PCTEST
7185 Oakland Mills Road, Columbia, MD 21046 USA
Tel. +1.410.290.6652 / Fax +1.410.290.6654
http://www.pctest.com

SAR EVALUATION REPORT

Applicant Name:
LG Electronics U.S.A., Inc.
1000 Sylvan Avenue
Englewood Cliffs, NJ 07632
United States

Date of Testing:
01/29/20 – 02/24/20
Test Site/Location:
PCTEST, Columbia, MD, USA
Document Serial No.:
1M1912300227-01-R2.ZNF

FCC ID: **ZNFV600VM**

APPLICANT: **LG ELECTRONICS U.S.A., INC.**

DUT Type:	Portable Handset
Application Type:	Class II Permissive Change
FCC Rule Part(s):	CFR §2.1093
Model:	LM-V600VM
Additional Model(s):	LMV600VM, V600VM, LM-V600QM5, LMV600QM5, V600QM5, LM-V600QM6, LMV600QM6, V600QM6
Permissive Change(s):	See FCC Change Document
Date of Original Certification	02/28/2020

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	Cell. CDMA/EVDO	824.70 - 848.31 MHz	0.18	0.70	0.69	N/A
PCE	GSM/GPRS/EDGE 850	824.20 - 848.80 MHz	0.12	0.48	0.48	N/A
PCE	UMTS 850	826.40 - 846.60 MHz	0.18	0.68	0.76	N/A
PCE	UMTS 1750	1712.4 - 1752.6 MHz	0.10	0.87	0.74	2.27
PCE	PCS CDMA/EVDO	1851.25 - 1908.75 MHz	< 0.1	0.81	0.89	2.92
PCE	GSM/GPRS/EDGE 1900	1850.20 - 1909.80 MHz	< 0.1	0.40	0.96	N/A
PCE	UMTS 1900	1852.4 - 1907.6 MHz	< 0.1	0.78	0.97	3.11
PCE	LTE Band 12	699.7 - 715.3 MHz	0.18	0.40	0.40	N/A
PCE	LTE Band 13	779.5 - 784.5 MHz	0.18	0.50	0.50	N/A
PCE	LTE Band 14	790.5 - 795.5 MHz	0.15	0.46	0.46	N/A
PCE	LTE Band 5 (Cell)	824.7 - 848.3 MHz	0.18	0.62	0.65	N/A
PCE	LTE Band 66 (AWS)	1710.7 - 1779.3 MHz	0.12	0.82	0.80	2.62
PCE	LTE Band 4 (AWS)	1710.7 - 1754.3 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 2 (PCS)	1850.7 - 1909.3 MHz	< 0.1	0.76	0.95	3.13
PCE	LTE Band 30	2307.5 - 2312.5 MHz	< 0.1	0.40	0.73	N/A
CBE	LTE Band 48	3552.5 - 3697.5 MHz	0.16	1.12	1.12	N/A
PCE	LTE Band 41	2498.5 - 2687.5 MHz	< 0.1	0.70	1.02	N/A
PCE	NR Band n5	826.5 - 846.5 MHz	< 0.1	0.25	0.25	N/A
PCE	NR Band n66	1712.5 - 1777.5 MHz	0.30	0.26	0.50	N/A
PCE	NR Band n2	1852.5 - 1907.5 MHz	0.20	0.25	0.50	N/A
DTS	2.4 GHz WLAN	2412 - 2462 MHz	0.44	0.19	0.42	N/A
NII	U-NII-1	5180 - 5240 MHz	N/A	N/A	0.24	N/A
NII	U-NII-2A	5260 - 5320 MHz	0.85	0.30	N/A	0.91
NII	U-NII-2C	5500 - 5720 MHz	0.52	0.31	N/A	0.86
NII	U-NII-3	5745 - 5825 MHz	0.68	0.31	0.31	N/A
DSS/DTS	Bluetooth	2402 - 2480 MHz	0.28	< 0.1	0.10	N/A
Simultaneous SAR per KDB 690783 D01v01r03:			1.55	1.55	1.54	3.99

Note: This revised Test Report (S/N: 1M1912300227-01-R2.ZNF) 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 1.10 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.

Randy Ortanez
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 DEVICE UNDER TEST

1.1 Device Overview

Band & Mode	Operating Modes	Tx Frequency
Cell. CDMA/EVDO	Voice/Data	824.70 - 848.31 MHz
GSM/GPRS/EDGE 850	Voice/Data	824.20 - 848.80 MHz
UMTS 850	Voice/Data	826.40 - 846.60 MHz
UMTS 1750	Voice/Data	1712.4 - 1752.6 MHz
PCS CDMA/EVDO	Voice/Data	1851.25 - 1908.75 MHz
GSM/GPRS/EDGE 1900	Voice/Data	1850.20 - 1909.80 MHz
UMTS 1900	Voice/Data	1852.4 - 1907.6 MHz
LTE Band 12	Voice/Data	699.7 - 715.3 MHz
LTE Band 13	Voice/Data	779.5 - 784.5 MHz
LTE Band 14	Voice/Data	790.5 - 795.5 MHz
LTE Band 5 (Cell)	Voice/Data	824.7 - 848.3 MHz
LTE Band 66 (AWS)	Voice/Data	1710.7 - 1779.3 MHz
LTE Band 4 (AWS)	Voice/Data	1710.7 - 1754.3 MHz
LTE Band 2 (PCS)	Voice/Data	1850.7 - 1909.3 MHz
LTE Band 30	Voice/Data	2307.5 - 2312.5 MHz
LTE Band 48	Voice/Data	3552.5 - 3697.5 MHz
LTE Band 41	Voice/Data	2498.5 - 2687.5 MHz
NR Band n5	Data	826.5 - 846.5 MHz
NR Band n66	Data	1712.5 - 1777.5 MHz
NR Band n2	Data	1852.5 - 1907.5 MHz
2.4 GHz WLAN	Voice/Data	2412 - 2462 MHz
U-NII-1	Voice/Data	5180 - 5240 MHz
U-NII-2A	Voice/Data	5260 - 5320 MHz
U-NII-2C	Voice/Data	5500 - 5720 MHz
U-NII-3	Voice/Data	5745 - 5825 MHz
Bluetooth	Data	2402 - 2480 MHz
NFC	Data	13.56 MHz
NR Band n260	Data	37000 - 40000 MHz
NR Band n261	Data	27500 - 28350 MHz
WMC	Data	500 Hz - 4 kHz

1.2 Time-Averaging Algorithm for RF Exposure Compliance

The equipment under test (EUT) contains:

a. Qualcomm® SM8250 modem supporting 2G/3G/4G WWAN technologies

b. Qualcomm® SDX55M modem supporting 5G NR

Both of Qualcomm® SM8250 and SDX55M modems are enabled with Qualcomm® Smart Transmit feature. This feature performs time averaging algorithm in real time to control and manage transmitting power and ensure the time-averaged RF exposure is in compliance with FCC requirements all the time. Refer to Compliance Summary document for detailed description of Qualcomm® Smart Transmit feature (report SN could be found in Section 1.12 – Bibliography).

Note that WLAN operations are not enabled with Smart Transmit.

The Smart Transmit algorithm maintains the time-averaged transmit power, in turn, time-averaged RF exposure of *SAR_design_target*, below the predefined time-averaged power limit (i.e., P_{limit} for sub-6 radio), for each characterized technology and band (see RF Exposure Part 0 Test Report, report SN could be found in Section 1.12 - Bibliography).

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 sub-6GHz WWAN is +0.5/-1.5 dB for this EUT.

Exposure Scenario:		Head	Body-Worn	Phablet	Hotspot	Phablet	Maximum
Averaging Volume:		1g	1g	10g	1g	10g	Tune-Up
Spacing:		0 mm	10 mm	2, 1, 3 mm	10 mm	0 mm	Output
DSI:		1, 6, 7			5	8	Power*
Technology/Band	Antenna	**Plimit**					**Pmax**
GSM/GPRS/EDGE 850 MHz	1	28.8			28.8	28.8	24.5
GSM/GPRS/EDGE 1900 MHz	2	23.7			23.7	23.7	22.5
UMTS B5	1	27.3			27.3	27.3	25.0
UMTS B4	2	26.2			22.0	22.0	24.7
UMTS B2	2	26.0			22.2	22.2	24.7
CDMA/EVDO BC0	1	27.6			27.6	27.6	25.0
CDMA/EVDO BC1	2	26.6			22.2	22.2	24.7
LTE FDD B12	1	30.0			30.0	30.0	25.0
LTE FDD B13	1	29.1			29.1	29.1	25.0
LTE FDD B14	1	29.5			29.5	29.5	25.0
LTE FDD B5	1	27.9			27.9	27.9	25.0
LTE FDD B66	2	25.5			22.2	22.2	24.7
LTE FDD B4	2	25.5			22.2	22.2	24.7
LTE FDD B2	2	25.5			22.2	22.2	24.7
LTE FDD B30	2	24.6			24.6	24.6	22.2
LTE TDD B48	11	20.3			20.3	20.3	20.0
LTE TDD B41	2	22.9			22.9	22.9	22.7
NR FDD n5	1	29.5			29.5	29.5	24.2
NR FDD n66	3	22.8			22.8	22.8	25.0
NR FDD n2	3	23.2			23.2	23.2	25.0

*Note all P_{limit} EFS and maximum tune up output power P_{max} levels entered in above Table correspond to average power levels after accounting for duty cycle in the case of TDD modulation schemes (for e.g., GSM & LTE TDD).

*Maximum tune up output power P_{max} is used to configure EUT during RF tune up procedure. The maximum allowed output power is equal to maximum Tune up output power + 0.5dB device design uncertainty.

The maximum time-averaged output power (dBm) for any 2G/3G/4G WWAN technology, band, and DSI = minimum of "P_{limit} EFS" and "Maximum tune up output power P_{max}" +0.5/-1.5 device uncertainty. SAR values in this report were scaled to this maximum time-averaged output power to determine compliance per KDB Publication 447498 D01v06.

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

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

1.3 Power Reduction for SAR

This device uses an independent fixed level power reduction mechanism for WLAN operations during voice or VoIP held to ear scenarios for 2.4 GHz WLAN and in some simultaneous transmission conditions with 5G NR FR2 and 2.4 GHz + 5 GHz WIFI Active. Per FCC Guidance, the held-to-ear exposure conditions were evaluated at reduced power according to the head SAR positions described in IEEE 1528-2013 for the cases mentioned above. Detailed descriptions of the power reduction mechanism are included in the operational description.

1.4 Dual Display Cover

This device supports Dual Display (DD) Cover, which attaches to the device to provide a secondary display on the inside of the cover. The Dual Display Cover is free rotating from 0 to 360 degrees. Per FCC guidance, the use conditions of 0, 180 and 360 degrees were considered for SAR testing. SAR with the Dual Display Cover was measured for the overall worst case per each exposure condition (head, body-worn accessory, etc.). Head SAR tests were performed with the accessory cover folded to 0 and 360 degrees to represent typical use conditions. Body-worn, Hotspot, and Phablet SAR tests were performed with accessory cover folded to 0, 180 and 360 degrees.

1.5 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.

1.5.1 2G/3G/4G/5G Output Power

GSM/GPRS/EDGE 850						
Device State Index		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	1 TX Slots	2 TX Slots
All DSI	Max allowed power	33.4	33.4	31.2	27.2	26.7
	Nominal	32.9	32.9	30.7	26.7	26.2

GSM/GPRS/EDGE 1900						
Device State Index		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	1 TX Slots	1 TX Slots
All DSI	Max allowed power	30.2	30.2	29.2	26.2	25.7
	Nominal	29.7	29.7	28.7	25.7	25.2

UMTS Band 5 (850 MHz)				
Device State Index		Modulated Average Output Power (in dBm)		
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6
All DSI	Max allowed power	25.5	25.5	25.5
	Nominal	25.0	25.0	25.0

UMTS Band 4 (1750 MHz)				
Device State Index		Modulated Average Output Power (in dBm)		
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6
DSI = 1, 6, 7 (Head, Body-worn, or Phablet Max)	Max allowed power	25.2	25.2	25.2
	Nominal	24.7	24.7	24.7
DSI = 5 (Hotspot); DSI = 8 (Phablet Reduced)	Max allowed power	22.5	22.5	22.5
	Nominal	22.0	22.0	22.0

UMTS Band 2 (1900 MHz)				
Device State Index		Modulated Average Output Power (in dBm)		
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6
DSI = 1, 6, 7 (Head, Body-worn, or Phablet Max)	Max allowed power	25.2	25.2	25.2
	Nominal	24.7	24.7	24.7
DSI = 5 (Hotspot); DSI = 8 (Phablet Reduced)	Max allowed power	22.7	22.7	22.7
	Nominal	22.2	22.2	22.2

CDMA BC0 (835 MHz)				
Device State Index		Modulated Average Output Power (in dBm)		
		1x-RTT	EVDO Rev 0	EVDO Rev A
All DSI	Max allowed power	25.5	25.5	25.5
	Nominal	25.0	25.0	25.0

CDMA BC1 (1900 MHz)				
Device State Index		Modulated Average Output Power (in dBm)		
		1x-RTT	EVDO Rev 0	EVDO Rev A
DSI = 1, 6, 7 (Head, Body-worn, or Phablet Max)	Max allowed power	25.2	25.2	25.2
	Nominal	24.7	24.7	24.7
DSI = 5 (Hotspot); DSI = 8 (Phablet Reduced)	Max allowed power	22.7	22.7	22.7
	Nominal	22.2	22.2	22.2

Mode / Band		Modulated Average Output Power (in dBm)	
		DSI = 1, 6, 7 (Head, Body-worn, or Phablet Max)	DSI = 5 (Hotspot); DSI = 8 (Phablet Reduced)
LTE FDD Band 12	Max allowed power	25.5	25.5
	Nominal	25.0	25.0
LTE FDD Band 13	Max allowed power	25.5	25.5
	Nominal	25.0	25.0
LTE FDD Band 14	Max allowed power	25.5	25.5
	Nominal	25.0	25.0
LTE FDD Band 5	Max allowed power	25.5	25.5
	Nominal	25.0	25.0
LTE FDD Band 4	Max allowed power	25.2	22.7
	Nominal	24.7	22.2
LTE FDD Band 66	Max allowed power	25.2	22.7
	Nominal	24.7	22.2
LTE FDD Band 2	Max allowed power	25.2	22.7
	Nominal	24.7	22.2
LTE FDD Band 30	Max allowed power	22.7	22.7
	Nominal	22.2	22.2
LTE TDD Band 48	Max allowed power	22.5	22.5
	Nominal	22.0	22.0
LTE TDD Band 41	Max allowed power	25.2	25.2
	Nominal	24.7	24.7

Mode / Band		Modulated Average Output Power (in dBm)	
		DSI = 1, 6, 7 (Head, Body-worn, or Phablet Max)	DSI = 5 (Hotspot); DSI = 8 (Phablet Reduced)
NR FDD Band n5	Max allowed power	24.7	24.7
	Nominal	24.2	24.2
NR FDD Band n66	Max allowed power	23.3	23.3
	Nominal	22.8	22.8
NR FDD Band n2	Max allowed power	23.7	23.7
	Nominal	23.2	23.2

1.5.2 Maximum Bluetooth and SISO/MIMO WLAN Output Power

Note: Targets for 802.11ax RU operations can be found in Appendix H

Mode	Band	IEEE 802.11 (in dBm)																							
		SISO												MIMO											
		Antenna 1/ Antenna 2																							
		b		g				n				ac				ax (SU)		g (CDD + STBC)		n (CDD+STBC, SDM)		ac (CDD+STBC, SDM)		ax (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.
2.4 GHz WIFI	2.45 GHz	20.5	19.5	19.5		18.5		18.5		17.5		18.5		17.5		16.5	15.5	22.5	21.5	21.5	20.5	21.5	20.5	19.5	18.5
				ch. 1:	18.0	ch. 1:	17.0	ch. 1:	17.0	ch. 1:	16.0	ch. 1:	17.0	ch. 1:	16.0	ch. 1:	15.0	ch. 1:	14.0	ch. 1: 21.0	ch. 1: 20.0	ch. 1: 20.0	ch. 1: 19.0	ch. 1: 20.0	ch. 1: 19.0	ch. 1: 18.0	ch. 1: 17.0
				ch. 2:	18.0	ch. 2:	17.0	ch. 2:	17.0	ch. 2:	16.0	ch. 2:	17.0	ch. 2:	16.0	ch. 2:	15.0	ch. 2:	14.0	ch. 2: 21.0	ch. 2: 20.0	ch. 2: 20.0	ch. 2: 19.0	ch. 2: 20.0	ch. 2: 19.0	ch. 2: 18.0	ch. 2: 17.0
				ch. 10:	17.5	ch. 10:	16.5	ch. 10:	16.5	ch. 10:	15.5	ch. 10:	16.5	ch. 10:	15.5	ch. 10:	14.5	ch. 10:	13.5	ch. 10: 20.5	ch. 10: 19.5	ch. 10: 19.5	ch. 10: 18.5	ch. 10: 19.5	ch. 10: 18.5	ch. 10: 17.5	ch. 10: 16.5
				ch. 11:	17.5	ch. 11:	16.5	ch. 11:	16.5	ch. 11:	15.5	ch. 11:	16.5	ch. 11:	15.5	ch. 11:	14.5	ch. 11:	13.5	ch. 11: 20.5	ch. 11: 19.5	ch. 11: 19.5	ch. 11: 18.5	ch. 11: 19.5	ch. 11: 18.5	ch. 11: 17.5	ch. 11: 16.5

Mode	Band	IEEE 802.11 (in dBm)																							
		SISO												MIMO											
		Antenna 1/ Antenna 2																							
		a		n				ac				ax (SU)		a (CDD + STBC)		n (CDD+STBC, SDM)		ac (CDD+STBC, SDM)		ax (SU) (CDD+STBC, SDM)	
Maximum / Nominal Power		Max	Nom.	Max		Nom.		Max		Nom.		Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
5 GHz WIFI (20MHz BW)	5200 MHz	18.0	17.0	18.0		17.0		18.0		17.0		15.0	14.0	21.0	20.0	21.0	20.0	21.0	20.0	18.0	17.0				
		ch. 36: 17.0	ch. 36: 16.0	ch. 36: 17.0		ch. 36: 16.0		ch. 36: 17.0		ch. 36: 16.0				ch. 36: 20.0	ch. 36: 19.0	ch. 36: 20.0	ch. 36: 19.0	ch. 36: 20.0	ch. 36: 19.0						
		ch. 44: 17.0	ch. 44: 16.0	ch. 44: 17.0		ch. 44: 16.0		ch. 44: 17.0		ch. 44: 16.0				ch. 44: 20.0	ch. 44: 19.0	ch. 44: 20.0	ch. 44: 19.0	ch. 44: 20.0	ch. 44: 19.0						
		ch. 48: 17.0	ch. 48: 16.0	ch. 48: 17.0		ch. 48: 16.0		ch. 48: 17.0		ch. 48: 16.0				ch. 48: 20.0	ch. 48: 19.0	ch. 48: 20.0	ch. 48: 19.0	ch. 48: 20.0	ch. 48: 19.0						
	5300 MHz	18.0	17.0	18.0		17.0		18.0		17.0		15.0	14.0	21.0	20.0	21.0	20.0	21.0	20.0	18.0	17.0				
		ch. 52: 17.0	ch. 52: 16.0	ch. 52: 17.0		ch. 52: 16.0		ch. 52: 17.0		ch. 52: 16.0				ch. 52: 20.0	ch. 52: 19.0	ch. 52: 20.0	ch. 52: 19.0	ch. 52: 20.0	ch. 52: 19.0						
		ch. 60: 17.0	ch. 60: 16.0	ch. 60: 17.0		ch. 60: 16.0		ch. 60: 17.0		ch. 60: 16.0				ch. 60: 20.0	ch. 60: 19.0	ch. 60: 20.0	ch. 60: 19.0	ch. 60: 20.0	ch. 60: 19.0						
		ch. 64: 17.0	ch. 64: 16.0	ch. 64: 17.0		ch. 64: 16.0		ch. 64: 17.0		ch. 64: 16.0				ch. 64: 20.0	ch. 64: 19.0	ch. 64: 20.0	ch. 64: 19.0	ch. 64: 20.0	ch. 64: 19.0						
	5500 MHz	17.0	16.0	17.0		16.0		17.0		16.0		15.0	14.0	20.0	19.0	20.0	19.0	20.0	19.0	18.0	17.0				
	5800 MHz	18.0	17.0	18.0		17.0		18.0		17.0		15.0	14.0	21.0	20.0	21.0	20.0	21.0	20.0	18.0	17.0				
		ch. 149: 17.0	ch. 149: 16.0	ch. 149: 17.0		ch. 149: 16.0		ch. 149: 17.0		ch. 149: 16.0				ch. 149: 20.0	ch. 149: 19.0	ch. 149: 20.0	ch. 149: 19.0	ch. 149: 20.0	ch. 149: 19.0						
		ch. 153: 17.0	ch. 153: 16.0	ch. 153: 17.0		ch. 153: 16.0		ch. 153: 17.0		ch. 153: 16.0				ch. 153: 20.0	ch. 153: 19.0	ch. 153: 20.0	ch. 153: 19.0	ch. 153: 20.0	ch. 153: 19.0						
		ch. 161: 17.0	ch. 161: 16.0	ch. 161: 17.0		ch. 161: 16.0		ch. 161: 17.0		ch. 161: 16.0				ch. 161: 20.0	ch. 161: 19.0	ch. 161: 20.0	ch. 161: 19.0	ch. 161: 20.0	ch. 161: 19.0						
5 GHz WIFI (40MHz BW)	5200 MHz			16.0		15.0		16.0		15.0		13.0	12.0			19.0	18.0	19.0	18.0	16.0	15.0				
				ch. 38: 11.5		ch. 38: 10.5		ch. 38: 11.5		ch. 38: 10.5		ch. 38: 9.5	ch. 38: 8.5			ch. 38: 14.5	ch. 38: 13.5	ch. 38: 14.5	ch. 38: 13.5	ch. 38: 12.5	ch. 38: 11.5				
	5300 MHz			16.0		15.0		16.0		15.0		13.0	12.0			19.0	18.0	19.0	18.0	16.0	15.0				
				ch. 62: 11.5		ch. 62: 10.5		ch. 62: 11.5		ch. 62: 10.5		ch. 62: 9.5	ch. 62: 8.5			ch. 62: 14.5	ch. 62: 13.5	ch. 62: 14.5	ch. 62: 13.5	ch. 62: 12.5	ch. 62: 11.5				
	5500 MHz			16.0		15.0		16.0		15.0		13.0	12.0			19.0	18.0	19.0	18.0	16.0	15.0				
				ch. 102: 11.5		ch. 102: 10.5		ch. 102: 11.5		ch. 102: 10.5		ch. 102: 9.5	ch. 102: 8.5			ch. 102: 14.5	ch. 102: 13.5	ch. 102: 14.5	ch. 102: 13.5	ch. 102: 12.5	ch. 102: 11.5				
	5800 MHz			16.0		15.0		16.0		15.0		13.0	12.0			19.0	18.0	19.0	18.0	16.0	15.0				
5 GHz WIFI (80MHz BW)	5200 MHz							11.0		10.0		9.0	8.0					14.0	13.0	12.0	11.0				
	5300 MHz							11.0		10.0		9.0	8.0					14.0	13.0	12.0	11.0				
	5500 MHz							13.0		12.0		11.0	10.0					16.0	15.0	14.0	13.0				
	5800 MHz							13.0		12.0		11.0	10.0					16.0	15.0	14.0	13.0				

Mode / Band		Modulated Average - Single Tx Chain (dBm)
Bluetooth	Maximum	**12.5**
	Nominal	**11.5**
Bluetooth LE	Maximum	**7.0**
	Nominal	**6.0**

1.5.3 2.4 GHz Reduced WLAN Output Power

Note: Targets for 802.11ax RU operations can be found in Appendix H

The below table is applicable in the following conditions:

- Head Conditions
- Head Conditions during simultaneous conditions with 5 GHz WLAN
- Simultaneous conditions with 5 GHz WLAN

Mode	Band	IEEE 802.11 (in dBm)																			
		SISO										MIMO									
		Antenna 1/Antenna 2																			
		b		g		n		ac		ax (SU)		g (CDD + STBC)		n (CDD+STBC, SDM)		ac (CDD+STBC, SDM)		ax (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.		
2.4 GHz WIFI	2.45 GHz	15.5	14.5	15.5	14.5	15.5	14.5	15.5	14.5	15.5 ch. 1: 15.0 ch. 2: 15.0 ch. 10: 14.5 ch. 11: 14.5	14.5 ch. 1: 14.0 ch. 2: 14.0 ch. 10: 13.5 ch. 11: 13.5	18.5	17.5	18.5	17.5	18.5	17.5	18.5 ch. 1: 18.0 ch. 2: 18.0 ch. 10: 17.5 ch. 11: 17.5	17.5 17.0 17.0 16.5 16.5		

1.5.4 5 GHz Reduced WLAN Output Power

Note: Targets for 802.11ax RU operations can be found in Appendix H

The below table is applicable in the following conditions:

- Simultaneous conditions with 2.4 GHz WLAN
- Simultaneous conditions with 5G NR FR2
- Simultaneous conditions with 5G NR FR2 and 2.4 GHz WLAN

Mode	Band	IEEE 802.11 (in dBm)																	
		SISO								MIMO									
		Antenna 1 /Antenna 2																	
		a		n		ac		ax (SU)		a (CDD + STBC)		n (CDD+STBC, SDM)		ac (CDD+STBC, SDM)		ax (SU) (CDD+STBC, SDM)	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.		
5 GHz WIFI (20MHz BW)	5200 MHz	15.0	14.0	15.0	14.0	15.0	14.0	15.0	14.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0	17.0
	5300 MHz	15.0	14.0	15.0	14.0	15.0	14.0	15.0	14.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0	17.0
	5500 MHz	15.0	14.0	15.0	14.0	15.0	14.0	15.0	14.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0	17.0
	5800 MHz	15.0	14.0	15.0	14.0	15.0	14.0	15.0	14.0	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)	5200 MHz			15.0 ch. 38: 11.5	14.0 ch. 38: 10.5	15.0 ch. 38: 11.5	14.0 ch. 38: 10.5	13.0 ch. 38: 9.5	12.0 ch. 38: 8.5			18.0 ch. 38: 14.5	17.0 ch. 38: 13.5	18.0 ch. 38: 14.5	17.0 ch. 38: 13.5	16.0 ch. 38: 12.5	15.0 ch. 38: 11.5		
	5300 MHz			15.0 ch. 62: 11.5	14.0 ch. 62: 10.5	15.0 ch. 62: 11.5	14.0 ch. 62: 10.5	13.0 ch. 62: 9.5	12.0 ch. 62: 8.5			18.0 ch. 62: 14.5	17.0 ch. 62: 13.5	18.0 ch. 62: 14.5	17.0 ch. 62: 13.5	16.0 ch. 62: 12.5	15.0 ch. 62: 11.5		
	5500 MHz			15.0 ch. 102: 11.5	14.0 ch. 102: 10.5	15.0 ch. 102: 11.5	14.0 ch. 102: 10.5	13.0 ch. 102: 9.5	12.0 ch. 102: 8.5			18.0 ch. 102: 14.5	17.0 ch. 102: 13.5	18.0 ch. 102: 14.5	17.0 ch. 102: 13.5	16.0 ch. 102: 12.5	15.0 ch. 102: 11.5		
	5800 MHz			15.0	14.0	15.0	14.0	13.0	12.0			18.0	17.0	18.0	17.0	16.0	15.0		
5 GHz WIFI (80MHz BW)	5200 MHz					11.0	10.0	9.0	8.0					14.0	13.0	12.0	11.0		
	5300 MHz					11.0	10.0	9.0	8.0					14.0	13.0	12.0	11.0		
	5500 MHz					13.0	12.0	11.0	10.0					16.0	15.0	14.0	13.0		
	5800 MHz					13.0	12.0	11.0	10.0					16.0	15.0	14.0	13.0		

1.6 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 Appendix E. Since the diagonal dimension of this device is > 160 mm and <200 mm, it is considered a "phablet."

Table 1-1
Device Edges/Sides for SAR Testing

Mode	Back	Front	Top	Bottom	Right	Left
Cell. EVDO	Yes	Yes	No	Yes	Yes	No
GPRS 850	Yes	Yes	No	Yes	Yes	No
UMTS 850	Yes	Yes	No	Yes	Yes	No
UMTS 1750	Yes	Yes	No	Yes	No	Yes
PCS EVDO	Yes	Yes	No	Yes	No	Yes
GPRS 1900	Yes	Yes	No	Yes	No	Yes
UMTS 1900	Yes	Yes	No	Yes	No	Yes
LTE Band 12	Yes	Yes	No	Yes	Yes	No
LTE Band 13	Yes	Yes	No	Yes	Yes	No
LTE Band 14	Yes	Yes	No	Yes	Yes	No
LTE Band 5 (Cell)	Yes	Yes	No	Yes	Yes	No
LTE Band 66 (AWS)	Yes	Yes	No	Yes	No	Yes
LTE Band 2 (PCS)	Yes	Yes	No	Yes	No	Yes
LTE Band 30	Yes	Yes	No	Yes	No	Yes
LTE Band 48	Yes	Yes	No	No	Yes	No
LTE Band 41	Yes	Yes	No	Yes	No	Yes
NR Band n5	Yes	Yes	No	Yes	Yes	No
NR Band n66	Yes	Yes	No	Yes	Yes	No
NR Band n2	Yes	Yes	No	Yes	Yes	No
2.4 GHz WLAN Ant 1	Yes	Yes	Yes	No	No	Yes
2.4 GHz WLAN Ant 2	Yes	Yes	Yes	No	No	Yes
2.4 GHz WLAN MIMO	Yes	Yes	Yes	No	No	Yes
5 GHz WLAN Ant 1	Yes	Yes	Yes	No	No	Yes
5 GHz WLAN Ant 2	Yes	Yes	Yes	No	No	Yes
5 GHz WLAN MIMO	Yes	Yes	Yes	No	No	Yes
Bluetooth	Yes	Yes	Yes	No	No	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 D04v01r03. 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-2A, U-NII-2C operations are disabled.

1.7 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 Appendix E.

1.8 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 4.3.2 procedures.

Table 1-2
Simultaneous Transmission Scenarios

No.	Capable Transmit Configuration	Head	Body-Worn Accessory	Wireless Router	Phablet	Notes
1	1x CDMA voice + 2.4 GHz WI-FI	Yes	Yes	N/A	Yes	
2	1x CDMA voice + 5 GHz WI-FI	Yes	Yes	N/A	Yes	
3	1x CDMA voice + 2.4 GHz Bluetooth	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered
4	1x CDMA voice + 2.4 GHz WI-FI MIMO	Yes	Yes	N/A	Yes	
5	1x CDMA voice + 5 GHz WI-FI MIMO	Yes	Yes	N/A	Yes	
6	1x CDMA voice + 2.4 GHz WI-FI MIMO + 5 GHz WI-FI MIMO	Yes	Yes	N/A	Yes	
7	1x CDMA voice + 2.4 GHz Bluetooth + 5 GHz WI-FI MIMO	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered
8	1x CDMA voice + 2.4 GHz Bluetooth + 2.4 GHz WI-FI Ant 2	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered
9	GSM voice + 2.4 GHz WI-FI	Yes	Yes	N/A	Yes	
10	GSM voice + 5 GHz WI-FI	Yes	Yes	N/A	Yes	
11	GSM voice + 2.4 GHz Bluetooth	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered
12	GSM voice + 2.4 GHz WI-FI MIMO	Yes	Yes	N/A	Yes	
13	GSM voice + 5 GHz WI-FI MIMO	Yes	Yes	N/A	Yes	
14	GSM voice + 2.4 GHz WI-FI MIMO + 5 GHz WI-FI MIMO	Yes	Yes	N/A	Yes	
15	GSM voice + 2.4 GHz Bluetooth + 5 GHz WI-FI MIMO	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered
16	GSM voice + 2.4 GHz Bluetooth + 2.4 GHz WI-FI Ant 2	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered
17	UMTS + 2.4 GHz WI-FI	Yes	Yes	Yes	Yes	
18	UMTS + 5 GHz WI-FI	Yes	Yes	Yes	Yes	
19	UMTS + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
20	UMTS + 2.4 GHz WI-FI MIMO	Yes	Yes	Yes	Yes	
21	UMTS + 5 GHz WI-FI MIMO	Yes	Yes	Yes	Yes	
22	UMTS + 2.4 GHz WI-FI MIMO + 5 GHz WI-FI MIMO	Yes	Yes	Yes	Yes	
23	UMTS + 2.4 GHz Bluetooth + 5 GHz WI-FI MIMO	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
24	UMTS + 2.4 GHz Bluetooth + 2.4 GHz WI-FI Ant 2	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
25	LTE + 5G NR	Yes	Yes	N/A	Yes	
26	LTE + 2.4 GHz WI-FI + 5G NR	Yes	Yes	Yes	Yes	
27	LTE + 5 GHz WI-FI + 5G NR	Yes	Yes	Yes	Yes	
28	LTE + 2.4 GHz Bluetooth + 5G NR	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
29	LTE + 2.4 GHz WI-FI MIMO + 5G NR	Yes	Yes	Yes	Yes	
30	LTE + 5 GHz WI-FI MIMO + 5G NR	Yes	Yes	Yes	Yes	
31	LTE + 2.4 GHz WI-FI MIMO + 5 GHz WI-FI MIMO + 5G NR	Yes	Yes	Yes	Yes	
32	LTE + 2.4 GHz Bluetooth + 5 GHz WI-FI MIMO + 5G NR	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
33	LTE + 2.4 GHz Bluetooth + 2.4 GHz WI-FI Ant 2 + 5G NR	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
34	LTE + 2.4 GHz WI-FI	Yes	Yes	Yes	Yes	
35	LTE + 5 GHz WI-FI	Yes	Yes	Yes	Yes	
36	LTE + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
37	LTE + 2.4 GHz WI-FI MIMO	Yes	Yes	Yes	Yes	
38	LTE + 5 GHz WI-FI MIMO	Yes	Yes	Yes	Yes	
39	LTE + 2.4 GHz WI-FI MIMO + 5 GHz WI-FI MIMO	Yes	Yes	Yes	Yes	
40	LTE + 2.4 GHz Bluetooth + 5 GHz WI-FI MIMO	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
41	LTE + 2.4 GHz Bluetooth + 2.4 GHz WI-FI Ant 2	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
42	CDMA/EVDO data + 2.4 GHz WI-FI	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
43	CDMA/EVDO data + 5 GHz WI-FI	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
44	CDMA/EVDO data + 2.4 GHz Bluetooth	Yes*^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered ^ Bluetooth Tethering is considered
45	CDMA/EVDO data + 2.4 GHz WI-FI MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
46	CDMA/EVDO data + 5 GHz WI-FI MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
47	CDMA/EVDO data + 2.4 GHz WI-FI MIMO + 5 GHz WI-FI MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
48	CDMA/EVDO data + 2.4 GHz Bluetooth + 5 GHz WI-FI MIMO	Yes*^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered ^ Bluetooth Tethering is considered
49	CDMA/EVDO data + 2.4 GHz Bluetooth + 2.4 GHz WI-FI Ant 2	Yes*^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered ^ Bluetooth Tethering is considered
50	GPRS/EDGE + 2.4 GHz WI-FI	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
51	GPRS/EDGE + 5 GHz WI-FI	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
52	GPRS/EDGE + 2.4 GHz Bluetooth	Yes*^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered ^ Bluetooth Tethering is considered
53	GPRS/EDGE + 2.4 GHz WI-FI MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
54	GPRS/EDGE + 5 GHz WI-FI MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
55	GPRS/EDGE + 2.4 GHz WI-FI MIMO + 5 GHz WI-FI MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
56	GPRS/EDGE + 2.4 GHz Bluetooth + 5 GHz WI-FI MIMO	Yes*^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered ^ Bluetooth Tethering is considered
57	GPRS/EDGE + 2.4 GHz Bluetooth + 2.4 GHz WI-FI Ant 2	Yes*^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered ^ Bluetooth Tethering is considered

1. 2.4 GHz WLAN Antenna 1 and 2.4 GHz Bluetooth share the same antenna path and cannot transmit simultaneously.
2. All licensed modes share the same antenna path and cannot transmit simultaneously.
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 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-1 and U-NII-3 by S/W, therefore U-NII-2A, and U-NII-2C were not evaluated for wireless router conditions.
6. This device supports 2x2 MIMO Tx for WLAN 802.11a/g/n/ac/ax. 802.11a/g/n/ac/ax supports CDD and STBC and 802.11n/ac/ax additionally supports SDM. Each WLAN antenna can transmit independently or together when operating with MIMO.
7. This device supports VOLTE.
8. This device supports VOWIFI.
9. This device supports Bluetooth Tethering.
10. LTE + 5G NR FR1 Scenarios are limited to LTE Anchor Bands, LTE Band 2/5/12/13/30/66 under EN-DC mode.
11. 5G NR FR2 n260 and n261 cannot transmit simultaneously.
12. LTE + 5G NR FR2 n260 and n261 operations are possible only with LTE Band 2/5/12/13/14/30/48/66 under EN-DC mode.

1.9 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-2A & U-NII-2C, only 2.4 GHz, U-NII-1, and U-NII-3 WIFI Hotspot SAR tests and combinations are considered for SAR with respect to Wireless Router configurations according to FCC KDB Publication 941225 D06v02r01.

This device supports IEEE 802.11ax with the following features:

a) Up to 80 MHz Bandwidth only for 5 GHz
b) Up to 20 MHz Bandwidth only for 2.4 GHz
c) No aggregate channel configurations
d) 2 Tx antenna output
e) Up to 1024 QAM is supported
f) TDWR and Band gap channels are supported for 5 GHz
g) MU-MIMO UL Operations are not supported

Per FCC KDB Publication 648474 D04v01r03, this device is considered a "phablet" since the diagonal dimension is greater than 160mm 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-2A & U-NII-2C WLAN, phablet SAR tests were performed. Phablet SAR was not evaluated for 2.4 GHz WLAN, U-NII-1 WLAN, U-NII-3 WLAN, and Bluetooth operations since wireless router 1g SAR was < 1.2 W/kg.

Per April 2019 TCB Workshop Notes, SAR testing was not required for 802.11ax when applying the initial test configuration procedures of KDB 248227, with 802.11ax considered a higher order 802.11 mode.

(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. Appendix F contains downlink carrier aggregation power measurements for bands impacted by this permissive change, per FCC guidance.

Per FCC KDB Publication 648474 D04v01r03, this device is considered a "phablet" since the diagonal dimension is greater than 160mm 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. Additional SAR tests for phablet SAR were evaluated per KDB 616217 Section 6 (See Section 6.9 for more information).

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

This device supports LTE Carrier Aggregation (CA) for LTE Band 5 with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per 2017 Fall TCB Workshop Notes.

This device supports 64QAM and 256QAM on the uplink and 256QAM on the downlink for LTE Operations. Conducted powers for 64QAM and 256QAM uplink configurations were measured per Section 5.1 of FCC KDB Publication 941225D05v02r05. SAR was not required for 64QAM or 256QAM since the highest maximum output power for 64QAM and 256QAM is $\leq \frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is $\leq$ 1.45W/kg, per Section 5.2.4 of FCC KDB Publication 941225 D05v02r05.

NR implementation of n5, n66, and n2 is limited to EN-DC operations only, with LTE Band 2/5/12/13/30/66 acting as the anchor band. Per FCC Guidance, SAR tests were performed separately for NR Bands and LTE Anchor Bands. Please see Section 11 for more details.

This device supports 5G NR for Bands n260, and n261. RF Exposure assessment and simultaneous transmission analysis for these bands can be found in test report 1M1912300227-17.ZNF.

1.10 Guidance Applied

- IEEE 1528-2013
- FCC KDB Publication 941225 D01v03r01, D05v02r04, 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 D04v01r03 (Phablet Procedures)
- FCC KDB Publication 616217 D04v01r02 (Proximity Sensor)
- October 2013 TCB Workshop Notes (GPRS Testing Considerations)
- May 2017 TCB Workshop Notes (LTE 4x4 Downlink MIMO)
- April 2018 TCB Workshop Notes (LTE Carrier Aggregation)
- April 2019 TCB Workshop Notes (IEEE 802.11ax)

1.11 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 11.

1.12 Bibliography

Report Type	Report Serial Number
RF Exposure Part 0 Test Report	Rev. G
RF Exposure Compliance Summary Report	1M1912300227-18.ZNF
Near-Field Power Density Evaluation Report	1M1912300227-17-R1.ZNF

2 LTE AND NR FR1 INFORMATION

LTE Information					
Form Factor	Portable Handset				
Frequency Range of each LTE transmission band	LTE Band 12 (699.7 - 715.3 MHz)				
	LTE Band 13 (779.5 - 784.5 MHz)				
	LTE Band 14 (790.5 - 795.5 MHz)				
	LTE Band 5 (Cell) (824.7 - 848.3 MHz)				
	LTE Band 66 (AWS) (1710.7 - 1779.3 MHz)				
	LTE Band 4 (AWS) (1710.7 - 1754.3 MHz)				
	LTE Band 2 (PCS) (1850.7 - 1909.3 MHz)				
	LTE Band 30 (2307.5 - 2312.5 MHz)				
	LTE Band 48 (3552.5 - 3697.5 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 13: 5 MHz, 10 MHz				
	LTE Band 14: 5 MHz, 10 MHz				
	LTE Band 5 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 66 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 4 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 2 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 30: 5 MHz, 10 MHz				
	LTE Band 48: 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 13: 5 MHz	779.5 (23205)		782 (23230)	784.5 (23255)	
LTE Band 13: 10 MHz	N/A		782 (23230)	N/A	
LTE Band 14: 5 MHz	790.5 (23305)		793 (23330)	795.5 (23355)	
LTE Band 14: 10 MHz	N/A		793 (23330)	N/A	
LTE Band 5 (Cell): 1.4 MHz	824.7 (20407)		836.5 (20525)	848.3 (20643)	
LTE Band 5 (Cell): 3 MHz	825.5 (20415)		836.5 (20525)	847.5 (20635)	
LTE Band 5 (Cell): 5 MHz	826.5 (20425)		836.5 (20525)	846.5 (20625)	
LTE Band 5 (Cell): 10 MHz	829 (20450)		836.5 (20525)	844 (20600)	
LTE Band 66 (AWS): 1.4 MHz	1710.7 (131979)		1745 (132322)	1779.3 (132665)	
LTE Band 66 (AWS): 3 MHz	1711.5 (131987)		1745 (132322)	1778.5 (132657)	
LTE Band 66 (AWS): 5 MHz	1712.5 (131997)		1745 (132322)	1777.5 (132647)	
LTE Band 66 (AWS): 10 MHz	1715 (132022)		1745 (132322)	1775 (132622)	
LTE Band 66 (AWS): 15 MHz	1717.5 (132047)		1745 (132322)	1772.5 (132597)	
LTE Band 66 (AWS): 20 MHz	1720 (132072)		1745 (132322)	1770 (132572)	
LTE Band 4 (AWS): 1.4 MHz	1710.7 (19957)		1732.5 (20175)	1754.3 (20393)	
LTE Band 4 (AWS): 3 MHz	1711.5 (19965)		1732.5 (20175)	1753.5 (20385)	
LTE Band 4 (AWS): 5 MHz	1712.5 (19975)		1732.5 (20175)	1752.5 (20375)	
LTE Band 4 (AWS): 10 MHz	1715 (20000)		1732.5 (20175)	1750 (20350)	
LTE Band 4 (AWS): 15 MHz	1717.5 (20025)		1732.5 (20175)	1747.5 (20325)	
LTE Band 4 (AWS): 20 MHz	1720 (20050)		1732.5 (20175)	1745 (20300)	
LTE Band 2 (PCS): 1.4 MHz	1850.7 (18607)		1880 (18900)	1909.3 (19193)	
LTE Band 2 (PCS): 3 MHz	1851.5 (18615)		1880 (18900)	1908.5 (19185)	
LTE Band 2 (PCS): 5 MHz	1852.5 (18625)		1880 (18900)	1907.5 (19175)	
LTE Band 2 (PCS): 10 MHz	1855 (18650)		1880 (18900)	1905 (19150)	
LTE Band 2 (PCS): 15 MHz	1857.5 (18675)		1880 (18900)	1902.5 (19125)	
LTE Band 2 (PCS): 20 MHz	1860 (18700)		1880 (18900)	1900 (19100)	
LTE Band 30: 5 MHz	2307.5 (27685)		2310 (27710)	2312.5 (27735)	
LTE Band 30: 10 MHz	N/A		2310 (27710)	N/A	
LTE Band 48: 5 MHz	3552.5 (55265)	3600.8 (55748)	N/A	3649.2 (56232)	3697.5 (56715)
LTE Band 48: 10 MHz	3555 (55290)	3601.7 (55757)	N/A	3648.3 (56223)	3695 (56690)
LTE Band 48: 15 MHz	3557.5 (55315)	3602.5 (55765)	N/A	3647.5 (56215)	3692.5 (56665)
LTE Band 48: 20 MHz	3560 (55340)	3603.3 (55773)	N/A	3646.7 (56207)	3690 (56640)
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	DL UE Cat 20, UL UE Cat 18				
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 15. It supports carrier aggregation, downlink MIMO, LAA features as shown in Section 9 and Appendix F. All uplink communications are identical to the Release 8 Specifications. Uplink communications are done on the PCC. The following LTE Release 15 Features are not supported: Relay, HetNet, Enhanced MIMO, eICIC, eMBMS, Cross-Carrier Scheduling, Enhanced SC-FDMA.				

