	CBT	1226
Mini-Circuits	ZUDC10-83-S+	Directional Coupler	CBT	N/A	CBT	2050
Mini-Circuits	ZUDC10-83-S+	Directional Coupler	7/9/2024	Annual	7/9/2025	2111
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
MCL	BW-N3W5+	Attenuator	7/9/2024	Annual	7/9/2025	1608
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	1/10/2024	Annual	1/10/2025	131454
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	8/10/2023	Biennial	8/10/2025	140144
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	4/9/2024	Annual	4/9/2025	148736
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	7/8/2024	Annual	7/8/2025	166818
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	1/10/2024	Annual	1/10/2025	150117
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	1/11/2024	Annual	1/11/2025	171075
SPEAG	DAK-3.5	Dielectric Assessment Kit	11/13/2023	Annual	11/13/2024	1277
SPEAG	DAK5-3.5	Portable Dielectric Assessment Kit	8/7/2024	Annual	8/7/2025	1041
SPEAG	DAK5-3.5	Portable Dielectric Assessment Kit	7/8/2024	Annual	7/8/2025	1039
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	1521
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	D835V2	835 MHz SAR Dipole	4/8/2024	Annual	4/8/2025	4d119
SPEAG	D835V2	835 MHz SAR Dipole	3/14/2022	Triennial	3/14/2025	4d047
SPEAG	D1750V2	1750 MHz SAR Dipole	5/10/2024	Annual	5/10/2025	1092
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	1/8/2024	Triennial	1/8/2025	1148
SPEAG	D1900V2	1900 MHz SAR Dipole	8/8/2022	Triennial	8/8/2025	5d080
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	D1900V2	1900 MHz SAR Dipole	5/10/2024	Annual	5/10/2025	5d026
SPEAG	D2450V2	2450 MHz SAR Dipole	5/10/2024	Annual	5/10/2025	945
SPEAG	D2450V2	2450 MHz SAR Dipole	2/8/2024	Annual	2/8/2025	882
SPEAG	D2600V2	2600 MHz SAR Dipole	6/14/2024	Annual	6/14/2025	1009
SPEAG	D3500V2	3500 MHz SAR Dipole	6/10/2024	Annual	6/10/2025	1127
SPEAG	D3700V2	3700 MHz SAR Dipole	6/10/2024	Annual	6/10/2025	1096
SPEAG	D3900V2	3900 MHz SAR Dipole	6/10/2024	Annual	6/10/2025	1074
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	1/10/2024	Annual	1/10/2025	1018
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	DAE4	Dasy Data Acquisition Electronics	9/10/2024	Annual	9/10/2025	1364
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/8/2024	Annual	5/8/2025	1502
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/16/2024	Annual	1/16/2025	1466
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/9/2024	Annual	2/9/2025	1645
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/8/2024	Annual	7/8/2025	1677
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/8/2024	Annual	7/8/2025	1583
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	5/8/2024	Annual	5/8/2025	728
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/12/2024	Annual	3/12/2025	1272
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	9/10/2024	Annual	9/10/2025	1449
SPEAG	EX3DV4	SAR Probe	9/11/2024	Annual	9/11/2025	7558
SPEAG	EX3DV4	SAR Probe	5/10/2024	Annual	5/10/2025	7402
SPEAG	EX3DV4	SAR Probe	1/16/2024	Annual	1/16/2025	7565
SPEAG	EX3DV4	SAR Probe	2/9/2024	Annual	2/9/2025	7640
SPEAG	EX3DV4	SAR Probe	7/18/2024	Annual	7/18/2025	7406
SPEAG	EX3DV4	SAR Probe	6/28/2024	Annual	6/28/2025	7803
SPEAG	EX3DV4	SAR Probe	6/17/2024	Annual	6/17/2025	7409
SPEAG	EX3DV4	SAR Probe	4/17/2024	Annual	4/17/2025	7659
SPEAG	EX3DV4	SAR Probe	5/10/2024	Annual	5/10/2025	3914
SPEAG	EX3DV4	SAR Probe	3/8/2024	Annual	3/8/2025	7527
SPEAG	EX3DV4	SAR Probe	3/11/2024	Annual	3/11/2025	7421
SPEAG	EX3DV4	SAR Probe	2/9/2024	Annual	2/9/2025	7308
SPEAG	EUmmWV4	EUmmWV4 Probe	2/2/2024	Annual	2/2/2025	9622

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.

17 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

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

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	

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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