NR FR1 Information					
Form Factor	Portable Handset				
Frequency Range of each LTE transmission band	NR Band n5 (Cell) (826.5 - 846.5 MHz)				
	NR Band n66 (AWS) (1712.5 - 1777.5 MHz)				
	NR Band n2 (PCS) (1852.5 - 1907.5 MHz)				
Channel Bandwidths	NR Band n5 (Cell): 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	NR Band n66 (AWS): 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	NR Band n2 (PCS): 5 MHz, 10 MHz, 15 MHz, 20 MHz				
Channel Numbers and Frequencies (MHz)	Low	Low-Mid	Mid	Mid-High	High
NR Band n5 (Cell): 5 MHz	826.5 (165300)		836.5 (167300)	846.5 (169300)	
NR Band n5 (Cell): 10 MHz	829 (165800)		836.5 (167300)	844 (168800)	
NR Band n5 (Cell): 15 MHz	831.5 (166300)		836.5 (167300)	841.5 (168300)	
NR Band n5 (Cell): 20 MHz	834 (166800)		836.5 (167300)	839 (167800)	
NR Band n66 (AWS): 5 MHz	1712.5 (342500)		1745 (349000)	1777.5 (355500)	
NR Band n66 (AWS): 10 MHz	1715 (343000)		1745 (349000)	1775 (355000)	
NR Band n66 (AWS): 15 MHz	1717.5 (343500)		1745 (349000)	1772.5 (354500)	
NR Band n66 (AWS): 20 MHz	1720 (344000)		1745 (349000)	1770 (354000)	
NR Band n2 (PCS): 5 MHz	1852.5 (370500)		1880 (376000)	1907.5 (381500)	
NR Band n2 (PCS): 10 MHz	1855 (371000)		1880 (376000)	1905 (381000)	
NR Band n2 (PCS): 15 MHz	1857.5 (371500)		1880 (376000)	1902.5 (380500)	
NR Band n2 (PCS): 20 MHz	1860 (372000)		1880 (376000)	1900 (380000)	
NR Band n5/n66/n2 SCS	15 kHz				
Modulations Supported in UL	DFT-s-OFDM: pi/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM				
A-MPR (Additional MPR) disabled for SAR Testing?	YES				
EN-DC Carrier Aggregation Possible Combinations	The technical description includes all the possible carrier aggregation combinations				
LTE Anchor Bands for NR Band n5	LTE Band 2/66/30				
LTE Anchor Bands for NR Band n66	LTE Band 2/30/5/12/13				
LTE Anchor Bands for NR Band n2	LTE Band 66/5/12/30/13				

3 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.

3.1 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 3-1).

Equation 3-1
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]

4 DOSIMETRIC ASSESSMENT

4.1 Measurement Procedure

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

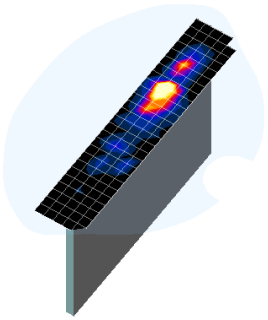

Figure 4-1
Sample SAR Area Scan

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 4-1) 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 4-1) 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 4-1. 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 4-1
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

5 DEFINITION OF REFERENCE POINTS

5.1 EAR REFERENCE POINT

Figure 5-2 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 5-1. 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 5-1). 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].

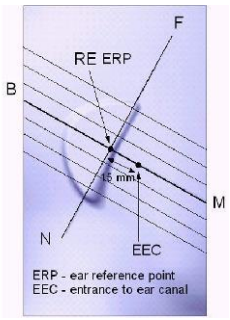

Figure 5-1
Close-Up Side view of ERP

5.2 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 5-3). 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.

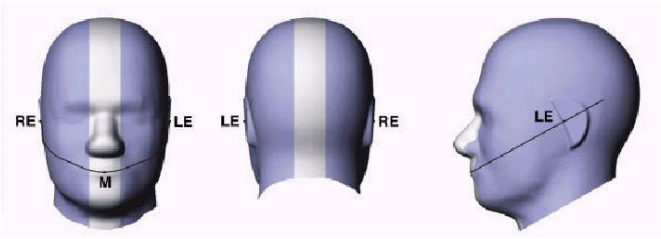

Figure 5-2
Front, back and side view of SAM Twin Phantom

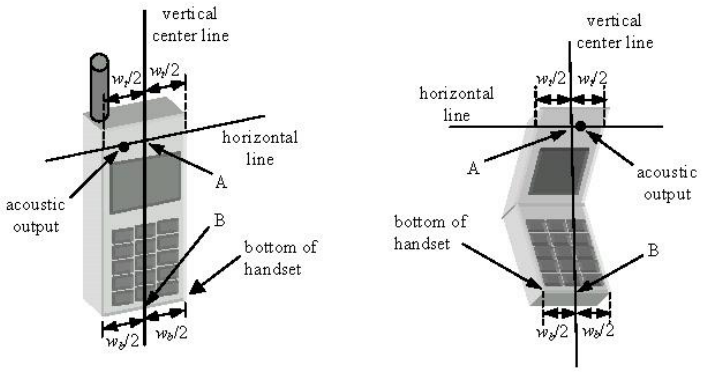

Figure 5-3
Handset Vertical Center & Horizontal Line Reference Points

6 TEST CONFIGURATION POSITIONS

6.1 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.

6.2 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 6-1), 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.

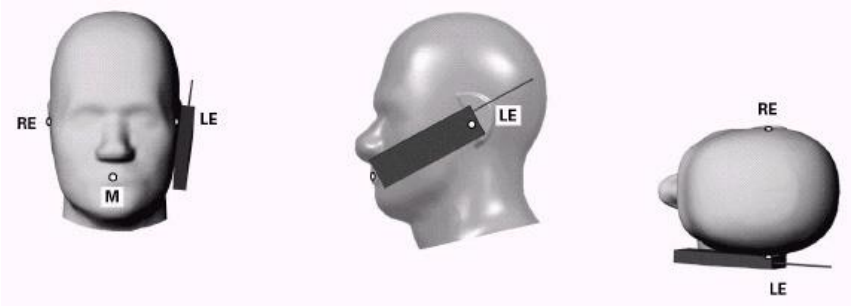

Figure 6-1 Front, Side and Top View of Cheek Position

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 6-2).

6.3 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 6-2).

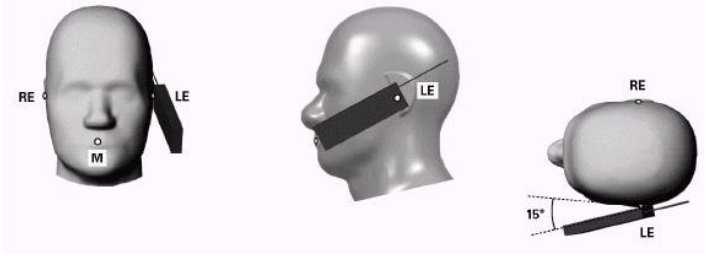

Figure 6-2 Front, Side and Top View of Ear/15º Tilt Position

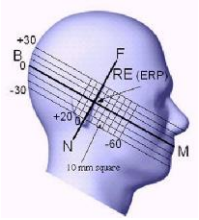

Figure 6-3
Side view w/ relevant markings

6.4 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 D04v01r03. 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.

6.5 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 6-4). Per FCC KDB Publication 648474 D04v01r03, 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.

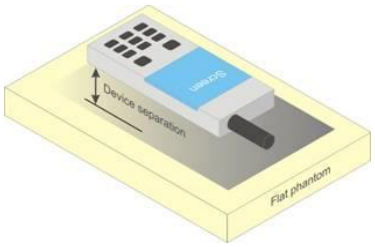

Figure 6-4
Sample Body-Worn Diagram

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.

6.6 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.

6.7 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.

6.8 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 D04v01r03 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.

6.9 Proximity Sensor Configurations

This device uses a power reduction mechanism to reduce output powers in certain use conditions when the device is used close the user's body.

When the device's antenna is within a certain distance of the user, the sensor activates and reduces the maximum allowed output power. However, the sensor is not active when the device is moved beyond the sensor triggering distance and the maximum output power is no longer limited. Therefore, additional evaluation is needed in the vicinity of the triggering distance to ensure SAR is compliant when the device is allowed to operate at a non-reduced output power level. FCC KDB Publication 616217 D04v01r02 Section 6 was used as a guideline for selecting SAR test distances for this device at these additional test positions. Sensor triggering distance summary data is included in Appendix G.

The sensor is designed to support sufficient detection range and sensitivity to cover regions of the sensors in all applicable directions since the sensor entirely covers the antennas.

7 RF EXPOSURE LIMITS

7.1 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.

7.2 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 7-1
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 FCC MEASUREMENT PROCEDURES

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

8.1 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.

8.2 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.

8.3 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.

8.4 SAR Measurement Conditions for CDMA2000

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

8.4.1 Output Power Verification

See 3GPP2 C.S0011/TIA-98-E as recommended by FCC KDB Publication 941225 D01v03r01 “3G SAR Measurement Procedures.” Maximum output power is verified on the High, Middle and Low channels according to procedures in section 4.4.5.2 of 3GPP2 C.S0011/TIA-98-E. SO55 tests were measured with power control bits in the “All Up” condition.

1. If the mobile station (MS) supports Reverse TCH RC 1 and Forward TCH RC 1, set up a call using Fundamental Channel Test Mode 1 (RC=1/1) with 9600 bps data rate only.

2. Under RC1, C.S0011 Table 4.4.5.2-1, Table 8-1 parameters were applied.
3. If the MS supports the RC 3 Reverse FCH, RC3 Reverse SCH_0 and demodulation of RC 3,4, or 5, set up a call using Supplemental Channel Test Mode 3 (RC 3/3) with 9600 bps Fundamental Channel and 9600 bps SCH0 data rate.
4. Under RC3, C.S0011 Table 4.4.5.2-2, Table 8-2 was applied.

Table 8-1
Parameters for Max. Power for RC1

Parameter	Units	Value
$\hat{I}_{or}$	dBm/1.23 MHz	-104
$\frac{\text{Pilot } E_c}{I_{or}}$	dB	-7
$\frac{\text{Traffic } E_c}{I_{or}}$	dB	-7.4

Table 8-2
Parameters for Max. Power for RC3

Parameter	Units	Value
$\hat{I}_{or}$	dBm/1.23 MHz	-86
$\frac{\text{Pilot } E_c}{I_{or}}$	dB	-7
$\frac{\text{Traffic } E_c}{I_{or}}$	dB	-7.4

5. FCHs were configured at full rate for maximum SAR with “All Up” power control bits.

8.4.2 Head SAR Measurements

SAR for next to the ear head exposure is measured in RC3 with the handset configured to transmit at fullrate in SO55. The 3G SAR test reduction procedure is applied to RC1 with RC3 as the primary mode; otherwise, SAR is required for the channel with maximum measured output in RC1 using the head exposure configuration that results in the highest reported SAR in RC3.

Head SAR is additionally evaluated using EVDO Rev. A to support compliance for VoIP operations. See Section 8.4.5 for EVDO Rev. A configuration parameters.

8.4.3 Body-worn SAR Measurements

SAR for body-worn exposure configurations is measured in RC3 with the DUT configured to transmit at full rate on FCH with all other code channels disabled using TDSO / SO32. The 3G SAR test reduction procedure is applied to the multiple code channel configuration (FCH+SCHn), with FCH only as the primary mode. Otherwise, SAR is required for multiple code channel configuration (FCH + SCHn), with FCH at full rate and SCH0 enabled at 9600 bps, using the highest reported SAR configuration for FCH only. When multiple code channels are enabled, the transmitter output can shift by more than 0.5 dB and may lead to higher SAR drifts and SCH dropouts.

The 3G SAR test reduction procedure is applied to body-worn accessory SAR in RC1 with RC3 as the primary mode. Otherwise, SAR is required for RC1, with SO55 and full rate, using the highest reported SAR configuration for body-worn accessory exposure in RC3.

8.4.4 Body-worn SAR Measurements for EVDO Devices

For handsets with EVDO capabilities, the 3G SAR test reduction procedure is applied to EVDO Rev. 0 with 1x RTT RC3 as the primary mode to determine body-worn accessory test requirements. Otherwise, body-worn accessory SAR is required for Rev. 0, at 153.6 kbps, using the highest reported SAR configuration for body-worn accessory exposure in RC3.

The 3G SAR test reduction procedure is applied to Rev. A, with Rev. 0 as the primary mode to determine body-worn accessory SAR test requirements. When SAR is not required for Rev. 0, the 3G SAR test reduction is applied with 1x RTT RC3 as the primary mode.

When SAR is required for EVDO Rev. A, SAR is measured with a Reverse Data Channel payload size of 4096 bits and a Termination Target of 16 slots defined for Subtype 2 Physical Layer configurations, using the highest reported SAR configuration for body-worn accessory exposure in Rev. 0 or 1x RTT RC3, as appropriate.

8.4.5 Body SAR Measurements for EVDO Hotspot

Hotspot Body SAR is measured using Subtype 0/1 Physical Layer configurations for Rev. 0. The 3G SAR test reduction procedure is applied to Rev. A, Subtype 2 Physical layer configuration, with Rev. 0 as the primary mode; otherwise, SAR is measured for Rev. A using the highest reported SAR configuration for body-worn accessory exposure in Rev. 0. The AT is tested with a Reverse Data Channel rate of 153.6 kbps in Subtype 0/1 Physical Layer configurations; and a Reverse Data Channel payload size of 4096 bits and Termination Target of 16 slots in Subtype 2 Physical Layer configurations.

For EVDO data devices that also support 1x RTT voice and/or data operations, the 3G SAR test reduction procedure is applied to 1x RTT RC3 and RC1 with EVDO Rev. 0 and Rev. A as the respective primary modes. Otherwise, the 'Body-Worn Accessory SAR' procedures in the '3GPP2 CDMA 2000 1x Handsets' section are applied.

8.5 SAR Measurement Conditions for UMTS

8.5.1 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.

8.5.2 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.

8.5.3 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.

8.5.4 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.

8.5.5 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.

8.6 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).

8.6.1 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.

8.6.2 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.

8.6.3 A-MPR

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

8.6.4 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.

8.6.5 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.

8.6.6 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.

8.7 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.

8.7.1 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.

8.7.2 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.

8.7.3 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.

8.7.4 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.

8.7.5 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.

8.7.6 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 guidance, 802.11ax 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.

8.7.7 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 8.7.6). When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

8.7.8 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.

8.7.9 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.

9 RF CONDUCTED POWERS

9.1 CDMA Conducted Powers

Table 9-1
Measured P_{max}

Band	Channel	Rule Part	Frequency	SO55 [dBm]	SO55 [dBm]	TDSO SO32 [dBm]	TDSO SO32 [dBm]	1x EvDO Rev. 0 [dBm]	1x EvDO Rev. A [dBm]
	F-RC		MHz	RC1	RC3	FCH+SCH	FCH	(RTAP)	(RETAP)
Cellular	1013	22H	824.7	25.16	25.13	25.09	25.13	25.20	25.23
	384	22H	836.52	25.15	25.10	25.13	25.12	25.25	25.21
	777	22H	848.31	25.12	25.14	25.10	25.16	25.18	25.19
PCS	25	24E	1851.25	24.79	24.78	24.79	24.81	24.85	24.83
	600	24E	1880	24.84	24.84	24.83	24.83	24.84	24.85
	1175	24E	1908.75	24.95	24.80	24.96	24.86	24.81	24.81

Note: RC1 is only applicable for IS-95 compatibility.

Table 9-2
Measured P_{limit} for DSI = 8 (Phablet with grip sensor active) and/or DSI = 5 (Hotspot Mode)

Band	Channel	Rule Part	Frequency	SO55 [dBm]	SO55 [dBm]	TDSO SO32 [dBm]	TDSO SO32 [dBm]	1x EvDO Rev. 0 [dBm]	1x EvDO Rev. A [dBm]
	F-RC		MHz	RC1	RC3	FCH+SCH	FCH	(RTAP)	(RETAP)
PCS	25	24E	1851.25	22.35	22.36	22.41	22.46	22.43	22.45
	600	24E	1880	22.39	22.43	22.43	22.42	22.42	22.47
	1175	24E	1908.75	22.48	22.52	22.43	22.41	22.46	22.46

Note: RC1 is only applicable for IS-95 compatibility.

Figure 9-1
Power Measurement Setup

9.2 GSM Conducted Powers

Table 9-3
Measured P_{max} for all DSI

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**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**
GSM 850	128	32.66	32.66	**30.61**	27.11	25.90
	190	32.80	32.78	**30.82**	27.15	26.12
	251	32.61	32.61	**30.49**	27.07	25.88
GSM 1900	512	29.22	29.25	**28.48**	25.52	24.70
	661	29.36	29.36	**28.65**	25.51	24.74
	810	29.30	29.34	**28.42**	25.42	24.69

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**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**
GSM 850	128	23.46	23.46	**24.42**	17.91	19.71
	190	23.60	23.58	**24.63**	17.95	19.93
	251	23.41	23.41	**24.30**	17.87	19.69
GSM 1900	512	20.02	20.05	**22.29**	16.32	18.51
	661	20.16	20.16	**22.46**	16.31	18.55
	810	20.10	20.14	**22.23**	16.22	18.50

GSM 850	**Frame Avg.Targets:**	23.70	23.70	**24.51**	17.50	20.01
GSM 1900		20.50	20.50	**22.51**	16.50	19.01

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: 10 (Max 2 Tx uplink slots)
EDGE Multislot class: 10 (Max 2 Tx uplink slots)
DTM Multislot Class: N/A

Figure 9-2
Power Measurement Setup

9.3 UMTS Conducted Powers

Table 9-4
Measured P_{max}

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	25.35	25.38	25.45	25.15	25.16	25.13	25.15	25.19	25.20	-
99		12.2 kbps AMR	25.35	25.40	25.44	25.16	25.17	25.11	25.16	25.18	25.20	-
6	HSDPA	Subtest 1	25.17	25.12	25.14	24.91	25.12	25.02	25.07	25.06	25.07	0
6		Subtest 2	25.19	25.24	25.15	24.95	25.13	25.04	25.04	25.10	25.06	0
6		Subtest 3	24.71	24.72	24.62	24.51	24.63	24.47	24.57	24.57	24.53	0.5
6		Subtest 4	24.70	24.71	24.65	24.56	24.65	24.51	24.55	24.50	24.58	0.5
6	HSUPA	Subtest 1	25.13	25.14	25.06	24.70	24.89	24.69	24.67	24.76	24.69	0
6		Subtest 2	23.18	23.26	23.15	22.98	23.17	23.08	23.12	23.13	23.09	2
6		Subtest 3	24.20	24.22	24.15	23.99	24.14	24.06	24.08	24.12	24.07	1
6		Subtest 4	23.22	23.27	23.17	23.01	23.19	23.08	23.12	23.15	23.11	2
6		Subtest 5	25.21	25.24	25.15	25.04	25.18	25.10	25.10	25.12	25.11	0

Table 9-5
Measured P_{limit} for DSI = 8 (Phablet with grip sensor active) and/or DSI = 5 (Hotspot Mode)

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	22.30	22.31	22.32	22.00	22.11	22.10	-
99		12.2 kbps AMR	22.29	22.32	22.34	22.04	22.10	22.13	-
6	HSDPA	Subtest 1	22.43	22.36	22.36	22.04	22.09	22.08	0
6		Subtest 2	22.44	22.41	22.29	22.12	22.11	22.13	0
6		Subtest 3	21.94	21.87	21.87	21.59	21.68	21.63	0.5
6		Subtest 4	21.91	21.83	21.80	21.49	21.58	21.63	0.5
6	HSUPA	Subtest 1	21.76	21.74	21.75	21.60	21.63	21.65	0
6		Subtest 2	20.45	20.41	20.36	20.09	20.12	20.14	2
6		Subtest 3	21.45	21.40	21.36	21.06	21.12	21.12	1
6		Subtest 4	20.43	20.41	20.36	20.04	20.10	20.15	2
6		Subtest 5	22.44	22.42	22.33	22.08	22.13	22.15	0

This device does not support DC-HSDPA.

Figure 9-3
Power Measurement Setup

9.4 LTE Conducted Powers

9.4.1 LTE Band 12

Table 9-6
LTE Band 12 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	25.31	0	0
	1	25	25.38		0
	1	49	**25.40**		0
	25	0	24.03	0-1	1
	25	12	24.10		1
	25	25	**24.13**		1
	50	0	24.06		1
16QAM	1	0	24.14	0-1	1
	1	25	24.30		1
	1	49	24.14		1
	25	0	23.02	0-2	2
	25	12	23.12		2
	25	25	23.11		2
	50	0	23.10		2
64QAM	1	0	22.95	0-2	2
	1	25	22.94		2
	1	49	23.01		2
	25	0	22.05	0-3	3
	25	12	22.15		3
	25	25	22.16		3
	50	0	22.05		3
256QAM	1	0	20.07	0-5	5
	1	25	20.06		5
	1	49	19.99		5
	25	0	20.01		5
	25	12	20.00		5
	25	25	19.95		5
	50	0	19.90		5

Note: LTE Band 12 at 10 MHz bandwidth does 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.

Table 9-7
LTE Band 12 Measured P_{max} for all DSI - 5 MHz Bandwidth

LTE Band 12 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23035 (701.5 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23155 (713.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.20	25.09	25.15	0	0
	1	12	25.23	25.20	25.17		0
	1	24	25.21	25.16	25.14		0
	12	0	24.10	24.18	24.15	0-1	1
	12	6	24.20	24.22	24.25		1
	12	13	24.16	24.22	24.16		1
	25	0	24.15	24.16	24.14		1
16QAM	1	0	24.37	23.95	24.06	0-1	1
	1	12	24.29	24.07	24.01		1
	1	24	24.39	24.06	24.02		1
	12	0	23.06	23.03	23.01	0-2	2
	12	6	23.11	23.06	23.11		2
	12	13	23.09	23.06	23.05		2
	25	0	23.03	23.09	22.95		2
64QAM	1	0	23.25	23.21	22.89	0-2	2
	1	12	23.32	23.33	22.93		2
	1	24	23.26	23.27	22.94		2
	12	0	21.95	22.04	22.02	0-3	3
	12	6	21.99	22.09	22.08		3
	12	13	21.96	22.09	22.01		3
	25	0	21.65	22.03	21.93		3
256QAM	1	0	20.00	20.05	20.22	0-5	5
	1	12	20.14	20.14	20.16		5
	1	24	20.21	20.11	20.15		5
	12	0	20.09	20.08	20.16		5
	12	6	20.14	20.07	20.08		5
	12	13	20.09	20.03	20.02		5
	25	0	20.05	20.04	20.07		5

Table 9-8
LTE Band 12 Measured P_{max} for all DSI - 3 MHz Bandwidth

LTE Band 12 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23025 (700.5 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23165 (714.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.17	25.20	25.24	0	0
	1	7	25.05	25.22	25.12		0
	1	14	25.08	25.24	25.15		0
	8	0	24.12	24.16	24.18	0-1	1
	8	4	24.19	24.19	24.19		1
	8	7	24.12	24.21	24.15		1
	15	0	24.14	24.18	24.17		1
16QAM	1	0	24.05	23.91	24.45	0-1	1
	1	7	23.90	23.95	24.34		1
	1	14	23.98	23.93	24.33		1
	8	0	23.08	23.18	23.13	0-2	2
	8	4	23.15	23.19	23.19		2
	8	7	23.11	23.25	23.11		2
	15	0	23.04	23.14	23.14		2
64QAM	1	0	23.39	23.36	23.19	0-2	2
	1	7	23.15	23.42	23.15		2
	1	14	23.25	23.41	23.16		2
	8	0	22.03	22.18	22.17	0-3	3
	8	4	22.04	22.21	22.13		3
	8	7	22.05	22.19	22.15		3
	15	0	22.12	22.07	22.16		3
256QAM	1	0	20.22	20.06	20.19	0-5	5
	1	7	20.13	20.18	20.14		5
	1	14	20.16	20.12	20.07		5
	8	0	20.08	20.07	20.14		5
	8	4	20.13	20.12	20.08		5
	8	7	20.09	20.11	20.12		5
	15	0	20.07	20.15	20.03		5

Table 9-9
LTE Band 12 Measured P_{max} for all DSI - 1.4 MHz Bandwidth

LTE Band 12 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23017 (699.7 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23173 (715.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.04	25.23	25.11	0	0
	1	2	25.06	25.36	25.15		0
	1	5	25.00	25.30	25.08		0
	3	0	25.11	25.13	25.07		0
	3	2	25.14	25.26	25.15		0
	3	3	25.06	25.19	25.12		0
	6	0	24.02	24.10	24.09	0-1	1
16QAM	1	0	23.93	23.99	24.25	0-1	1
	1	2	23.97	24.11	24.30		1
	1	5	23.90	24.08	24.25		1
	3	0	24.02	23.96	24.06		1
	3	2	24.11	24.07	24.13		1
	3	3	24.05	24.01	24.08		1
	6	0	23.13	23.10	22.96	0-2	2
64QAM	1	0	23.19	23.38	23.14	0-2	2
	1	2	23.28	23.59	23.20		2
	1	5	23.22	23.44	23.06		2
	3	0	22.97	23.33	23.13		2
	3	2	23.00	23.47	23.15		2
	3	3	22.95	23.40	23.11		2
	6	0	22.04	21.98	22.32	0-3	3
256QAM	1	0	20.05	20.29	20.02	0-5	5
	1	2	20.03	20.17	20.11		5
	1	5	20.08	20.16	20.06		5
	3	0	20.02	20.05	20.09		5
	3	2	20.06	20.18	20.14		5
	3	3	20.10	20.16	20.00		5
	6	0	19.98	20.01	19.95		5

9.4.2 LTE Band 13

Table 9-10
LTE Band 13 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	**25.27**	0	0
	1	25	25.24		0
	1	49	25.01		0
	25	0	23.73	0-1	1
	25	12	**24.00**		1
	25	25	23.74		1
	50	0	23.75		1
16QAM	1	0	24.00	0-1	1
	1	25	24.27		1
	1	49	24.20		1
	25	0	22.83	0-2	2
	25	12	22.80		2
	25	25	22.79		2
	50	0	22.70		2
64QAM	1	0	22.69	0-2	2
	1	25	22.94		2
	1	49	23.00		2
	25	0	21.70	0-3	3
	25	12	21.80		3
	25	25	21.89		3
	50	0	21.90		3
256QAM	1	0	19.90	0-5	5
	1	25	19.84		5
	1	49	19.83		5
	25	0	19.76		5
	25	12	19.71		5
	25	25	19.70		5
	50	0	19.74		5

Table 9-11
LTE Band 13 Measured P_{max} for all DSI - 5 MHz Bandwidth

LTE Band 13 5 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	25.10	0	0
	1	12	24.97		0
	1	24	25.27		0
	12	0	23.77	0-1	1
	12	6	23.86		1
	12	13	23.81		1
	25	0	23.77		1
16QAM	1	0	23.81	0-1	1
	1	12	23.84		1
	1	24	23.90		1
	12	0	22.77	0-2	2
	12	6	22.83		2
	12	13	22.88		2
	25	0	22.74		2
64QAM	1	0	23.00	0-2	2
	1	12	22.90		2
	1	24	23.16		2
	12	0	21.70	0-3	3
	12	6	21.75		3
	12	13	21.94		3
	25	0	21.80		3
256QAM	1	0	19.96	0-5	5
	1	25	19.98		5
	1	49	20.10		5
	25	0	19.97		5
	25	12	20.00		5
	25	25	19.98		5
	50	0	19.95		5

Note: LTE Band 13 at 5 MHz bandwidth does 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.

9.4.3 LTE Band 14

Table 9-12
LTE Band 14 Measured P_{max} for all DSI - 10 MHz Bandwidth

LTE Band 14 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23330 (793.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**25.50**	0	0
	1	25	25.42		0
	1	49	25.39		0
	25	0	**23.81**	0-1	1
	25	12	23.79		1
	25	25	23.80		1
	50	0	23.78		1
16QAM	1	0	24.32	0-1	1
	1	25	24.26		1
	1	49	24.13		1
	25	0	22.84	0-2	2
	25	12	22.96		2
	25	25	22.79		2
	50	0	22.70		2
64QAM	1	0	22.93	0-2	2
	1	25	23.25		2
	1	49	23.20		2
	25	0	21.80	0-3	3
	25	12	21.75		3
	25	25	21.68		3
	50	0	21.60		3
256QAM	1	0	19.67	0-5	5
	1	25	19.94		5
	1	49	19.79		5
	25	0	19.88		5
	25	12	19.78		5
	25	25	19.70		5
	50	0	19.72		5

Table 9-13
LTE Band 14 Measured P_{max} for all DSI - 5 MHz Bandwidth

LTE Band 14 5 MHz Bandwidth					
Modulation	**RB Size**	**RB Offset**	**Mid Channel** **23330** **(793.0 MHz)** **Conducted Power [dBm]**	**MPR Allowed per 3GPP [dB]**	**MPR [dB]**
QPSK	1	0	25.35	0	0
	1	12	25.48		0
	1	24	25.43		0
	12	0	23.89	0-1	1
	12	6	23.93		1
	12	13	23.88		1
	25	0	23.84		1
16QAM	1	0	23.84	0-1	1
	1	12	23.98		1
	1	24	23.87		1
	12	0	22.86	0-2	2
	12	6	22.87		2
	12	13	22.84		2
	25	0	22.89		2
64QAM	1	0	23.15	0-2	2
	1	12	23.20		2
	1	24	23.12		2
	12	0	21.97	0-3	3
	12	6	22.02		3
	12	13	21.99		3
	25	0	21.93		3
256QAM	1	0	20.14	0-5	5
	1	12	20.07		5
	1	24	19.92		5
	12	0	19.90		5
	12	6	19.97		5
	12	13	19.96		5
	25	0	19.87		5

Note: LTE Band 14 at 5 MHz bandwidth does 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.

9.4.4 LTE Band 5 (Cell)

Table 9-14
LTE Band 5 (Cell) Measured P_{max} for all DSI - 10 MHz Bandwidth

LTE Band 5 (Cell) 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 20525 (836.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	25.40	0	0
	1	25	**25.49**		0
	1	49	25.39		0
	25	0	23.80	0-1	1
	25	12	**23.86**		1
	25	25	23.78		1
	50	0	23.72		1
16QAM	1	0	23.70	0-1	1
	1	25	24.09		1
	1	49	24.15		1
	25	0	22.78	0-2	2
	25	12	22.63		2
	25	25	22.81		2
	50	0	22.72		2
64QAM	1	0	22.96	0-2	2
	1	25	22.95		2
	1	49	23.06		2
	25	0	21.83	0-3	3
	25	12	21.80		3
	25	25	21.75		3
	50	0	21.79		3
256QAM	1	0	19.57	0-5	5
	1	25	19.86		5
	1	49	19.55		5
	25	0	19.68		5
	25	12	19.89		5
	25	25	19.64		5
	50	0	19.79		5

Note: LTE Band 5 (Cell) at 10 MHz bandwidth does 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.

Table 9-15
LTE Band 5 (Cell) Measured P_{max} for all DSI - 5 MHz Bandwidth

LTE Band 5 (Cell) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20425 (826.5 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20625 (846.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.22	25.26	25.21	0	0
	1	12	25.36	25.35	25.28		0
	1	24	25.23	25.30	25.16		0
	12	0	23.62	23.66	23.62	0-1	1
	12	6	23.72	23.75	23.68		1
	12	13	23.68	23.78	23.61		1
	25	0	23.64	23.76	23.61		1
16QAM	1	0	23.97	23.90	23.88	0-1	1
	1	12	23.88	24.06	23.96		1
	1	24	23.89	23.92	23.86		1
	12	0	22.74	22.71	22.67	0-2	2
	12	6	22.72	22.80	22.74		2
	12	13	22.72	22.78	22.71		2
	25	0	22.69	22.74	22.66		2
64QAM	1	0	22.79	22.81	22.60	0-2	2
	1	12	22.87	22.94	22.79		2
	1	24	22.74	22.82	22.50		2
	12	0	21.65	21.71	21.69	0-3	3
	12	6	21.76	21.89	21.66		3
	12	13	21.66	21.79	21.59		3
	25	0	21.66	21.76	21.53		3
256QAM	1	0	19.71	19.79	19.72	0-5	5
	1	12	19.79	19.88	19.82		5
	1	24	19.73	19.83	19.70		5
	12	0	19.63	19.71	19.66		5
	12	6	19.76	19.77	19.73		5
	12	13	19.66	19.77	19.68		5
	25	0	19.64	19.75	19.68		5

Table 9-16
LTE Band 5 (Cell) Measured P_{max} for all DSI - 3 MHz Bandwidth

LTE Band 5 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20415 (825.5 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20635 (847.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.35	25.25	24.91	0	0
	1	7	25.26	25.34	25.02		0
	1	14	25.27	25.32	24.74		0
	8	0	23.69	23.66	23.56	0-1	1
	8	4	23.72	23.75	23.69		1
	8	7	23.64	23.76	23.65		1
	15	0	23.71	23.75	23.59		1
16QAM	1	0	23.93	23.91	23.90	0-1	1
	1	7	23.98	23.97	23.98		1
	1	14	23.85	24.08	23.86		1
	8	0	22.78	22.72	22.66	0-2	2
	8	4	22.76	22.83	22.75		2
	8	7	22.77	22.81	22.75		2
	15	0	22.74	22.77	22.62		2
64QAM	1	0	22.87	22.84	22.61	0-2	2
	1	7	22.87	22.91	22.55		2
	1	14	22.81	22.91	22.48		2
	8	0	21.74	21.71	21.38	0-3	3
	8	4	21.76	21.85	21.46		3
	8	7	21.72	21.80	21.44		3
	15	0	21.74	21.81	21.39		3
256QAM	1	0	19.80	19.79	19.73	0-5	5
	1	7	19.81	19.85	19.81		5
	1	14	19.78	19.82	19.75		5
	8	0	19.71	19.69	19.70		5
	8	4	19.77	19.84	19.76		5
	8	7	19.75	19.80	19.68		5
	15	0	19.73	19.80	19.70		5

Table 9-17
LTE Band 5 (Cell) Measured P_{max} for all DSI - 1.4 MHz Bandwidth

LTE Band 5 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20407 (824.7 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20643 (848.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.08	25.19	25.16	0	0
	1	2	25.24	25.33	25.17		0
	1	5	25.14	25.22	25.06		0
	3	0	25.16	25.19	24.91		0
	3	2	25.20	25.28	24.94		0
	3	3	25.12	25.24	24.83		0
	6	0	23.50	23.63	23.55	0-1	1
16QAM	1	0	23.90	23.88	23.83	0-1	1
	1	2	23.96	23.95	23.90		1
	1	5	23.88	23.91	23.78		1
	3	0	23.65	23.67	23.62		1
	3	2	23.73	23.79	23.68		1
	3	3	23.63	23.69	23.62		1
	6	0	22.60	22.67	22.60	0-2	2
64QAM	1	0	22.76	22.72	22.39	0-2	2
	1	2	22.81	22.88	22.50		2
	1	5	22.74	22.78	22.37		2
	3	0	22.66	22.68	22.31		2
	3	2	22.72	22.79	22.42		2
	3	3	22.65	22.74	22.34		2
	6	0	21.61	21.65	21.26	0-3	3
256QAM	1	0	19.63	19.65	19.65	0-5	5
	1	2	19.78	19.85	19.73		5
	1	5	19.69	19.77	19.64		5
	3	0	19.67	19.73	19.67		5
	3	2	19.74	19.86	19.71		5
	3	3	19.66	19.79	19.63		5
	6	0	19.58	19.68	19.58		5

9.4.5 LTE Band 66 (AWS)

Table 9-18
LTE Band 66 (AWS) Measured P_{max} for DSI = 1, 6, 7 (Head, Body-worn, or Phablet with grip sensor not triggered) - 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	24.76	24.72	**25.20**	0	0
	1	50	25.07	24.97	25.04		0
	1	99	24.82	24.74	25.04		0
	50	0	24.12	24.19	24.11	0-1	1
	50	25	**24.20**	24.09	24.10		1
	50	50	24.09	24.12	24.09		1
	100	0	24.11	24.02	24.00		1
16QAM	1	0	23.62	23.32	23.80	0-1	1
	1	50	23.59	23.64	23.85		1
	1	99	23.61	23.42	23.79		1
	50	0	22.85	22.82	22.88	0-2	2
	50	25	22.80	22.93	22.89		2
	50	50	22.73	22.87	22.80		2
	100	0	22.69	22.90	22.74		2
64QAM	1	0	22.43	22.97	22.82	0-2	2
	1	50	22.50	22.94	23.10		2
	1	99	22.41	22.89	23.00		2
	50	0	21.84	21.77	21.93	0-3	3
	50	25	21.80	21.70	21.90		3
	50	50	21.74	21.68	21.87		3
	100	0	21.70	21.60	21.80		3
256QAM	1	0	19.79	19.56	19.73	0-5	5
	1	50	20.01	19.94	19.70		5
	1	99	19.88	19.90	19.67		5
	50	0	19.86	19.80	19.88		5
	50	25	19.80	19.85	19.81		5
	50	50	19.74	19.79	19.72		5
	100	0	19.68	19.70	19.69		5

Table 9-19
LTE Band 66 (AWS) Measured P_{max} for DSI = 1, 6, 7 (Head, Body-worn, or Phablet with grip sensor not triggered) - 15 MHz Bandwidth

LTE Band 66 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132047 (1717.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132597 (1772.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.67	24.81	25.18	0	0
	1	36	24.98	25.02	25.20		0
	1	74	24.75	24.82	25.15		0
	36	0	24.00	24.03	24.11	0-1	1
	36	18	24.08	24.05	24.14		1
	36	37	24.02	24.07	24.12		1
	75	0	24.00	24.05	24.05		1
16QAM	1	0	23.91	23.80	23.86	0-1	1
	1	36	23.94	23.95	23.94		1
	1	74	23.80	23.84	23.81		1
	36	0	22.55	22.61	22.70	0-2	2
	36	18	22.90	22.91	22.99		2
	36	37	22.80	22.91	22.99		2
	75	0	22.80	22.93	22.87		2
64QAM	1	0	23.01	22.52	23.16	0-2	2
	1	36	22.77	22.80	23.19		2
	1	74	22.51	22.58	23.20		2
	36	0	21.38	21.97	21.98	0-3	3
	36	18	21.98	21.99	22.00		3
	36	37	21.89	21.98	21.99		3
	75	0	21.83	21.88	21.94		3
256QAM	1	0	20.13	20.19	19.64	0-5	5
	1	36	20.20	20.20	19.93		5
	1	74	20.15	20.18	19.73		5
	36	0	19.88	19.92	19.93		5
	36	18	19.97	19.94	19.94		5
	36	37	19.88	19.95	19.93		5
	75	0	19.89	19.92	19.90		5

Table 9-20
LTE Band 66 (AWS) Measured P_{max} for DSI = 1, 6, 7 (Head, Body-worn, or Phablet with grip sensor not triggered) - 10 MHz Bandwidth

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132022 (1715.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132622 (1775.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.58	24.71	24.72	0	0
	1	25	24.69	24.71	24.75		0
	1	49	24.61	24.77	24.80		0
	25	0	23.79	23.75	23.86	0-1	1
	25	12	23.88	23.91	23.93		1
	25	25	23.75	23.78	23.90		1
	50	0	23.80	23.83	23.87		1
16QAM	1	0	23.76	23.86	23.75	0-1	1
	1	25	23.75	23.79	23.93		1
	1	49	23.79	23.85	23.91		1
	25	0	22.76	22.69	22.80	0-2	2
	25	12	22.83	22.81	22.86		2
	25	25	22.72	22.72	22.83		2
	50	0	22.80	22.84	22.71		2
64QAM	1	0	22.77	22.80	22.70	0-2	2
	1	25	22.80	22.96	22.84		2
	1	49	22.78	22.88	22.76		2
	25	0	21.68	21.70	21.80	0-3	3
	25	12	21.77	21.82	21.75		3
	25	25	21.70	21.68	21.56		3
	50	0	21.79	21.65	21.60		3
256QAM	1	0	19.69	19.70	19.86	0-5	5
	1	25	19.77	19.81	19.77		5
	1	49	19.78	19.70	19.84		5
	25	0	19.69	19.64	19.76		5
	25	12	19.75	19.77	19.82		5
	25	25	19.66	19.70	19.80		5
	50	0	19.68	19.68	19.73		5

Table 9-21
LTE Band 66 (AWS) Measured P_{max} for DSI = 1, 6, 7 (Head, Body-worn, or Phablet with grip sensor not triggered) - 5 MHz Bandwidth

LTE Band 66 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131997 (1712.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132647 (1777.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.62	24.84	25.00	0	0
	1	12	24.77	24.90	25.02		0
	1	24	24.88	24.85	24.96		0
	12	0	23.83	23.86	24.02	0-1	1
	12	6	23.88	23.85	23.95		1
	12	13	23.82	23.83	23.93		1
	25	0	23.61	23.88	23.93		1
16QAM	1	0	23.60	23.59	23.99	0-1	1
	1	12	23.61	23.68	24.00		1
	1	24	23.53	23.55	23.91		1
	12	0	22.70	22.68	22.98	0-2	2
	12	6	22.73	22.70	22.96		2
	12	13	22.62	22.69	22.91		2
	25	0	22.74	22.75	22.74		2
64QAM	1	0	23.00	23.13	23.20	0-2	2
	1	12	22.99	23.20	23.12		2
	1	24	23.02	23.10	23.17		2
	12	0	21.53	21.81	21.77	0-3	3
	12	6	21.63	21.81	21.72		3
	12	13	21.65	21.79	21.65		3
	25	0	21.64	21.75	21.59		3
256QAM	1	0	19.90	19.98	19.91	0-5	5
	1	12	19.89	20.10	19.99		5
	1	24	19.77	20.00	19.85		5
	12	0	19.76	19.74	19.90		5
	12	6	19.75	19.73	19.86		5
	12	13	19.70	19.76	19.76		5
	25	0	19.69	19.67	19.76		5

Table 9-22
LTE Band 66 (AWS) Measured P_{max} for DSI = 1, 6, 7 (Head, Body-worn, or Phablet with grip sensor not triggered) - 3 MHz Bandwidth

LTE Band 66 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131987 (1711.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132657 (1778.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.75	24.88	24.95	0	0
	1	7	24.71	24.85	24.86		0
	1	14	24.68	24.87	24.86		0
	8	0	23.74	23.80	23.95	0-1	1
	8	4	23.77	23.84	23.92		1
	8	7	23.78	23.80	23.87		1
	15	0	23.55	23.81	23.91		1
16QAM	1	0	24.04	23.75	23.74	0-1	1
	1	7	23.97	23.74	23.70		1
	1	14	23.91	23.70	23.61		1
	8	0	22.86	22.80	22.87	0-2	2
	8	4	22.80	22.83	22.90		2
	8	7	22.72	22.75	22.86		2
	15	0	22.70	22.81	22.80		2
64QAM	1	0	22.43	22.72	22.89	0-2	2
	1	7	22.47	22.69	22.84		2
	1	14	22.48	22.65	22.75		2
	8	0	21.34	21.56	21.70	0-3	3
	8	4	21.29	21.58	21.71		3
	8	7	21.28	21.49	21.64		3
	15	0	21.33	21.55	21.70		3
256QAM	1	0	20.19	19.81	19.96	0-5	5
	1	7	20.07	19.84	19.89		5
	1	14	20.04	19.83	19.84		5
	8	0	20.14	19.75	19.85		5
	8	4	20.05	19.81	19.87		5
	8	7	20.09	19.76	19.78		5
	15	0	20.05	19.84	19.91		5

Table 9-23
LTE Band 66 (AWS) Measured P_{max} for DSI = 1, 6, 7 (Head, Body-worn, or Phablet with grip sensor not triggered) -1.4 MHz Bandwidth

LTE Band 66 (AWS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131979 (1710.7 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132665 (1779.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.69	24.95	25.00	0	0
	1	2	24.74	24.99	24.95		0
	1	5	24.65	24.86	24.94		0
	3	0	24.58	24.77	24.67		0
	3	2	24.41	24.78	24.77		0
	3	3	24.46	24.73	24.73		0
	6	0	23.45	23.71	23.70	0-1	1
16QAM	1	0	23.45	23.54	23.34	0-1	1
	1	2	23.48	23.61	23.42		1
	1	5	23.52	23.48	23.35		1
	3	0	23.37	23.61	23.42		1
	3	2	23.40	23.65	23.52		1
	3	3	23.33	23.57	23.45		1
	6	0	22.54	22.68	22.50	0-2	2
64QAM	1	0	21.92	22.49	22.19	0-2	2
	1	2	21.99	22.57	22.30		2
	1	5	21.97	22.43	22.19		2
	3	0	22.01	22.81	22.53		2
	3	2	22.03	22.91	22.59		2
	3	3	22.05	22.83	22.62		2
	6	0	20.82	21.66	21.32	0-3	3
256QAM	1	0	19.70	20.15	20.12	0-5	5
	1	2	19.79	20.16	20.16		5
	1	5	19.69	20.13	20.08		5
	3	0	19.60	19.63	19.59		5
	3	2	19.62	19.65	19.61		5
	3	3	19.56	19.58	19.58		5
	6	0	19.81	19.73	19.75		5

Table 9-24
LTE Band 66 (AWS) Measured P_{limit} for DSI = 8 (Phablet with grip sensor active) and/or DSI = 5 (Hotspot Mode) - 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	21.95	21.85	22.18	0	0
	1	50	**22.20**	22.05	22.15		0
	1	99	21.86	21.86	22.08		0
	50	0	22.21	22.19	22.21	0-1	0
	50	25	**22.39**	22.29	22.28		0
	50	50	22.23	22.17	22.20		0
	100	0	22.18	22.17	22.11		0
16QAM	1	0	22.31	22.17	22.55	0-1	0
	1	50	22.46	22.39	22.37		0
	1	99	22.22	22.29	22.56		0
	50	0	22.14	22.10	22.20	0-2	0
	50	25	22.38	22.26	22.20		0
	50	50	22.26	22.22	22.15		0
	100	0	22.30	22.22	22.12		0
64QAM	1	0	22.21	22.05	22.36	0-2	0
	1	50	22.33	22.18	22.42		0
	1	99	22.19	22.21	22.43		0
	50	0	21.49	21.45	21.54	0-3	0.5
	50	25	21.57	21.48	21.60		0.5
	50	50	21.51	21.48	21.58		0.5
	100	0	21.55	21.44	21.49		0.5
256QAM	1	0	19.60	19.48	19.52	0-5	2.5
	1	50	19.60	19.65	19.60		2.5
	1	99	19.49	19.46	19.44		2.5
	50	0	19.56	19.45	19.46		2.5
	50	25	19.57	19.52	19.56		2.5
	50	50	19.52	19.49	19.55		2.5
	100	0	19.55	19.47	19.41		2.5

Table 9-25
LTE Band 66 (AWS) Measured P_{limit} for DSI = 8 (Phablet with grip sensor active) and/or DSI = 5 (Hotspot Mode) - 15 MHz Bandwidth

LTE Band 66 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132047 (1717.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132597 (1772.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	22.03	22.01	22.19	0	0
	1	36	22.15	22.13	22.20		0
	1	74	21.98	22.10	22.14		0
	36	0	22.21	22.20	22.23	0-1	0
	36	18	22.23	22.21	22.33		0
	36	37	22.25	22.23	22.28		0
	75	0	22.25	22.25	22.22		0
16QAM	1	0	22.35	22.34	22.46	0-1	0
	1	36	22.52	22.50	22.62		0
	1	74	22.39	22.38	22.65		0
	36	0	22.20	22.21	22.24	0-2	0
	36	18	22.33	22.23	22.29		0
	36	37	22.27	22.30	22.27		0
	75	0	22.28	22.25	22.21		0
64QAM	1	0	22.19	22.26	22.43	0-2	0
	1	36	22.46	22.46	22.48		0
	1	74	22.37	22.34	22.46		0
	36	0	21.67	21.70	21.78	0-3	0.5
	36	18	21.82	21.69	21.84		0.5
	36	37	21.75	21.73	21.81		0.5
	75	0	21.75	21.69	21.71		0.5
256QAM	1	0	19.68	19.61	19.73	0-5	2.5
	1	36	19.83	19.85	19.85		2.5
	1	74	19.70	19.71	19.67		2.5
	36	0	19.71	19.68	19.71		2.5
	36	18	19.81	19.67	19.80		2.5
	36	37	19.77	19.73	19.75		2.5
	75	0	19.79	19.71	19.66		2.5

Table 9-26
LTE Band 66 (AWS) Measured P_{limit} for DSI = 8 (Phablet with grip sensor active) and/or DSI = 5 (Hotspot Mode) - 10 MHz Bandwidth

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132022 (1715.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132622 (1775.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	21.79	21.71	21.73	0	0
	1	25	21.97	21.95	21.94		0
	1	49	21.77	21.77	21.77		0
	25	0	22.09	22.00	21.98	0-1	0
	25	12	22.13	22.05	22.02		0
	25	25	22.05	22.03	22.04		0
	50	0	22.06	22.05	21.95		0
16QAM	1	0	22.16	22.09	22.09	0-1	0
	1	25	22.42	22.31	22.48		0
	1	49	22.20	22.22	22.30		0
	25	0	22.05	21.93	21.98	0-2	0
	25	12	22.14	21.97	22.01		0
	25	25	22.05	21.99	22.00		0
	50	0	22.06	22.03	21.91		0
64QAM	1	0	21.95	21.86	21.80	0-2	0
	1	25	22.25	22.22	22.18		0
	1	49	22.06	22.09	22.04		0
	25	0	21.37	21.71	21.70	0-3	0.5
	25	12	21.59	21.78	21.78		0.5
	25	25	21.76	21.75	21.75		0.5
	50	0	21.53	21.79	21.64		0.5
256QAM	1	0	19.67	19.62	19.68	0-5	2.5
	1	25	19.91	19.85	19.81		2.5
	1	49	19.72	19.73	19.66		2.5
	25	0	19.81	19.71	19.62		2.5
	25	12	19.89	19.77	19.77		2.5
	25	25	19.75	19.68	19.71		2.5
	50	0	19.81	19.73	19.69		2.5

Table 9-27
LTE Band 66 (AWS) Measured P_{limit} for DSI = 8 (Phablet with grip sensor active) and/or DSI = 5 (Hotspot Mode) - 5 MHz Bandwidth

LTE Band 66 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131997 (1712.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132647 (1777.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	22.01	21.94	21.92	0	0
	1	12	22.08	22.05	22.02		0
	1	24	21.99	21.88	21.88		0
	12	0	22.13	22.05	22.12	0-1	0
	12	6	22.14	22.07	22.12		0
	12	13	22.11	22.05	22.01		0
	25	0	22.09	22.02	22.02		0
16QAM	1	0	22.43	22.22	22.30	0-1	0
	1	12	22.34	22.26	22.24		0
	1	24	22.32	22.26	22.22		0
	12	0	22.19	22.10	22.09	0-2	0
	12	6	22.24	22.17	22.12		0
	12	13	22.14	22.10	22.02		0
	25	0	22.13	22.07	22.01		0
64QAM	1	0	22.28	22.18	22.23	0-2	0
	1	12	22.31	22.24	22.25		0
	1	24	22.22	22.22	22.10		0
	12	0	21.39	21.61	21.76	0-3	0.5
	12	6	21.44	21.69	21.66		0.5
	12	13	21.51	21.60	21.55		0.5
	25	0	21.24	21.64	21.52		0.5
256QAM	1	0	19.73	19.81	19.85	0-5	2.5
	1	12	19.73	19.88	19.85		2.5
	1	24	19.61	19.86	19.77		2.5
	12	0	19.70	19.79	19.76		2.5
	12	6	19.70	19.81	19.78		2.5
	12	13	19.60	19.76	19.69		2.5
	25	0	19.64	19.75	19.72		2.5

Table 9-28
LTE Band 66 (AWS) Measured P_{limit} for DSI = 8 (Phablet with grip sensor active) and/or DSI = 5 (Hotspot Mode) - 3 MHz Bandwidth

LTE Band 66 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131987 (1711.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132657 (1778.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	22.10	21.93	22.02	0	0
	1	7	22.08	22.01	21.98		0
	1	14	21.97	21.90	21.88		0
	8	0	22.15	22.01	22.06	0-1	0
	8	4	22.14	22.08	22.11		0
	8	7	22.10	22.04	22.05		0
	15	0	22.15	22.09	22.08		0
16QAM	1	0	22.43	22.26	22.31	0-1	0
	1	7	22.41	22.30	22.28		0
	1	14	22.35	22.27	22.22		0
	8	0	22.27	22.11	22.14	0-2	0
	8	4	22.26	22.16	22.17		0
	8	7	22.21	22.16	22.08		0
	15	0	22.14	22.10	22.05		0
64QAM	1	0	22.34	22.19	22.26	0-2	0
	1	7	22.29	22.25	22.18		0
	1	14	22.23	22.16	22.19		0
	8	0	21.47	21.84	21.73	0-3	0.5
	8	4	21.45	21.96	21.72		0.5
	8	7	21.47	21.83	21.68		0.5
	15	0	21.40	21.90	21.70		0.5
256QAM	1	0	19.85	19.73	19.74	0-5	2.5
	1	7	19.77	19.65	19.66		2.5
	1	14	19.73	19.65	19.64		2.5
	8	0	19.79	19.62	19.68		2.5
	8	4	19.77	19.68	19.69		2.5
	8	7	19.68	19.61	19.62		2.5
	15	0	19.73	19.67	19.65		2.5

Table 9-29
LTE Band 66 (AWS) Measured P_{limit} for DSI = 8 (Phablet with grip sensor active) and/or DSI = 5 (Hotspot Mode) - 1.4 MHz Bandwidth

LTE Band 66 (AWS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131979 (1710.7 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132665 (1779.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	22.02	21.93	21.92	0	0
	1	2	22.06	21.95	21.96		0
	1	5	21.97	21.86	21.86		0
	3	0	22.00	21.92	21.88		0
	3	2	21.97	21.91	21.89		0
	3	3	21.94	21.89	21.86		0
	6	0	22.06	22.02	21.91	0-1	0
16QAM	1	0	22.31	22.23	22.20	0-1	0
	1	2	22.36	22.29	22.28		0
	1	5	22.27	22.18	22.16		0
	3	0	22.20	22.09	22.05		0
	3	2	22.19	22.11	22.11		0
	3	3	22.14	22.07	22.01		0
	6	0	22.10	22.01	22.00	0-2	0
64QAM	1	0	22.24	22.19	22.12	0-2	0
	1	2	22.30	22.25	22.23		0
	1	5	22.21	22.16	22.11		0
	3	0	22.18	22.05	22.08		0
	3	2	22.19	22.12	22.09		0
	3	3	22.15	22.10	22.03		0
	6	0	21.44	21.82	21.68	0-3	0.5
256QAM	1	0	19.73	19.66	19.60	0-5	2.5
	1	2	19.82	19.69	19.68		2.5
	1	5	19.71	19.58	19.54		2.5
	3	0	19.75	19.70	19.65		2.5
	3	2	19.78	19.68	19.68		2.5
	3	3	19.69	19.64	19.61		2.5
	6	0	19.62	19.55	19.53		2.5

9.4.6 LTE Band 2 (PCS)

Table 9-30
LTE Band 2 (PCS) Measured P_{max} for DSI = 1, 6, 7 (Head, Body-worn, or Phablet with grip sensor not triggered) - 20 MHz Bandwidth

LTE Band 2 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 18700 (1860.0 MHz)	Mid Channel 18900 (1880.0 MHz)	High Channel 19100 (1900.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.99	25.00	24.97	0	0
	1	50	24.94	24.97	24.95		0
	1	99	24.99	**25.01**	24.87		0
	50	0	23.91	23.96	23.78	0-1	1
	50	25	23.95	23.98	23.96		1
	50	50	24.02	**24.04**	23.85		1
	100	0	23.91	23.95	23.48		1
16QAM	1	0	23.79	23.88	23.75	0-1	1
	1	50	23.69	23.64	23.76		1
	1	99	23.57	23.86	23.59		1
	50	0	22.70	22.63	22.60	0-2	2
	50	25	22.77	22.84	22.76		2
	50	50	22.79	22.88	22.84		2
	100	0	22.70	22.69	22.62		2
64QAM	1	0	23.00	22.94	22.91	0-2	2
	1	50	22.82	22.72	22.96		2
	1	99	22.78	23.11	22.90		2
	50	0	21.67	21.68	21.71	0-3	3
	50	25	21.78	21.60	21.70		3
	50	50	21.64	21.59	21.68		3
	100	0	21.62	21.63	21.64		3
256QAM	1	0	19.44	19.59	19.43	0-5	5
	1	50	19.60	19.90	19.87		5
	1	99	19.55	20.02	19.80		5
	50	0	19.61	19.71	19.59		5
	50	25	19.82	19.79	19.85		5
	50	50	19.86	19.70	19.81		5
	100	0	19.80	19.67	19.90		5

Table 9-31
LTE Band 2 (PCS) Measured P_{max} for DSI = 1, 6, 7 (Head, Body-worn, or Phablet with grip sensor not triggered) - 15 MHz Bandwidth

LTE Band 2 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 18675 (1857.5 MHz)	Mid Channel 18900 (1880.0 MHz)	High Channel 19125 (1902.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.89	24.78	25.10	0	0
	1	36	25.13	24.91	25.14		0
	1	74	25.03	24.89	25.05		0
	36	0	24.03	23.93	23.94	0-1	1
	36	18	24.20	24.01	24.03		1
	36	37	24.20	24.10	24.08		1
	75	0	24.13	23.94	23.95		1
16QAM	1	0	23.78	23.89	24.00	0-1	1
	1	36	23.95	23.94	24.09		1
	1	74	23.91	23.88	24.05		1
	36	0	22.82	22.77	22.80	0-2	2
	36	18	23.02	22.84	22.90		2
	36	37	22.99	22.93	22.95		2
	75	0	23.00	22.77	22.78		2
64QAM	1	0	22.59	23.08	22.68	0-2	2
	1	36	22.84	23.19	22.85		2
	1	74	22.75	23.16	22.72		2
	36	0	21.98	21.79	21.80	0-3	3
	36	18	22.16	21.86	21.89		3
	36	37	22.12	21.94	21.96		3
	75	0	22.04	21.83	21.83		3
256QAM	1	0	19.48	19.73	19.45	0-5	5
	1	36	19.71	19.97	19.83		5
	1	74	19.66	19.94	19.68		5
	36	0	19.64	19.71	19.75		5
	36	18	19.85	19.78	19.84		5
	36	37	19.86	19.88	19.89		5
	75	0	19.86	19.81	19.83		5

Table 9-32
LTE Band 2 (PCS) Measured P_{max} for DSI = 1, 6, 7 (Head, Body-worn, or Phablet with grip sensor not triggered) - 10 MHz Bandwidth

LTE Band 2 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 18650 (1855.0 MHz)	Mid Channel 18900 (1880.0 MHz)	High Channel 19150 (1905.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.53	24.63	24.78	0	0
	1	25	24.90	24.96	24.72		0
	1	49	24.61	24.61	24.89		0
	25	0	23.87	23.80	23.70	0-1	1
	25	12	23.99	23.89	23.84		1
	25	25	23.86	23.87	23.75		1
	50	0	23.87	23.83	23.70		1
16QAM	1	0	23.56	23.79	23.50	0-1	1
	1	25	23.69	24.10	23.60		1
	1	49	23.40	23.90	23.48		1
	25	0	22.75	22.70	22.61	0-2	2
	25	12	22.86	22.79	22.67		2
	25	25	22.68	22.74	22.65		2
	50	0	22.65	22.61	22.56		2
64QAM	1	0	22.80	22.78	22.97	0-2	2
	1	25	22.65	23.15	22.83		2
	1	49	22.34	22.90	22.92		2
	25	0	21.74	21.72	21.64	0-3	3
	25	12	21.79	21.82	21.69		3
	25	25	21.68	21.75	21.68		3
	50	0	21.68	21.63	21.56		3
256QAM	1	0	19.55	19.91	19.74	0-5	5
	1	25	19.70	20.02	20.02		5
	1	49	19.55	20.02	19.86		5
	25	0	19.68	19.67	19.60		5
	25	12	19.77	19.77	19.65		5
	25	25	19.68	19.74	19.61		5
	50	0	19.64	19.62	19.50		5

Table 9-33
LTE Band 2 (PCS) Measured P_{max} for DSI = 1, 6, 7 (Head, Body-worn, or Phablet with grip sensor not triggered) - 5 MHz Bandwidth

LTE Band 2 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 18625 (1852.5 MHz)	Mid Channel 18900 (1880.0 MHz)	High Channel 19175 (1907.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.76	24.69	24.58	0	0
	1	12	24.75	24.81	24.70		0
	1	24	24.66	24.74	24.62		0
	12	0	23.90	23.85	23.82	0-1	1
	12	6	23.91	23.88	23.85		1
	12	13	23.82	23.81	23.73		1
	25	0	23.87	23.81	23.79		1
16QAM	1	0	23.73	23.71	24.01	0-1	1
	1	12	23.82	23.86	24.12		1
	1	24	23.67	23.80	24.20		1
	12	0	22.71	22.70	22.68	0-2	2
	12	6	22.72	22.73	22.69		2
	12	13	22.65	22.71	22.58		2
	25	0	22.72	22.73	22.70		2
64QAM	1	0	23.20	22.98	22.98	0-2	2
	1	12	23.18	23.06	23.02		2
	1	24	23.09	22.98	22.96		2
	12	0	21.74	21.72	21.66	0-3	3
	12	6	21.78	21.74	21.71		3
	12	13	21.69	21.71	21.60		3
	25	0	21.70	21.67	21.60		3
256QAM	1	0	19.87	19.82	19.76	0-5	5
	1	12	19.92	19.96	19.90		5
	1	24	19.75	19.84	19.72		5
	12	0	19.76	19.75	19.68		5
	12	6	19.79	19.76	19.72		5
	12	13	19.68	19.72	19.64		5
	25	0	19.72	19.70	19.72		5

Table 9-34
LTE Band 2 (PCS) Measured P_{max} for DSI = 1, 6, 7 (Head, Body-worn, or Phablet with grip sensor not triggered) - 3 MHz Bandwidth

LTE Band 2 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 18615 (1851.5 MHz)	Mid Channel 18900 (1880.0 MHz)	High Channel 19185 (1908.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.84	24.90	24.71	0	0
	1	7	24.83	24.85	24.72		0
	1	14	24.75	24.86	24.62		0
	8	0	23.92	23.87	23.80	0-1	1
	8	4	23.92	23.99	23.80		1
	8	7	23.79	23.88	23.76		1
	15	0	23.89	23.88	23.80		1
16QAM	1	0	23.82	23.88	23.65	0-1	1
	1	7	23.87	23.90	23.60		1
	1	14	23.79	23.78	23.52		1
	8	0	22.97	22.80	22.83	0-2	2
	8	4	22.90	22.90	22.85		2
	8	7	22.84	22.87	22.80		2
	15	0	22.79	22.74	22.74		2
64QAM	1	0	22.89	23.16	23.11	0-2	2
	1	7	22.81	23.20	23.03		2
	1	14	22.78	23.14	22.99		2
	8	0	21.90	21.81	21.72	0-3	3
	8	4	21.95	21.88	21.81		3
	8	7	21.85	21.81	21.74		3
	15	0	21.84	21.93	21.75		3
256QAM	1	0	19.89	19.83	19.83	0-5	5
	1	7	19.88	19.88	19.74		5
	1	14	19.81	19.77	19.73		5
	8	0	19.95	19.77	19.80		5
	8	4	19.97	19.85	19.78		5
	8	7	19.79	19.72	19.69		5
	15	0	19.79	19.81	19.64		5

Table 9-35
LTE Band 2 (PCS) Measured P_{max} for DSI = 1, 6, 7 (Head, Body-worn, or Phablet with grip sensor not triggered) -1.4 MHz Bandwidth

LTE Band 2 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 18607 (1850.7 MHz)	Mid Channel 18900 (1880.0 MHz)	High Channel 19193 (1909.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.94	24.85	24.65	0	0
	1	2	25.02	24.80	24.76		0
	1	5	24.96	24.73	24.64		0
	3	0	24.83	24.82	24.74		0
	3	2	24.77	24.86	24.77		0
	3	3	24.64	24.82	24.72		0
	6	0	23.63	23.79	24.14	0-1	1
16QAM	1	0	23.58	23.63	24.12	0-1	1
	1	2	23.73	23.69	24.10		1
	1	5	23.65	23.60	23.53		1
	3	0	23.60	23.92	23.58		1
	3	2	23.72	23.68	23.63		1
	3	3	23.60	23.63	23.55		1
	6	0	22.76	22.69	23.18	0-2	2
64QAM	1	0	23.09	23.11	23.01	0-2	2
	1	2	23.09	23.15	23.08		2
	1	5	23.06	23.12	23.00		2
	3	0	22.98	22.91	22.85		2
	3	2	23.03	22.97	22.90		2
	3	3	22.92	22.90	22.83		2
	6	0	21.61	21.73	21.64	0-3	3
256QAM	1	0	19.77	20.20	20.12	0-5	5
	1	2	19.81	20.20	20.16		5
	1	5	19.70	20.17	20.09		5
	3	0	19.71	19.70	19.62		5
	3	2	19.75	19.70	19.64		5
	3	3	19.68	19.65	19.61		5
	6	0	19.92	19.77	19.75		5

Table 9-36
LTE Band 2 (PCS) Measured P_{limit} for DSI = 8 (Phablet with grip sensor active) and/or DSI = 5 (Hotspot Mode) - 20 MHz Bandwidth

LTE Band 2 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 18700 (1860.0 MHz)	Mid Channel 18900 (1880.0 MHz)	High Channel 19100 (1900.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	22.13	**22.26**	22.17	0	0
	1	50	22.07	22.13	22.18		0
	1	99	22.15	22.18	22.16		0
	50	0	22.13	22.18	22.13	0-1	0
	50	25	**22.36**	22.25	22.31		0
	50	50	22.27	22.20	22.25		0
	100	0	22.25	22.18	22.14		0
16QAM	1	0	22.48	22.56	22.51	0-1	0
	1	50	22.40	22.58	22.46		0
	1	99	22.58	22.51	22.53		0
	50	0	22.11	22.12	22.15	0-2	0
	50	25	22.31	22.30	22.35		0
	50	50	22.21	22.31	22.25		0
	100	0	22.27	22.25	22.21		0
64QAM	1	0	22.36	22.39	22.20	0-2	0
	1	50	22.37	22.34	22.52		0
	1	99	22.40	22.50	22.45		0
	50	0	21.40	21.50	21.48	0-3	0.5
	50	25	21.49	21.58	21.55		0.5
	50	50	21.56	21.62	21.62		0.5
	100	0	21.50	21.57	21.49		0.5
256QAM	1	0	19.35	19.48	19.46	0-5	2.5
	1	50	19.60	19.65	19.62		2.5
	1	99	19.61	19.63	19.51		2.5
	50	0	19.40	19.45	19.45		2.5
	50	25	19.65	19.52	19.47		2.5
	50	50	19.63	19.60	19.58		2.5
	100	0	19.47	19.48	19.50		2.5

Table 9-37
LTE Band 2 (PCS) Measured P_{limit} for DSI = 8 (Phablet with grip sensor active) and/or DSI = 5 (Hotspot Mode) - 15 MHz Bandwidth

LTE Band 2 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 18675 (1857.5 MHz)	Mid Channel 18900 (1880.0 MHz)	High Channel 19125 (1902.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	22.10	22.26	22.33	0	0
	1	36	22.24	22.31	22.23		0
	1	74	22.20	22.25	22.31		0
	36	0	22.24	22.30	22.31	0-1	0
	36	18	22.40	22.38	22.40		0
	36	37	22.47	22.44	22.45		0
	75	0	22.37	22.35	22.33		0
16QAM	1	0	22.41	22.60	22.55	0-1	0
	1	36	22.56	22.70	22.61		0
	1	74	22.51	22.63	22.65		0
	36	0	22.27	22.29	22.29	0-2	0
	36	18	22.41	22.38	22.38		0
	36	37	22.43	22.48	22.45		0
	75	0	22.40	22.33	22.34		0
64QAM	1	0	22.34	22.54	22.49	0-2	0
	1	36	22.56	22.60	22.49		0
	1	74	22.52	22.64	22.55		0
	36	0	21.64	21.72	21.73	0-3	0.5
	36	18	21.74	21.80	21.75		0.5
	36	37	21.80	21.87	21.84		0.5
	75	0	21.72	21.77	21.72		0.5
256QAM	1	0	19.58	19.73	19.71	0-5	2.5
	1	36	19.84	19.88	19.77		2.5
	1	74	19.85	19.87	19.75		2.5
	36	0	19.60	19.67	19.65		2.5
	36	18	19.78	19.76	19.72		2.5
	36	37	19.78	19.83	19.83		2.5
	75	0	19.70	19.70	19.74		2.5

Table 9-38
LTE Band 2 (PCS) Measured P_{limit} for DSI = 8 (Phablet with grip sensor active) and/or DSI = 5 (Hotspot Mode) - 10 MHz Bandwidth

LTE Band 2 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 18650 (1855.0 MHz)	Mid Channel 18900 (1880.0 MHz)	High Channel 19150 (1905.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	22.12	22.16	22.16	0	0
	1	25	22.09	22.16	22.18		0
	1	49	22.15	22.15	22.10		0
	25	0	22.19	22.14	22.11	0-1	0
	25	12	22.26	22.23	22.24		0
	25	25	22.17	22.18	22.20		0
	50	0	22.18	22.10	22.10		0
16QAM	1	0	22.15	22.23	22.60	0-1	0
	1	25	22.46	22.62	22.57		0
	1	49	22.24	22.32	22.56		0
	25	0	22.13	22.13	22.09	0-2	0
	25	12	22.23	22.26	22.17		0
	25	25	22.11	22.16	22.12		0
	50	0	22.16	22.17	22.06		0
64QAM	1	0	22.05	22.01	22.42	0-2	0
	1	25	22.41	22.41	22.33		0
	1	49	22.10	22.21	22.48		0
	25	0	21.79	21.75	21.74	0-3	0.5
	25	12	21.91	21.86	21.88		0.5
	25	25	21.80	21.86	21.80		0.5
	50	0	21.80	21.80	21.72		0.5
256QAM	1	0	19.65	19.69	19.60	0-5	2.5
	1	25	19.92	19.93	19.91		2.5
	1	49	19.66	19.75	19.70		2.5
	25	0	19.72	19.73	19.75		2.5
	25	12	19.85	19.86	19.88		2.5
	25	25	19.79	19.84	19.82		2.5
	50	0	19.77	19.73	19.76		2.5

Table 9-39
LTE Band 2 (PCS) Measured P_{limit} for DSI = 8 (Phablet with grip sensor active) and/or DSI = 5 (Hotspot Mode) - 5 MHz Bandwidth

LTE Band 2 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 18625 (1852.5 MHz)	Mid Channel 18900 (1880.0 MHz)	High Channel 19175 (1907.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	22.13	22.16	22.02	0	0
	1	12	22.01	22.06	22.09		0
	1	24	22.18	22.15	22.19		0
	12	0	22.04	22.15	22.20	0-1	0
	12	6	22.10	22.09	22.24		0
	12	13	21.92	22.12	22.16		0
	25	0	22.09	22.11	22.18		0
16QAM	1	0	22.28	22.29	22.43	0-1	0
	1	12	22.34	22.39	22.47		0
	1	24	22.30	22.35	22.35		0
	12	0	22.17	22.13	22.23	0-2	0
	12	6	22.17	22.20	22.31		0
	12	13	22.09	22.17	22.20		0
	25	0	22.07	22.11	22.18		0
64QAM	1	0	22.23	22.20	22.34	0-2	0
	1	12	22.27	22.30	22.40		0
	1	24	22.14	22.19	22.29		0
	12	0	21.78	21.78	21.85	0-3	0.5
	12	6	21.82	21.73	21.91		0.5
	12	13	21.69	21.74	21.81		0.5
	25	0	21.70	21.66	21.79		0.5
256QAM	1	0	19.74	19.71	19.82	0-5	2.5
	1	12	19.81	19.80	19.92		2.5
	1	24	19.68	19.74	19.79		2.5
	12	0	19.72	19.70	19.87		2.5
	12	6	19.76	19.65	19.89		2.5
	12	13	19.66	19.65	19.80		2.5
	25	0	19.70	19.64	19.83		2.5

Table 9-40
LTE Band 2 (PCS) Measured P_{limit} for DSI = 8 (Phablet with grip sensor active) and/or DSI = 5 (Hotspot Mode) - 3 MHz Bandwidth

LTE Band 2 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 18615 (1851.5 MHz)	Mid Channel 18900 (1880.0 MHz)	High Channel 19185 (1908.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	22.15	22.06	22.18	0	0
	1	7	22.12	22.16	22.14		0
	1	14	22.07	22.09	22.09		0
	8	0	22.21	22.15	22.25	0-1	0
	8	4	22.25	22.24	22.25		0
	8	7	22.20	22.21	22.20		0
	15	0	22.19	22.17	22.23		0
16QAM	1	0	22.51	22.46	22.46	0-1	0
	1	7	22.41	22.43	22.45		0
	1	14	22.37	22.42	22.42		0
	8	0	22.34	22.27	22.27	0-2	0
	8	4	22.30	22.30	22.26		0
	8	7	22.26	22.28	22.25		0
	15	0	22.24	22.17	22.23		0
64QAM	1	0	22.39	22.35	22.41	0-2	0
	1	7	22.37	22.36	22.31		0
	1	14	22.34	22.40	22.32		0
	8	0	21.64	21.73	21.73	0-3	0.5
	8	4	21.74	21.82	21.72		0.5
	8	7	21.72	21.73	21.69		0.5
	15	0	21.72	21.66	21.68		0.5
256QAM	1	0	19.60	19.73	19.71	0-5	2.5
	1	7	19.75	19.80	19.72		2.5
	1	14	19.71	19.69	19.68		2.5
	8	0	19.49	19.65	19.70		2.5
	8	4	19.73	19.75	19.71		2.5
	8	7	19.64	19.67	19.67		2.5
	15	0	19.69	19.65	19.64		2.5

Table 9-41
LTE Band 2 (PCS) Measured P_{limit} for DSI = 8 (Phablet with grip sensor active) and/or DSI = 5 (Hotspot Mode) -1.4 MHz Bandwidth

LTE Band 2 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 18607 (1850.7 MHz)	Mid Channel 18900 (1880.0 MHz)	High Channel 19193 (1909.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	22.08	22.09	21.74	0	0
	1	2	22.13	22.13	22.25		0
	1	5	22.01	22.10	22.13		0
	3	0	22.07	22.11	21.91		0
	3	2	22.10	22.15	21.96		0
	3	3	22.06	22.09	21.91		0
	6	0	22.14	22.21	22.02	0-1	0
16QAM	1	0	22.43	22.45	22.29	0-1	0
	1	2	22.45	22.52	22.31		0
	1	5	22.40	22.40	22.32		0
	3	0	22.26	22.31	22.22		0
	3	2	22.25	22.33	22.25		0
	3	3	22.20	22.27	22.15		0
	6	0	22.15	22.25	22.14	0-2	0
64QAM	1	0	22.32	22.37	22.25	0-2	0
	1	2	22.40	22.43	22.34		0
	1	5	22.28	22.32	22.20		0
	3	0	22.25	22.26	22.22		0
	3	2	22.27	22.31	22.24		0
	3	3	22.24	22.23	22.16		0
	6	0	21.64	21.62	21.59	0-3	0.5
256QAM	1	0	19.73	19.71	19.67	0-5	2.5
	1	2	19.75	19.78	19.74		2.5
	1	5	19.64	19.67	19.66		2.5
	3	0	19.69	19.77	19.70		2.5
	3	2	19.76	19.79	19.72		2.5
	3	3	19.69	19.74	19.65		2.5
	6	0	19.60	19.63	19.60		2.5

9.4.7 LTE Band 30

Table 9-42
LTE Band 30 Measured P_{max} for all DSI - 10 MHz Bandwidth

LTE Band 30 10 MHz Bandwidth					
Modulation	**RB Size**	**RB Offset**	**Mid Channel** **27710** **(2310.0 MHz)** **Conducted Power [dBm]**	**MPR Allowed per 3GPP [dB]**	**MPR [dB]**
QPSK	1	0	**22.26**	0	0
	1	25	22.16		0
	1	49	22.18		0
	25	0	21.08	0-1	1
	25	12	**21.17**		1
	25	25	21.03		1
	50	0	21.00		1
16QAM	1	0	21.14	0-1	1
	1	25	21.20		1
	1	49	21.26		1
	25	0	19.87	0-2	2
	25	12	19.92		2
	25	25	19.76		2
	50	0	19.83		2
64QAM	1	0	20.02	0-2	2
	1	25	20.02		2
	1	49	20.04		2
	25	0	18.90	0-3	3
	25	12	18.92		3
	25	25	18.83		3
	50	0	18.97		3
256QAM	1	0	16.86	0-5	5
	1	25	17.03		5
	1	49	16.75		5
	25	0	16.78		5
	25	12	16.95		5
	25	25	16.85		5
	50	0	16.82		5

Table 9-43
LTE Band 30 Measured P_{max} for all DSI - 5 MHz Bandwidth

LTE Band 30 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	22.02	0	0
	1	12	22.07		0
	1	24	22.01		0
	12	0	21.11	0-1	1
	12	6	21.18		1
	12	13	21.14		1
	25	0	21.15		1
16QAM	1	0	21.00	0-1	1
	1	12	21.22		1
	1	24	21.09		1
	12	0	19.99	0-2	2
	12	6	20.02		2
	12	13	19.98		2
	25	0	19.89		2
64QAM	1	0	19.93	0-2	2
	1	12	20.02		2
	1	24	19.93		2
	12	0	18.82	0-3	3
	12	6	18.91		3
	12	13	18.82		3
	25	0	18.96		3
256QAM	1	0	16.98	0-5	5
	1	12	17.13		5
	1	24	16.96		5
	12	0	16.95		5
	12	6	17.01		5
	12	13	16.99		5
	25	0	16.95		5

Note: LTE Band 30 at 5 MHz bandwidth does 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.

9.4.8 LTE Band 48

Table 9-44
LTE Band 48 Measured P_{max} for all DSI - 20 MHz Bandwidth

LTE Band 48 20 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			55340 (3560.0 MHz)	55773 (3603.3 MHz)	56207 (3646.7 MHz)	56640 (3690.0 MHz)		
			Conducted Power [dBm]					
QPSK	1	0	**22.21**	22.04	21.98	21.98	0	0
	1	50	22.15	21.99	21.94	21.99		0
	1	99	22.14	21.98	21.95	22.02		0
	50	0	21.10	21.10	20.85	20.88	0-1	1
	50	25	**21.17**	21.12	21.00	20.92		1
	50	50	21.06	20.97	20.90	20.93		1
	100	0	21.08	21.03	20.93	20.90		1
16QAM	1	0	20.81	20.68	20.46	20.39	0-1	1
	1	50	20.81	20.67	20.79	20.42		1
	1	99	20.89	20.58	20.65	20.72		1
	50	0	19.93	20.03	19.82	19.61	0-2	2
	50	25	20.07	19.85	20.00	19.85		2
	50	50	19.78	19.93	19.62	19.89		2
	100	0	19.86	19.68	19.70	19.65		2
64QAM	1	0	19.51	19.39	19.36	19.55	0-2	2
	1	50	19.64	19.33	19.56	19.38		2
	1	99	19.63	19.40	19.60	19.51		2
	50	0	19.04	18.97	18.61	18.63	0-3	3
	50	25	19.14	18.93	18.84	18.90		3
	50	50	19.07	18.77	18.57	18.76		3
	100	0	19.04	18.69	18.78	18.71		3
256QAM	1	0	16.41	16.50	16.34	16.33	0-5	5
	1	50	16.62	16.68	16.68	16.81		5
	1	99	16.73	16.38	16.28	16.40		5
	50	0	17.00	16.86	16.80	16.77		5
	50	25	17.20	16.88	16.98	16.61		5
	50	50	16.76	16.67	16.87	16.97		5
	100	0	16.87	16.83	16.77	16.68		5

Table 9-45
LTE Band 48 Measured P_{max} for all DSI - 15 MHz Bandwidth

LTE Band 48 15 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel 55315 (3557.5 MHz)	Low-Mid Channel 55765 (3602.5 MHz)	Mid-High Channel 56215 (3647.5 MHz)	High Channel 56665 (3692.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
QPSK	1	0	22.34	22.17	21.89	21.93	0	0
	1	36	22.09	22.22	21.91	22.00		0
	1	74	22.09	22.00	21.77	22.13		0
	36	0	21.18	21.33	20.91	20.98	0-1	1
	36	18	21.31	21.12	20.88	21.17		1
	36	37	21.20	21.10	20.89	20.92		1
	75	0	21.16	21.18	20.95	21.04		1
16QAM	1	0	20.81	20.75	20.68	20.83	0-1	1
	1	36	20.89	20.83	20.66	20.69		1
	1	74	20.96	20.74	20.72	20.85		1
	36	0	20.06	19.93	19.56	19.81	0-2	2
	36	18	20.06	19.85	19.60	19.98		2
	36	37	19.86	19.86	19.53	19.94		2
	75	0	20.09	19.79	19.71	20.13		2
64QAM	1	0	19.80	19.46	19.37	19.38	0-2	2
	1	36	19.52	19.61	19.23	19.69		2
	1	74	19.53	19.60	19.46	19.60		2
	36	0	19.11	18.85	18.74	18.86	0-3	3
	36	18	19.08	18.90	18.82	18.97		3
	36	37	19.09	18.69	18.71	19.08		3
	75	0	19.17	18.92	18.72	19.15		3
256QAM	1	0	16.70	16.72	16.22	16.66	0-5	5
	1	36	16.88	16.61	16.58	16.71		5
	1	74	16.70	16.56	16.50	16.64		5
	36	0	16.94	16.88	16.82	16.99		5
	36	18	17.13	17.19	16.71	16.97		5
	36	37	17.08	16.75	16.63	17.01		5
	75	0	16.97	16.99	16.75	17.04		5

Table 9-46
LTE Band 48 Measured P_{max} for all DSI - 10 MHz Bandwidth

LTE Band 48 10 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			55290 (3555.0 MHz)	55757 (3601.7 MHz)	56223 (3648.3 MHz)	56690 (3695.0 MHz)		
			Conducted Power [dBm]					
QPSK	1	0	22.11	22.02	21.92	22.03	0	0
	1	25	22.27	21.95	21.94	22.04		0
	1	49	22.07	22.24	21.99	22.08		0
	25	0	21.05	21.06	20.66	20.64	0-1	1
	25	12	21.16	21.07	20.84	20.80		1
	25	25	21.10	21.08	20.91	20.66		1
	50	0	21.01	20.93	20.60	20.79		1
16QAM	1	0	20.97	20.75	20.53	20.59	0-1	1
	1	25	20.85	20.84	20.66	20.65		1
	1	49	20.91	20.90	20.55	20.71		1
	25	0	19.87	19.78	19.47	19.53	0-2	2
	25	12	19.85	19.92	19.68	19.70		2
	25	25	19.78	19.76	19.53	19.82		2
	50	0	19.93	19.91	19.54	19.51		2
64QAM	1	0	19.68	19.43	19.22	19.40	0-2	2
	1	25	19.60	19.35	19.11	19.46		2
	1	49	19.67	19.59	19.21	19.39		2
	25	0	18.80	18.84	18.48	18.41	0-3	3
	25	12	19.12	19.01	18.61	18.69		3
	25	25	18.96	18.74	18.68	18.73		3
	50	0	18.96	18.72	18.69	18.69		3
256QAM	1	0	16.62	16.44	16.06	16.10	0-5	5
	1	25	17.03	16.58	16.44	16.53		5
	1	49	16.57	16.63	16.24	16.41		5
	25	0	16.80	16.87	16.70	16.56		5
	25	12	16.91	17.03	16.66	16.78		5
	25	25	16.83	17.02	16.55	16.69		5
	50	0	16.91	16.86	16.46	16.63		5

Table 9-47
LTE Band 48 Measured P_{max} for all DSI - 5 MHz Bandwidth

LTE Band 48 5 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			55265 (3552.5 MHz)	55748 (3600.8 MHz)	56232 (3649.2 MHz)	56715 (3697.5 MHz)		
			Conducted Power [dBm]					
QPSK	1	0	22.12	22.01	21.64	22.05	0	0
	1	12	22.27	21.96	21.87	21.87		0
	1	24	21.97	22.16	21.92	21.88		0
	12	0	21.09	20.91	20.68	20.99	0-1	1
	12	6	21.25	21.06	20.98	20.88		1
	12	13	21.08	20.91	20.68	21.04		1
	25	0	21.31	21.03	20.58	20.86		1
16QAM	1	0	20.76	20.55	20.51	20.43	0-1	1
	1	12	20.98	20.78	20.52	20.65		1
	1	24	20.89	20.77	20.30	20.48		1
	12	0	19.68	19.82	19.52	19.67	0-2	2
	12	6	19.95	19.97	19.66	19.79		2
	12	13	19.89	19.83	19.73	19.69		2
	25	0	20.00	20.02	19.61	19.73		2
64QAM	1	0	19.43	19.38	19.08	19.17	0-2	2
	1	12	19.54	19.55	19.36	19.58		2
	1	24	19.75	19.58	19.27	19.22		2
	12	0	18.96	18.92	18.40	18.67	0-3	3
	12	6	19.03	18.90	18.44	18.73		3
	12	13	18.86	19.00	18.38	18.62		3
	25	0	18.87	18.94	18.46	18.62		3
256QAM	1	0	16.58	16.68	16.27	16.30	0-5	5
	1	12	16.81	16.76	16.41	16.40		5
	1	24	16.54	16.62	16.54	16.56		5
	12	0	16.76	16.86	16.64	16.74		5
	12	6	17.08	17.18	16.88	16.97		5
	12	13	16.91	16.95	16.78	16.81		5
	25	0	16.93	17.08	16.58	16.68		5

9.4.9 LTE Band 41

Table 9-48
LTE Band 41 Measured P_{max} for all DSI - 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	24.61	24.70	24.47	24.56	24.31	0	0
	1	50	24.57	24.69	24.77	**24.79**	24.63		0
	1	99	24.57	24.69	24.48	24.26	24.53		0
	50	0	23.47	23.61	23.62	23.66	23.44	0-1	1
	50	25	23.58	23.66	23.74	**23.76**	23.65		1
	50	50	23.51	23.66	23.71	23.60	23.58		1
	100	0	23.48	23.58	23.65	23.69	23.49		1
16QAM	1	0	23.14	23.30	23.02	23.12	22.85	0-1	1
	1	50	23.07	23.28	23.37	23.30	23.20		1
	1	99	23.06	23.34	23.03	22.83	23.07		1
	50	0	22.30	22.41	22.45	22.49	22.25	0-2	2
	50	25	22.39	22.49	22.55	22.58	22.46		2
	50	50	22.35	22.47	22.54	22.39	22.40		2
	100	0	22.31	22.43	22.49	22.51	22.32		2
64QAM	1	0	21.98	22.09	21.90	21.96	21.70	0-2	2
	1	50	21.99	22.16	22.29	22.23	22.08		2
	1	99	22.00	22.15	21.95	21.81	21.95		2
	50	0	21.35	21.47	21.53	21.55	21.33	0-3	3
	50	25	21.43	21.54	21.62	21.65	21.49		3
	50	50	21.38	21.54	21.61	21.52	21.49		3
	100	0	21.32	21.41	21.50	21.54	21.32		3
256QAM	1	0	18.82	18.90	19.11	19.18	18.86	0-5	5
	1	50	19.15	19.29	19.45	19.42	19.24		5
	1	99	18.93	18.92	19.18	18.96	19.15		5
	50	0	19.28	19.38	19.56	19.51	19.33		5
	50	25	19.44	19.56	19.68	19.70	19.53		5
	50	50	19.36	19.43	19.64	19.52	19.49		5
	100	0	19.31	19.41	19.51	19.53	19.35		5

Table 9-49
LTE Band 41 Measured P_{max} for all DSI - 15 MHz Bandwidth

LTE Band 41 15 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	24.47	24.41	24.54	24.62	24.38	0	0
	1	36	24.41	24.60	24.75	24.68	24.53		0
	1	74	24.47	24.41	24.62	24.38	24.45		0
	36	0	23.33	23.46	23.63	23.57	23.36	0-1	1
	36	18	23.41	23.62	23.70	23.60	23.45		1
	36	37	23.39	23.53	23.76	23.56	23.52		1
	75	0	23.36	23.54	23.65	23.60	23.43		1
16QAM	1	0	23.06	23.06	23.24	23.23	22.96	0-1	1
	1	36	23.03	23.27	23.44	23.28	23.18		1
	1	74	23.02	23.13	23.26	23.04	23.15		1
	36	0	22.09	22.21	22.38	22.32	22.11	0-2	2
	36	18	22.14	22.33	22.46	22.33	22.19		2
	36	37	22.15	22.30	22.48	22.30	22.26		2
	75	0	22.18	22.34	22.43	22.38	22.26		2
64QAM	1	0	21.80	21.78	22.00	22.01	21.71	0-2	2
	1	36	21.85	22.06	22.21	22.09	21.97		2
	1	74	21.86	21.86	22.07	21.83	21.98		2
	36	0	21.16	21.30	21.47	21.41	21.24	0-3	3
	36	18	21.22	21.41	21.54	21.41	21.31		3
	36	37	21.20	21.36	21.55	21.39	21.40		3
	75	0	21.20	21.37	21.49	21.45	21.37		3
256QAM	1	0	18.73	18.97	19.21	19.19	18.95	0-5	5
	1	36	18.99	19.25	19.44	19.31	19.22		5
	1	74	18.90	19.03	19.28	19.01	19.17		5
	36	0	19.04	19.29	19.51	19.42	19.27		5
	36	18	19.23	19.44	19.59	19.44	19.35		5
	36	37	19.18	19.37	19.63	19.42	19.43		5
	75	0	19.16	19.39	19.53	19.46	19.41		5

Table 9-50
LTE Band 41 Measured P_{max} for all DSI - 10 MHz Bandwidth

LTE Band 41 10 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	24.28	24.27	24.34	24.35	24.21	0	0
	1	25	24.33	24.46	24.61	24.54	24.45		0
	1	49	24.32	24.26	24.29	24.30	24.15		0
	25	0	23.28	23.37	23.43	23.41	23.23	0-1	1
	25	12	23.29	23.46	23.52	23.45	23.40		1
	25	25	23.30	23.30	23.46	23.45	23.28		1
	50	0	23.23	23.36	23.40	23.47	23.25		1
16QAM	1	0	23.06	22.92	23.12	23.09	22.85	0-1	1
	1	25	23.05	23.14	23.36	23.24	23.09		1
	1	49	23.00	22.97	23.05	23.03	22.79		1
	25	0	22.08	22.20	22.23	22.19	21.95	0-2	2
	25	12	22.08	22.26	22.31	22.27	22.12		2
	25	25	22.04	22.18	22.28	22.22	21.97		2
	50	0	22.06	22.21	22.29	22.29	22.09		2
64QAM	1	0	21.74	21.61	21.82	21.66	21.52	0-2	2
	1	25	21.72	21.90	22.06	21.88	21.77		2
	1	49	21.75	21.72	21.83	21.68	21.50		2
	25	0	21.05	21.16	21.25	21.21	20.94	0-3	3
	25	12	21.13	21.29	21.31	21.27	21.13		3
	25	25	21.11	21.16	21.26	21.22	21.03		3
	50	0	21.07	21.24	21.30	21.34	21.11		3
256QAM	1	0	18.66	18.71	18.96	19.03	18.72	0-5	5
	1	25	18.93	19.03	19.21	19.17	19.02		5
	1	49	18.76	18.82	18.97	19.18	18.74		5
	25	0	19.13	19.37	19.33	19.30	19.09		5
	25	12	19.22	19.42	19.40	19.37	19.20		5
	25	25	19.14	19.32	19.39	19.33	19.09		5
	50	0	19.13	19.35	19.32	19.38	19.13		5

Table 9-51
LTE Band 41 Measured P_{max} for all DSI - 5 MHz Bandwidth

LTE Band 41 5 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	24.15	24.36	24.51	24.43	24.31	0	0
	1	12	24.18	24.41	24.55	24.49	24.33		0
	1	24	24.19	24.39	24.49	24.46	24.34		0
	12	0	23.21	23.41	23.50	23.43	23.29	0-1	1
	12	6	23.19	23.43	23.53	23.49	23.37		1
	12	13	23.18	23.36	23.49	23.47	23.33		1
	25	0	23.19	23.43	23.49	23.46	23.34		1
16QAM	1	0	22.82	23.02	23.19	23.12	22.99	0-1	1
	1	12	22.79	23.03	23.17	23.13	23.02		1
	1	24	22.86	23.07	23.19	23.13	22.99		1
	12	0	21.91	22.14	22.22	22.20	22.01	0-2	2
	12	6	21.95	22.17	22.29	22.28	22.11		2
	12	13	21.93	22.13	22.22	22.23	22.04		2
	25	0	21.99	22.28	22.29	22.31	22.19		2
64QAM	1	0	21.59	21.79	21.93	21.90	21.76	0-2	2
	1	12	21.61	21.86	21.97	21.94	21.82		2
	1	24	21.66	21.84	22.00	21.91	21.77		2
	12	0	20.92	21.21	21.26	21.22	21.06	0-3	3
	12	6	20.97	21.24	21.34	21.24	21.14		3
	12	13	20.95	21.20	21.30	21.20	21.07		3
	25	0	20.98	21.23	21.33	21.31	21.16		3
256QAM	1	0	18.83	19.00	19.18	19.11	18.92	0-5	5
	1	12	18.92	19.09	19.25	19.19	19.00		5
	1	24	18.85	19.05	19.17	19.12	18.93		5
	12	0	19.09	19.32	19.40	19.37	19.19		5
	12	6	19.12	19.38	19.49	19.45	19.28		5
	12	13	19.12	19.31	19.43	19.39	19.22		5
	25	0	19.02	19.27	19.37	19.35	19.21		5

9.4.10 LTE Uplink Carrier Aggregation Conducted Powers

Table 9-52
LTE Band 5 Uplink Carrier Aggregation Measured P_{max} for all DSI

	PCC									SCC									Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC UL Channel	PCC UL Frequency [MHz]	PCC DL Channel	PCC DL Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC UL Channel	SCC UL Frequency [MHz]	SCC DL Channel	SCC DL Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	LTE Tx.Power with UL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_5B	LTE B5	10	20525	836.5	2525	881.5	QPSK	1	0	LTE B5	5	20453	829.3	2453	874.3	QPSK	1	24	25.50	25.40

Notes:

1. This device supports uplink carrier aggregation for LTE CA_5B 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.

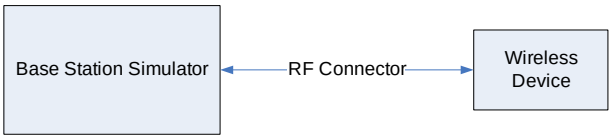

Figure 9-4
Power Measurement Setup

9.5 NR Conducted Powers

9.5.1 NR Band n5

Table 9-53
NR Band n5 Measured P_{max} for all DSI - 20 MHz Bandwidth

NR Band n5 20 MHz Bandwidth					
			Channel		
Modulation	RB Size	RB Offset	167300 (836.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
DFT-s-OFDM π/2 BPSK	1	1	24.21	0	0
	1	53	24.40		0
	1	104	24.18		0
	50	0	24.02	0-0.5	0
	50	28	24.62	0	0
	50	56	24.62	0-0.5	0
	100	0	24.36		0
DFT-s-OFDM QPSK	1	1	**24.68**	0	0
	1	53	24.67		0
	1	104	24.16		0
	50	0	23.82	0-1	0
	50	28	**24.45**	0	0
	50	56	24.33	0-1	0
	100	0	23.80		0
DFT-s-OFDM 16QAM	1	1	23.20	0-1	0.5
CP-OFDM QPSK	1	1	22.71	0-1.5	1

Note: NR Band n5 (Cell) at 20 MHz bandwidth does 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.

Table 9-54
NR Band n5 Measured P_{max} for all DSI - 15 MHz Bandwidth

NR Band n5 15 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 π/2 BPSK	1	1	24.00	0	0
	1	40	24.09		0
	1	77	24.11		0
	36	0	24.02	0-0.5	0
	36	22	24.06	0	0
	36	43	24.12	0-0.5	0
	75	0	24.13		0
DFT-s-OFDM QPSK	1	1	23.63	0	0
	1	40	23.46		0
	1	77	23.40		0
	36	0	23.80	0-1	0
	36	22	23.34	0	0
	36	43	23.71	0-1	0
	75	0	23.78		0
DFT-s-OFDM 16 QAM	1	1	22.63	0-1	0.5
CP-OFDM QPSK	1	1	22.15	0-1.5	1

Note: NR Band n5 (Cell) at 15 MHz bandwidth does 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.

Table 9-55
NR Band n5 Measured P_{max} for all DSI - 10 MHz Bandwidth

NR Band n5 10 MHz Bandwidth					
			Channel		
Modulation	RB Size	RB Offset	167300 (836.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.01	0	0
	1	26	24.23		0
	1	50	24.23		0
	25	0	24.28	0-0.5	0
	25	14	24.24	0	0
	25	27	24.28	0-0.5	0
	50	0	24.21		0
DFT-s-OFDM QPSK	1	1	23.94	0	0
	1	26	23.88		0
	1	50	23.95		0
	25	0	23.95	0-1	0
	25	14	23.91	0	0
	25	27	23.84	0-1	0
	50	0	24.14		0
DFT-s-OFDM 16QAM	1	1	23.05	0-1	0.5
CP-OFDM QPSK	1	1	22.34	0-1.5	1

Note: NR Band n5 (Cell) at 10 MHz bandwidth does 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.

Table 9-56
NR Band n5 Measured P_{max} for all DSI - 5 MHz Bandwidth

NR Band n5 5 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	165300 (826.5 MHz)	167300 (836.5 MHz)	169300 (846.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	24.29	24.41	24.25	0	0
	1	13	24.21	24.21	24.14		0
	1	23	23.95	24.21	24.16		0
	12	0	24.02	24.51	24.32	0-0.5	0
	12	7	24.18	24.36	24.33	0	0
	12	13	23.52	24.35	24.25	0-0.5	0
	25	0	23.76	24.44	24.21		0
DFT-s-OFDM QPSK	1	1	24.12	23.91	23.90	0	0
	1	13	23.85	23.70	23.92		0
	1	23	23.71	23.78	23.83		0
	12	0	23.33	23.54	23.70	0-1	0
	12	7	23.78	23.78	23.73	0	0
	12	13	23.30	23.81	23.68	0-1	0
	25	0	23.30	23.80	23.73		0
DFT-s-OFDM 16QAM	1	1	23.00	23.01	23.06	0-1	0.5
CP-OFDM QPSK	1	1	22.66	22.61	22.68	0-1.5	1

9.5.2 NR Band n66

Table 9-57
NR Band n66 Measured P_{limit} - 20 MHz Bandwidth

NR Band n66 20 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	344000 (1720 MHz)	349000 (1745 MHz)	354000 (1770 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	22.67	22.65	22.61	0	0
	1	53	22.72	22.63	22.62		0
	1	104	22.70	22.75	22.55		0
	50	0	22.55	22.61	22.49	0-0.5	0
	50	28	22.52	22.62	22.51	0	0
	50	56	22.62	22.61	22.52	0-0.5	0
	100	0	22.55	22.69	22.54		0
DFT-s-OFDM QPSK	1	1	22.59	22.70	22.61	0	0
	1	53	22.57	22.66	22.45		0
	1	104	**22.73**	22.65	22.59		0
	50	0	22.50	22.63	22.46	0-1	0
	50	28	**22.64**	22.50	22.50	0	0
	50	56	22.49	22.60	22.54	0-1	0
	100	0	22.56	22.54	22.49		0
DFT-s-OFDM 16QAM	1	1	22.54	22.57	22.46	0-2	0
DFT-s-OFDM 64QAM	1	1	22.10	22.21	22.23	0-2.5	0
CP-OFDM QPSK	1	1	22.71	22.66	22.59	0-1.5	0
CP-OFDM 16QAM	1	1	22.07	22.15	22.04	0-2	0

Table 9-58
NR Band n66 Measured P_{limit} - 15 MHz Bandwidth

NR Band n66 15 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	343500 (1717.5 MHz)	349000 (1745 MHz)	354500 (1772.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	22.65	22.56	22.55	0	0
	1	40	22.63	22.44	22.49		0
	1	77	22.71	22.54	22.59		0
	36	0	22.67	22.49	22.46	0-0.5	0
	36	22	22.61	22.42	22.47	0	0
	36	43	22.65	22.52	22.58	0-0.5	0
	75	0	22.66	22.43	22.52		0
DFT-s-OFDM QPSK	1	1	22.72	22.49	22.51	0	0
	1	40	22.58	22.42	22.42		0
	1	77	22.68	22.53	22.60		0
	36	0	22.68	22.48	22.53	0-1	0
	36	22	22.60	22.45	22.47	0	0
	36	43	22.64	22.48	22.53	0-1	0
	75	0	22.63	22.46	22.48		0
DFT-s-OFDM 16QAM	1	1	22.61	22.38	22.40	0-1	0
DFT-s-OFDM 64QAM	1	1	22.25	21.97	21.94	0-2.5	0
CP-OFDM QPSK	1	1	22.47	22.27	22.41	0-1.5	0
CP-OFDM 16QAM	1	1	21.94	21.90	21.91	0-2	0

Table 9-59
NR Band n66 Measured P_{limit} - 10 MHz Bandwidth

NR Band n66 10 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	343000 (1715 MHz)	349000 (1745 MHz)	355000 (1775 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	22.71	22.61	22.54	0	0
	1	26	22.70	22.63	22.50		0
	1	50	22.70	22.59	22.52		0
	25	0	22.69	22.53	22.53	0-0.5	0
	25	14	22.70	22.58	22.57	0	0
	25	27	22.70	22.62	22.55	0-0.5	0
	50	0	22.63	22.52	22.58		0
DFT-s-OFDM QPSK	1	1	22.70	22.55	22.57	0	0
	1	26	22.67	22.51	22.51		0
	1	50	22.66	22.52	22.56		0
	25	0	22.66	22.55	22.50	0-1	0
	25	14	22.67	22.56	22.55	0	0
	25	27	22.66	22.57	22.57	0-1	0
	50	0	22.65	22.59	22.57		0
DFT-s-OFDM 16QAM	1	1	22.55	22.47	22.53	0-1	0
DFT-s-OFDM 64QAM	1	1	22.73	22.57	22.53	0-2.5	0
CP-OFDM QPSK	1	1	22.67	22.47	22.46	0-1.5	0
CP-OFDM 16QAM	1	1	22.41	22.23	22.17	0-2	0

Table 9-60
NR Band n66 Measured P_{limit} - 5 MHz Bandwidth

NR Band n66 5 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	342500 (1712.5 MHz)	349000 (1745 MHz)	355500 (1777.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	22.63	22.55	22.62	0	0
	1	13	22.64	22.56	22.53		0
	1	23	22.72	22.54	22.54		0
	12	0	22.72	22.63	22.55	0-0.5	0
	12	7	22.73	22.68	22.66	0	0
	12	13	22.76	22.61	22.64	0-0.5	0
	25	0	22.72	22.60	22.60		0
DFT-s-OFDM QPSK	1	1	22.74	22.65	22.57	0	0
	1	13	22.76	22.70	22.65		0
	1	23	22.69	22.61	22.63		0
	12	0	22.76	22.59	22.59	0-1	0
	12	7	22.76	22.62	22.58	0	0
	12	13	22.74	22.66	22.58	0-1	0
	25	0	22.75	22.62	22.58		0
DFT-s-OFDM 16QAM	1	1	22.63	22.66	22.58	0-2	0
DFT-s-OFDM 64QAM	1	1	22.77	22.69	22.61	0-2.5	0
CP-OFDM QPSK	1	1	22.68	22.58	22.48	0-1.5	0
CP-OFDM 16QAM	1	1	22.39	22.34	22.27	0-2	0

9.5.3 NR Band n2

Table 9-61
NR Band n2 Measured P_{limit} - 20 MHz Bandwidth

NR Band n2 20 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	372000 (1860 MHz)	376000 (1880 MHz)	380000 (1900 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	23.49	23.52	23.61	0	0
	1	53	23.59	23.69	23.65		0
	1	104	23.55	23.63	23.70		0
	50	0	23.47	23.54	23.56	0-0.5	0
	50	28	23.53	23.61	23.60	0	0
	50	56	23.63	23.65	23.66	0-0.5	0
	100	0	23.52	23.65	22.91		0
DFT-s-OFDM QPSK	1	1	23.58	23.56	23.32	0	0
	1	53	23.52	23.54	23.39		0
	1	104	23.56	**23.62**	23.47		0
	50	0	23.57	23.57	23.44	0-1	0
	50	28	23.61	**23.64**	23.48	0	0
	50	56	23.61	23.61	23.53	0-1	0
	100	0	23.60	23.61	23.43		0
DFT-s-OFDM 16QAM	1	1	23.36	23.03	23.43	0-1	0
DFT-s-OFDM 64QAM	1	1	23.41	23.33	23.37	0-2.5	0
CP-OFDM QPSK	1	1	23.70	23.68	23.47	0-1.5	0
CP-OFDM 16QAM	1	1	23.20	23.27	23.11	0-2	0

Table 9-62
NR Band n2 Measured P_{limit} - 15 MHz Bandwidth

NR Band n2 15 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	371500 (1857.5 MHz)	376000 (1880 MHz)	380500 (1902.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	23.26	23.22	23.15	0	0
	1	40	23.28	23.28	23.23		0
	1	77	23.31	23.29	23.20		0
	36	0	23.27	23.26	23.15	0-0.5	0
	36	22	23.28	23.29	23.21	0	0
	36	43	23.32	23.26	23.28	0-0.5	0
	75	0	23.23	23.28	23.26		0
DFT-s-OFDM QPSK	1	1	23.31	23.24	23.26	0	0
	1	40	23.31	23.24	23.23		0
	1	77	23.34	23.27	23.23		0
	36	0	23.34	23.26	23.13	0-1	0
	36	22	23.33	23.29	23.19	0	0
	36	43	23.30	23.29	23.22	0-1	0
	75	0	23.27	23.28	23.27		0
DFT-s-OFDM 16QAM	1	1	23.30	23.27	23.23	0-1	0
DFT-s-OFDM 64QAM	1	1	23.30	23.28	23.25	0-2.5	0
CP-OFDM QPSK	1	1	23.26	22.88	23.15	0-1.5	0
CP-OFDM 16QAM	1	1	23.23	23.04	23.07	0-2	0

Table 9-63
NR Band n2 Measured P_{limit} - 10 MHz Bandwidth

NR Band n2 10 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	371000 (1855 MHz)	376000 (1880 MHz)	381000 (1905 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	23.12	23.23	22.89	0	0
	1	26	23.17	23.13	22.97		0
	1	50	23.12	23.12	22.96		0
	25	0	23.12	23.17	22.98	0-0.5	0
	25	14	23.15	23.19	22.97	0	0
	25	27	23.21	23.20	22.97	0-0.5	0
	50	0	23.13	23.20	22.95		0
DFT-s-OFDM QPSK	1	1	23.14	23.17	22.94	0	0
	1	26	23.13	23.15	22.91		0
	1	50	23.13	23.24	22.98		0
	25	0	23.09	23.12	22.93	0-1	0
	25	14	23.16	23.17	22.97	0	0
	25	27	23.16	23.20	23.05	0-1	0
	50	0	23.13	23.16	23.01		0
DFT-s-OFDM 16QAM	1	1	23.10	23.11	22.89	0-1	0
DFT-s-OFDM 64QAM	1	1	23.24	23.25	23.14	0-2.5	0
CP-OFDM QPSK	1	1	23.09	22.44	22.88	0-1.5	0
CP-OFDM 16QAM	1	1	22.90	22.98	22.74	0-2	0

Table 9-64
NR Band n2 Measured P_{limit} - 5 MHz Bandwidth

NR Band n2 5 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	370500 (1852.5 MHz)	376000 (1880 MHz)	381500 (1907.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	23.13	23.05	22.94	0	0
	1	13	23.15	23.14	22.98		0
	1	23	23.21	23.16	23.10		0
	12	0	23.14	23.18	23.03	0-0.5	0
	12	7	23.22	23.20	23.06	0	0
	12	13	23.21	23.20	23.06	0-0.5	0
	25	0	23.14	23.16	23.09		0
DFT-s-OFDM QPSK	1	1	23.13	23.16	23.00	0	0
	1	13	23.19	23.24	22.97		0
	1	23	23.25	23.26	23.05		0
	12	0	23.14	23.14	23.04	0-1	0
	12	7	23.19	23.20	23.03	0	0
	12	13	23.17	23.21	23.06	0-1	0
	25	0	23.17	23.17	23.05		0
DFT-s-OFDM 16QAM	1	1	23.07	23.15	22.89	0-1	0
DFT-s-OFDM 64QAM	1	1	23.24	23.30	23.21	0-2.5	0
CP-OFDM QPSK	1	1	23.10	23.16	22.89	0-1.5	0
CP-OFDM 16QAM	1	1	22.93	22.91	22.81	0-2	0

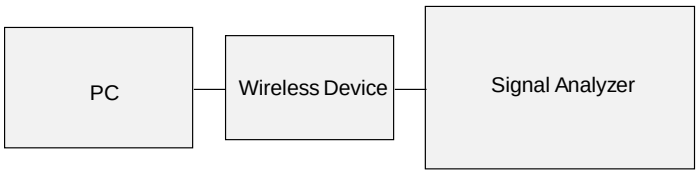

Figure 9-5
Power Measurement Setup

9.6 WLAN Conducted Powers

Table 9-65
2.4 GHz WLAN Maximum Average RF Power – Ant 1

2.4GHz Conducted Power [dBm]						
Freq [MHz]	Channel	IEEE Transmission Mode				
		802.11b	802.11g	802.11n	802.11ac	802.11ax
		Average	Average	Average	Average	Average
2412	1	20.08	17.52	16.32	16.29	14.40
2437	6	20.17	19.05	17.69	17.73	15.88
2462	11	20.05	16.93	15.73	15.75	13.80

Table 9-66
2.4 GHz WLAN Maximum Average RF Power – Ant 2

2.4GHz Conducted Power [dBm]						
Freq [MHz]	Channel	IEEE Transmission Mode				
		802.11b	802.11g	802.11n	802.11ac	802.11ax
		Average	Average	Average	Average	Average
2412	1	20.07	17.48	16.38	16.34	14.61
2437	6	20.49	19.39	18.27	18.22	16.32
2462	11	20.01	16.95	15.74	15.70	13.99

Table 9-67
5 GHz WLAN Maximum Average RF Power – Ant 1

5GHz (20MHz) Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11a	802.11n	802.11ac	802.11ax
		Average	Average	Average	Average
5180	36	16.53	16.75	16.72	14.41
5200	40	17.63	17.83	17.80	14.32
5220	44	16.65	16.90	16.89	14.41
5240	48	16.61	16.87	16.95	14.38
5260	52	16.63	16.89	16.90	14.44
5280	56	17.56	17.90	17.87	14.27
5300	60	16.63	16.88	16.81	14.36
5320	64	16.59	16.84	16.75	14.35
5500	100	16.64	16.97	16.85	14.45
5600	120	16.62	16.78	16.85	14.58
5620	124	16.70	16.94	16.90	14.62
5720	144	16.81	16.98	16.99	14.53
5745	149	16.75	16.93	16.95	14.58
5785	157	17.54	17.78	17.75	14.53
5825	165	17.47	17.72	17.66	14.54

Table 9-68
5 GHz WLAN Maximum Average RF Power – Ant 2

5GHz (20MHz) Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11a	802.11n	802.11ac	802.11ax
		Average	Average	Average	Average
5180	36	16.89	16.91	16.81	14.92
5200	40	17.90	17.82	17.76	14.98
5220	44	16.92	16.72	16.73	14.92
5240	48	16.86	16.93	16.54	14.77
5260	52	16.71	16.82	16.91	14.69
5280	56	17.47	17.72	17.67	14.48
5300	60	16.60	16.73	16.73	14.50
5320	64	16.53	16.67	16.77	14.42
5500	100	16.76	16.95	16.85	14.63
5600	120	16.97	16.83	16.67	14.94
5620	124	16.88	16.53	16.85	14.75
5720	144	16.62	16.77	16.72	14.35
5745	149	16.60	16.89	16.81	14.53
5785	157	17.42	17.70	17.72	14.55
5825	165	17.71	17.91	17.87	14.68

Table 9-69
5 GHz WLAN Maximum Average RF Power – MIMO

5GHz (20MHz) 802.11n Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
5180	36	16.75	16.91	19.84
5200	40	17.83	17.82	20.84
5220	44	16.90	16.72	19.82
5240	48	16.87	16.93	19.91
5260	52	16.89	16.82	19.87
5280	56	17.90	17.72	20.82
5300	60	16.88	16.73	19.82
5320	64	16.84	16.67	19.77
5500	100	16.97	16.95	19.97
5600	120	16.78	16.83	19.82
5620	124	16.94	16.53	19.75
5720	144	16.98	16.77	19.89
5745	149	16.93	16.89	19.92
5785	157	17.78	17.70	20.75
5825	165	17.72	17.91	20.83

Table 9-70
2.4 GHz WLAN Reduced Average RF Power – Ant 1

2.4GHz Conducted Power [dBm]						
Freq [MHz]	Channel	IEEE Transmission Mode				
		802.11b	802.11g	802.11n	802.11ac	802.11ax
		Average	Average	Average	Average	Average
2412	1	15.27	15.14	14.99	14.85	14.40
2437	6	15.36	15.03	15.20	14.75	14.57
2462	11	15.11	15.17	14.79	14.85	13.80

Table 9-71
2.4 GHz WLAN Reduced Average RF Power – Ant 2

2.4GHz Conducted Power [dBm]						
Freq [MHz]	Channel	IEEE Transmission Mode				
		802.11b	802.11g	802.11n	802.11ac	802.11ax
		Average	Average	Average	Average	Average
2412	1	15.46	15.23	14.88	14.88	14.61
2437	6	15.41	15.39	15.40	15.03	14.70
2462	11	15.19	15.50	14.83	15.15	13.99

Table 9-72
5 GHz WLAN Reduced Average RF Power – Ant 1

5GHz (40MHz) Conducted Power [dBm]			
Freq [MHz]	Channel	IEEE Transmission Mode	
		802.11n	802.11ac
		Average	Average
5190	38	11.20	11.22
5230	46	14.99	14.23
5270	54	14.70	13.92
5310	62	10.95	10.77
5510	102	10.86	10.62
5550	110	14.38	13.92
5590	118	14.39	13.65
5630	126	14.32	13.74
5710	142	14.28	13.61
5755	151	14.40	13.36
5795	159	14.38	13.73

Table 9-73
5 GHz WLAN Reduced Average RF Power – Ant 2

5GHz (40MHz) Conducted Power [dBm]			
Freq [MHz]	Channel	IEEE Transmission Mode	
		802.11n	802.11ac
		Average	Average
5190	38	10.59	10.78
5230	46	14.40	13.92
5270	54	14.54	14.24
5310	62	11.00	10.34
5510	102	10.86	10.73
5550	110	14.47	14.44
5590	118	14.53	14.43
5630	126	14.82	14.26
5710	142	14.28	14.70
5755	151	14.94	14.54
5795	159	14.99	14.53

Table 9-74
Reduced Output Powers During Conditions with 2.4 GHz and 5 GHz WLAN

2.4GHz 802.11n Conducted Power [dBm]			
Freq [MHz]	**Channel**	**ANT1**	**ANT2**
2412	1	14.99	14.88
2437	6	15.20	15.40
2462	11	14.79	14.83
5GHz (40MHz) 802.11n Conducted Power [dBm]			
Freq [MHz]	**Channel**	**ANT1**	**ANT2**
5190	38	11.20	10.59
5230	46	14.99	14.40
5270	54	14.70	14.54
5310	62	10.95	11.00
5510	102	10.86	10.86
5550	110	14.38	14.47
5590	118	14.39	14.53
5630	126	14.32	14.82
5710	142	14.28	14.28
5755	151	14.40	14.94
5795	159	14.38	14.99

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.

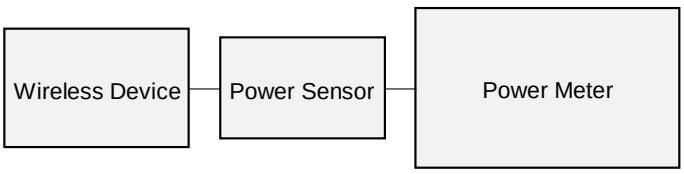

Figure 9-6
Power Measurement Setup

9.7 Bluetooth Conducted Powers

Table 9-75
Bluetooth Average RF Power

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
			[dBm]	[mW]
2402	1.0	0	10.96	12.461
2441	1.0	39	**11.66**	14.669
2480	1.0	78	11.23	13.286
2402	2.0	0	8.89	7.736
2441	2.0	39	9.76	9.455
2480	2.0	78	9.30	8.518
2402	3.0	0	9.05	8.029
2441	3.0	39	9.76	9.472
2480	3.0	78	9.33	8.579

Note: The bolded data rates and channel above were tested for SAR.

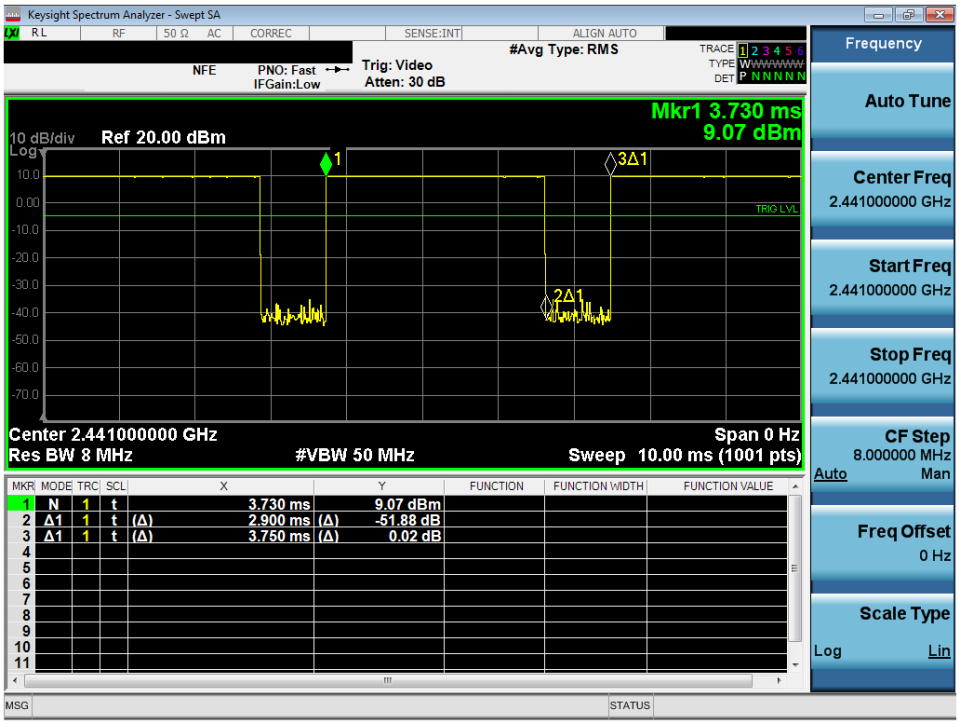

Figure 9-7
Bluetooth Transmission Plot

Equation 9-1
Bluetooth Duty Cycle Calculation

$$\boldsymbol{Duty\ Cycle} = \frac{\boldsymbol{Pulse\ Width}}{\boldsymbol{Period}} * \mathbf{100\%} = \frac{\mathbf{2.9}\boldsymbol{ms}}{\mathbf{3.75}\boldsymbol{ms}} * \mathbf{100\%} = \mathbf{77.3\%}$$

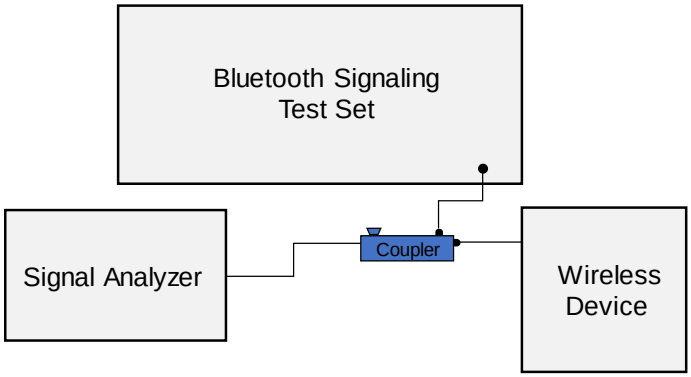

Figure 9-8
Power Measurement Setup

10 SYSTEM VERIFICATION

10.1 Tissue Verification

Table 10-1
Measured 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
02/05/2020	750 Head	20.6	680	0.859	41.552	0.888	42.305	-3.27%	-1.78%
			695	0.864	41.516	0.889	42.227	-2.81%	-1.68%
			700	0.866	41.503	0.889	42.201	-2.59%	-1.65%
			710	0.869	41.476	0.890	42.149	-2.36%	-1.60%
			725	0.874	41.424	0.891	42.071	-1.91%	-1.54%
			740	0.879	41.363	0.893	41.994	-1.57%	-1.50%
			750	0.883	41.320	0.894	41.942	-1.23%	-1.48%
			755	0.884	41.304	0.894	41.916	-1.12%	-1.46%
			770	0.889	41.260	0.895	41.838	-0.67%	-1.38%
			785	0.895	41.214	0.896	41.760	-0.11%	-1.31%
			800	0.900	41.170	0.897	41.682	0.33%	-1.23%
02/02/2020	835 Head	21.6	820	0.927	41.103	0.899	41.578	3.11%	-1.14%
			835	0.933	41.052	0.900	41.500	3.67%	-1.08%
			850	0.939	41.015	0.916	41.500	2.51%	-1.17%
02/07/2020	835 Head	20.2	820	0.896	40.647	0.899	41.578	-0.33%	-2.24%
			835	0.902	40.598	0.900	41.500	0.22%	-2.17%
			850	0.908	40.544	0.916	41.500	-0.87%	-2.30%
02/09/2020	835 Head	20.5	820	0.911	40.105	0.899	41.578	1.33%	-3.54%
			835	0.916	40.063	0.900	41.500	1.78%	-3.46%
			850	0.922	40.024	0.916	41.500	0.66%	-3.56%
02/20/2020	835 Head	20.7	820	0.923	43.320	0.899	41.578	2.67%	4.19%
			835	0.929	43.271	0.900	41.500	3.22%	4.27%
			850	0.936	43.224	0.916	41.500	2.18%	4.15%
02/02/2020	1750 Head	20.3	1710	1.331	39.310	1.348	40.142	-1.26%	-2.07%
			1720	1.338	39.305	1.354	40.126	-1.18%	-2.05%
			1745	1.355	39.268	1.368	40.087	-0.95%	-2.04%
			1750	1.357	39.267	1.371	40.079	-1.02%	-2.03%
			1770	1.368	39.228	1.383	40.047	-1.08%	-2.05%
			1790	1.380	39.178	1.394	40.016	-1.00%	-2.09%
02/03/2020	1900 Head	19.4	1850	1.405	39.288	1.400	40.000	0.36%	-1.78%
			1860	1.412	39.273	1.400	40.000	0.86%	-1.82%
			1880	1.424	39.245	1.400	40.000	1.71%	-1.89%
			1900	1.436	39.218	1.400	40.000	2.57%	-1.95%
			1905	1.439	39.212	1.400	40.000	2.79%	-1.97%
			1910	1.442	39.204	1.400	40.000	3.00%	-1.99%
01/30/2020	2450 Head	21.0	2300	1.693	41.215	1.670	39.500	1.38%	4.34%
			2310	1.700	41.202	1.679	39.480	1.25%	4.36%
			2320	1.707	41.189	1.687	39.460	1.19%	4.38%
02/08/2020	2450 Head	21.5	2400	1.806	39.657	1.756	39.289	2.85%	0.94%
			2450	1.847	39.584	1.800	39.200	2.61%	0.98%
			2500	1.886	39.514	1.855	39.136	1.67%	0.97%
			2510	1.894	39.484	1.866	39.123	1.50%	0.92%
			2535	1.914	39.446	1.893	39.092	1.11%	0.91%
			2550	1.928	39.435	1.909	39.073	1.00%	0.93%
			2560	1.935	39.431	1.920	39.060	0.78%	0.95%
			2600	1.968	39.376	1.964	39.009	0.20%	0.94%
			2650	2.011	39.274	2.018	38.945	-0.35%	0.84%
			2680	2.039	39.221	2.051	38.907	-0.59%	0.81%
			2700	2.055	39.192	2.073	38.882	-0.87%	0.80%
02/11/2020	2450 Head	24.2	2400	1.802	38.995	1.756	39.289	2.62%	-0.75%
			2450	1.839	38.931	1.800	39.200	2.17%	-0.69%
			2500	1.876	38.855	1.855	39.136	1.13%	-0.72%
02/17/2020	2450 Head	20.9	2400	1.794	38.414	1.756	39.289	2.16%	-2.23%
			2450	1.837	38.339	1.800	39.200	2.06%	-2.20%
			2500	1.874	38.247	1.855	39.136	1.02%	-2.27%
02/11/2020	3600 Head	21.4	3500	2.906	36.992	2.913	37.929	-0.24%	-2.47%
			3550	2.946	36.942	2.964	37.871	-0.61%	-2.45%
			3560	2.953	36.916	2.974	37.860	-0.71%	-2.49%
			3600	2.986	36.867	3.015	37.814	-0.96%	-2.50%
			3650	3.025	36.814	3.066	37.757	-1.34%	-2.50%
			3690	3.055	36.737	3.107	37.711	-1.67%	-2.58%
			3700	3.066	36.720	3.117	37.700	-1.64%	-2.60%

Table 10-2
Measured Tissue Properties – Cont'd

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
			5180	4.631	36.938	4.635	36.009	-0.09%	2.58%
			5190	4.639	36.928	4.645	35.998	-0.13%	2.58%
			5200	4.648	36.913	4.655	35.986	-0.15%	2.58%
			5210	4.659	36.887	4.666	35.975	-0.15%	2.54%
			5220	4.671	36.859	4.676	35.963	-0.11%	2.49%
			5240	4.698	36.816	4.696	35.940	0.04%	2.44%
			5250	4.713	36.795	4.706	35.929	0.15%	2.41%
			5260	4.725	36.776	4.717	35.917	0.17%	2.39%
			5270	4.736	36.762	4.727	35.906	0.19%	2.38%
			5280	4.747	36.747	4.737	35.894	0.21%	2.38%
			5290	4.758	36.733	4.748	35.883	0.21%	2.37%
			5300	4.769	36.721	4.758	35.871	0.23%	2.37%
			5310	4.779	36.697	4.768	35.860	0.23%	2.33%
			5320	4.789	36.672	4.778	35.849	0.23%	2.30%
			5500	5.002	36.357	4.963	35.643	0.79%	2.00%
			5510	5.015	36.338	4.973	35.632	0.84%	1.98%
			5520	5.026	36.318	4.983	35.620	0.86%	1.96%
			5530	5.037	36.301	4.994	35.609	0.86%	1.94%
			5540	5.047	36.288	5.004	35.597	0.86%	1.94%
			5550	5.056	36.262	5.014	35.586	0.84%	1.90%
			5560	5.066	36.234	5.024	35.574	0.84%	1.86%
02/14/2020	5200-5800 Head	21.6	5580	5.092	36.188	5.045	35.551	0.93%	1.79%
			5600	5.123	36.159	5.065	35.529	1.15%	1.77%
			5610	5.138	36.141	5.076	35.518	1.22%	1.75%
			5620	5.152	36.132	5.086	35.506	1.30%	1.76%
			5640	5.176	36.104	5.106	35.483	1.37%	1.75%
			5660	5.196	36.058	5.127	35.460	1.35%	1.69%
			5670	5.206	36.040	5.137	35.449	1.34%	1.67%
			5680	5.216	36.021	5.147	35.437	1.34%	1.65%
			5690	5.228	35.997	5.158	35.426	1.36%	1.61%
			5700	5.243	35.973	5.168	35.414	1.45%	1.58%
			5710	5.260	35.958	5.178	35.403	1.58%	1.57%
			5720	5.274	35.943	5.188	35.391	1.66%	1.56%
			5745	5.305	35.917	5.214	35.363	1.75%	1.57%
			5750	5.310	35.910	5.219	35.357	1.74%	1.56%
			5755	5.315	35.902	5.224	35.351	1.74%	1.56%
			5765	5.325	35.887	5.234	35.340	1.74%	1.55%
			5775	5.334	35.870	5.245	35.329	1.70%	1.53%
			5785	5.344	35.852	5.255	35.317	1.69%	1.51%
			5795	5.355	35.829	5.265	35.305	1.71%	1.48%
			5800	5.362	35.813	5.270	35.300	1.75%	1.45%
			5805	5.369	35.802	5.275	35.294	1.78%	1.44%
			5825	5.396	35.768	5.296	35.271	1.89%	1.41%
			5180	4.522	35.057	4.635	36.009	-2.44%	-2.64%
			5190	4.529	35.044	4.645	35.998	-2.50%	-2.65%
			5200	4.538	35.023	4.655	35.986	-2.51%	-2.68%
			5210	4.550	35.005	4.666	35.975	-2.49%	-2.70%
			5220	4.557	34.987	4.676	35.963	-2.54%	-2.71%
			5240	4.576	34.943	4.696	35.940	-2.56%	-2.77%
			5250	4.592	34.919	4.706	35.929	-2.42%	-2.81%
			5260	4.607	34.906	4.717	35.917	-2.33%	-2.81%
			5270	4.618	34.890	4.727	35.906	-2.31%	-2.83%
			5280	4.630	34.866	4.737	35.894	-2.26%	-2.86%
			5290	4.643	34.852	4.748	35.883	-2.21%	-2.87%
			5300	4.656	34.843	4.758	35.871	-2.14%	-2.87%
			5310	4.665	34.830	4.768	35.860	-2.16%	-2.87%
			5320	4.672	34.805	4.778	35.849	-2.22%	-2.91%
			5500	4.875	34.476	4.963	35.643	-1.77%	-3.27%
			5510	4.886	34.462	4.973	35.632	-1.75%	-3.28%
			5520	4.896	34.453	4.983	35.620	-1.75%	-3.28%
			5530	4.906	34.451	4.994	35.609	-1.76%	-3.25%
			5540	4.915	34.431	5.004	35.597	-1.78%	-3.28%
			5550	4.925	34.410	5.014	35.586	-1.78%	-3.30%
			5560	4.934	34.383	5.024	35.574	-1.79%	-3.35%
02/24/2020	5200-5800 Head	20.3	5580	4.962	34.339	5.045	35.551	-1.65%	-3.41%
			5600	4.989	34.292	5.065	35.529	-1.50%	-3.48%
			5610	5.003	34.279	5.076	35.518	-1.44%	-3.49%
			5620	5.017	34.262	5.086	35.506	-1.36%	-3.50%
			5640	5.040	34.241	5.106	35.483	-1.29%	-3.50%
			5660	5.057	34.213	5.127	35.460	-1.37%	-3.52%
			5670	5.068	34.185	5.137	35.449	-1.34%	-3.57%
			5680	5.078	34.157	5.147	35.437	-1.34%	-3.61%
			5690	5.088	34.138	5.158	35.426	-1.36%	-3.64%
			5700	5.100	34.122	5.168	35.414	-1.32%	-3.65%
			5710	5.115	34.104	5.178	35.403	-1.22%	-3.67%
			5720	5.129	34.085	5.188	35.391	-1.14%	-3.69%
			5745	5.162	34.044	5.214	35.363	-1.00%	-3.73%
			5750	5.168	34.041	5.219	35.357	-0.98%	-3.72%
			5755	5.172	34.038	5.224	35.351	-1.00%	-3.71%
			5765	5.181	34.034	5.234	35.340	-1.01%	-3.70%
			5775	5.192	34.027	5.245	35.329	-1.01%	-3.69%
			5785	5.202	34.006	5.255	35.317	-1.01%	-3.71%
			5795	5.210	33.976	5.265	35.305	-1.04%	-3.76%
			5800	5.216	33.964	5.270	35.300	-1.02%	-3.78%
			5805	5.220	33.951	5.275	35.294	-1.04%	-3.81%
			5825	5.247	33.910	5.296	35.271	-0.93%	-3.86%

Table 10-3
Measured Tissue Properties – Cont'd

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
02/03/2020	750 Body	19.5	680	0.923	53.667	0.958	55.804	-3.65%	-3.83%
			695	0.929	53.620	0.959	55.745	-3.13%	-3.81%
			700	0.930	53.603	0.959	55.726	-3.02%	-3.81%
			710	0.934	53.576	0.960	55.687	-2.71%	-3.79%
			725	0.940	53.535	0.961	55.629	-2.19%	-3.76%
			740	0.946	53.501	0.963	55.570	-1.77%	-3.72%
			750	0.950	53.477	0.964	55.531	-1.45%	-3.70%
			755	0.952	53.465	0.964	55.512	-1.24%	-3.69%
			770	0.958	53.428	0.965	55.453	-0.73%	-3.65%
			785	0.963	53.385	0.966	55.395	-0.31%	-3.63%
			800	0.969	53.343	0.967	55.336	0.21%	-3.60%
02/05/2020	835 Body	20.6	820	0.975	52.939	0.969	55.258	0.62%	-4.20%
			835	0.981	52.901	0.970	55.200	1.13%	-4.16%
			850	0.988	52.866	0.988	55.154	0.00%	-4.15%
02/07/2020	835 Body	20.7	820	0.962	54.540	0.969	55.258	-0.72%	-1.30%
			835	0.969	54.501	0.970	55.200	-0.10%	-1.27%
			850	0.976	54.457	0.988	55.154	-1.21%	-1.26%
02/19/2020	835 Body	20.7	820	0.985	53.197	0.969	55.258	1.65%	-3.73%
			835	0.991	53.158	0.970	55.200	2.16%	-3.70%
			850	0.998	53.118	0.988	55.154	1.01%	-3.69%
02/03/2020	1750 Body	20.3	1710	1.458	54.955	1.463	53.537	-0.34%	2.65%
			1720	1.470	54.910	1.469	53.511	0.07%	2.61%
			1745	1.498	54.806	1.485	53.445	0.88%	2.55%
			1750	1.504	54.787	1.488	53.432	1.08%	2.54%
			1770	1.525	54.712	1.501	53.379	1.60%	2.50%
			1790	1.546	54.641	1.514	53.326	2.11%	2.47%
02/05/2020	1750 Body	21.1	1710	1.475	54.463	1.463	53.537	0.82%	1.73%
			1720	1.487	54.419	1.469	53.511	1.23%	1.70%
			1745	1.511	54.364	1.485	53.445	1.75%	1.72%
			1750	1.520	54.334	1.488	53.432	2.15%	1.69%
			1770	1.539	54.287	1.501	53.379	2.53%	1.70%
			1790	1.561	54.188	1.514	53.326	3.10%	1.62%
02/10/2020	1750 Body	20.5	1710	1.445	55.236	1.463	53.537	-1.23%	3.17%
			1720	1.457	55.198	1.469	53.511	-0.82%	3.15%
			1745	1.486	55.118	1.485	53.445	0.07%	3.13%
			1750	1.492	55.102	1.488	53.432	0.27%	3.13%
			1770	1.514	55.031	1.501	53.379	0.87%	3.09%
			1790	1.536	54.961	1.514	53.326	1.45%	3.07%
02/01/2020	1900 Body	22.4	1850	1.480	51.933	1.520	53.300	-2.63%	-2.56%
			1860	1.491	51.894	1.520	53.300	-1.91%	-2.64%
			1880	1.512	51.816	1.520	53.300	-0.53%	-2.78%
			1900	1.535	51.741	1.520	53.300	0.99%	-2.92%
			1905	1.540	51.721	1.520	53.300	1.32%	-2.96%
			1910	1.546	51.703	1.520	53.300	1.71%	-3.00%
02/04/2020	1900 Body	23.9	1850	1.513	52.168	1.520	53.300	-0.46%	-2.12%
			1860	1.525	52.132	1.520	53.300	0.33%	-2.19%
			1880	1.547	52.055	1.520	53.300	1.78%	-2.34%
			1900	1.569	51.982	1.520	53.300	3.22%	-2.47%
			1905	1.574	51.963	1.520	53.300	3.55%	-2.51%
			1910	1.580	51.945	1.520	53.300	3.95%	-2.54%
02/12/2020	1900 Body	23.9	1850	1.509	51.756	1.520	53.300	-0.72%	-2.90%
			1860	1.520	51.726	1.520	53.300	0.00%	-2.95%
			1880	1.542	51.669	1.520	53.300	1.45%	-3.06%
			1900	1.564	51.603	1.520	53.300	2.89%	-3.18%
			1905	1.570	51.585	1.520	53.300	3.29%	-3.22%
			1910	1.575	51.565	1.520	53.300	3.62%	-3.26%

Table 10-4
Measured Tissue Properties – Cont'd

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
01/29/2020	2450 Body	22.0	2400	1.944	51.775	1.902	52.767	2.21%	-1.88%
			2450	2.013	51.575	1.950	52.700	3.23%	-2.13%
			2500	2.083	51.376	2.021	52.636	3.07%	-2.39%
			2510	2.097	51.335	2.035	52.623	3.05%	-2.45%
			2535	2.133	51.228	2.071	52.592	2.99%	-2.59%
			2550	2.154	51.160	2.092	52.573	2.96%	-2.69%
			2560	2.168	51.116	2.106	52.560	2.94%	-2.75%
			2600	2.225	50.951	2.163	52.509	2.87%	-2.97%
			2650	2.295	50.736	2.234	52.445	2.73%	-3.26%
			2680	2.336	50.612	2.277	52.407	2.59%	-3.43%
			2700	2.364	50.534	2.305	52.382	2.56%	-3.53%
01/30/2020	2450 Body	22.8	2300	1.856	51.797	1.809	52.900	2.60%	-2.09%
			2310	1.867	51.767	1.816	52.887	2.81%	-2.12%
			2320	1.878	51.740	1.826	52.873	2.85%	-2.14%
			2400	1.966	51.530	1.902	52.767	3.36%	-2.34%
			2450	2.024	51.394	1.950	52.700	3.79%	-2.48%
			2500	2.083	51.258	2.021	52.636	3.07%	-2.62%
02/11/2020	2450 Body	22.3	2400	1.979	51.176	1.902	52.767	4.05%	-3.02%
			2450	2.040	51.030	1.950	52.700	4.62%	-3.17%
			2500	2.098	50.866	2.021	52.636	3.81%	-3.36%
02/17/2020	2450 Body	24.5	2400	1.977	51.485	1.902	52.767	3.94%	-2.43%
			2450	2.034	51.346	1.950	52.700	4.31%	-2.57%
			2500	2.093	51.199	2.021	52.636	3.56%	-2.73%
			2510	2.106	51.169	2.035	52.623	3.49%	-2.76%
			2535	2.137	51.096	2.071	52.592	3.19%	-2.84%
			2550	2.154	51.062	2.092	52.573	2.96%	-2.87%
			2560	2.166	51.037	2.106	52.560	2.85%	-2.90%
			2600	2.211	50.915	2.163	52.509	2.22%	-3.04%
			2650	2.272	50.746	2.234	52.445	1.70%	-3.24%
			2680	2.308	50.657	2.277	52.407	1.36%	-3.34%
			2700	2.332	50.599	2.305	52.382	1.17%	-3.40%
02/14/2020	3600 Body	21.4	3500	3.399	49.901	3.314	51.321	2.56%	-2.77%
			3550	3.454	49.840	3.372	51.254	2.43%	-2.76%
			3560	3.466	49.817	3.384	51.240	2.42%	-2.78%
			3600	3.505	49.755	3.431	51.186	2.16%	-2.80%
			3650	3.561	49.683	3.489	51.118	2.06%	-2.81%
			3690	3.602	49.609	3.536	51.063	1.87%	-2.85%
			3700	3.613	49.596	3.548	51.050	1.83%	-2.85%
02/10/2020	5200-5800 Body	23.1	5180	5.441	47.224	5.276	49.041	3.13%	-3.71%
			5190	5.453	47.224	5.288	49.028	3.12%	-3.68%
			5200	5.472	47.217	5.299	49.014	3.26%	-3.67%
			5210	5.488	47.185	5.311	49.001	3.33%	-3.71%
			5220	5.497	47.152	5.323	48.987	3.27%	-3.75%
			5240	5.522	47.119	5.346	48.960	3.29%	-3.76%
			5250	5.540	47.095	5.358	48.947	3.40%	-3.78%
			5260	5.555	47.063	5.369	48.933	3.46%	-3.82%
			5270	5.568	47.040	5.381	48.919	3.48%	-3.84%
			5280	5.579	47.032	5.393	48.906	3.45%	-3.83%
			5290	5.593	47.030	5.404	48.892	3.50%	-3.81%
			5300	5.606	47.018	5.416	48.879	3.51%	-3.81%
			5310	5.617	46.999	5.428	48.865	3.48%	-3.82%
			5320	5.625	46.973	5.439	48.851	3.42%	-3.84%
			5500	5.870	46.664	5.650	48.607	3.89%	-4.00%
			5510	5.886	46.644	5.661	48.594	3.97%	-4.01%
			5520	5.897	46.636	5.673	48.580	3.95%	-4.00%
			5530	5.908	46.641	5.685	48.566	3.92%	-3.96%
			5540	5.923	46.634	5.696	48.553	3.99%	-3.95%
			5550	5.936	46.597	5.708	48.539	3.99%	-4.00%
			5560	5.947	46.560	5.720	48.526	3.97%	-4.05%
			5580	5.975	46.528	5.743	48.499	4.04%	-4.06%
			5600	6.006	46.496	5.766	48.471	4.16%	-4.07%
			5610	6.020	46.465	5.778	48.458	4.19%	-4.11%
			5620	6.034	46.447	5.790	48.444	4.21%	-4.12%
			5640	6.065	46.443	5.813	48.417	4.34%	-4.08%
			5660	6.093	46.402	5.837	48.390	4.39%	-4.11%
			5670	6.103	46.381	5.848	48.376	4.36%	-4.12%
			5680	6.113	46.364	5.860	48.363	4.32%	-4.13%
			5690	6.128	46.343	5.872	48.349	4.36%	-4.15%
			5700	6.146	46.311	5.883	48.336	4.47%	-4.19%
			5710	6.160	46.293	5.895	48.322	4.50%	-4.20%
			5720	6.170	46.287	5.907	48.309	4.45%	-4.19%
			5745	6.210	46.260	5.936	48.275	4.62%	-4.17%
			5750	6.219	46.246	5.942	48.268	4.66%	-4.19%
			5755	6.225	46.234	5.947	48.261	4.67%	-4.20%
			5765	6.234	46.221	5.959	48.248	4.61%	-4.20%
			5775	6.248	46.218	5.971	48.234	4.64%	-4.18%
			5785	6.263	46.215	5.982	48.220	4.70%	-4.16%
			5795	6.280	46.182	5.994	48.207	4.77%	-4.20%
			5800	6.285	46.161	6.000	48.200	4.75%	-4.23%
			5805	6.289	46.144	6.006	48.193	4.71%	-4.25%
			5825	6.313	46.127	6.029	48.166	4.71%	-4.23%

Table 10-5
Measured Tissue Properties – Cont'd

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
02/17/2020	5200-5800 Body	23.7	5180	5.339	49.711	5.276	49.041	1.19%	1.37%
			5190	5.350	49.700	5.288	49.028	1.17%	1.37%
			5200	5.360	49.686	5.299	49.014	1.15%	1.37%
			5210	5.372	49.656	5.311	49.001	1.15%	1.34%
			5220	5.385	49.627	5.323	48.987	1.16%	1.31%
			5240	5.414	49.595	5.346	48.960	1.27%	1.30%
			5250	5.428	49.590	5.358	48.947	1.31%	1.31%
			5260	5.441	49.565	5.369	48.933	1.34%	1.29%
			5270	5.455	49.560	5.381	48.919	1.38%	1.31%
			5280	5.471	49.543	5.393	48.906	1.45%	1.30%
			5290	5.485	49.531	5.404	48.892	1.50%	1.31%
			5300	5.494	49.512	5.416	48.879	1.44%	1.30%
			5310	5.504	49.494	5.428	48.865	1.40%	1.29%
			5320	5.517	49.480	5.439	48.851	1.43%	1.29%
			5500	5.762	49.185	5.650	48.607	1.98%	1.19%
			5510	5.773	49.166	5.661	48.594	1.98%	1.18%
			5520	5.788	49.162	5.673	48.580	2.03%	1.20%
			5530	5.801	49.157	5.685	48.566	2.04%	1.22%
			5540	5.816	49.131	5.696	48.553	2.11%	1.19%
			5550	5.825	49.112	5.708	48.539	2.05%	1.18%
			5560	5.835	49.095	5.720	48.526	2.01%	1.17%
			5580	5.866	49.065	5.743	48.499	2.14%	1.17%
			5600	5.899	49.019	5.766	48.471	2.31%	1.13%
			5610	5.913	49.007	5.778	48.458	2.34%	1.13%
			5620	5.928	48.987	5.790	48.444	2.38%	1.12%
			5640	5.961	48.963	5.813	48.417	2.55%	1.13%
			5660	5.989	48.937	5.837	48.390	2.60%	1.13%
			5670	6.000	48.922	5.848	48.376	2.60%	1.13%
			5680	6.011	48.908	5.860	48.363	2.58%	1.13%
			5690	6.023	48.893	5.872	48.349	2.57%	1.13%
			5700	6.037	48.875	5.883	48.336	2.62%	1.12%
			5710	6.054	48.853	5.895	48.322	2.70%	1.10%
			5720	6.068	48.832	5.907	48.309	2.73%	1.08%
			5745	6.105	48.808	5.936	48.275	2.85%	1.10%
			5750	6.111	48.804	5.942	48.268	2.84%	1.11%
			5755	6.119	48.797	5.947	48.261	2.89%	1.11%
			5765	6.130	48.782	5.959	48.248	2.87%	1.11%
			5775	6.144	48.766	5.971	48.234	2.90%	1.10%
			5785	6.160	48.751	5.982	48.220	2.98%	1.10%
			5795	6.176	48.735	5.994	48.207	3.04%	1.10%
			5800	6.182	48.733	6.000	48.200	3.03%	1.11%
			5805	6.187	48.724	6.006	48.193	3.01%	1.10%
			5825	6.213	48.672	6.029	48.166	3.05%	1.05%

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.

10.2 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 Appendix E.

Table 10-6
System Verification Results – 1g

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	Measured SAR_{1g} (W/kg)	1 W Target SAR_{1g} (W/kg)	1 W Normalized SAR_{1g} (W/kg)	$Deviation_{1g}$ (%)
L	750	HEAD	02/05/2020	22.3	20.6	0.200	1161	7410	1.740	8.030	8.700	8.34%
E	835	HEAD	02/02/2020	24.3	21.6	0.200	4d047	7417	1.930	9.420	9.650	2.44%
L	835	HEAD	02/07/2020	22.3	20.2	0.200	4d132	7410	1.890	9.650	9.450	-2.07%
L	835	HEAD	02/09/2020	21.4	20.5	0.200	4d133	7410	2.030	9.430	10.150	7.64%
L	835	HEAD	02/20/2020	23.7	20.2	0.200	4d132	7410	2.010	9.650	10.050	4.15%
D	1750	HEAD	02/02/2020	21.1	20.3	0.100	1008	3914	3.800	36.200	38.000	4.97%
L	1900	HEAD	02/03/2020	21.9	19.4	0.100	5d148	7410	4.000	39.100	40.000	2.30%
E	2300	HEAD	01/30/2020	22.5	21.6	0.100	1073	7417	5.020	49.200	50.200	2.03%
E	2450	HEAD	02/08/2020	22.2	21.5	0.100	981	3589	5.240	52.300	52.400	0.19%
E	2450	HEAD	02/11/2020	24.3	23.0	0.100	719	3589	5.300	53.100	53.000	-0.19%
M	2450	HEAD	02/17/2020	21.9	20.9	0.100	797	7570	5.360	52.700	53.600	1.71%
E	2600	HEAD	02/08/2020	22.2	21.5	0.100	1064	3589	5.600	58.100	56.000	-3.61%
D	3500	HEAD	02/11/2020	21.8	21.4	0.100	1059	7488	6.660	64.600	66.600	3.10%
D	3700	HEAD	02/11/2020	21.8	21.4	0.100	1018	7488	6.300	65.800	63.000	-4.26%
H	5250	HEAD	02/14/2020	21.4	21.3	0.050	1057	7406	3.640	79.200	72.800	-8.08%
H	5600	HEAD	02/14/2020	21.4	21.3	0.050	1057	7406	4.140	84.100	82.800	-1.55%
H	5750	HEAD	02/14/2020	21.4	21.3	0.050	1057	7406	3.710	80.500	74.200	-7.83%
H	5250	HEAD	02/24/2020	23.0	20.3	0.050	1057	7406	3.710	79.200	74.200	-6.31%
H	5600	HEAD	02/24/2020	23.0	20.3	0.050	1057	7406	3.900	84.100	78.000	-7.25%
H	5750	HEAD	02/24/2020	23.0	20.3	0.050	1057	7406	3.810	80.500	76.200	-5.34%
K	750	BODY	02/03/2020	23.1	19.5	0.200	1054	7547	1.830	8.550	9.150	7.02%
P	835	BODY	02/05/2020	21.5	21.1	0.200	4d132	7551	2.020	9.960	10.100	1.41%
P	835	BODY	02/07/2020	21.5	20.7	0.200	4d132	7551	1.960	9.960	9.800	-1.61%
O	835	BODY	02/19/2020	21.9	20.7	0.200	4d132	7552	2.100	9.960	10.500	5.42%
I	1750	BODY	02/03/2020	21.5	20.3	0.100	1148	7357	3.930	37.700	39.300	4.24%
I	1750	BODY	02/05/2020	21.8	20.9	0.100	1148	7357	3.980	37.700	39.800	5.57%
I	1750	BODY	02/10/2020	21.5	20.5	0.100	1148	7357	3.810	37.700	38.100	1.06%
J	1900	BODY	02/01/2020	23.1	22.8	0.100	5d149	7571	4.190	39.400	41.900	6.35%
J	1900	BODY	02/04/2020	22.0	23.4	0.100	5d149	7571	4.210	39.400	42.100	6.85%
J	1900	BODY	02/12/2020	23.5	23.5	0.100	5d149	7571	4.240	39.400	42.400	7.61%
K	2300	BODY	01/30/2020	23.9	22.8	0.100	1073	7547	4.850	47.700	48.500	1.68%
L	2450	BODY	01/29/2020	23.0	21.0	0.100	981	7410	4.860	50.900	48.600	-4.52%
K	2450	BODY	01/30/2020	23.9	22.8	0.100	797	7547	5.170	51.100	51.700	1.17%
K	2450	BODY	02/11/2020	22.3	23.0	0.100	797	7547	5.150	51.100	51.500	0.78%
K	2450	BODY	02/17/2020	23.5	22.6	0.100	981	7547	5.160	50.900	51.600	1.38%
L	2600	BODY	01/29/2020	23.0	21.0	0.100	1064	7410	5.390	55.600	53.900	-3.06%
K	2600	BODY	02/17/2020	23.5	22.6	0.100	1064	7547	5.500	55.600	55.000	-1.08%
D	3500	BODY	02/14/2020	21.8	21.4	0.100	1059	7488	6.410	65.100	64.100	-1.54%
D	3700	BODY	02/14/2020	21.8	21.4	0.100	1018	7488	6.560	64.300	65.600	2.02%
G	5250	BODY	02/17/2020	22.3	22.7	0.050	1191	7409	3.690	77.000	73.800	-4.16%
G	5600	BODY	02/17/2020	22.3	22.7	0.050	1191	7409	3.990	78.600	79.800	1.53%
G	5750	BODY	02/17/2020	22.3	22.7	0.050	1191	7409	3.770	76.900	75.400	-1.95%

Table 10-7
System Verification Results – 10g

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	Measured SAR_{10g} (W/kg)	1 W Target SAR_{10g} (W/kg)	1 W Normalized SAR_{10g} (W/kg)	$Deviation_{10g}$ (%)
I	1750	BODY	02/03/2020	21.5	20.3	0.100	1148	7357	2.080	19.800	20.800	5.05%
I	1750	BODY	02/05/2020	21.8	20.9	0.100	1148	7357	2.110	19.800	21.100	6.57%
J	1900	BODY	02/04/2020	22.0	23.4	0.100	5d149	7571	2.160	20.700	21.600	4.35%
G	5250	BODY	02/10/2020	22.3	23.1	0.050	1057	7409	1.040	21.100	20.800	-1.42%
G	5600	BODY	02/10/2020	22.3	23.1	0.050	1057	7409	1.100	22.300	22.000	-1.35%
G	5750	BODY	02/10/2020	22.3	23.1	0.050	1057	7409	1.060	21.200	21.200	0.00%

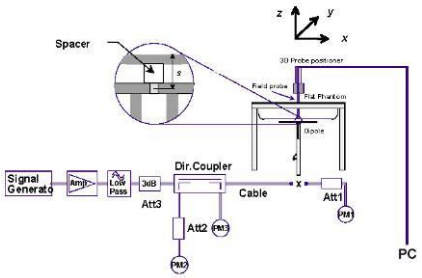

Figure 10-1
System Verification Setup Diagram

Figure 10-2
System Verification Setup Photo

11 SAR DATA SUMMARY

11.1 Standalone Head SAR Data

Table 11-1
Cell. CDMA Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
836.52	384	Cell. CDMA	RC3 / SO55	25.5	25.10	-0.10	Right	Cheek	02854	1:1	0.164	1.096	0.180	
836.52	384	Cell. CDMA	RC3 / SO55	25.5	25.10	-0.11	Right	Tilt	02854	1:1	0.085	1.096	0.093	
836.52	384	Cell. CDMA	RC3 / SO55	25.5	25.10	-0.05	Left	Cheek	02854	1:1	0.161	1.096	0.176	
836.52	384	Cell. CDMA	RC3 / SO55	25.5	25.10	0.15	Left	Tilt	02854	1:1	0.079	1.096	0.087	
836.52	384	Cell. CDMA	EVDO Rev. A	25.5	25.21	0.07	Right	Cheek	02854	1:1	0.171	1.069	0.183	A1
836.52	384	Cell. CDMA	EVDO Rev. A	25.5	25.21	0.08	Right	Tilt	02854	1:1	0.082	1.069	0.088	
836.52	384	Cell. CDMA	EVDO Rev. A	25.5	25.21	-0.13	Left	Cheek	02854	1:1	0.171	1.069	0.183	
836.52	384	Cell. CDMA	EVDO Rev. A	25.5	25.21	0.20	Left	Tilt	02854	1:1	0.087	1.069	0.093	
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 11-2
GSM 850 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	# of Time Slots	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
836.60	190	GSM 850	GSM	33.4	32.80	0.05	Right	Cheek	02847	1	1:8.3	0.099	1.148	0.114	
836.60	190	GSM 850	GSM	33.4	32.80	0.05	Right	Tilt	02847	1	1:8.3	0.054	1.148	0.062	
836.60	190	GSM 850	GSM	33.4	32.80	-0.12	Left	Cheek	02847	1	1:8.3	0.102	1.148	0.117	
836.60	190	GSM 850	GSM	33.4	32.80	-0.13	Left	Tilt	02847	1	1:8.3	0.051	1.148	0.059	
836.60	190	GSM 850	GPRS	31.2	30.82	-0.13	Right	Cheek	02847	2	1:4.15	0.105	1.091	0.115	
836.60	190	GSM 850	GPRS	31.2	30.82	0.01	Right	Tilt	02847	2	1:4.15	0.055	1.091	0.060	
836.60	190	GSM 850	GPRS	31.2	30.82	-0.18	Left	Cheek	02847	2	1:4.15	0.106	1.091	0.116	A2
836.60	190	GSM 850	GPRS	31.2	30.82	-0.04	Left	Tilt	02847	2	1:4.15	0.054	1.091	0.059	
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 11-3
UMTS 850 Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
836.60	4183	UMTS 850	RMC	25.5	25.38	0.08	Right	Cheek	02847	1:1	0.145	1.028	0.149	
836.60	4183	UMTS 850	RMC	25.5	25.38	0.08	Right	Tilt	02847	1:1	0.079	1.028	0.081	
836.60	4183	UMTS 850	RMC	25.5	25.38	0.09	Left	Cheek	02847	1:1	0.176	1.028	0.181	A3
836.60	4183	UMTS 850	RMC	25.5	25.38	0.08	Left	Tilt	02847	1:1	0.066	1.028	0.068	
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 11-4
UMTS 1750 Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1732.40	1412	UMTS 1750	RMC	25.2	25.16	0.07	Right	Cheek	02854	1:1	0.068	1.009	0.069	
1732.40	1412	UMTS 1750	RMC	25.2	25.16	0.17	Right	Tilt	02854	1:1	0.080	1.009	0.081	
1732.40	1412	UMTS 1750	RMC	25.2	25.16	0.10	Left	Cheek	02854	1:1	0.098	1.009	0.099	A4
1732.40	1412	UMTS 1750	RMC	25.2	25.16	0.14	Left	Tilt	02854	1:1	0.072	1.009	0.073	
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 11-5
PCS CDMA Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1880.00	600	PCS CDMA	RC3 / SO55	25.2	24.84	0.13	Right	Cheek	02847	1:1	0.065	1.086	0.071	
1880.00	600	PCS CDMA	RC3 / SO55	25.2	24.84	-0.19	Right	Tilt	02847	1:1	0.064	1.086	0.070	
1880.00	600	PCS CDMA	RC3 / SO55	25.2	24.84	0.10	Left	Cheek	02847	1:1	0.067	1.086	0.073	
1880.00	600	PCS CDMA	RC3 / SO55	25.2	24.84	0.00	Left	Tilt	02847	1:1	0.062	1.086	0.067	
1880.00	600	PCS CDMA	EVDO Rev. A	25.2	24.85	0.13	Right	Cheek	02847	1:1	0.061	1.084	0.066	
1880.00	600	PCS CDMA	EVDO Rev. A	25.2	24.85	0.13	Right	Tilt	02847	1:1	0.061	1.084	0.066	
1880.00	600	PCS CDMA	EVDO Rev. A	25.2	24.85	0.18	Left	Cheek	02847	1:1	0.059	1.084	0.064	
1880.00	600	PCS CDMA	EVDO Rev. A	25.2	24.85	0.14	Left	Tilt	02847	1:1	0.069	1.084	0.075	A5
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 11-6
GSM 1900 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	# of Time Slots	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1880.00	661	GSM 1900	GSM	30.2	29.36	0.13	Right	Cheek	02854	1	1:8.3	0.029	1.213	0.035	
1880.00	661	GSM 1900	GSM	30.2	29.36	0.17	Right	Tilt	02854	1	1:8.3	0.021	1.213	0.025	
1880.00	661	GSM 1900	GSM	30.2	29.36	0.14	Left	Cheek	02854	1	1:8.3	0.027	1.213	0.033	
1880.00	661	GSM 1900	GSM	30.2	29.36	0.16	Left	Tilt	02854	1	1:8.3	0.015	1.213	0.018	
1880.00	661	GSM 1900	GPRS	29.2	28.65	0.05	Right	Cheek	02854	2	1:4.15	0.047	1.135	0.053	A6
1880.00	661	GSM 1900	GPRS	29.2	28.65	-0.13	Right	Tilt	02854	2	1:4.15	0.032	1.135	0.036	
1880.00	661	GSM 1900	GPRS	29.2	28.65	0.07	Left	Cheek	02854	2	1:4.15	0.041	1.135	0.047	
1880.00	661	GSM 1900	GPRS	29.2	28.65	0.05	Left	Tilt	02854	2	1:4.15	0.032	1.135	0.036	
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 11-7
UMTS 1900 Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1880.00	9400	UMTS 1900	RMC	25.2	25.19	0.12	Right	Cheek	02847	1:1	0.063	1.002	0.063	
1880.00	9400	UMTS 1900	RMC	25.2	25.19	-0.03	Right	Tilt	02847	1:1	0.059	1.002	0.059	
1880.00	9400	UMTS 1900	RMC	25.2	25.19	0.08	Left	Cheek	02847	1:1	0.069	1.002	0.069	A7
1880.00	9400	UMTS 1900	RMC	25.2	25.19	0.02	Left	Tilt	02847	1:1	0.065	1.002	0.065	
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 11-8
LTE Band 12 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
707.50	23095	Mid	LTE Band 12	10	25.5	25.40	0.05	0	Right	Cheek	QPSK	1	49	02862	1:1	0.175	1.023	0.179	A8
707.50	23095	Mid	LTE Band 12	10	24.5	24.13	-0.01	1	Right	Cheek	QPSK	25	25	02862	1:1	0.110	1.089	0.120	
707.50	23095	Mid	LTE Band 12	10	25.5	25.40	0.14	0	Right	Tilt	QPSK	1	49	02862	1:1	0.081	1.023	0.083	
707.50	23095	Mid	LTE Band 12	10	24.5	24.13	0.18	1	Right	Tilt	QPSK	25	25	02862	1:1	0.060	1.089	0.065	
707.50	23095	Mid	LTE Band 12	10	25.5	25.40	0.10	0	Left	Cheek	QPSK	1	49	02862	1:1	0.172	1.023	0.176	
707.50	23095	Mid	LTE Band 12	10	24.5	24.13	-0.01	1	Left	Cheek	QPSK	25	25	02862	1:1	0.120	1.089	0.131	
707.50	23095	Mid	LTE Band 12	10	25.5	25.40	-0.10	0	Left	Tilt	QPSK	1	49	02862	1:1	0.093	1.023	0.095	
707.50	23095	Mid	LTE Band 12	10	24.5	24.13	0.07	1	Left	Tilt	QPSK	25	25	02862	1:1	0.063	1.089	0.069	
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 11-9
LTE Band 13 Head SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
782.00	23230	Mid	LTE Band 13	10	25.5	25.27	-0.15	0	Right	Cheek	QPSK	1	0	02862	1:1	0.169	1.054	0.178	A9
782.00	23230	Mid	LTE Band 13	10	24.5	24.00	0.13	1	Right	Cheek	QPSK	25	12	02862	1:1	0.104	1.122	0.117	
782.00	23230	Mid	LTE Band 13	10	25.5	25.27	0.09	0	Right	Tilt	QPSK	1	0	02862	1:1	0.099	1.054	0.104	
782.00	23230	Mid	LTE Band 13	10	24.5	24.00	0.14	1	Right	Tilt	QPSK	25	12	02862	1:1	0.059	1.122	0.066	
782.00	23230	Mid	LTE Band 13	10	25.5	25.27	0.06	0	Left	Cheek	QPSK	1	0	02862	1:1	0.157	1.054	0.165	
782.00	23230	Mid	LTE Band 13	10	24.5	24.00	0.06	1	Left	Cheek	QPSK	25	12	02862	1:1	0.120	1.122	0.135	
782.00	23230	Mid	LTE Band 13	10	25.5	25.27	0.15	0	Left	Tilt	QPSK	1	0	02862	1:1	0.071	1.054	0.075	
782.00	23230	Mid	LTE Band 13	10	24.5	24.00	0.10	1	Left	Tilt	QPSK	25	12	02862	1:1	0.054	1.122	0.061	
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 11-10
LTE Band 14 Head SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
793.00	23330	Mid	LTE Band 14	10	25.5	25.50	0.00	0	Right	Cheek	QPSK	1	0	02862	1:1	0.147	1.000	0.147	
793.00	23330	Mid	LTE Band 14	10	24.5	23.81	0.17	1	Right	Cheek	QPSK	25	0	02862	1:1	0.094	1.172	0.110	
793.00	23330	Mid	LTE Band 14	10	25.5	25.50	-0.10	0	Right	Tilt	QPSK	1	0	02862	1:1	0.085	1.000	0.085	
793.00	23330	Mid	LTE Band 14	10	24.5	23.81	0.00	1	Right	Tilt	QPSK	25	0	02862	1:1	0.053	1.172	0.062	
793.00	23330	Mid	LTE Band 14	10	25.5	25.50	0.12	0	Left	Cheek	QPSK	1	0	02862	1:1	0.154	1.000	0.154	A10
793.00	23330	Mid	LTE Band 14	10	24.5	23.81	0.06	1	Left	Cheek	QPSK	25	0	02862	1:1	0.096	1.172	0.113	
793.00	23330	Mid	LTE Band 14	10	25.5	25.50	-0.02	0	Left	Tilt	QPSK	1	0	02862	1:1	0.072	1.000	0.072	
793.00	23330	Mid	LTE Band 14	10	24.5	23.81	0.05	1	Left	Tilt	QPSK	25	0	02862	1:1	0.044	1.172	0.052	
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 11-11
LTE Band 5 (Cell) Head SAR

MEASUREMENT RESULTS																							
1 CC Uplink | 2 CC Uplink	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
		MHz	Ch.															(W/kg)		(W/kg)	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.40	-0.01	0	Right	Cheek	QPSK	1	0	02862	1:1	0.157	1.023	0.161	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.49	-0.01	0	Right	Cheek	QPSK	1	25	02862	1:1	0.178	1.002	0.178	A11
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	23.86	0.12	1	Right	Cheek	QPSK	25	12	02862	1:1	0.124	1.159	0.144	
2 CC Uplink	PCC	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.50	0.19	0	Right	Cheek	QPSK	1	0	02862	1:1	0.166	1.000	0.166	
	SCC	829.30	20453	Mid	LTE Band 5 (Cell)	5									24						
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.49	0.06	0	Right	Tilt	QPSK	1	25	02862	1:1	0.097	1.002	0.097	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	23.86	0.12	1	Right	Tilt	QPSK	25	12	02862	1:1	0.066	1.159	0.076	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.49	0.00	0	Left	Cheek	QPSK	1	25	02862	1:1	0.147	1.002	0.147	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	23.86	0.11	1	Left	Cheek	QPSK	25	12	02862	1:1	0.111	1.159	0.129	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.49	0.11	0	Left	Tilt	QPSK	1	25	02862	1:1	0.073	1.002	0.073	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	23.86	0.09	1	Left	Tilt	QPSK	25	12	02862	1:1	0.054	1.159	0.063	
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 11-12
LTE Band 66 (AWS) Head SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.2	25.20	0.13	0	Right	Cheek	QPSK	1	0	02862	1:1	0.097	1.000	0.097	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.2	24.20	0.12	1	Right	Cheek	QPSK	50	25	02862	1:1	0.077	1.000	0.077	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.2	25.20	0.13	0	Right	Tilt	QPSK	1	0	02862	1:1	0.075	1.000	0.075	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.2	24.20	0.13	1	Right	Tilt	QPSK	50	25	02862	1:1	0.063	1.000	0.063	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.2	25.20	0.06	0	Left	Cheek	QPSK	1	0	02862	1:1	0.118	1.000	0.118	A12
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.2	24.20	0.05	1	Left	Cheek	QPSK	50	25	02862	1:1	0.086	1.000	0.086	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.2	25.20	0.11	0	Left	Tilt	QPSK	1	0	02862	1:1	0.067	1.000	0.067	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.2	24.20	0.21	1	Left	Tilt	QPSK	50	25	02862	1:1	0.063	1.000	0.063	
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 11-13
LTE Band 2 (PCS) Head SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	25.2	25.01	-0.19	0	Right	Cheek	QPSK	1	99	02862	1:1	0.085	1.045	0.089	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	24.2	24.04	0.12	1	Right	Cheek	QPSK	50	50	02862	1:1	0.071	1.038	0.074	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	25.2	25.01	0.06	0	Right	Tilt	QPSK	1	99	02862	1:1	0.079	1.045	0.083	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	24.2	24.04	-0.07	1	Right	Tilt	QPSK	50	50	02862	1:1	0.065	1.038	0.067	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	25.2	25.01	-0.07	0	Left	Cheek	QPSK	1	99	02862	1:1	0.086	1.045	0.090	A13
1880.00	18900	Mid	LTE Band 2 (PCS)	20	24.2	24.04	0.09	1	Left	Cheek	QPSK	50	50	02862	1:1	0.077	1.038	0.080	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	25.2	25.01	0.03	0	Left	Tilt	QPSK	1	99	02862	1:1	0.075	1.045	0.078	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	24.2	24.04	0.21	1	Left	Tilt	QPSK	50	50	02862	1:1	0.055	1.038	0.057	
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 11-14
LTE Band 30 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
2310.00	27710	Mid	LTE Band 30	10	22.7	22.26	0.17	0	Right	Cheek	QPSK	1	0	02862	1:1	0.045	1.107	0.050	A14
2310.00	27710	Mid	LTE Band 30	10	21.7	21.17	0.15	1	Right	Cheek	QPSK	25	12	02862	1:1	0.042	1.130	0.047	
2310.00	27710	Mid	LTE Band 30	10	22.7	22.26	0.14	0	Right	Tilt	QPSK	1	0	02862	1:1	0.018	1.107	0.020	
2310.00	27710	Mid	LTE Band 30	10	21.7	21.17	0.14	1	Right	Tilt	QPSK	25	12	02862	1:1	0.012	1.130	0.014	
2310.00	27710	Mid	LTE Band 30	10	22.7	22.26	0.14	0	Left	Cheek	QPSK	1	0	02862	1:1	0.040	1.107	0.044	
2310.00	27710	Mid	LTE Band 30	10	21.7	21.17	0.13	1	Left	Cheek	QPSK	25	12	02862	1:1	0.031	1.130	0.035	
2310.00	27710	Mid	LTE Band 30	10	22.7	22.26	0.18	0	Left	Tilt	QPSK	1	0	02862	1:1	0.022	1.107	0.024	
2310.00	27710	Mid	LTE Band 30	10	21.7	21.17	0.16	1	Left	Tilt	QPSK	25	12	02862	1:1	0.016	1.130	0.018	
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 11-15
LTE Band 48 Head SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
3560.00	55340	Low	LTE Band 48	20	22.5	22.21	0.01	0	Right	Cheek	QPSK	1	0	02870	1:1.58	0.153	1.069	0.164	A15
3560.00	55340	Low	LTE Band 48	20	21.5	21.17	0.06	1	Right	Cheek	QPSK	50	25	02870	1:1.58	0.110	1.079	0.119	
3560.00	55340	Low	LTE Band 48	20	22.5	22.21	0.04	0	Right	Tilt	QPSK	1	0	02870	1:1.58	0.017	1.069	0.018	
3560.00	55340	Low	LTE Band 48	20	21.5	21.17	0.13	1	Right	Tilt	QPSK	50	25	02870	1:1.58	0.010	1.079	0.011	
3560.00	55340	Low	LTE Band 48	20	22.5	22.21	0.20	0	Left	Cheek	QPSK	1	0	02870	1:1.58	0.081	1.069	0.087	
3560.00	55340	Low	LTE Band 48	20	21.5	21.17	0.14	1	Left	Cheek	QPSK	50	25	02870	1:1.58	0.059	1.079	0.064	
3560.00	55340	Low	LTE Band 48	20	22.5	22.21	0.15	0	Left	Tilt	QPSK	1	0	02870	1:1.58	0.059	1.069	0.063	
3560.00	55340	Low	LTE Band 48	20	21.5	21.17	0.13	1	Left	Tilt	QPSK	50	25	02870	1:1.58	0.045	1.079	0.049	
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 11-16
LTE Band 41 Head SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
2636.50	41055	Mid-High	LTE Band 41	20	25.2	24.79	0.14	0	Right	Cheek	QPSK	1	50	02888	1:1.58	0.070	1.099	0.077	A16
2636.50	41055	Mid-High	LTE Band 41	20	24.2	23.76	0.14	1	Right	Cheek	QPSK	50	25	02888	1:1.58	0.052	1.107	0.058	
2636.50	41055	Mid-High	LTE Band 41	20	25.2	24.79	0.16	0	Right	Tilt	QPSK	1	50	02888	1:1.58	0.040	1.099	0.044	
2636.50	41055	Mid-High	LTE Band 41	20	24.2	23.76	0.08	1	Right	Tilt	QPSK	50	25	02888	1:1.58	0.026	1.107	0.029	
2636.50	41055	Mid-High	LTE Band 41	20	25.2	24.79	0.14	0	Left	Cheek	QPSK	1	50	02888	1:1.58	0.031	1.099	0.034	
2636.50	41055	Mid-High	LTE Band 41	20	24.2	23.76	0.19	1	Left	Cheek	QPSK	50	25	02888	1:1.58	0.027	1.107	0.030	
2636.50	41055	Mid-High	LTE Band 41	20	25.2	24.79	0.14	0	Left	Tilt	QPSK	1	50	02888	1:1.58	0.029	1.099	0.032	
2636.50	41055	Mid-High	LTE Band 41	20	24.2	23.76	0.15	1	Left	Tilt	QPSK	50	25	02888	1:1.58	0.020	1.107	0.022	
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 11-17
NR Band n5 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.7	24.68	0.16	0	Right	Cheek	DFT-S-OFDM QPSK	1	1	02904	1:1	0.034	1.005	0.034	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.7	24.45	0.12	0	Right	Cheek	DFT-S-OFDM QPSK	50	28	02904	1:1	0.036	1.059	0.038	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.7	24.68	0.14	0	Right	Tilt	DFT-S-OFDM QPSK	1	1	02904	1:1	0.017	1.005	0.017	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.7	24.45	0.15	0	Right	Tilt	DFT-S-OFDM QPSK	50	28	02904	1:1	0.018	1.059	0.019	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.7	24.68	0.14	0	Left	Cheek	DFT-S-OFDM QPSK	1	1	02896	1:1	0.063	1.005	0.063	A17
836.50	167300	Mid	NR Band n5 (Cell)	20	24.7	24.45	0.14	0	Left	Cheek	DFT-S-OFDM QPSK	50	28	02896	1:1	0.056	1.059	0.059	
836.50	167300	Mid	NR Band n5 (Cell)	20	23.7	22.71	0.14	1	Left	Cheek	CP-OFDM QPSK	1	1	02896	1:1	0.043	1.256	0.054	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.7	24.68	0.13	0	Left	Tilt	DFT-S-OFDM QPSK	1	1	02904	1:1	0.015	1.005	0.015	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.7	24.45	0.15	0	Left	Tilt	DFT-S-OFDM QPSK	50	28	02904	1:1	0.018	1.059	0.019	
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 11-18
NR Band n66 Head SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1720.00	344000	Low	NR Band n66 (AWS)	20	23.3	22.73	0.07	0	Right	Cheek	DFT-S-OFDM QPSK	1	104	02896	1:1	0.259	1.140	**0.295**	A18
1720.00	344000	Low	NR Band n66 (AWS)	20	23.3	22.64	0.11	0	Right	Cheek	DFT-S-OFDM QPSK	50	28	02896	1:1	0.240	1.164	0.279	
1720.00	344000	Low	NR Band n66 (AWS)	20	23.3	22.71	0.07	0	Right	Cheek	CP-OFDM QPSK	1	1	02896	1:1	0.248	1.146	0.284	
1720.00	344000	Low	NR Band n66 (AWS)	20	23.3	22.73	0.05	0	Right	Tilt	DFT-S-OFDM QPSK	1	104	02896	1:1	0.071	1.140	0.081	
1720.00	344000	Low	NR Band n66 (AWS)	20	23.3	22.64	0.03	0	Right	Tilt	DFT-S-OFDM QPSK	50	28	02896	1:1	0.068	1.164	0.079	
1720.00	344000	Low	NR Band n66 (AWS)	20	23.3	22.73	0.11	0	Left	Cheek	DFT-S-OFDM QPSK	1	104	02896	1:1	0.101	1.140	0.115	
1720.00	344000	Low	NR Band n66 (AWS)	20	23.3	22.64	0.14	0	Left	Cheek	DFT-S-OFDM QPSK	50	28	02896	1:1	0.087	1.164	0.101	
1720.00	344000	Low	NR Band n66 (AWS)	20	23.3	22.73	0.18	0	Left	Tilt	DFT-S-OFDM QPSK	1	104	02896	1:1	0.073	1.140	0.083	
1720.00	344000	Low	NR Band n66 (AWS)	20	23.3	22.64	0.12	0	Left	Tilt	DFT-S-OFDM QPSK	50	28	02896	1:1	0.065	1.164	0.076	
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 11-19
NR Band n2 Head SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1880.00	376000	Mid	NR Band n2 (PCS)	20	23.7	23.62	0.11	0	Right	Cheek	DFT-S-OFDM QPSK	1	104	02904	1:1	0.183	1.019	0.186	
1880.00	376000	Mid	NR Band n2 (PCS)	20	23.7	23.64	0.05	0	Right	Cheek	DFT-S-OFDM QPSK	50	28	02904	1:1	0.185	1.014	0.188	
1860.00	372000	Low	NR Band n2 (PCS)	20	23.7	23.70	0.00	0	Right	Cheek	CP-OFDM QPSK	1	1	02904	1:1	0.198	1.000	0.198	A19
1880.00	376000	Mid	NR Band n2 (PCS)	20	23.7	23.62	-0.06	0	Right	Tilt	DFT-S-OFDM QPSK	1	104	02904	1:1	0.075	1.019	0.076	
1880.00	376000	Mid	NR Band n2 (PCS)	20	23.7	23.64	0.04	0	Right	Tilt	DFT-S-OFDM QPSK	50	28	02904	1:1	0.070	1.014	0.071	
1880.00	376000	Mid	NR Band n2 (PCS)	20	23.7	23.62	0.12	0	Left	Cheek	DFT-S-OFDM QPSK	1	104	02904	1:1	0.086	1.019	0.088	
1880.00	376000	Mid	NR Band n2 (PCS)	20	23.7	23.64	0.08	0	Left	Cheek	DFT-S-OFDM QPSK	50	28	02904	1:1	0.085	1.014	0.086	
1880.00	376000	Mid	NR Band n2 (PCS)	20	23.7	23.62	0.00	0	Left	Tilt	DFT-S-OFDM QPSK	1	104	02904	1:1	0.089	1.019	0.091	
1880.00	376000	Mid	NR Band n2 (PCS)	20	23.7	23.64	0.14	0	Left	Tilt	DFT-S-OFDM QPSK	50	28	02904	1:1	0.086	1.014	0.087	
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 11-20
DTS Head SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
2437	6	802.11b	DSSS	22	15.5	15.36	0.13	Right	Cheek	1	02953	1	99.5	0.613	0.421	1.033	1.005	0.437	
2437	6	802.11b	DSSS	22	15.5	15.36	0.13	Right	Tilt	1	02953	1	99.5	0.381	0.233	1.033	1.005	0.242	
2437	6	802.11b	DSSS	22	15.5	15.36	-0.13	Left	Cheek	1	02953	1	99.5	0.238	0.173	1.033	1.005	0.180	
2437	6	802.11b	DSSS	22	15.5	15.36	-0.02	Left	Tilt	1	02953	1	99.5	0.204	-	1.033	1.005	-	
2412	1	802.11b	DSSS	22	15.5	15.46	0.14	Right	Cheek	2	02953	1	99.5	0.641	-	1.009	1.005	-	
2412	1	802.11b	DSSS	22	15.5	15.46	0.17	Right	Tilt	2	02953	1	99.5	0.757	0.410	1.009	1.005	0.416	
2412	1	802.11b	DSSS	22	15.5	15.46	0.12	Left	Cheek	2	02953	1	99.5	0.540	-	1.009	1.005	-	
2412	1	802.11b	DSSS	22	15.5	15.46	0.12	Left	Tilt	2	02953	1	99.5	0.812	0.436	1.009	1.005	**0.442**	
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 11-21
DTS MIMO Head SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
2437	6	802.11n	OFDM	20	15.5	15.20	15.5	15.40	0.16	Right	Cheek	MIMO	02805	13	99.7	0.667	0.477	1.072	1.003	0.513	A20
2437	6	802.11n	OFDM	20	15.5	15.20	15.5	15.40	0.06	Right	Tilt	MIMO	02805	13	99.7	0.600	0.370	1.072	1.003	0.398	
2437	6	802.11n	OFDM	20	15.5	15.20	15.5	15.40	0.17	Left	Cheek	MIMO	02805	13	99.7	0.389	-	1.072	1.003	-	
2437	6	802.11n	OFDM	20	15.5	15.20	15.5	15.40	0.13	Left	Tilt	MIMO	02805	13	99.7	0.564	-	1.072	1.003	-	
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 18.5 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 15.5 dBm.

Table 11-22
NII Head SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5280	56	802.11a	OFDM	20	18.0	17.56	0.19	Right	Cheek	1	02953	6	99.1	0.951	0.531	1.107	1.009	0.593	
5280	56	802.11a	OFDM	20	18.0	17.56	0.18	Right	Tilt	1	02953	6	99.1	0.461	0.198	1.107	1.009	0.221	
5280	56	802.11a	OFDM	20	18.0	17.56	0.18	Left	Cheek	1	02953	6	99.1	0.194	-	1.107	1.009	-	
5280	56	802.11a	OFDM	20	18.0	17.56	0.16	Left	Tilt	1	02953	6	99.1	0.153	-	1.107	1.009	-	
5260	52	802.11a	OFDM	20	17.0	16.71	0.05	Right	Cheek	2	02953	6	99.2	1.665	0.713	1.069	1.008	0.768	
5280	56	802.11a	OFDM	20	18.0	17.47	0.14	Right	Cheek	2	02953	6	99.2	1.359	0.750	1.130	1.008	**0.854**	
5320	64	802.11a	OFDM	20	17.0	16.53	0.13	Right	Cheek	2	02953	6	99.2	1.375	0.588	1.114	1.008	0.660	
5280	56	802.11a	OFDM	20	18.0	17.47	0.12	Right	Tilt	2	02953	6	99.2	0.805	0.519	1.130	1.008	0.591	
5280	56	802.11a	OFDM	20	18.0	17.47	0.20	Left	Cheek	2	02953	6	99.2	0.816	0.383	1.130	1.008	0.436	
5280	56	802.11a	OFDM	20	18.0	17.47	0.19	Left	Tilt	2	02953	6	99.2	0.625	-	1.130	1.008	-	
5720	144	802.11a	OFDM	20	17.0	16.81	0.17	Right	Cheek	1	02953	6	99.1	0.783	0.431	1.045	1.009	0.454	
5720	144	802.11a	OFDM	20	17.0	16.81	0.19	Right	Tilt	1	02953	6	99.1	0.343	0.168	1.045	1.009	0.177	
5720	144	802.11a	OFDM	20	17.0	16.81	0.12	Left	Cheek	1	02953	6	99.1	0.222	-	1.045	1.009	-	
5720	144	802.11a	OFDM	20	17.0	16.81	0.18	Left	Tilt	1	02953	6	99.1	0.241	-	1.045	1.009	-	
5600	120	802.11a	OFDM	20	17.0	16.97	0.12	Right	Cheek	2	02953	6	99.2	1.088	0.512	1.007	1.008	0.520	
5600	120	802.11a	OFDM	20	17.0	16.97	0.20	Right	Tilt	2	02953	6	99.2	0.941	0.430	1.007	1.008	0.436	
5600	120	802.11a	OFDM	20	17.0	16.97	0.13	Left	Cheek	2	02953	6	99.2	0.490	-	1.007	1.008	-	
5600	120	802.11a	OFDM	20	17.0	16.97	0.11	Left	Tilt	2	02953	6	99.2	0.526	-	1.007	1.008	-	
5745	149	802.11a	OFDM	20	17.0	16.75	0.14	Right	Cheek	1	02953	6	99.1	0.881	0.376	1.059	1.009	0.402	
5785	157	802.11a	OFDM	20	18.0	17.54	0.19	Right	Cheek	1	02953	6	99.1	1.067	0.605	1.112	1.009	0.679	
5825	165	802.11a	OFDM	20	18.0	17.47	0.17	Right	Cheek	1	02953	6	99.1	1.131	0.491	1.130	1.009	0.560	
5785	157	802.11a	OFDM	20	18.0	17.54	0.15	Right	Tilt	1	02953	6	99.1	0.341	0.201	1.112	1.009	0.226	
5785	157	802.11a	OFDM	20	18.0	17.54	0.13	Left	Cheek	1	02953	6	99.1	0.307	-	1.112	1.009	-	
5785	157	802.11a	OFDM	20	18.0	17.54	0.18	Left	Tilt	1	02953	6	99.1	0.305	-	1.112	1.009	-	
5825	165	802.11a	OFDM	20	18.0	17.71	-0.15	Right	Cheek	2	02953	6	99.2	0.418	0.154	1.069	1.008	0.166	
5825	165	802.11a	OFDM	20	18.0	17.71	0.12	Right	Tilt	2	02953	6	99.2	0.323	-	1.069	1.008	-	
5825	165	802.11a	OFDM	20	18.0	17.71	0.13	Left	Cheek	2	02953	6	99.2	0.169	-	1.069	1.008	-	
5825	165	802.11a	OFDM	20	18.0	17.71	0.13	Left	Tilt	2	02953	6	99.2	0.272	-	1.069	1.008	-	

ANSI / IEEE C95.1 1992 - SAFETY LIMIT	Head
Spatial Peak	1.6 W/kg (mW/g)
Uncontrolled Exposure/General Population	averaged over 1 gram

Table 11-23
NII Head SAR for Conditions with 5G NR FR2 Active

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5270	54	802.11n	OFDM	40	15.0	14.70	0.19	Right	Cheek	1	02953	13.5	99.7	0.310	0.168	1.072	1.003	0.181	
5270	54	802.11n	OFDM	40	15.0	14.70	0.11	Right	Tilt	1	02953	13.5	99.7	0.136	-	1.072	1.003	-	
5270	54	802.11n	OFDM	40	15.0	14.70	0.14	Left	Cheek	1	02953	13.5	99.7	0.045	-	1.072	1.003	-	
5270	54	802.11n	OFDM	40	15.0	14.70	0.12	Left	Tilt	1	02953	13.5	99.7	0.038	-	1.072	1.003	-	
5270	54	802.11n	OFDM	40	15.0	14.54	0.13	Right	Cheek	2	02953	13.5	99.7	0.518	0.243	1.112	1.003	0.271	
5270	54	802.11n	OFDM	40	15.0	14.54	0.13	Right	Tilt	2	02953	13.5	99.7	0.364	-	1.112	1.003	-	
5270	54	802.11n	OFDM	40	15.0	14.54	0.12	Left	Cheek	2	02953	13.5	99.7	0.326	-	1.112	1.003	-	
5270	54	802.11n	OFDM	40	15.0	14.54	0.11	Left	Tilt	2	02953	13.5	99.7	0.246	-	1.112	1.003	-	
5590	118	802.11n	OFDM	40	15.0	14.39	0.12	Right	Cheek	1	02953	13.5	99.7	0.454	0.284	1.151	1.003	0.328	
5590	118	802.11n	OFDM	40	15.0	14.39	0.11	Right	Tilt	1	02953	13.5	99.7	0.314	-	1.151	1.003	-	
5590	118	802.11n	OFDM	40	15.0	14.39	0.11	Left	Cheek	1	02953	13.5	99.7	0.115	-	1.151	1.003	-	
5590	118	802.11n	OFDM	40	15.0	14.39	0.15	Left	Tilt	1	02953	13.5	99.7	0.147	-	1.151	1.003	-	
5630	126	802.11n	OFDM	40	15.0	14.82	0.13	Right	Cheek	2	02953	13.5	99.7	0.378	0.152	1.042	1.003	0.159	
5630	126	802.11n	OFDM	40	15.0	14.82	0.14	Right	Tilt	2	02953	13.5	99.7	0.265	-	1.042	1.003	-	
5630	126	802.11n	OFDM	40	15.0	14.82	0.19	Left	Cheek	2	02953	13.5	99.7	0.147	-	1.042	1.003	-	
5630	126	802.11n	OFDM	40	15.0	14.82	0.12	Left	Tilt	2	02953	13.5	99.7	0.174	-	1.042	1.003	-	
5755	151	802.11n	OFDM	40	15.0	14.40	0.17	Right	Cheek	1	02953	13.5	99.7	0.336	0.167	1.148	1.003	0.192	
5755	151	802.11n	OFDM	40	15.0	14.40	0.17	Right	Tilt	1	02953	13.5	99.7	0.130	-	1.148	1.003	-	
5755	151	802.11n	OFDM	40	15.0	14.40	0.11	Left	Cheek	1	02953	13.5	99.7	0.082	-	1.148	1.003	-	
5755	151	802.11n	OFDM	40	15.0	14.40	0.12	Left	Tilt	1	02953	13.5	99.7	0.078	-	1.148	1.003	-	
5795	159	802.11n	OFDM	40	15.0	14.99	0.19	Right	Cheek	2	02953	13.5	99.7	0.169	0.058	1.002	1.003	0.058	
5795	159	802.11n	OFDM	40	15.0	14.99	0.19	Right	Tilt	2	02953	13.5	99.7	0.145	-	1.002	1.003	-	
5795	159	802.11n	OFDM	40	15.0	14.99	0.12	Left	Cheek	2	02953	13.5	99.7	0.062	-	1.002	1.003	-	
5795	159	802.11n	OFDM	40	15.0	14.99	0.12	Left	Tilt	2	02953	13.5	99.7	0.104	-	1.002	1.003	-	

ANSI / IEEE C95.1 1992 - SAFETY LIMIT	Head
Spatial Peak	1.6 W/kg (mW/g)
Uncontrolled Exposure/General Population	averaged over 1 gram

Table 11-24
NII MIMO Head SAR

MEASUREMENT RESULTS																							
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Dual Display Accessory Configuration	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.																W/kg	(W/kg)			(W/kg)	
5260	52	802.11n	OFDM	20	17.0	16.89	17.0	16.82	0.14	Right	Cheek	MIMO	-	02805	13	99.7	1.633	0.843	1.042	1.003	0.881	
5280	56	802.11n	OFDM	20	18.0	17.90	18.0	17.72	-0.14	Right	Cheek	MIMO	-	02805	13	99.7	1.661	0.894	1.067	1.003	0.957	
5280	56	802.11n	OFDM	20	18.0	17.90	18.0	17.72	0.16	Right	Tilt	MIMO	-	02953	13	99.7	1.644	0.714	1.067	1.003	0.764	
5280	56	802.11n	OFDM	20	18.0	17.90	18.0	17.72	0.12	Left	Cheek	MIMO	-	02953	13	99.7	0.721	-	1.067	1.003	-	
5280	56	802.11n	OFDM	20	18.0	17.90	18.0	17.72	0.14	Left	Tilt	MIMO	-	02953	13	99.7	0.615	-	1.067	1.003	-	
5280	56	802.11n	OFDM	20	18.0	17.90	18.0	17.72	0.15	Right	Cheek	MIMO	-	02805	13	99.7	1.796	0.849	1.067	1.003	0.909	
5500	100	802.11n	OFDM	20	17.0	16.97	17.0	16.95	0.16	Right	Cheek	MIMO	-	02953	13	99.7	2.156	0.958	1.012	1.003	0.972	A21
5600	120	802.11n	OFDM	20	17.0	16.78	17.0	16.83	0.13	Right	Cheek	MIMO	-	02953	13	99.7	1.631	0.714	1.052	1.003	0.753	
5720	144	802.11n	OFDM	20	17.0	16.98	17.0	16.77	0.18	Right	Cheek	MIMO	-	02953	13	99.7	0.827	0.456	1.054	1.003	0.482	
5500	100	802.11n	OFDM	20	17.0	16.97	17.0	16.95	-0.15	Right	Cheek	MIMO	#1	02953	13	99.7	0.263	0.099	1.012	1.003	0.100	
5500	100	802.11n	OFDM	20	17.0	16.97	17.0	16.95	-0.11	Right	Cheek	MIMO	#3	02953	13	99.7	2.256	0.821	1.012	1.003	0.833	
5500	100	802.11n	OFDM	20	17.0	16.97	17.0	16.95	0.07	Right	Tilt	MIMO	-	02953	13	99.7	2.139	0.880	1.012	1.003	0.893	
5720	144	802.11n	OFDM	20	17.0	16.98	17.0	16.77	0.18	Right	Tilt	MIMO	-	02953	13	99.7	0.827	0.365	1.054	1.003	0.386	
5500	100	802.11n	OFDM	20	17.0	16.97	17.0	16.95	0.16	Left	Cheek	MIMO	-	02953	13	99.7	1.017	0.429	1.012	1.003	0.435	
5500	100	802.11n	OFDM	20	17.0	16.97	17.0	16.95	0.15	Left	Tilt	MIMO	-	02953	13	99.7	0.880	-	1.012	1.003	-	
5500	100	802.11n	OFDM	20	17.0	16.97	17.0	16.95	0.16	Right	Cheek	MIMO	-	02953	13	99.7	2.373	0.957	1.012	1.003	0.971	
5825	165	802.11n	OFDM	20	18.0	17.72	18.0	17.91	0.11	Right	Cheek	MIMO	-	02953	13	99.7	1.169	0.561	1.067	1.003	0.600	
5825	165	802.11n	OFDM	20	18.0	17.72	18.0	17.91	0.20	Right	Tilt	MIMO	-	02953	13	99.7	0.609	0.256	1.067	1.003	0.274	
5825	165	802.11n	OFDM	20	18.0	17.72	18.0	17.91	0.12	Left	Cheek	MIMO	-	02953	13	99.7	0.337	-	1.067	1.003	-	
5825	165	802.11n	OFDM	20	18.0	17.72	18.0	17.91	0.12	Left	Tilt	MIMO	-	02953	13	99.7	0.420	-	1.067	1.003	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Head 1.6 W/kg (mW/g) averaged over 1 gram									

Notes:

1. For channels 56, 165 to achieve the 21.0 dBm, and for channel 52, 100, 120, 144 to achieve 20.0 dBm, maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 18.0 dBm, and 17.0 dBm respectively.
2. Green entries represent additional Head SAR Position (DD #1: 0 degrees).
3. Light orange entries represent additional Head SAR Position (DD #3: 360 degrees).
4. Blue entries represent variability measurements.

Table 11-25
NII MIMO Head SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR

MEASUREMENT RESULTS																						
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5270	54	802.11n	OFDM	40	15.0	14.70	15.0	14.54	0.17	Right	Cheek	MIMO	02953	27	99.7	0.590	0.288	1.112	1.003	0.321	
5270	54	802.11n	OFDM	40	15.0	14.70	15.0	14.54	0.17	Right	Tilt	MIMO	02953	27	99.7	0.541	-	1.112	1.003	-	
5270	54	802.11n	OFDM	40	15.0	14.70	15.0	14.54	0.19	Left	Cheek	MIMO	02953	27	99.7	0.268	-	1.112	1.003	-	
5270	54	802.11n	OFDM	40	15.0	14.70	15.0	14.54	0.20	Left	Tilt	MIMO	02953	27	99.7	0.258	-	1.112	1.003	-	
5630	126	802.11n	OFDM	40	15.0	14.32	15.0	14.82	0.11	Right	Cheek	MIMO	02953	27	99.7	0.462	-	1.169	1.003	-	
5630	126	802.11n	OFDM	40	15.0	14.32	15.0	14.82	0.11	Right	Tilt	MIMO	02953	27	99.7	0.463	0.207	1.169	1.003	0.243	
5630	126	802.11n	OFDM	40	15.0	14.32	15.0	14.82	0.16	Left	Cheek	MIMO	02953	27	99.7	0.239	-	1.169	1.003	-	
5630	126	802.11n	OFDM	40	15.0	14.32	15.0	14.82	0.10	Left	Tilt	MIMO	02953	27	99.7	0.262	-	1.169	1.003	-	
5795	159	802.11n	OFDM	40	15.0	14.38	15.0	14.99	0.12	Right	Cheek	MIMO	02953	27	99.7	0.414	0.184	1.153	1.003	0.213	
5795	159	802.11n	OFDM	40	15.0	14.38	15.0	14.99	0.11	Right	Tilt	MIMO	02953	27	99.7	0.186	-	1.153	1.003	-	
5795	159	802.11n	OFDM	40	15.0	14.38	15.0	14.99	0.12	Left	Cheek	MIMO	02953	27	99.7	0.120	-	1.153	1.003	-	
5795	159	802.11n	OFDM	40	15.0	14.38	15.0	14.99	-0.11	Left	Tilt	MIMO	02953	27	99.7	0.156	-	1.153	1.003	-	
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: NII MIMO was additionally evaluated at the maximum allowed output power during operations with Simultaneous 2.4 GHz and 5 GHz WLAN. 2.4 GHz WIFI was not transmitting during the above evaluations.

Table 11-26
DSS Head SAR

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	SAR (1g)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)			(W/kg)	
2441.00	39	Bluetooth	FHSS	12.5	11.66	0.14	Right	Cheek	02953	1	77.3	0.178	1.213	1.294	**0.279**	A22
2441.00	39	Bluetooth	FHSS	12.5	11.66	0.12	Right	Tilt	02953	1	77.3	0.078	1.213	1.294	0.122	
2441.00	39	Bluetooth	FHSS	12.5	11.66	0.15	Left	Cheek	02953	1	77.3	0.021	1.213	1.294	0.033	
2441.00	39	Bluetooth	FHSS	12.5	11.66	0.17	Left	Tilt	02953	1	77.3	0.034	1.213	1.294	0.053	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram								

11.2 Standalone Body-Worn SAR Data

Table 11-27
GSM/UMTS/CDMA Body-Worn SAR Data

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	# of Time Slots	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
824.70	1013	Cell. CDMA	TDSO / SO32	25.5	25.13	-0.02	10 mm	02847	N/A	1:1	back	0.563	1.089	0.613	
836.52	384	Cell. CDMA	TDSO / SO32	25.5	25.12	0.01	10 mm	02847	N/A	1:1	back	0.634	1.091	0.692	
848.31	777	Cell. CDMA	TDSO / SO32	25.5	25.16	-0.01	10 mm	02847	N/A	1:1	back	0.651	1.081	0.704	A23
836.60	190	GSM 850	GSM	33.4	32.80	-0.03	10 mm	02847	1	1:8.3	back	0.319	1.148	0.366	
836.60	190	GSM 850	GPRS	31.2	30.82	-0.18	10 mm	02847	2	1:4.15	back	0.438	1.091	0.478	A25
826.40	4132	UMTS 850	RMC	25.5	25.35	-0.02	10 mm	02854	N/A	1:1	back	0.574	1.035	0.594	
836.60	4183	UMTS 850	RMC	25.5	25.38	-0.01	10 mm	02854	N/A	1:1	back	0.635	1.028	0.653	
846.60	4233	UMTS 850	RMC	25.5	25.45	-0.03	10 mm	02854	N/A	1:1	back	0.672	1.012	0.680	A26
1712.40	1312	UMTS 1750	RMC	25.2	25.15	0.00	10 mm	02854	N/A	1:1	back	0.763	1.012	0.772	
1732.40	1412	UMTS 1750	RMC	25.2	25.16	-0.01	10 mm	02854	N/A	1:1	back	0.840	1.009	0.848	
1752.60	1513	UMTS 1750	RMC	25.2	25.13	0.01	10 mm	02854	N/A	1:1	back	0.854	1.016	**0.868**	A28
1752.60	1513	UMTS 1750	RMC	25.2	25.13	0.01	10 mm	02854	N/A	1:1	back	0.848	1.016	0.862	
1851.25	25	PCS CDMA	TDSO / SO32	25.2	24.81	-0.03	10 mm	02854	N/A	1:1	back	0.737	1.094	0.806	A30
1880.00	600	PCS CDMA	TDSO / SO32	25.2	24.83	-0.16	10 mm	02854	N/A	1:1	back	0.693	1.089	0.755	
1908.75	1175	PCS CDMA	TDSO / SO32	25.2	24.86	-0.01	10 mm	02854	N/A	1:1	back	0.657	1.081	0.710	
1880.00	661	GSM 1900	GSM	30.2	29.36	0.00	10 mm	02854	1	1:8.3	back	0.239	1.213	0.290	
1880.00	661	GSM 1900	GPRS	29.2	28.65	-0.16	10 mm	02854	2	1:4.15	back	0.349	1.135	0.396	A32
1852.40	9262	UMTS 1900	RMC	25.2	25.15	-0.04	10 mm	02854	N/A	1:1	back	0.766	1.012	0.775	A34
1880.00	9400	UMTS 1900	RMC	25.2	25.19	0.00	10 mm	02854	N/A	1:1	back	0.736	1.002	0.737	
1907.60	9538	UMTS 1900	RMC	25.2	25.20	-0.05	10 mm	02854	N/A	1:1	back	0.714	1.000	0.714	
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 11-28
LTE Body-Worn SAR

MEASUREMENT RESULTS																							
1 CC Uplink | 2 CC Uplink	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Dual Display Accessory Configuration	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
		MHz	Ch.																(W/kg)		(W/kg)	
1 CC Uplink	N/A	707.50	23095	Mid	LTE Band 12	10	-	25.5	25.40	0.05	0	02888	QPSK	1	49	10 mm	back	1:1	0.393	1.023	0.402	A36
1 CC Uplink	N/A	707.50	23095	Mid	LTE Band 12	10	-	24.5	24.13	-0.02	1	02888	QPSK	25	25	10 mm	back	1:1	0.265	1.089	0.289	
1 CC Uplink	N/A	782.00	23230	Mid	LTE Band 13	10	-	25.5	25.27	-0.01	0	02888	QPSK	1	0	10 mm	back	1:1	0.476	1.054	0.502	A37
1 CC Uplink	N/A	782.00	23230	Mid	LTE Band 13	10	-	24.5	24.00	0.00	1	02888	QPSK	25	12	10 mm	back	1:1	0.321	1.122	0.360	
1 CC Uplink	N/A	793.00	23330	Mid	LTE Band 14	10	-	25.5	25.50	0.00	0	02888	QPSK	1	0	10 mm	back	1:1	0.455	1.000	0.455	A38
1 CC Uplink	N/A	793.00	23330	Mid	LTE Band 14	10	-	24.5	23.81	0.00	1	02888	QPSK	25	0	10 mm	back	1:1	0.298	1.172	0.349	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	-	25.5	25.40	-0.06	0	02862	QPSK	1	0	10 mm	back	1:1	0.586	1.023	0.599	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	-	25.5	25.49	-0.03	0	02862	QPSK	1	25	10 mm	back	1:1	0.598	1.002	0.599	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	-	24.5	23.86	0.00	1	02862	QPSK	25	12	10 mm	back	1:1	0.416	1.159	0.482	
2 CC Uplink	PCC	836.50	20525	Mid	LTE Band 5 (Cell)	10	-	25.5	25.50	-0.05	0	02862	QPSK	1	0	10 mm	back	1:1	0.617	1.000	0.617	A39
	SCC	829.30	20453	Mid	LTE Band 5 (Cell)	5	-								24	10 mm						
1 CC Uplink	N/A	1720.00	132072	Low	LTE Band 66 (AWS)	20	-	25.2	25.07	0.00	0	02862	QPSK	1	50	10 mm	back	1:1	0.727	1.030	0.749	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	-	25.2	24.97	-0.04	0	02862	QPSK	1	50	10 mm	back	1:1	0.778	1.054	0.820	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	-	25.2	25.20	0.12	0	02862	QPSK	1	0	10 mm	back	1:1	0.805	1.000	0.805	A41
1 CC Uplink	N/A	1720.00	132072	Low	LTE Band 66 (AWS)	20	-	24.2	24.20	-0.01	1	02862	QPSK	50	25	10 mm	back	1:1	0.600	1.000	0.600	
1 CC Uplink	N/A	1720.00	132072	Low	LTE Band 66 (AWS)	20	-	24.2	24.11	-0.01	1	02862	QPSK	100	0	10 mm	back	1:1	0.590	1.021	0.602	
1 CC Uplink	N/A	1860.00	18700	Low	LTE Band 2 (PCS)	20	-	25.2	24.99	-0.03	0	02870	QPSK	1	0	10 mm	back	1:1	0.721	1.050	0.757	A43
1 CC Uplink	N/A	1880.00	18900	Mid	LTE Band 2 (PCS)	20	-	25.2	25.01	-0.12	0	02870	QPSK	1	99	10 mm	back	1:1	0.701	1.045	0.733	
1 CC Uplink	N/A	1900.00	19100	High	LTE Band 2 (PCS)	20	-	25.2	24.97	-0.02	0	02870	QPSK	1	0	10 mm	back	1:1	0.662	1.054	0.698	
1 CC Uplink	N/A	1880.00	18900	Mid	LTE Band 2 (PCS)	20	-	24.2	24.04	-0.03	1	02870	QPSK	50	50	10 mm	back	1:1	0.534	1.038	0.554	
1 CC Uplink	N/A	2310.00	27710	Mid	LTE Band 30	10	-	22.7	22.26	0.01	0	02888	QPSK	1	0	10 mm	back	1:1	0.363	1.107	0.402	A45
1 CC Uplink	N/A	2310.00	27710	Mid	LTE Band 30	10	-	21.7	21.17	0.05	1	02888	QPSK	25	12	10 mm	back	1:1	0.303	1.130	0.342	
1 CC Uplink	N/A	3560.00	55340	Low	LTE Band 48	20	-	22.5	22.21	0.02	0	02870	QPSK	1	0	10 mm	back	1:1.58	1.050	1.069	1.122	A47
1 CC Uplink	N/A	3603.30	55773	Low-Mid	LTE Band 48	20	-	22.5	22.04	0.13	0	02870	QPSK	1	0	10 mm	back	1:1.58	0.781	1.112	0.868	
1 CC Uplink	N/A	3646.70	56207	Mid-High	LTE Band 48	20	-	22.5	21.98	0.07	0	02870	QPSK	1	0	10 mm	back	1:1.58	0.648	1.127	0.730	
1 CC Uplink	N/A	3690.00	56640	High	LTE Band 48	20	-	22.5	22.02	0.19	0	02870	QPSK	1	99	10 mm	back	1:1.58	0.496	1.117	0.554	
1 CC Uplink	N/A	3560.00	55340	Low	LTE Band 48	20	-	21.5	21.17	0.11	1	02870	QPSK	50	25	10 mm	back	1:1.58	0.779	1.079	0.841	
1 CC Uplink	N/A	3603.30	55773	Low-Mid	LTE Band 48	20	-	21.5	21.12	0.05	1	02870	QPSK	50	25	10 mm	back	1:1.58	0.613	1.091	0.669	
1 CC Uplink	N/A	3646.70	56207	Mid-High	LTE Band 48	20	-	21.5	21.00	0.10	1	02870	QPSK	50	25	10 mm	back	1:1.58	0.496	1.122	0.557	
1 CC Uplink	N/A	3690.00	56640	High	LTE Band 48	20	-	21.5	20.93	0.10	1	02870	QPSK	50	50	10 mm	back	1:1.58	0.406	1.140	0.463	
1 CC Uplink	N/A	3560.00	55340	Low	LTE Band 48	20	-	21.5	21.08	0.05	1	02870	QPSK	100	0	10 mm	back	1:1.58	0.762	1.102	0.840	
1 CC Uplink	N/A	3560.00	55340	Low	LTE Band 48	20	#1	22.5	22.21	0.03	0	02870	QPSK	1	0	10 mm	back	1:1.58	0.751	1.069	0.803	
1 CC Uplink	N/A	3560.00	55340	Low	LTE Band 48	20	#2	22.5	22.21	-0.06	0	02870	QPSK	1	0	10 mm	back	1:1.58	0.867	1.069	0.927	
1 CC Uplink	N/A	3560.00	55340	Low	LTE Band 48	20	#3	22.5	22.21	0.12	0	02870	QPSK	1	0	10 mm	back	1:1.58	0.116	1.069	0.124	
1 CC Uplink	N/A	3560.00	55340	Low	LTE Band 48	20	-	22.5	22.21	0.03	0	02870	QPSK	1	0	10 mm	back	1:1.58	1.020	1.069	1.090	
1 CC Uplink	N/A	2506.00	39750	Low	LTE Band 41	20	-	25.2	24.61	-0.02	0	02888	QPSK	1	0	10 mm	back	1:1.58	0.479	1.146	0.549	
1 CC Uplink	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	-	25.2	24.70	-0.04	0	02888	QPSK	1	0	10 mm	back	1:1.58	0.483	1.122	0.542	
1 CC Uplink	N/A	2593.00	40620	Mid	LTE Band 41	20	-	25.2	24.77	-0.08	0	02888	QPSK	1	50	10 mm	back	1:1.58	0.542	1.104	0.598	
1 CC Uplink	N/A	2636.50	41055	Mid-High	LTE Band 41	20	-	25.2	24.79	-0.01	0	02888	QPSK	1	50	10 mm	back	1:1.58	0.593	1.099	0.652	
1 CC Uplink	N/A	2680.00	41490	High	LTE Band 41	20	-	25.2	24.63	-0.03	0	02888	QPSK	1	50	10 mm	back	1:1.58	0.610	1.140	0.695	A48
1 CC Uplink	N/A	2636.50	41055	Mid-High	LTE Band 41	20	-	24.2	23.76	-0.05	1	02888	QPSK	50	25	10 mm	back	1:1.58	0.476	1.107	0.527	
1 CC Uplink	N/A	2636.50	41055	Mid-High	LTE Band 41	20	-	24.2	23.69	-0.01	1	02888	QPSK	100	0	10 mm	back	1:1.58	0.473	1.125	0.532	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram									

Notes:

1. Green entries represent additional Body Worn SAR Position (DD #1: 0 degrees).
2. Purple entries represent additional Body Worn SAR Position (DD #2: 180 degrees).
3. Light orange entries represent additional Body Worn SAR Position (DD #3: 360 degrees).
4. Blue entry represents variability measurement.

Table 11-29
NR Body-Worn SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.7	24.68	0.04	0	02896	DFT-S-OFDM QPSK	1	1	10 mm	back	1:1	0.250	1.005	0.251	A50
836.50	167300	Mid	NR Band n5 (Cell)	20	24.7	24.45	0.00	0	02896	DFT-S-OFDM QPSK	50	28	10 mm	back	1:1	0.213	1.059	0.226	
836.50	167300	Mid	NR Band n5 (Cell)	20	23.7	22.71	0.01	1	02896	CP-OFDM QPSK	1	1	10 mm	back	1:1	0.156	1.256	0.196	
1720.00	344000	Low	NR Band n66 (AWS)	20	23.3	22.73	-0.05	0	02896	DFT-S-OFDM QPSK	1	104	10 mm	back	1:1	0.229	1.140	0.261	A51
1720.00	344000	Low	NR Band n66 (AWS)	20	23.3	22.64	0.04	0	02896	DFT-S-OFDM QPSK	50	28	10 mm	back	1:1	0.213	1.164	0.248	
1720.00	344000	Low	NR Band n66 (AWS)	20	23.3	22.71	0.01	0	02896	CP-OFDM QPSK	1	1	10 mm	back	1:1	0.196	1.146	0.225	
1880.00	376000	Mid	NR Band n2 (PCS)	20	23.7	23.62	-0.15	0	02904	DFT-S-OFDM QPSK	1	104	10 mm	back	1:1	0.217	1.019	0.221	
1880.00	376000	Mid	NR Band n2 (PCS)	20	23.7	23.64	0.09	0	02904	DFT-S-OFDM QPSK	50	28	10 mm	back	1:1	0.217	1.014	0.220	
1860.00	372000	Low	NR Band n2 (PCS)	20	23.7	23.70	-0.04	0	02904	CP-OFDM QPSK	1	1	10 mm	back	1:1	0.253	1.000	0.253	A53
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 11-30
DTS Body-Worn SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
2437	6	802.11b	DSSS	22	20.5	20.17	-0.01	10 mm	1	02813	1	back	99.5	0.275	0.174	1.079	1.005	**0.189**	A55
2437	6	802.11b	DSSS	22	20.5	20.49	0.12	10 mm	2	02953	1	back	99.5	0.222	0.138	1.002	1.005	0.139	
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 11-31
DTS MIMO Body-Worn SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
2437	6	802.11n	OFDM	20	15.5	15.20	15.5	15.40	-0.05	10 mm	MIMO	02953	13	back	99.7	0.145	0.094	1.072	1.003	0.101	
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: DTS MIMO was additionally evaluated at the maximum allowed output power during operations with Simultaneous 2.4 GHz and 5 GHz WLAN. 5 GHz WIFI was not transmitting during the above evaluations.

Table 11-32
NII Body-Worn SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5280	56	802.11a	OFDM	20	18.0	17.56	-0.03	10 mm	1	02953	6	back	99.1	0.542	0.266	1.107	1.009	0.297	
5280	56	802.11a	OFDM	20	18.0	17.47	0.15	10 mm	2	02953	6	back	99.2	0.354	0.164	1.130	1.008	0.187	
5720	144	802.11a	OFDM	20	17.0	16.81	0.21	10 mm	1	02953	6	back	99.1	0.424	0.181	1.045	1.009	0.191	
5600	120	802.11a	OFDM	20	17.0	16.97	0.13	10 mm	2	02953	6	back	99.2	0.653	0.309	1.007	1.008	**0.314**	
5785	157	802.11a	OFDM	20	18.0	17.54	-0.14	10 mm	1	02953	6	back	99.1	0.673	0.279	1.112	1.009	0.313	
5825	165	802.11a	OFDM	20	18.0	17.71	0.12	10 mm	2	02953	6	back	99.2	0.561	0.230	1.069	1.008	0.248	
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 11-33
NII MIMO Body-Worn SAR

MEASUREMENT RESULTS																							
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5280	56	802.11n	OFDM	20	18.0	17.90	18.0	17.72	0.05	10 mm	MIMO	02813	13	back	99.7	0.745	0.368	1.067	1.003	0.394	A57
5500	100	802.11n	OFDM	20	17.0	16.97	17.0	16.95	0.15	10 mm	MIMO	02813	13	back	99.7	0.790	0.359	1.012	1.003	0.364	
5825	165	802.11n	OFDM	20	18.0	17.72	18.0	17.91	0.13	10 mm	MIMO	02813	13	back	99.7	0.683	0.218	1.067	1.003	0.233	
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: For channels 56, 165 to achieve the 21.0 dBm, and for channel 100 to achieve 20.0 dBm, maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 18.0 dBm, and 17.0 dBm respectively.

Table 11-34
NII MIMO Body-Worn SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR

MEASUREMENT RESULTS																							
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5270	54	802.11n	OFDM	40	15.0	14.70	15.0	14.54	0.14	10 mm	MIMO	02813	27	back	99.7	0.283	0.139	1.112	1.003	0.155	
5630	126	802.11n	OFDM	40	15.0	14.32	15.0	14.82	0.13	10 mm	MIMO	02813	27	back	99.7	0.339	0.134	1.169	1.003	0.157	
5795	159	802.11n	OFDM	40	15.0	14.38	15.0	14.99	-0.14	10 mm	MIMO	02813	27	back	99.7	0.264	0.108	1.153	1.003	0.125	
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: NII MIMO was additionally evaluated at the maximum allowed output power during operations with Simultaneous 2.4 GHz and 5 GHz WLAN. 2.4 GHz WIFI was not transmitting during the above evaluations.

Table 11-35
DSS Body-Worn SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	SAR (1g)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)			(W/kg)	
2441	39	Bluetooth	FHSS	12.5	11.66	0.13	10 mm	02953	1	back	77.3	0.023	1.213	1.294	**0.036**	A59
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Body 1.6 W/kg (mW/g) averaged over 1 gram				

11.3 Standalone Hotspot SAR Data

Table 11-36
GPRS/UMTS/CDMA Hotspot SAR Data

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	# of Time Slots	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
836.52	384	Cell. CDMA	EVDO Rev. 0	25.5	25.25	-0.04	10 mm	02847	N/A	1:1	back	0.632	1.059	0.669	
824.70	1013	Cell. CDMA	EVDO Rev. 0	25.5	25.20	-0.01	10 mm	02847	N/A	1:1	front	0.590	1.072	0.632	
836.52	384	Cell. CDMA	EVDO Rev. 0	25.5	25.25	-0.03	10 mm	02847	N/A	1:1	front	0.643	1.059	0.681	A24
848.31	777	Cell. CDMA	EVDO Rev. 0	25.5	25.18	0.02	10 mm	02847	N/A	1:1	front	0.637	1.076	0.685	
836.52	384	Cell. CDMA	EVDO Rev. 0	25.5	25.25	-0.06	10 mm	02847	N/A	1:1	bottom	0.224	1.059	0.237	
836.52	384	Cell. CDMA	EVDO Rev. 0	25.5	25.25	-0.10	10 mm	02847	N/A	1:1	right	0.209	1.059	0.221	
836.60	190	GSM 850	GPRS	31.2	30.82	-0.18	10 mm	02847	2	1:4.15	back	0.438	1.091	0.478	A25
836.60	190	GSM 850	GPRS	31.2	30.82	0.04	10 mm	02847	2	1:4.15	front	0.421	1.091	0.459	
836.60	190	GSM 850	GPRS	31.2	30.82	-0.02	10 mm	02847	2	1:4.15	bottom	0.174	1.091	0.190	
836.60	190	GSM 850	GPRS	31.2	30.82	-0.02	10 mm	02847	2	1:4.15	right	0.152	1.091	0.166	
826.40	4132	UMTS 850	RMC	25.5	25.35	-0.02	10 mm	02854	N/A	1:1	back	0.574	1.035	0.594	
836.60	4183	UMTS 850	RMC	25.5	25.38	-0.01	10 mm	02854	N/A	1:1	back	0.635	1.028	0.653	
846.60	4233	UMTS 850	RMC	25.5	25.45	-0.03	10 mm	02854	N/A	1:1	back	0.672	1.012	0.680	
826.40	4132	UMTS 850	RMC	25.5	25.35	0.01	10 mm	02854	N/A	1:1	front	0.644	1.035	0.667	
836.60	4183	UMTS 850	RMC	25.5	25.38	0.05	10 mm	02854	N/A	1:1	front	0.727	1.028	0.747	
846.60	4233	UMTS 850	RMC	25.5	25.45	0.00	10 mm	02854	N/A	1:1	front	0.751	1.012	0.760	A27
836.60	4183	UMTS 850	RMC	25.5	25.38	0.02	10 mm	02854	N/A	1:1	bottom	0.257	1.028	0.264	
836.60	4183	UMTS 850	RMC	25.5	25.38	-0.04	10 mm	02854	N/A	1:1	right	0.247	1.028	0.254	
1732.40	1412	UMTS 1750	RMC	22.5	22.31	0.00	10 mm	02862	N/A	1:1	back	0.436	1.045	0.456	
1732.40	1412	UMTS 1750	RMC	22.5	22.31	0.07	10 mm	02862	N/A	1:1	front	0.409	1.045	0.427	
1712.40	1312	UMTS 1750	RMC	22.5	22.30	0.03	10 mm	02862	N/A	1:1	bottom	0.591	1.047	0.619	
1732.40	1412	UMTS 1750	RMC	22.5	22.31	-0.02	10 mm	02862	N/A	1:1	bottom	0.652	1.045	0.681	
1752.60	1513	UMTS 1750	RMC	22.5	22.32	-0.01	10 mm	02862	N/A	1:1	bottom	0.711	1.042	0.741	A29
1732.40	1412	UMTS 1750	RMC	22.5	22.31	0.06	10 mm	02862	N/A	1:1	left	0.131	1.045	0.137	
1880.00	600	PCS CDMA	EVDO Rev. 0	22.7	22.42	-0.09	10 mm	02870	N/A	1:1	back	0.374	1.067	0.399	
1880.00	600	PCS CDMA	EVDO Rev. 0	22.7	22.42	0.05	10 mm	02870	N/A	1:1	front	0.387	1.067	0.413	
1851.25	25	PCS CDMA	EVDO Rev. 0	22.7	22.43	0.12	10 mm	02870	N/A	1:1	bottom	0.727	1.064	0.774	
1880.00	600	PCS CDMA	EVDO Rev. 0	22.7	22.42	-0.06	10 mm	02870	N/A	1:1	bottom	0.788	1.067	0.841	
1908.75	1175	PCS CDMA	EVDO Rev. 0	22.7	22.46	-0.02	10 mm	02870	N/A	1:1	bottom	0.837	1.057	0.885	A31
1880.00	600	PCS CDMA	EVDO Rev. 0	22.7	22.42	-0.07	10 mm	02870	N/A	1:1	left	0.101	1.067	0.108	
1880.00	661	GSM 1900	GPRS	29.2	28.65	-0.16	10 mm	02854	2	1:4.15	back	0.349	1.135	0.396	
1880.00	661	GSM 1900	GPRS	29.2	28.65	-0.01	10 mm	02854	2	1:4.15	front	0.359	1.135	0.407	
1850.20	512	GSM 1900	GPRS	29.2	28.48	0.04	10 mm	02854	2	1:4.15	bottom	0.716	1.180	0.845	
1880.00	661	GSM 1900	GPRS	29.2	28.65	0.03	10 mm	02854	2	1:4.15	bottom	0.676	1.135	0.767	
1909.80	810	GSM 1900	GPRS	29.2	28.42	0.00	10 mm	02854	2	1:4.15	bottom	0.803	1.197	0.961	A33
1880.00	661	GSM 1900	GPRS	29.2	28.65	0.04	10 mm	02854	2	1:4.15	left	0.093	1.135	0.106	
1880.00	9400	UMTS 1900	RMC	22.7	22.11	0.10	10 mm	02870	N/A	1:1	back	0.459	1.146	0.526	
1880.00	9400	UMTS 1900	RMC	22.7	22.11	0.01	10 mm	02870	N/A	1:1	front	0.398	1.146	0.456	
1852.40	9262	UMTS 1900	RMC	22.7	22.00	-0.05	10 mm	02870	N/A	1:1	bottom	0.749	1.175	0.880	
1880.00	9400	UMTS 1900	RMC	22.7	22.11	-0.04	10 mm	02870	N/A	1:1	bottom	0.808	1.146	0.926	
1907.60	9538	UMTS 1900	RMC	22.7	22.10	-0.06	10 mm	02870	N/A	1:1	bottom	0.844	1.148	0.969	A35
1880.00	9400	UMTS 1900	RMC	22.7	22.11	-0.03	10 mm	02870	N/A	1:1	left	0.122	1.146	0.140	
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 11-37
LTE Band 12 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
707.50	23095	Mid	LTE Band 12	10	25.5	25.40	0.05	0	02888	QPSK	1	49	10 mm	back	1:1	0.393	1.023	0.402	A36
707.50	23095	Mid	LTE Band 12	10	24.5	24.13	-0.02	1	02888	QPSK	25	25	10 mm	back	1:1	0.265	1.089	0.289	
707.50	23095	Mid	LTE Band 12	10	25.5	25.40	-0.01	0	02888	QPSK	1	49	10 mm	front	1:1	0.370	1.023	0.379	
707.50	23095	Mid	LTE Band 12	10	24.5	24.13	0.05	1	02888	QPSK	25	25	10 mm	front	1:1	0.256	1.089	0.279	
707.50	23095	Mid	LTE Band 12	10	25.5	25.40	0.00	0	02888	QPSK	1	49	10 mm	bottom	1:1	0.140	1.023	0.143	
707.50	23095	Mid	LTE Band 12	10	24.5	24.13	-0.01	1	02888	QPSK	25	25	10 mm	bottom	1:1	0.087	1.089	0.095	
707.50	23095	Mid	LTE Band 12	10	25.5	25.40	-0.02	0	02888	QPSK	1	49	10 mm	right	1:1	0.363	1.023	0.371	
707.50	23095	Mid	LTE Band 12	10	24.5	24.13	0.02	1	02888	QPSK	25	25	10 mm	right	1:1	0.258	1.089	0.281	
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 11-38
LTE Band 13 Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
782.00	23230	Mid	LTE Band 13	10	25.5	25.27	-0.01	0	02888	QPSK	1	0	10 mm	back	1:1	0.476	1.054	0.502	A37
782.00	23230	Mid	LTE Band 13	10	24.5	24.00	0.00	1	02888	QPSK	25	12	10 mm	back	1:1	0.321	1.122	0.360	
782.00	23230	Mid	LTE Band 13	10	25.5	25.27	0.02	0	02888	QPSK	1	0	10 mm	front	1:1	0.381	1.054	0.402	
782.00	23230	Mid	LTE Band 13	10	24.5	24.00	0.04	1	02888	QPSK	25	12	10 mm	front	1:1	0.262	1.122	0.294	
782.00	23230	Mid	LTE Band 13	10	25.5	25.27	-0.03	0	02888	QPSK	1	0	10 mm	bottom	1:1	0.154	1.054	0.162	
782.00	23230	Mid	LTE Band 13	10	24.5	24.00	-0.01	1	02888	QPSK	25	12	10 mm	bottom	1:1	0.097	1.122	0.109	
782.00	23230	Mid	LTE Band 13	10	25.5	25.27	0.03	0	02888	QPSK	1	0	10 mm	right	1:1	0.234	1.054	0.247	
782.00	23230	Mid	LTE Band 13	10	24.5	24.00	-0.11	1	02888	QPSK	25	12	10 mm	right	1:1	0.175	1.122	0.196	
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 11-39
LTE Band 14 Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
793.00	23330	Mid	LTE Band 14	10	25.5	25.50	0.00	0	02888	QPSK	1	0	10 mm	back	1:1	0.455	1.000	0.455	A38
793.00	23330	Mid	LTE Band 14	10	24.5	23.81	0.00	1	02888	QPSK	25	0	10 mm	back	1:1	0.298	1.172	0.349	
793.00	23330	Mid	LTE Band 14	10	25.5	25.50	0.06	0	02888	QPSK	1	0	10 mm	front	1:1	0.374	1.000	0.374	
793.00	23330	Mid	LTE Band 14	10	24.5	23.81	0.06	1	02888	QPSK	25	0	10 mm	front	1:1	0.244	1.172	0.286	
793.00	23330	Mid	LTE Band 14	10	25.5	25.50	0.04	0	02888	QPSK	1	0	10 mm	bottom	1:1	0.140	1.000	0.140	
793.00	23330	Mid	LTE Band 14	10	24.5	23.81	0.14	1	02888	QPSK	25	0	10 mm	bottom	1:1	0.094	1.172	0.110	
793.00	23330	Mid	LTE Band 14	10	25.5	25.50	0.01	0	02888	QPSK	1	0	10 mm	right	1:1	0.290	1.000	0.290	
793.00	23330	Mid	LTE Band 14	10	24.5	23.81	-0.17	1	02888	QPSK	25	0	10 mm	right	1:1	0.169	1.172	0.198	
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 11-40
LTE Band 5 (Cell) Hotspot SAR

MEASUREMENT RESULTS																						
1 CC Uplink | 2 CC Uplink	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g) (W/kg)	Scaling Factor	Reported SAR (1g) (W/kg)	Plot #
		MHz	Ch.																		
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.49	-0.03	0	02862	QPSK	1	25	10 mm	back	1:1	0.598	1.002	0.599	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	23.86	0.00	1	02862	QPSK	25	12	10 mm	back	1:1	0.416	1.159	0.482	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.40	-0.06	0	02862	QPSK	1	0	10 mm	front	1:1	0.613	1.023	0.627	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.49	-0.04	0	02862	QPSK	1	25	10 mm	front	1:1	0.636	1.002	0.637	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	23.86	-0.03	1	02862	QPSK	25	12	10 mm	front	1:1	0.448	1.159	0.519	
2 CC Uplink	PCC	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.50	-0.06	0	02862	QPSK	1	0	10 mm	front	1:1	0.654	1.000	0.654	A40
	SCC	829.30	20453	Mid	LTE Band 5 (Cell)	5								24							
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.49	-0.09	0	02862	QPSK	1	25	10 mm	bottom	1:1	0.228	1.002	0.228	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	23.86	0.09	1	02862	QPSK	25	12	10 mm	bottom	1:1	0.162	1.159	0.188	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.49	0.04	0	02862	QPSK	1	25	10 mm	right	1:1	0.200	1.002	0.200	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	23.86	-0.04	1	02862	QPSK	25	12	10 mm	right	1:1	0.137	1.159	0.159	

ANSI / IEEE C95.1 1992 - SAFETY LIMIT	Body
Spatial Peak	1.6 W/kg (mW/g)
Uncontrolled Exposure/General Population	averaged over 1 gram

Table 11-41
LTE Band 66 (AWS) Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g) (W/kg)	Scaling Factor	Reported SAR (1g) (W/kg)	Plot #
MHz	Ch.																		
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.7	22.20	-0.03	0	02847	QPSK	1	50	10 mm	back	1:1	0.382	1.122	0.429	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.7	22.39	-0.01	0	02847	QPSK	50	25	10 mm	back	1:1	0.407	1.074	0.437	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.7	22.20	0.04	0	02847	QPSK	1	50	10 mm	front	1:1	0.374	1.122	0.420	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.7	22.39	0.02	0	02847	QPSK	50	25	10 mm	front	1:1	0.391	1.074	0.420	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.7	22.20	-0.01	0	02847	QPSK	1	50	10 mm	bottom	1:1	0.593	1.122	0.665	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.7	22.39	0.02	0	02847	QPSK	50	25	10 mm	bottom	1:1	0.630	1.074	0.677	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.7	22.29	-0.14	0	02847	QPSK	50	25	10 mm	bottom	1:1	0.657	1.099	0.722	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.7	22.28	-0.11	0	02847	QPSK	50	25	10 mm	bottom	1:1	0.722	1.102	0.796	A42
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.7	22.20	0.09	0	02847	QPSK	1	50	10 mm	left	1:1	0.116	1.122	0.130	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.7	22.39	0.08	0	02847	QPSK	50	25	10 mm	left	1:1	0.123	1.074	0.132	

ANSI / IEEE C95.1 1992 - SAFETY LIMIT	Body
Spatial Peak	1.6 W/kg (mW/g)
Uncontrolled Exposure/General Population	averaged over 1 gram

Table 11-42
LTE Band 2 (PCS) Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	22.7	22.26	-0.05	0	02854	QPSK	1	0	10 mm	back	1:1	0.423	1.107	0.468	
1860.00	18700	Low	LTE Band 2 (PCS)	20	22.7	22.36	-0.01	0	02854	QPSK	50	25	10 mm	back	1:1	0.440	1.081	0.476	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	22.7	22.26	0.05	0	02854	QPSK	1	0	10 mm	front	1:1	0.377	1.107	0.417	
1860.00	18700	Low	LTE Band 2 (PCS)	20	22.7	22.36	0.05	0	02854	QPSK	50	25	10 mm	front	1:1	0.389	1.081	0.421	
1860.00	18700	Low	LTE Band 2 (PCS)	20	22.7	22.15	-0.09	0	02854	QPSK	1	99	10 mm	bottom	1:1	0.756	1.135	0.858	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	22.7	22.26	-0.03	0	02854	QPSK	1	0	10 mm	bottom	1:1	0.773	1.107	0.856	
1900.00	19100	High	LTE Band 2 (PCS)	20	22.7	22.18	-0.01	0	02854	QPSK	1	50	10 mm	bottom	1:1	0.821	1.127	0.925	
1860.00	18700	Low	LTE Band 2 (PCS)	20	22.7	22.36	-0.01	0	02854	QPSK	50	25	10 mm	bottom	1:1	0.756	1.081	0.817	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	22.7	22.25	-0.03	0	02854	QPSK	50	25	10 mm	bottom	1:1	0.826	1.109	0.916	
1900.00	19100	High	LTE Band 2 (PCS)	20	22.7	22.31	-0.02	0	02854	QPSK	50	25	10 mm	bottom	1:1	0.866	1.094	0.947	A44
1860.00	18700	Low	LTE Band 2 (PCS)	20	22.7	22.25	-0.06	0	02854	QPSK	100	0	10 mm	bottom	1:1	0.756	1.109	0.838	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	22.7	22.26	0.02	0	02854	QPSK	1	0	10 mm	left	1:1	0.120	1.107	0.133	
1860.00	18700	Low	LTE Band 2 (PCS)	20	22.7	22.36	-0.03	0	02854	QPSK	50	25	10 mm	left	1:1	0.119	1.081	0.129	
1900.00	19100	High	LTE Band 2 (PCS)	20	22.7	22.31	-0.02	0	02854	QPSK	50	25	10 mm	bottom	1:1	0.847	1.094	0.927	
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 11-43
LTE Band 30 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
2310.00	27710	Mid	LTE Band 30	10	22.7	22.26	0.01	0	02888	QPSK	1	0	10 mm	back	1:1	0.363	1.107	0.402	
2310.00	27710	Mid	LTE Band 30	10	21.7	21.17	0.05	1	02888	QPSK	25	12	10 mm	back	1:1	0.303	1.130	0.342	
2310.00	27710	Mid	LTE Band 30	10	22.7	22.26	-0.03	0	02888	QPSK	1	0	10 mm	front	1:1	0.383	1.107	0.424	
2310.00	27710	Mid	LTE Band 30	10	21.7	21.17	0.03	1	02888	QPSK	25	12	10 mm	front	1:1	0.310	1.130	0.350	
2310.00	27710	Mid	LTE Band 30	10	22.7	22.26	-0.01	0	02888	QPSK	1	0	10 mm	bottom	1:1	0.661	1.107	0.732	A46
2310.00	27710	Mid	LTE Band 30	10	21.7	21.17	0.02	1	02888	QPSK	25	12	10 mm	bottom	1:1	0.542	1.130	0.612	
2310.00	27710	Mid	LTE Band 30	10	22.7	22.26	0.01	0	02888	QPSK	1	0	10 mm	left	1:1	0.093	1.107	0.103	
2310.00	27710	Mid	LTE Band 30	10	21.7	21.17	0.14	1	02888	QPSK	25	12	10 mm	left	1:1	0.076	1.130	0.086	
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 11-44
LTE Band 48 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Dual Display Accessory Configuration	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
3560.00	55340	Low	LTE Band 48	20	-	22.5	22.21	0.02	0	02870	QPSK	1	0	10 mm	back	1:1.58	1.050	1.069	**1.122**	A47
3603.30	55773	Low-Mid	LTE Band 48	20	-	22.5	22.04	0.13	0	02870	QPSK	1	0	10 mm	back	1:1.58	0.781	1.112	0.868	
3646.70	56207	Mid-High	LTE Band 48	20	-	22.5	21.98	0.07	0	02870	QPSK	1	0	10 mm	back	1:1.58	0.648	1.127	0.730	
3690.00	56640	High	LTE Band 48	20	-	22.5	22.02	0.19	0	02870	QPSK	1	99	10 mm	back	1:1.58	0.496	1.117	0.554	
3560.00	55340	Low	LTE Band 48	20	-	21.5	21.17	0.11	1	02870	QPSK	50	25	10 mm	back	1:1.58	0.779	1.079	0.841	
3603.30	55773	Low-Mid	LTE Band 48	20	-	21.5	21.12	0.05	1	02870	QPSK	50	25	10 mm	back	1:1.58	0.613	1.091	0.669	
3646.70	56207	Mid-High	LTE Band 48	20	-	21.5	21.00	0.10	1	02870	QPSK	50	25	10 mm	back	1:1.58	0.496	1.122	0.557	
3690.00	56640	High	LTE Band 48	20	-	21.5	20.93	0.10	1	02870	QPSK	50	50	10 mm	back	1:1.58	0.406	1.140	0.463	
3560.00	55340	Low	LTE Band 48	20	-	21.5	21.08	0.05	1	02870	QPSK	100	0	10 mm	back	1:1.58	0.762	1.102	0.840	
3560.00	55340	Low	LTE Band 48	20	#1	22.5	22.21	0.03	0	02870	QPSK	1	0	10 mm	back	1:1.58	0.751	1.069	0.803	
3560.00	55340	Low	LTE Band 48	20	#2	22.5	22.21	-0.06	0	02870	QPSK	1	0	10 mm	back	1:1.58	0.867	1.069	0.927	
3560.00	55340	Low	LTE Band 48	20	#3	22.5	22.21	0.12	0	02870	QPSK	1	0	10 mm	back	1:1.58	0.116	1.069	0.124	
3560.00	55340	Low	LTE Band 48	20	-	22.5	22.21	0.01	0	02870	QPSK	1	0	10 mm	front	1:1.58	0.035	1.069	0.037	
3560.00	55340	Low	LTE Band 48	20	-	21.5	21.17	0.14	1	02870	QPSK	50	25	10 mm	front	1:1.58	0.025	1.079	0.027	
3560.00	55340	Low	LTE Band 48	20	-	22.5	22.21	-0.07	0	02870	QPSK	1	0	10 mm	right	1:1.58	0.393	1.069	0.420	
3560.00	55340	Low	LTE Band 48	20	-	21.5	21.17	0.01	1	02870	QPSK	50	25	10 mm	right	1:1.58	0.296	1.079	0.319	
3560.00	55340	Low	LTE Band 48	20	-	22.5	22.21	0.03	0	02870	QPSK	1	0	10 mm	back	1:1.58	1.020	1.069	1.090	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																	Body 1.6 W/kg (mW/g) averaged over 1 gram			

Notes:

1. Green entries represent additional Hotspot SAR Position (DD #1: 0 degrees).
2. Purple entries represent additional Hotspot SAR Position (DD #2: 180 degrees).
3. Light orange entries represent additional Hotspot SAR Position (DD #3: 360 degrees).
4. Blue entry represents variability measurement.

Table 11-45
LTE Band 41 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
2506.00	39750	Low	LTE Band 41	20	25.2	24.61	-0.02	0	02888	QPSK	1	0	10 mm	back	1:1.58	0.479	1.146	0.549	
2549.50	40185	Low-Mid	LTE Band 41	20	25.2	24.70	-0.04	0	02888	QPSK	1	0	10 mm	back	1:1.58	0.483	1.122	0.542	
2593.00	40620	Mid	LTE Band 41	20	25.2	24.77	-0.08	0	02888	QPSK	1	50	10 mm	back	1:1.58	0.542	1.104	0.598	
2636.50	41055	Mid-High	LTE Band 41	20	25.2	24.79	-0.01	0	02888	QPSK	1	50	10 mm	back	1:1.58	0.593	1.099	0.652	
2680.00	41490	High	LTE Band 41	20	25.2	24.63	-0.03	0	02888	QPSK	1	50	10 mm	back	1:1.58	0.610	1.140	0.695	
2636.50	41055	Mid-High	LTE Band 41	20	24.2	23.76	-0.05	1	02888	QPSK	50	25	10 mm	back	1:1.58	0.476	1.107	0.527	
2636.50	41055	Mid-High	LTE Band 41	20	24.2	23.69	-0.01	1	02888	QPSK	100	0	10 mm	back	1:1.58	0.473	1.125	0.532	
2636.50	41055	Mid-High	LTE Band 41	20	25.2	24.79	-0.10	0	02888	QPSK	1	50	10 mm	front	1:1.58	0.340	1.099	0.374	
2636.50	41055	Mid-High	LTE Band 41	20	24.2	23.76	0.00	1	02888	QPSK	50	25	10 mm	front	1:1.58	0.269	1.107	0.298	
2506.00	39750	Low	LTE Band 41	20	25.2	24.61	-0.10	0	02888	QPSK	1	0	10 mm	bottom	1:1.58	0.657	1.146	0.753	
2549.50	40185	Low-Mid	LTE Band 41	20	25.2	24.70	-0.07	0	02888	QPSK	1	0	10 mm	bottom	1:1.58	0.705	1.122	0.791	
2593.00	40620	Mid	LTE Band 41	20	25.2	24.77	-0.04	0	02888	QPSK	1	50	10 mm	bottom	1:1.58	0.744	1.104	0.821	
2636.50	41055	Mid-High	LTE Band 41	20	25.2	24.79	-0.05	0	02888	QPSK	1	50	10 mm	bottom	1:1.58	0.828	1.099	0.910	
2680.00	41490	High	LTE Band 41	20	25.2	24.63	-0.07	0	02888	QPSK	1	50	10 mm	bottom	1:1.58	0.894	1.140	**1.019**	A49
2506.00	39750	Low	LTE Band 41	20	24.2	23.58	-0.06	1	02888	QPSK	50	25	10 mm	bottom	1:1.58	0.549	1.153	0.633	
2549.50	40185	Low-Mid	LTE Band 41	20	24.2	23.66	-0.01	1	02888	QPSK	50	25	10 mm	bottom	1:1.58	0.572	1.132	0.648	
2593.00	40620	Mid	LTE Band 41	20	24.2	23.74	-0.07	1	02888	QPSK	50	25	10 mm	bottom	1:1.58	0.595	1.112	0.662	
2636.50	41055	Mid-High	LTE Band 41	20	24.2	23.76	-0.05	1	02888	QPSK	50	25	10 mm	bottom	1:1.58	0.680	1.107	0.753	
2680.00	41490	High	LTE Band 41	20	24.2	23.65	-0.11	1	02888	QPSK	50	25	10 mm	bottom	1:1.58	0.724	1.135	0.822	
2636.50	41055	Mid-High	LTE Band 41	20	24.2	23.69	-0.07	1	02888	QPSK	100	0	10 mm	bottom	1:1.58	0.668	1.125	0.752	
2636.50	41055	Mid-High	LTE Band 41	20	25.2	24.79	0.13	0	02888	QPSK	1	50	10 mm	left	1:1.58	0.092	1.099	0.101	
2636.50	41055	Mid-High	LTE Band 41	20	24.2	23.76	-0.16	1	02888	QPSK	50	25	10 mm	left	1:1.58	0.072	1.107	0.080	
2680.00	41490	High	LTE Band 41	20	25.2	24.63	-0.14	0	02888	QPSK	1	50	10 mm	bottom	1:1.58	0.872	1.140	0.994	
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 11-46
NR Band n5 Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.7	24.68	0.04	0	02896	DFT-S-OFDM QPSK	1	1	10 mm	back	1:1	0.250	1.005	0.251	A50
836.50	167300	Mid	NR Band n5 (Cell)	20	24.7	24.45	0.00	0	02896	DFT-S-OFDM QPSK	50	28	10 mm	back	1:1	0.213	1.059	0.226	
836.50	167300	Mid	NR Band n5 (Cell)	20	23.7	22.71	0.01	1	02896	CP-OFDM QPSK	1	1	10 mm	back	1:1	0.156	1.256	0.196	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.7	24.68	0.00	0	02896	DFT-S-OFDM QPSK	1	1	10 mm	front	1:1	0.138	1.005	0.139	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.7	24.45	0.00	0	02896	DFT-S-OFDM QPSK	50	28	10 mm	front	1:1	0.132	1.059	0.140	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.7	24.68	0.13	0	02896	DFT-S-OFDM QPSK	1	1	10 mm	bottom	1:1	0.052	1.005	0.052	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.7	24.45	0.20	0	02896	DFT-S-OFDM QPSK	50	28	10 mm	bottom	1:1	0.057	1.059	0.060	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.7	24.68	0.12	0	02896	DFT-S-OFDM QPSK	1	1	10 mm	right	1:1	0.057	1.005	0.057	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.7	24.45	-0.01	0	02896	DFT-S-OFDM QPSK	50	28	10 mm	right	1:1	0.058	1.059	0.061	
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 11-47
NR Band n66 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1720.00	344000	Low	NR Band n66 (AWS)	20	23.3	22.73	-0.05	0	02896	DFT-S-OFDM QPSK	1	104	10 mm	back	1:1	0.229	1.140	0.261	
1720.00	344000	Low	NR Band n66 (AWS)	20	23.3	22.64	0.04	0	02896	DFT-S-OFDM QPSK	50	28	10 mm	back	1:1	0.213	1.164	0.248	
1720.00	344000	Low	NR Band n66 (AWS)	20	23.3	22.73	0.02	0	02896	DFT-S-OFDM QPSK	1	104	10 mm	front	1:1	0.243	1.140	0.277	
1720.00	344000	Low	NR Band n66 (AWS)	20	23.3	22.64	0.04	0	02896	DFT-S-OFDM QPSK	50	28	10 mm	front	1:1	0.232	1.164	0.270	
1720.00	344000	Low	NR Band n66 (AWS)	20	23.3	22.73	0.17	0	02896	DFT-S-OFDM QPSK	1	104	10 mm	bottom	1:1	0.012	1.140	0.014	
1720.00	344000	Low	NR Band n66 (AWS)	20	23.3	22.64	0.15	0	02896	DFT-S-OFDM QPSK	50	28	10 mm	bottom	1:1	0.013	1.164	0.015	
1720.00	344000	Low	NR Band n66 (AWS)	20	23.3	22.73	-0.01	0	02896	DFT-S-OFDM QPSK	1	104	10 mm	right	1:1	0.436	1.140	0.497	A52
1720.00	344000	Low	NR Band n66 (AWS)	20	23.3	22.64	-0.07	0	02896	DFT-S-OFDM QPSK	50	28	10 mm	right	1:1	0.427	1.164	0.497	
1720.00	344000	Low	NR Band n66 (AWS)	20	23.3	22.71	0.01	0	02896	CP-OFDM QPSK	1	1	10 mm	right	1:1	0.395	1.146	0.453	
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 11-48
NR Band n2 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1880.00	376000	Mid	NR Band n2 (PCS)	20	23.7	23.62	-0.15	0	02904	DFT-S-OFDM QPSK	1	104	10 mm	back	1:1	0.217	1.019	0.221	
1880.00	376000	Mid	NR Band n2 (PCS)	20	23.7	23.64	0.09	0	02904	DFT-S-OFDM QPSK	50	28	10 mm	back	1:1	0.217	1.014	0.220	
1880.00	376000	Mid	NR Band n2 (PCS)	20	23.7	23.62	0.00	0	02904	DFT-S-OFDM QPSK	1	104	10 mm	front	1:1	0.273	1.019	0.278	
1880.00	376000	Mid	NR Band n2 (PCS)	20	23.7	23.64	0.01	0	02904	DFT-S-OFDM QPSK	50	28	10 mm	front	1:1	0.283	1.014	0.287	
1880.00	376000	Mid	NR Band n2 (PCS)	20	23.7	23.62	-0.07	0	02904	DFT-S-OFDM QPSK	1	104	10 mm	bottom	1:1	0.059	1.019	0.060	
1880.00	376000	Mid	NR Band n2 (PCS)	20	23.7	23.64	-0.18	0	02904	DFT-S-OFDM QPSK	50	28	10 mm	bottom	1:1	0.060	1.014	0.061	
1880.00	376000	Mid	NR Band n2 (PCS)	20	23.7	23.62	-0.02	0	02904	DFT-S-OFDM QPSK	1	104	10 mm	right	1:1	0.394	1.019	0.401	
1880.00	376000	Mid	NR Band n2 (PCS)	20	23.7	23.64	0.01	0	02904	DFT-S-OFDM QPSK	50	28	10 mm	right	1:1	0.435	1.014	0.441	
1860.00	372000	Low	NR Band n2 (PCS)	20	23.7	23.70	-0.06	0	02904	CP-OFDM QPSK	1	1	10 mm	right	1:1	0.498	1.000	0.498	A54
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 11-49
WLAN Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
2437	6	802.11b	DSSS	22	20.5	20.17	-0.01	10 mm	1	02813	1	back	99.5	0.275	0.174	1.079	1.005	0.189	
2437	6	802.11b	DSSS	22	20.5	20.17	0.19	10 mm	1	02813	1	front	99.5	0.492	0.267	1.079	1.005	0.290	
2437	6	802.11b	DSSS	22	20.5	20.17	0.14	10 mm	1	02813	1	top	99.5	0.380	-	1.079	1.005	-	
2437	6	802.11b	DSSS	22	20.5	20.17	0.11	10 mm	1	02813	1	left	99.5	0.601	0.387	1.079	1.005	**0.420**	A56
2437	6	802.11b	DSSS	22	20.5	20.49	0.12	10 mm	2	02953	1	back	99.5	0.222	0.138	1.002	1.005	0.139	
2437	6	802.11b	DSSS	22	20.5	20.49	0.11	10 mm	2	02953	1	front	99.5	0.191	-	1.002	1.005	-	
2437	6	802.11b	DSSS	22	20.5	20.49	-0.14	10 mm	2	02953	1	top	99.5	0.497	0.312	1.002	1.005	0.314	
2437	6	802.11b	DSSS	22	20.5	20.49	0.17	10 mm	2	02953	1	left	99.5	0.035	0.024	1.002	1.005	0.024	
5200	40	802.11a	OFDM	20	18.0	17.63	0.00	10 mm	1	02953	6	back	99.1	0.471	0.222	1.089	1.009	0.244	
5200	40	802.11a	OFDM	20	18.0	17.63	-0.13	10 mm	1	02953	6	front	99.1	0.089	-	1.089	1.009	-	
5200	40	802.11a	OFDM	20	18.0	17.63	0.20	10 mm	1	02953	6	top	99.1	0.108	-	1.089	1.009	-	
5200	40	802.11a	OFDM	20	18.0	17.63	0.13	10 mm	1	02953	6	left	99.1	0.122	-	1.089	1.009	-	
5200	40	802.11a	OFDM	20	18.0	17.90	0.06	10 mm	2	02953	6	back	99.2	0.279	0.137	1.023	1.008	0.141	
5200	40	802.11a	OFDM	20	18.0	17.90	0.16	10 mm	2	02953	6	front	99.2	0.114	-	1.023	1.008	-	
5200	40	802.11a	OFDM	20	18.0	17.90	0.03	10 mm	2	02953	6	top	99.2	0.280	0.124	1.023	1.008	0.128	
5200	40	802.11a	OFDM	20	18.0	17.90	0.16	10 mm	2	02953	6	left	99.2	0.109	-	1.023	1.008	-	
5785	157	802.11a	OFDM	20	18.0	17.54	-0.14	10 mm	1	02953	6	back	99.1	0.673	0.279	1.112	1.009	**0.313**	
5785	157	802.11a	OFDM	20	18.0	17.54	0.11	10 mm	1	02953	6	front	99.1	0.129	-	1.112	1.009	-	
5785	157	802.11a	OFDM	20	18.0	17.54	0.12	10 mm	1	02953	6	top	99.1	0.136	-	1.112	1.009	-	
5785	157	802.11a	OFDM	20	18.0	17.54	-0.13	10 mm	1	02953	6	left	99.1	0.318	-	1.112	1.009	-	
5825	165	802.11a	OFDM	20	18.0	17.71	0.12	10 mm	2	02953	6	back	99.2	0.561	0.230	1.069	1.008	0.248	
5825	165	802.11a	OFDM	20	18.0	17.71	0.13	10 mm	2	02953	6	front	99.2	0.028	-	1.069	1.008	-	
5825	165	802.11a	OFDM	20	18.0	17.71	0.20	10 mm	2	02953	6	top	99.2	0.338	-	1.069	1.008	-	
5825	165	802.11a	OFDM	20	18.0	17.71	-0.19	10 mm	2	02953	6	left	99.2	0.130	-	1.069	1.008	-	

ANSI / IEEE C95.1 1992 - SAFETY LIMIT	**Body**
Spatial Peak	**1.6 W/kg (mW/g)**
Uncontrolled Exposure/General Population	averaged over 1 gram

Table 11-50
DTS MIMO Hotspot SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR

MEASUREMENT RESULTS																						
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
2437	6	802.11n	OFDM	20	15.5	15.20	15.5	15.40	-0.05	10 mm	MIMO	02953	13	back	99.7	0.145	0.094	1.072	1.003	0.101	
2437	6	802.11n	OFDM	20	15.5	15.20	15.5	15.40	0.16	10 mm	MIMO	02953	13	front	99.7	0.188	0.151	1.072	1.003	0.162	
2437	6	802.11n	OFDM	20	15.5	15.20	15.5	15.40	0.17	10 mm	MIMO	02953	13	top	99.7	0.529	0.337	1.072	1.003	0.362	
2437	6	802.11n	OFDM	20	15.5	15.20	15.5	15.40	0.14	10 mm	MIMO	02953	13	left	99.7	0.180	0.108	1.072	1.003	0.116	
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: DTS MIMO was additionally evaluated at the maximum allowed output power during operations with Simultaneous 2.4 GHz and 5 GHz WLAN. 5 GHz WIFI was not transmitting during the above evaluations.

Table 11-51
NII MIMO Hotspot SAR

MEASUREMENT RESULTS																						
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5200	40	802.11n	OFDM	20	18.0	17.83	18.0	17.82	0.03	10 mm	MIMO	02813	13	back	99.7	0.644	0.295	1.042	1.003	0.308	A58
5200	40	802.11n	OFDM	20	18.0	17.83	18.0	17.82	-0.15	10 mm	MIMO	02813	13	front	99.7	0.145	-	1.042	1.003	-	
5200	40	802.11n	OFDM	20	18.0	17.83	18.0	17.82	0.11	10 mm	MIMO	02813	13	top	99.7	0.079	-	1.042	1.003	-	
5200	40	802.11n	OFDM	20	18.0	17.83	18.0	17.82	0.11	10 mm	MIMO	02813	13	left	99.7	0.115	-	1.042	1.003	-	
5825	165	802.11n	OFDM	20	18.0	17.72	18.0	17.91	0.13	10 mm	MIMO	02813	13	back	99.7	0.683	0.218	1.067	1.003	0.233	
5825	165	802.11n	OFDM	20	18.0	17.72	18.0	17.91	-0.14	10 mm	MIMO	02813	13	front	99.7	0.089	-	1.067	1.003	-	
5825	165	802.11n	OFDM	20	18.0	17.72	18.0	17.91	-0.17	10 mm	MIMO	02813	13	top	99.7	0.106	-	1.067	1.003	-	
5825	165	802.11n	OFDM	20	18.0	17.72	18.0	17.91	-0.19	10 mm	MIMO	02813	13	left	99.7	0.279	-	1.067	1.003	-	
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 21.0 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 18.0 dBm.

Table 11-52
NII MIMO Hotspot SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR

MEASUREMENT RESULTS																						
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5230	46	802.11n	OFDM	40	15.0	14.99	15.0	14.40	0.20	10 mm	MIMO	02813	27	back	99.7	0.225	0.098	1.148	1.003	0.113	
5230	46	802.11n	OFDM	40	15.0	14.99	15.0	14.40	-0.20	10 mm	MIMO	02813	27	front	99.7	0.051	-	1.148	1.003	-	
5230	46	802.11n	OFDM	40	15.0	14.99	15.0	14.40	0.11	10 mm	MIMO	02813	27	top	99.7	0.095	-	1.148	1.003	-	
5230	46	802.11n	OFDM	40	15.0	14.99	15.0	14.40	-0.14	10 mm	MIMO	02813	27	left	99.7	0.056	-	1.148	1.003	-	
5795	159	802.11n	OFDM	40	15.0	14.38	15.0	14.99	-0.14	10 mm	MIMO	02813	27	back	99.7	0.264	0.108	1.153	1.003	0.125	
5795	159	802.11n	OFDM	40	15.0	14.38	15.0	14.99	0.20	10 mm	MIMO	02813	27	front	99.7	0.021	-	1.153	1.003	-	
5795	159	802.11n	OFDM	40	15.0	14.38	15.0	14.99	0.15	10 mm	MIMO	02813	27	top	99.7	0.102	-	1.153	1.003	-	
5795	159	802.11n	OFDM	40	15.0	14.38	15.0	14.99	0.18	10 mm	MIMO	02813	27	left	99.7	0.104	-	1.153	1.003	-	
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: NII MIMO was additionally evaluated at the maximum allowed output power during operations with Simultaneous 2.4 GHz and 5 GHz WLAN. 2.4 GHz WIFI was not transmitting during the above evaluations.

Table 11-53
DSS Hotspot SAR

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	SAR (1g)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)			(W/kg)	
2441	39	Bluetooth	FHSS	12.5	11.66	0.13	10 mm	02953	1	back	77.3	0.023	1.213	1.294	0.036	
2441	39	Bluetooth	FHSS	12.5	11.66	0.06	10 mm	02953	1	front	77.3	0.037	1.213	1.294	0.058	
2441	39	Bluetooth	FHSS	12.5	11.66	0.13	10 mm	02953	1	top	77.3	0.024	1.213	1.294	0.038	
2441	39	Bluetooth	FHSS	12.5	11.66	0.04	10 mm	02953	1	left	77.3	0.065	1.213	1.294	**0.102**	A60
ANSI / IEEE C95.1 1992 - SAFETY LIMIT **Spatial Peak** **Uncontrolled Exposure/General Population**								**Body** **1.6 W/kg (mW/g)** averaged over 1 gram								

11.4 Standalone Phablet SAR Data

Table 11-54
UMTS/CDMA Phablet SAR Data

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Duty Cycle	Side	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1732.40	1412	UMTS 1750	RMC	25.2	25.16	0.04	2 mm	02854	1:1	back	1.430	1.009	1.443	
1712.40	1312	UMTS 1750	RMC	25.2	25.15	0.05	1 mm	02854	1:1	front	2.090	1.012	2.115	
1732.40	1412	UMTS 1750	RMC	25.2	25.16	0.03	1 mm	02854	1:1	front	2.230	1.009	2.250	
1752.60	1513	UMTS 1750	RMC	25.2	25.13	0.09	1 mm	02854	1:1	front	2.230	1.016	2.266	A61
1732.40	1412	UMTS 1750	RMC	25.2	25.16	-0.02	3mm	02854	1:1	bottom	1.770	1.009	1.786	
1732.40	1412	UMTS 1750	RMC	25.2	25.16	0.04	0 mm	02854	1:1	left	0.643	1.009	0.649	
1732.40	1412	UMTS 1750	RMC	22.5	22.31	-0.01	0 mm	02862	1:1	back	1.320	1.045	1.379	
1732.40	1412	UMTS 1750	RMC	22.5	22.31	0.01	0 mm	02862	1:1	front	1.560	1.045	1.630	
1732.40	1412	UMTS 1750	RMC	22.5	22.31	0.06	0 mm	02862	1:1	bottom	1.790	1.045	1.871	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.2	24.84	0.06	2 mm	02847	1:1	back	1.440	1.086	1.564	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.2	24.84	-0.01	1 mm	02847	1:1	front	1.460	1.086	1.586	
1851.25	25	PCS CDMA	EVDO Rev. 0	25.2	24.85	-0.04	3 mm	02847	1:1	bottom	2.220	1.084	2.406	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.2	24.84	-0.06	3 mm	02847	1:1	bottom	1.890	1.086	2.053	
1908.75	1175	PCS CDMA	EVDO Rev. 0	25.2	24.81	0.00	3 mm	02847	1:1	bottom	2.000	1.094	2.188	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.2	24.84	-0.20	0 mm	02847	1:1	left	0.514	1.086	0.558	
1880.00	600	PCS CDMA	EVDO Rev. 0	22.7	22.42	0.12	0 mm	02870	1:1	back	1.490	1.067	1.590	
1880.00	600	PCS CDMA	EVDO Rev. 0	22.7	22.42	-0.18	0 mm	02870	1:1	front	1.610	1.067	1.718	
1851.25	25	PCS CDMA	EVDO Rev. 0	22.7	22.43	-0.01	0 mm	02870	1:1	bottom	2.410	1.064	2.564	
1880.00	600	PCS CDMA	EVDO Rev. 0	22.7	22.42	-0.14	0 mm	02870	1:1	bottom	2.600	1.067	2.774	
1908.75	1175	PCS CDMA	EVDO Rev. 0	22.7	22.46	-0.16	0 mm	02870	1:1	bottom	2.760	1.057	2.917	A62
1880.00	9400	UMTS 1900	RMC	25.2	25.19	-0.06	2 mm	02854	1:1	back	1.370	1.002	1.373	
1852.40	9262	UMTS 1900	RMC	25.2	25.15	-0.18	1 mm	02854	1:1	front	2.330	1.012	2.358	
1880.00	9400	UMTS 1900	RMC	25.2	25.19	-0.12	1 mm	02854	1:1	front	2.340	1.002	2.345	
1907.60	9538	UMTS 1900	RMC	25.2	25.20	-0.20	1 mm	02854	1:1	front	2.200	1.000	2.200	
1852.40	9262	UMTS 1900	RMC	25.2	25.15	-0.07	3 mm	02854	1:1	bottom	2.050	1.012	2.075	
1880.00	9400	UMTS 1900	RMC	25.2	25.19	-0.07	3 mm	02854	1:1	bottom	2.220	1.002	2.224	
1907.60	9538	UMTS 1900	RMC	25.2	25.20	-0.04	3 mm	02854	1:1	bottom	2.380	1.000	2.380	
1880.00	9400	UMTS 1900	RMC	25.2	25.19	-0.04	0 mm	02854	1:1	left	0.545	1.002	0.546	
1880.00	9400	UMTS 1900	RMC	22.7	22.11	0.13	0 mm	02870	1:1	back	1.620	1.146	1.857	
1852.40	9262	UMTS 1900	RMC	22.7	22.00	-0.12	0 mm	02870	1:1	front	1.960	1.175	2.303	
1880.00	9400	UMTS 1900	RMC	22.7	22.11	-0.16	0 mm	02870	1:1	front	1.960	1.146	2.246	
1907.60	9538	UMTS 1900	RMC	22.7	22.10	-0.11	0 mm	02870	1:1	front	1.890	1.148	2.170	
1852.40	9262	UMTS 1900	RMC	22.7	22.00	0.06	0 mm	02870	1:1	bottom	2.340	1.175	2.750	
1880.00	9400	UMTS 1900	RMC	22.7	22.11	0.03	0 mm	02870	1:1	bottom	2.570	1.146	2.945	
1907.60	9538	UMTS 1900	RMC	22.7	22.10	0.10	0 mm	02870	1:1	bottom	2.710	1.148	3.111	A63
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 11-55
LTE Band 66 Phablet SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.2	25.20	0.00	0	02862	QPSK	1	0	2 mm	back	1:1	1.730	1.000	1.730	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.2	24.20	-0.02	1	02862	QPSK	50	25	2 mm	back	1:1	1.360	1.000	1.360	
1720.00	132072	Low	LTE Band 66 (AWS)	20	25.2	25.07	-0.02	0	02862	QPSK	1	50	1 mm	front	1:1	2.330	1.030	2.400	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.2	24.97	-0.01	0	02862	QPSK	1	50	1 mm	front	1:1	2.480	1.054	2.614	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.2	25.20	0.00	0	02862	QPSK	1	0	1 mm	front	1:1	2.620	1.000	2.620	A64
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.2	24.20	-0.03	1	02862	QPSK	50	25	1 mm	front	1:1	1.980	1.000	1.980	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.2	24.11	-0.03	1	02862	QPSK	100	0	1 mm	front	1:1	1.940	1.021	1.981	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.2	25.20	-0.03	0	02862	QPSK	1	0	3 mm	bottom	1:1	1.930	1.000	1.930	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.2	24.20	0.01	1	02862	QPSK	50	25	3 mm	bottom	1:1	1.440	1.000	1.440	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.2	25.20	0.06	0	02862	QPSK	1	0	0 mm	left	1:1	0.718	1.000	0.718	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.2	24.20	0.00	1	02862	QPSK	50	25	0 mm	left	1:1	0.543	1.000	0.543	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.7	22.20	0.20	0	02847	QPSK	1	50	0 mm	back	1:1	1.470	1.122	1.649	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.7	22.39	0.19	0	02847	QPSK	50	25	0 mm	back	1:1	1.560	1.074	1.675	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.7	22.20	-0.01	0	02847	QPSK	1	50	0 mm	front	1:1	1.610	1.122	1.806	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.7	22.39	0.01	0	02847	QPSK	50	25	0 mm	front	1:1	1.720	1.074	1.847	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.7	22.20	-0.04	0	02847	QPSK	1	50	0 mm	bottom	1:1	1.640	1.122	1.840	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.7	22.39	-0.07	0	02847	QPSK	50	25	0 mm	bottom	1:1	1.750	1.074	1.880	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.2	25.20	0.00	0	02862	QPSK	1	0	1 mm	front	1:1	2.570	1.000	2.570	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Phablet 4.0 W/kg (mW/g) averaged over 10 grams			

Note: Blue entry represents variability measurement.

Table 11-56
LTE Band 2 Phablet SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Dual Display Accessory Configuration	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	-	25.2	25.01	-0.03	0	02870	QPSK	1	99	2 mm	back	1:1	1.450	1.045	1.515	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	-	24.2	24.04	0.04	1	02870	QPSK	50	50	2 mm	back	1:1	1.270	1.038	1.318	
1860.00	18700	Low	LTE Band 2 (PCS)	20	-	25.2	24.99	0.08	0	02870	QPSK	1	0	1 mm	front	1:1	2.460	1.050	2.583	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	-	25.2	25.01	-0.03	0	02870	QPSK	1	99	1 mm	front	1:1	2.310	1.045	2.414	
1900.00	19100	High	LTE Band 2 (PCS)	20	-	25.2	24.97	-0.04	0	02870	QPSK	1	0	1 mm	front	1:1	2.280	1.054	2.403	
1860.00	18700	Low	LTE Band 2 (PCS)	20	-	24.2	24.02	-0.02	1	02870	QPSK	50	50	1 mm	front	1:1	2.050	1.042	2.136	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	-	24.2	24.04	0.08	1	02870	QPSK	50	50	1 mm	front	1:1	2.000	1.038	2.076	
1900.00	19100	High	LTE Band 2 (PCS)	20	-	24.2	23.96	-0.01	1	02870	QPSK	50	25	1 mm	front	1:1	1.880	1.057	1.987	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	-	24.2	23.95	-0.01	1	02870	QPSK	100	0	1 mm	front	1:1	1.910	1.059	2.023	
1860.00	18700	Low	LTE Band 2 (PCS)	20	-	25.2	24.99	-0.07	0	02870	QPSK	1	0	3 mm	bottom	1:1	2.180	1.050	2.289	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	-	25.2	25.01	-0.12	0	02870	QPSK	1	99	3 mm	bottom	1:1	2.220	1.045	2.320	
1900.00	19100	High	LTE Band 2 (PCS)	20	-	25.2	24.97	-0.17	0	02870	QPSK	1	0	3 mm	bottom	1:1	2.300	1.054	2.424	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	-	24.2	24.04	-0.11	1	02870	QPSK	50	50	3 mm	bottom	1:1	1.910	1.038	1.983	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	-	24.2	23.95	-0.16	1	02870	QPSK	100	0	3 mm	bottom	1:1	1.860	1.059	1.970	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	-	25.2	25.01	0.02	0	02870	QPSK	1	99	0 mm	left	1:1	0.563	1.045	0.588	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	-	24.2	24.04	-0.20	1	02870	QPSK	50	50	0 mm	left	1:1	0.466	1.038	0.484	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	-	22.7	22.26	0.14	0	02854	QPSK	1	0	0 mm	back	1:1	1.750	1.107	1.937	
1860.00	18700	Low	LTE Band 2 (PCS)	20	-	22.7	22.36	0.14	0	02854	QPSK	50	25	0 mm	back	1:1	1.820	1.081	1.967	
1860.00	18700	Low	LTE Band 2 (PCS)	20	-	22.7	22.15	-0.05	0	02854	QPSK	1	99	0 mm	front	1:1	1.840	1.135	2.088	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	-	22.7	22.26	0.02	0	02854	QPSK	1	0	0 mm	front	1:1	1.870	1.107	2.070	
1900.00	19100	High	LTE Band 2 (PCS)	20	-	22.7	22.18	-0.02	0	02854	QPSK	1	50	0 mm	front	1:1	1.780	1.127	2.006	
1860.00	18700	Low	LTE Band 2 (PCS)	20	-	22.7	22.36	0.01	0	02854	QPSK	50	25	0 mm	front	1:1	1.940	1.081	2.097	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	-	22.7	22.25	0.00	0	02854	QPSK	50	25	0 mm	front	1:1	1.900	1.109	2.107	
1900.00	19100	High	LTE Band 2 (PCS)	20	-	22.7	22.31	-0.04	0	02854	QPSK	50	25	0 mm	front	1:1	1.880	1.094	2.057	
1860.00	18700	Low	LTE Band 2 (PCS)	20	-	22.7	22.25	-0.02	0	02854	QPSK	100	0	0 mm	front	1:1	1.920	1.109	2.129	
1860.00	18700	Low	LTE Band 2 (PCS)	20	-	22.7	22.15	0.05	0	02854	QPSK	1	99	0 mm	bottom	1:1	2.500	1.135	2.838	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	-	22.7	22.26	0.00	0	02854	QPSK	1	0	0 mm	bottom	1:1	2.560	1.107	2.834	
1900.00	19100	High	LTE Band 2 (PCS)	20	-	22.7	22.18	-0.05	0	02854	QPSK	1	50	0 mm	bottom	1:1	2.680	1.127	3.020	
1860.00	18700	Low	LTE Band 2 (PCS)	20	-	22.7	22.36	-0.01	0	02854	QPSK	50	25	0 mm	bottom	1:1	2.610	1.081	2.821	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	-	22.7	22.25	0.03	0	02854	QPSK	50	25	0 mm	bottom	1:1	2.700	1.109	2.994	
1900.00	19100	High	LTE Band 2 (PCS)	20	-	22.7	22.31	0.04	0	02854	QPSK	50	25	0 mm	bottom	1:1	2.860	1.094	**3.129**	A65
1860.00	18700	Low	LTE Band 2 (PCS)	20	-	22.7	22.25	-0.01	0	02854	QPSK	100	0	0 mm	bottom	1:1	2.570	1.109	2.850	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	#1	25.2	25.01	0.18	0	02870	QPSK	1	99	0 mm	bottom	1:1	1.570	1.045	1.641	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	#2	25.2	25.01	-0.12	0	02870	QPSK	1	99	0 mm	bottom	1:1	1.580	1.045	1.651	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	#3	25.2	25.01	-0.19	0	02870	QPSK	1	99	0 mm	bottom	1:1	1.660	1.045	1.735	
1900.00	19100	High	LTE Band 2 (PCS)	20	-	22.7	22.31	0.04	0	02854	QPSK	50	25	0 mm	bottom	1:1	2.840	1.094	3.107	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Phablet 4.0 W/kg (mW/g) averaged over 10 grams					

Notes:

1. Green entries represent additional Phablet SAR Position (DD #1: 0 degrees).
2. Purple entries represent additional Phablet SAR Position (DD #2: 180 degrees).
3. Light orange entries represent additional Phablet SAR Position (DD #3: 360 degrees).
4. Blue entry represents variability measurement.

Table 11-57
WLAN Phablet SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (10g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (10g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5280	56	802.11a	OFDM	20	18.0	17.56	-0.15	0 mm	1	02953	6	back	99.1	5.154	0.814	1.107	1.009	0.909	
5280	56	802.11a	OFDM	20	18.0	17.56	-0.13	0 mm	1	02953	6	front	99.1	2.817	0.365	1.107	1.009	0.408	
5280	56	802.11a	OFDM	20	18.0	17.56	0.20	0 mm	1	02953	6	top	99.1	0.641	-	1.107	1.009	-	
5280	56	802.11a	OFDM	20	18.0	17.56	0.12	0 mm	1	02953	6	left	99.1	1.155	-	1.107	1.009	-	
5280	56	802.11a	OFDM	20	18.0	17.47	0.13	0 mm	2	02953	6	back	99.2	3.370	0.543	1.130	1.008	0.618	
5280	56	802.11a	OFDM	20	18.0	17.47	0.15	0 mm	2	02953	6	front	99.2	2.448	0.386	1.130	1.008	0.440	
5280	56	802.11a	OFDM	20	18.0	17.47	-0.13	0 mm	2	02953	6	top	99.2	3.893	0.380	1.130	1.008	0.433	
5280	56	802.11a	OFDM	20	18.0	17.47	0.19	0 mm	2	02953	6	left	99.2	0.666	-	1.130	1.008	-	
5720	144	802.11a	OFDM	20	17.0	16.81	-0.13	0 mm	1	02953	6	back	99.1	4.557	0.582	1.045	1.009	0.614	
5720	144	802.11a	OFDM	20	17.0	16.81	-0.16	0 mm	1	02953	6	front	99.1	2.449	0.230	1.045	1.009	0.243	
5720	144	802.11a	OFDM	20	17.0	16.81	0.14	0 mm	1	02953	6	top	99.1	0.890	-	1.045	1.009	-	
5720	144	802.11a	OFDM	20	17.0	16.81	0.15	0 mm	1	02953	6	left	99.1	1.048	-	1.045	1.009	-	
5600	120	802.11a	OFDM	20	17.0	16.97	-0.16	0 mm	2	02953	6	back	99.2	5.960	0.845	1.007	1.008	0.858	
5600	120	802.11a	OFDM	20	17.0	16.97	0.03	0 mm	2	02953	6	front	99.2	3.892	0.372	1.007	1.008	0.378	
5600	120	802.11a	OFDM	20	17.0	16.97	0.11	0 mm	2	02953	6	top	99.2	7.315	0.701	1.007	1.008	0.712	
5600	120	802.11a	OFDM	20	17.0	16.97	0.17	0 mm	2	02953	6	left	99.2	0.733	-	1.007	1.008	-	

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 11-58
NII MIMO Phablet SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (10g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (10g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5280	56	802.11n	OFDM	20	18.0	17.90	18.0	17.72	-0.13	0 mm	MIMO	02953	13	back	99.7	7.474	1.210	1.067	1.003	1.295	
5280	56	802.11n	OFDM	20	18.0	17.90	18.0	17.72	0.10	0 mm	MIMO	02953	13	front	99.7	4.822	0.678	1.067	1.003	0.726	
5280	56	802.11n	OFDM	20	18.0	17.90	18.0	17.72	0.16	0 mm	MIMO	02953	13	top	99.7	4.489	-	1.067	1.003	-	
5280	56	802.11n	OFDM	20	18.0	17.90	18.0	17.72	-0.03	0 mm	MIMO	02953	13	left	99.7	1.418	-	1.067	1.003	-	
5500	100	802.11n	OFDM	20	17.0	16.97	17.0	16.95	-0.11	0 mm	MIMO	02953	13	back	99.7	9.005	1.360	1.012	1.003	1.380	A66
5500	100	802.11n	OFDM	20	17.0	16.97	17.0	16.95	-0.19	0 mm	MIMO	02953	13	front	99.7	4.755	0.677	1.012	1.003	0.687	
5500	100	802.11n	OFDM	20	17.0	16.97	17.0	16.95	0.21	0 mm	MIMO	02953	13	top	99.7	7.037	0.721	1.012	1.003	0.732	
5500	100	802.11n	OFDM	20	17.0	16.97	17.0	16.95	0.20	0 mm	MIMO	02953	13	left	99.7	2.067	-	1.012	1.003	-	

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: For channel 56 to achieve the 21.0 dBm, and for channel 100 to achieve 20.0 dBm, maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 18.0 dBm, 17.0 dBm respectively.

Table 11-59
WLAN MIMO Phablet SAR During Conditions with 5G NR FR2

MEASUREMENT RESULTS																						
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (10g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (10g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5270	54	802.11n	OFDM	40	15.0	14.70	15.0	14.54	0.19	0 mm	MIMO	02953	27	back	99.7	3.066	0.465	1.112	1.003	0.519	
5270	54	802.11n	OFDM	40	15.0	14.70	15.0	14.54	0.13	0 mm	MIMO	02953	27	front	99.7	1.286	0.212	1.112	1.003	0.236	
5270	54	802.11n	OFDM	40	15.0	14.70	15.0	14.54	0.13	0 mm	MIMO	02953	27	top	99.7	1.767	0.165	1.112	1.003	0.184	
5270	54	802.11n	OFDM	40	15.0	14.70	15.0	14.54	0.13	0 mm	MIMO	02953	27	left	99.7	0.431	-	1.112	1.003	-	
5630	126	802.11n	OFDM	40	15.0	14.32	15.0	14.82	0.11	0 mm	MIMO	02953	27	back	99.7	4.180	0.627	1.169	1.003	0.735	
5630	126	802.11n	OFDM	40	15.0	14.32	15.0	14.82	0.11	0 mm	MIMO	02953	27	front	99.7	1.679	0.194	1.169	1.003	0.227	
5630	126	802.11n	OFDM	40	15.0	14.32	15.0	14.82	0.13	0 mm	MIMO	02953	27	top	99.7	3.569	0.298	1.169	1.003	0.349	
5630	126	802.11n	OFDM	40	15.0	14.32	15.0	14.82	0.19	0 mm	MIMO	02953	27	left	99.7	0.658	-	1.169	1.003	-	
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: For channels 54 and 126 to achieve the 18.0 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 15.0 dBm.

11.5 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 D04v01r03, 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 for 1g SAR and 2.0 W/kg for 10g SAR. Repeated SAR measurements are highlighted in the tables above for clarity. Please see Section 13 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 6.7 for more details).
10. Per FCC KDB Publication 648474 D04v01r03, this device is considered a "phablet" since the diagonal dimension is > 160 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 utilizes power reduction for some wireless modes and technologies, as outlined in Section 1.5. The maximum output power allowed for each transmitter and exposure condition was evaluated for SAR compliance based on expected use conditions and simultaneous transmission scenarios.
12. Unless otherwise noted, when 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds below.
13. Additional SAR tests for phablet SAR were evaluated per KDB 616217 Section 6 (See Section 6.9 for more information).
14. This device uses Qualcomm Smart Transmit for 2G/3G/4G/5G 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).

15. The orange highlights throughout the report represents the highest SAR per FCC Equipment Class reflected on the FCC Grant.
16. SAR with the Dual Display Cover was measured for the overall worst case per each exposure condition. Head SAR tests were performed with the accessory cover folded to 0 and 360 degrees to represent typical use conditions. Body-worn, Hotspot, and Phablet SAR tests were performed with accessory cover folded to 0, 180 and 360 degrees.

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 middle channel or 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). When the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel was used.
4. GPRS was additionally evaluated for head and body-worn exposure conditions to address possible VoIP scenarios.

CDMA Notes:

1. Head SAR for CDMA2000 mode was tested under RC3/SO55 per FCC KDB Publication 941225 D01v03r01.
2. Body-Worn SAR was tested with 1x RTT with TDSO / SO32 FCH Only. EVDO Rev0 and RevA and TDSO / SO32 FCH+SCH SAR tests were not required per the 3G SAR Test Reduction Procedure in FCC KDB Publication 941225 D01v03r01.
3. CDMA Wireless Router SAR is measured using Subtype 0/1 Physical Layer configurations for Rev. 0 according to KDB 941225 D01v03r01 procedures for data devices. Wireless Router SAR tests for Subtype 2 of Rev.A and 1x RTT configurations were not required per the 3G SAR Test Reduction Policy in KDB Publication 941225 D01v03r01.
4. Head SAR was additionally evaluated using EVDO Rev. A to determine compliance for VoIP operations.
5. Per FCC KDB Publication 447498 D01v06, if the reported (scaled) SAR measured at the middle channel or 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). When the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel was used.

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 middle channel or 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). When the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel was used.

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 8.6.4.

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 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 LTE Band 41 or LTE Band 48 SAR measured at the highest output power channel in a given a test configuration was > 0.6 W/kg for 1g evaluations, testing at the other channels was required for such test configurations.
5. TDD LTE was tested per the guidance provided in FCC KDB Publication 941225 D05v02r04. Testing was performed using UL-DL configuration 0 with 6 UL subframes and 2 S subframes using extended cyclic prefix only and special subframe configuration 6. SAR tests were performed at maximum output power and worst-case transmission duty factor in extended cyclic prefix. Per 3GPP 36.211 Section 4, the duty factor for special subframe configuration 6 using extended cyclic prefix is 0.633.
6. Per KDB Publication 941225 D05Av01r02, SAR for downlink only LTE CA operations was not needed since the maximum average output power in LTE CA mode was not >0.25 dB higher than the maximum output power when downlink carrier aggregation was inactive.
7. For LTE Band 5, per FCC guidance, SAR was first measured with only a single carrier active in the uplink (carrier aggregation not active). For each exposure condition, the uplink CA scenario with two component carriers was additionally tested for the configuration with the highest SAR when carrier aggregation was not active. The SCC was configured with the closest available contiguous channel. The two component carriers were configured so the resource blocks are physically allocated side by side to achieve the maximum output power.

NR Notes:

1. NR implementation of n5, n66, and n2 is limited to EN-DC operations only, with LTE Bands 2/5/12/13/30/66 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 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.

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 8.7.5 for more information.
3. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 5 GHz WIFI single transmission chain 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 8.7.6 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 Section 12 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.

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 100% transmission duty factor to determine compliance. See Section 9.7 for the time domain plot and calculation for the duty factor of the device.
2. Head and Hotspot Bluetooth SAR were evaluated for BT BR tethering applications.

12 FCC MULTI-TX AND ANTENNA SAR CONSIDERATIONS

12.1 Introduction

The following procedures adopted from FCC KDB Publication 447498 D01v06 are applicable to devices with built-in unlicensed transmitters such as 802.11 and Bluetooth devices which may simultaneously transmit with the licensed transmitter.

12.2 Simultaneous Transmission Procedures

This device contains transmitters that may operate simultaneously. Therefore, simultaneous transmission analysis is required. Per FCC KDB Publication 447498 D01v06 4.3.2 and IEEE 1528-2013 Section 6.3.4.1.2, simultaneous transmission SAR test exclusion may be applied when the sum of the 1g SAR for all the simultaneous transmitting antennas in a specific a physical test configuration is ≤1.6 W/kg. The different test positions in an exposure condition may be considered collectively to determine SAR test exclusion according to the sum of 1g or 10g SAR.

(*) For test positions that were not required to be evaluated for WLAN SAR per FCC KDB publication 248227, the worst case WLAN SAR result for the applicable exposure conditions was used for simultaneous transmission analysis.

Per FCC KDB Publication 941225 D06v02r01, the devices edges with antennas more than 2.5 cm from edge are not required to be evaluated for SAR ("-").

Qualcomm Smart Transmit algorithm in WWAN adds directly the time-averaged RF exposure from 4G and time-averaged RF exposure from 5G NR. Smart Transmit algorithm controls the total RF exposure from both 4G and 5G NR to not exceed FCC limit. Therefore, simultaneous transmission compliance between 4G+5G operations is demonstrated in the Qualcomm Part 2 Report during algorithm validation.

12.3 Head SAR Simultaneous Transmission Analysis

Table 12-1
Simultaneous Transmission Scenario with 2.4 GHz WLAN (Held to Ear)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Head SAR	Cell. CDMA/EVDO	0.183	0.437	0.442	0.620	0.625
	GSM/GPRS 850	0.117	0.437	0.442	0.554	0.559
	UMTS 850	0.181	0.437	0.442	0.618	0.623
	UMTS 1750	0.099	0.437	0.442	0.536	0.541
	PCS CDMA/EVDO	0.075	0.437	0.442	0.512	0.517
	GSM/GPRS 1900	0.053	0.437	0.442	0.490	0.495
	UMTS 1900	0.069	0.437	0.442	0.506	0.511
	LTE Band 12	0.179	0.437	0.442	0.616	0.621
	LTE Band 13	0.178	0.437	0.442	0.615	0.620
	LTE Band 14	0.154	0.437	0.442	0.591	0.596
	LTE Band 5 (Cell)	0.178	0.437	0.442	0.615	0.620
	LTE Band 66 (AWS)	0.118	0.437	0.442	0.555	0.560
	LTE Band 2 (PCS)	0.090	0.437	0.442	0.527	0.532
	LTE Band 30	0.050	0.437	0.442	0.487	0.492
	LTE Band 48	0.164	0.437	0.442	0.601	0.606
	LTE Band 41	0.077	0.437	0.442	0.514	0.519
	NR Band n5 (Cell)	0.063	0.437	0.442	0.500	0.505
	NR Band n66 (AWS)	0.295	0.437	0.442	0.732	**0.737**
	NR Band n2 (PCS)	0.198	0.437	0.442	0.635	0.640

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Head SAR	Cell. CDMA/EVDO	0.183	0.513	0.696
	GSM/GPRS 850	0.117	0.513	0.630
	UMTS 850	0.181	0.513	0.694
	UMTS 1750	0.099	0.513	0.612
	PCS CDMA/EVDO	0.075	0.513	0.588
	GSM/GPRS 1900	0.053	0.513	0.566
	UMTS 1900	0.069	0.513	0.582
	LTE Band 12	0.179	0.513	0.692
	LTE Band 13	0.178	0.513	0.691
	LTE Band 14	0.154	0.513	0.667
	LTE Band 5 (Cell)	0.178	0.513	0.691
	LTE Band 66 (AWS)	0.118	0.513	0.631
	LTE Band 2 (PCS)	0.090	0.513	0.603
	LTE Band 30	0.050	0.513	0.563
	LTE Band 48	0.164	0.513	0.677
	LTE Band 41	0.077	0.513	0.590
	NR Band n5 (Cell)	0.063	0.513	0.576
	NR Band n66 (AWS)	0.295	0.513	**0.808**
	NR Band n2 (PCS)	0.198	0.513	0.711

Table 12-2
Simultaneous Transmission Scenario with 5 GHz WLAN (Held to Ear)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Head SAR	Cell. CDMA/EVDO	0.183	0.679	0.854	0.862	1.037
	GSM/GPRS 850	0.117	0.679	0.854	0.796	0.971
	UMTS 850	0.181	0.679	0.854	0.860	1.035
	UMTS 1750	0.099	0.679	0.854	0.778	0.953
	PCS CDMA/EVDO	0.075	0.679	0.854	0.754	0.929
	GSM/GPRS 1900	0.053	0.679	0.854	0.732	0.907
	UMTS 1900	0.069	0.679	0.854	0.748	0.923
	LTE Band 12	0.179	0.679	0.854	0.858	1.033
	LTE Band 13	0.178	0.679	0.854	0.857	1.032
	LTE Band 14	0.154	0.679	0.854	0.833	1.008
	LTE Band 5 (Cell)	0.178	0.679	0.854	0.857	1.032
	LTE Band 66 (AWS)	0.118	0.679	0.854	0.797	0.972
	LTE Band 2 (PCS)	0.090	0.679	0.854	0.769	0.944
	LTE Band 30	0.050	0.679	0.854	0.729	0.904
	LTE Band 48	0.164	0.679	0.854	0.843	1.018
	LTE Band 41	0.077	0.679	0.854	0.756	0.931
	NR Band n5 (Cell)	0.063	0.679	0.854	0.742	0.917
	NR Band n66 (AWS)	0.295	0.679	0.854	0.974	**1.149**
	NR Band n2 (PCS)	0.198	0.679	0.854	0.877	1.052

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Head SAR	Cell. CDMA/EVDO	0.183	0.972	1.155
	GSM/GPRS 850	0.117	0.972	1.089
	UMTS 850	0.181	0.972	1.153
	UMTS 1750	0.099	0.972	1.071
	PCS CDMA/EVDO	0.075	0.972	1.047
	GSM/GPRS 1900	0.053	0.972	1.025
	UMTS 1900	0.069	0.972	1.041
	LTE Band 12	0.179	0.972	1.151
	LTE Band 13	0.178	0.972	1.150
	LTE Band 14	0.154	0.972	1.126
	LTE Band 5 (Cell)	0.178	0.972	1.150
	LTE Band 66 (AWS)	0.118	0.972	1.090
	LTE Band 2 (PCS)	0.090	0.972	1.062
	LTE Band 30	0.050	0.972	1.022
	LTE Band 48	0.164	0.972	1.136
	LTE Band 41	0.077	0.972	1.049
	NR Band n5 (Cell)	0.063	0.972	1.035
	NR Band n66 (AWS)	0.295	0.972	**1.267**
	NR Band n2 (PCS)	0.198	0.972	1.170

Table 12-3
Simultaneous Transmission Scenario with 2.4 GHz WLAN and 5 GHz WLAN MIMO (Held to Ear)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	5 GHz WLAN MIMO at 17 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	Cell. CDMA/EVDO	0.183	0.513	0.321	1.017
	GSM/GPRS 850	0.117	0.513	0.321	0.951
	UMTS 850	0.181	0.513	0.321	1.015
	UMTS 1750	0.099	0.513	0.321	0.933
	PCS CDMA/EVDO	0.075	0.513	0.321	0.909
	GSM/GPRS 1900	0.053	0.513	0.321	0.887
	UMTS 1900	0.069	0.513	0.321	0.903
	LTE Band 12	0.179	0.513	0.321	1.013
	LTE Band 13	0.178	0.513	0.321	1.012
	LTE Band 14	0.154	0.513	0.321	0.988
	LTE Band 5 (Cell)	0.178	0.513	0.321	1.012
	LTE Band 66 (AWS)	0.118	0.513	0.321	0.952
	LTE Band 2 (PCS)	0.090	0.513	0.321	0.924
	LTE Band 30	0.050	0.513	0.321	0.884
	LTE Band 48	0.164	0.513	0.321	0.998
	LTE Band 41	0.077	0.513	0.321	0.911
	NR Band n5 (Cell)	0.063	0.513	0.321	0.897
	NR Band n66 (AWS)	0.295	0.513	0.321	**1.129**
	NR Band n2 (PCS)	0.198	0.513	0.321	1.032

Table 12-4
Simultaneous Transmission Scenario with Bluetooth (Held to Ear)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Head SAR	Cell. CDMA/EVDO	0.183	0.279	0.462
	GSM/GPRS 850	0.117	0.279	0.396
	UMTS 850	0.181	0.279	0.460
	UMTS 1750	0.099	0.279	0.378
	PCS CDMA/EVDO	0.075	0.279	0.354
	GSM/GPRS 1900	0.053	0.279	0.332
	UMTS 1900	0.069	0.279	0.348
	LTE Band 12	0.179	0.279	0.458
	LTE Band 13	0.178	0.279	0.457
	LTE Band 14	0.154	0.279	0.433
	LTE Band 5 (Cell)	0.178	0.279	0.457
	LTE Band 66 (AWS)	0.118	0.279	0.397
	LTE Band 2 (PCS)	0.090	0.279	0.369
	LTE Band 30	0.050	0.279	0.329
	LTE Band 48	0.164	0.279	0.443
	LTE Band 41	0.077	0.279	0.356
	NR Band n5 (Cell)	0.063	0.279	0.342
	NR Band n66 (AWS)	0.295	0.279	**0.574**
	NR Band n2 (PCS)	0.198	0.279	0.477

Table 12-5
Simultaneous Transmission Scenario with Bluetooth and 2.4 GHz WLAN Antenna 2 (Held to Ear)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	Cell. CDMA/EVDO	0.183	0.279	0.442	0.904
	GSM/GPRS 850	0.117	0.279	0.442	0.838
	UMTS 850	0.181	0.279	0.442	0.902
	UMTS 1750	0.099	0.279	0.442	0.820
	PCS CDMA/EVDO	0.075	0.279	0.442	0.796
	GSM/GPRS 1900	0.053	0.279	0.442	0.774
	UMTS 1900	0.069	0.279	0.442	0.790
	LTE Band 12	0.179	0.279	0.442	0.900
	LTE Band 13	0.178	0.279	0.442	0.899
	LTE Band 14	0.154	0.279	0.442	0.875
	LTE Band 5 (Cell)	0.178	0.279	0.442	0.899
	LTE Band 66 (AWS)	0.118	0.279	0.442	0.839
	LTE Band 2 (PCS)	0.090	0.279	0.442	0.811
	LTE Band 30	0.050	0.279	0.442	0.771
	LTE Band 48	0.164	0.279	0.442	0.885
	LTE Band 41	0.077	0.279	0.442	0.798
	NR Band n5 (Cell)	0.063	0.279	0.442	0.784
	NR Band n66 (AWS)	0.295	0.279	0.442	**1.016**
	NR Band n2 (PCS)	0.198	0.279	0.442	0.919

Table 12-6
Simultaneous Transmission Scenario with Bluetooth and 5 GHz WLAN (Held to Ear)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	Cell. CDMA/EVDO	0.183	0.279	0.972	1.434
	GSM/GPRS 850	0.117	0.279	0.972	1.368
	UMTS 850	0.181	0.279	0.972	1.432
	UMTS 1750	0.099	0.279	0.972	1.350
	PCS CDMA/EVDO	0.075	0.279	0.972	1.326
	GSM/GPRS 1900	0.053	0.279	0.972	1.304
	UMTS 1900	0.069	0.279	0.972	1.320
	LTE Band 12	0.179	0.279	0.972	1.430
	LTE Band 13	0.178	0.279	0.972	1.429
	LTE Band 14	0.154	0.279	0.972	1.405
	LTE Band 5 (Cell)	0.178	0.279	0.972	1.429
	LTE Band 66 (AWS)	0.118	0.279	0.972	1.369
	LTE Band 2 (PCS)	0.090	0.279	0.972	1.341
	LTE Band 30	0.050	0.279	0.972	1.301
	LTE Band 48	0.164	0.279	0.972	1.415
	LTE Band 41	0.077	0.279	0.972	1.328
	NR Band n5 (Cell)	0.063	0.279	0.972	1.314
	NR Band n66 (AWS)	0.295	0.279	0.972	**1.546**
	NR Band n2 (PCS)	0.198	0.279	0.972	1.449

12.4 Body-Worn Simultaneous Transmission Analysis

Table 12-7
Simultaneous Transmission Scenario with 2.4 GHz WLAN (Body-Worn at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body-Worn	Cell. CDMA	0.704	0.189	0.139	0.893	0.843	1.032
	GSM/GPRS 850	0.478	0.189	0.139	0.667	0.617	0.806
	UMTS 850	0.680	0.189	0.139	0.869	0.819	1.008
	UMTS 1750	0.868	0.189	0.139	1.057	1.007	1.196
	PCS CDMA	0.806	0.189	0.139	0.995	0.945	1.134
	GSM/GPRS 1900	0.396	0.189	0.139	0.585	0.535	0.724
	UMTS 1900	0.775	0.189	0.139	0.964	0.914	1.103
	LTE Band 12	0.402	0.189	0.139	0.591	0.541	0.730
	LTE Band 13	0.502	0.189	0.139	0.691	0.641	0.830
	LTE Band 14	0.455	0.189	0.139	0.644	0.594	0.783
	LTE Band 5 (Cell)	0.617	0.189	0.139	0.806	0.756	0.945
	LTE Band 66 (AWS)	0.820	0.189	0.139	1.009	0.959	1.148
	LTE Band 2 (PCS)	0.757	0.189	0.139	0.946	0.896	1.085
	LTE Band 30	0.402	0.189	0.139	0.591	0.541	0.730
	LTE Band 48	1.122	0.189	0.139	1.311	1.261	**1.450**
	LTE Band 41	0.695	0.189	0.139	0.884	0.834	1.023
	NR Band n5 (Cell)	0.251	0.189	0.139	0.440	0.390	0.579
	NR Band n66 (AWS)	0.261	0.189	0.139	0.450	0.400	0.589
	NR Band n2 (PCS)	0.253	0.189	0.139	0.442	0.392	0.581

Table 12-8
Simultaneous Transmission Scenario with 5 GHz WLAN (Body-Worn at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Body-Worn	Cell. CDMA	0.704	0.313	0.314	1.017	1.018
	GSM/GPRS 850	0.478	0.313	0.314	0.791	0.792
	UMTS 850	0.680	0.313	0.314	0.993	0.994
	UMTS 1750	0.868	0.313	0.314	1.181	1.182
	PCS CDMA	0.806	0.313	0.314	1.119	1.120
	GSM/GPRS 1900	0.396	0.313	0.314	0.709	0.710
	UMTS 1900	0.775	0.313	0.314	1.088	1.089
	LTE Band 12	0.402	0.313	0.314	0.715	0.716
	LTE Band 13	0.502	0.313	0.314	0.815	0.816
	LTE Band 14	0.455	0.313	0.314	0.768	0.769
	LTE Band 5 (Cell)	0.617	0.313	0.314	0.930	0.931
	LTE Band 66 (AWS)	0.820	0.313	0.314	1.133	1.134
	LTE Band 2 (PCS)	0.757	0.313	0.314	1.070	1.071
	LTE Band 30	0.402	0.313	0.314	0.715	0.716
	LTE Band 48	1.122	0.313	0.314	1.435	**1.436**
	LTE Band 41	0.695	0.313	0.314	1.008	1.009
	NR Band n5 (Cell)	0.251	0.313	0.314	0.564	0.565
	NR Band n66 (AWS)	0.261	0.313	0.314	0.574	0.575
	NR Band n2 (PCS)	0.253	0.313	0.314	0.566	0.567

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body-Worn	Cell. CDMA	0.704	0.394	1.098
	GSM/GPRS 850	0.478	0.394	0.872
	UMTS 850	0.680	0.394	1.074
	UMTS 1750	0.868	0.394	1.262
	PCS CDMA	0.806	0.394	1.200
	GSM/GPRS 1900	0.396	0.394	0.790
	UMTS 1900	0.775	0.394	1.169
	LTE Band 12	0.402	0.394	0.796
	LTE Band 13	0.502	0.394	0.896
	LTE Band 14	0.455	0.394	0.849
	LTE Band 5 (Cell)	0.617	0.394	1.011
	LTE Band 66 (AWS)	0.820	0.394	1.214
	LTE Band 2 (PCS)	0.757	0.394	1.151
	LTE Band 30	0.402	0.394	0.796
	LTE Band 48	1.122	0.394	**1.516**
	LTE Band 41	0.695	0.394	1.089
	NR Band n5 (Cell)	0.251	0.394	0.645
	NR Band n66 (AWS)	0.261	0.394	0.655
	NR Band n2 (PCS)	0.253	0.394	0.647

Table 12-9
Simultaneous Transmission Scenario with 2.4 GHz WLAN MIMO and 5 GHz WLAN MIMO (Body-Worn at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	2.4 GHz WLAN MIMO at 17.5 dBm SAR (W/kg)	5 GHz WLAN MIMO at 17 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body-Worn	Cell. CDMA	0.704	0.101	0.157	0.962
	GSM/GPRS 850	0.478	0.101	0.157	0.736
	UMTS 850	0.680	0.101	0.157	0.938
	UMTS 1750	0.868	0.101	0.157	1.126
	PCS CDMA	0.806	0.101	0.157	1.064
	GSM/GPRS 1900	0.396	0.101	0.157	0.654
	UMTS 1900	0.775	0.101	0.157	1.033
	LTE Band 12	0.402	0.101	0.157	0.660
	LTE Band 13	0.502	0.101	0.157	0.760
	LTE Band 14	0.455	0.101	0.157	0.713
	LTE Band 5 (Cell)	0.617	0.101	0.157	0.875
	LTE Band 66 (AWS)	0.820	0.101	0.157	1.078
	LTE Band 2 (PCS)	0.757	0.101	0.157	1.015
	LTE Band 30	0.402	0.101	0.157	0.660
	LTE Band 48	1.122	0.101	0.157	**1.380**
	LTE Band 41	0.695	0.101	0.157	0.953
	NR Band n5 (Cell)	0.251	0.101	0.157	0.509
	NR Band n66 (AWS)	0.261	0.101	0.157	0.519
	NR Band n2 (PCS)	0.253	0.101	0.157	0.511

Table 12-10
Simultaneous Transmission Scenario with Bluetooth (Body-Worn at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body-Worn	Cell. CDMA	0.704	0.036	0.740
	GSM/GPRS 850	0.478	0.036	0.514
	UMTS 850	0.680	0.036	0.716
	UMTS 1750	0.868	0.036	0.904
	PCS CDMA	0.806	0.036	0.842
	GSM/GPRS 1900	0.396	0.036	0.432
	UMTS 1900	0.775	0.036	0.811
	LTE Band 12	0.402	0.036	0.438
	LTE Band 13	0.502	0.036	0.538
	LTE Band 14	0.455	0.036	0.491
	LTE Band 5 (Cell)	0.617	0.036	0.653
	LTE Band 66 (AWS)	0.820	0.036	0.856
	LTE Band 2 (PCS)	0.757	0.036	0.793
	LTE Band 30	0.402	0.036	0.438
	LTE Band 48	1.122	0.036	**1.158**
	LTE Band 41	0.695	0.036	0.731
	NR Band n5 (Cell)	0.251	0.036	0.287
	NR Band n66 (AWS)	0.261	0.036	0.297
	NR Band n2 (PCS)	0.253	0.036	0.289

Table 12-11
Simultaneous Transmission Scenario with Bluetooth and 2.4 GHz WLAN Antenna 2 (Body-Worn at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body-Worn	Cell. CDMA	0.704	0.036	0.139	0.879
	GSM/GPRS 850	0.478	0.036	0.139	0.653
	UMTS 850	0.680	0.036	0.139	0.855
	UMTS 1750	0.868	0.036	0.139	1.043
	PCS CDMA	0.806	0.036	0.139	0.981
	GSM/GPRS 1900	0.396	0.036	0.139	0.571
	UMTS 1900	0.775	0.036	0.139	0.950
	LTE Band 12	0.402	0.036	0.139	0.577
	LTE Band 13	0.502	0.036	0.139	0.677
	LTE Band 14	0.455	0.036	0.139	0.630
	LTE Band 5 (Cell)	0.617	0.036	0.139	0.792
	LTE Band 66 (AWS)	0.820	0.036	0.139	0.995
	LTE Band 2 (PCS)	0.757	0.036	0.139	0.932
	LTE Band 30	0.402	0.036	0.139	0.577
	LTE Band 48	1.122	0.036	0.139	**1.297**
	LTE Band 41	0.695	0.036	0.139	0.870
	NR Band n5 (Cell)	0.251	0.036	0.139	0.426
	NR Band n66 (AWS)	0.261	0.036	0.139	0.436
	NR Band n2 (PCS)	0.253	0.036	0.139	0.428

Table 12-12
Simultaneous Transmission Scenario with Bluetooth and 5 GHz WLAN MIMO (Body-Worn at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body-Worn	Cell. CDMA	0.704	0.036	0.394	1.134
	GSM/GPRS 850	0.478	0.036	0.394	0.908
	UMTS 850	0.680	0.036	0.394	1.110
	UMTS 1750	0.868	0.036	0.394	1.298
	PCS CDMA	0.806	0.036	0.394	1.236
	GSM/GPRS 1900	0.396	0.036	0.394	0.826
	UMTS 1900	0.775	0.036	0.394	1.205
	LTE Band 12	0.402	0.036	0.394	0.832
	LTE Band 13	0.502	0.036	0.394	0.932
	LTE Band 14	0.455	0.036	0.394	0.885
	LTE Band 5 (Cell)	0.617	0.036	0.394	1.047
	LTE Band 66 (AWS)	0.820	0.036	0.394	1.250
	LTE Band 2 (PCS)	0.757	0.036	0.394	1.187
	LTE Band 30	0.402	0.036	0.394	0.832
	LTE Band 48	1.122	0.036	0.394	**1.552**
	LTE Band 41	0.695	0.036	0.394	1.125
	NR Band n5 (Cell)	0.251	0.036	0.394	0.681
	NR Band n66 (AWS)	0.261	0.036	0.394	0.691
	NR Band n2 (PCS)	0.253	0.036	0.394	0.683

12.5 Hotspot SAR Simultaneous Transmission Analysis

Table 12-13
Simultaneous Transmission Scenario with 2.4 GHz WLAN (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Cell. EVDO	0.685	0.420	0.314	1.105	0.999	1.419
	GPRS 850	0.478	0.420	0.314	0.898	0.792	1.212
	UMTS 850	0.760	0.420	0.314	1.180	1.074	1.494
	UMTS 1750	0.741	0.420	0.314	1.161	1.055	1.475
	PCS EVDO	0.885	0.420	0.314	1.305	1.199	See Table Below
	GPRS 1900	0.961	0.420	0.314	1.381	1.275	See Table Below
	UMTS 1900	0.969	0.420	0.314	1.389	1.283	See Table Below
	LTE Band 12	0.402	0.420	0.314	0.822	0.716	1.136
	LTE Band 13	0.502	0.420	0.314	0.922	0.816	1.236
	LTE Band 14	0.455	0.420	0.314	0.875	0.769	1.189
	LTE Band 5 (Cell)	0.654	0.420	0.314	1.074	0.968	1.388
	LTE Band 66 (AWS)	0.796	0.420	0.314	1.216	1.110	1.530
	LTE Band 2 (PCS)	0.947	0.420	0.314	1.367	1.261	See Table Below
	LTE Band 30	0.732	0.420	0.314	1.152	1.046	1.466
	LTE Band 48	1.122	0.420	0.314	**1.542**	1.436	See Table Below
	LTE Band 41	1.019	0.420	0.314	1.439	1.333	See Table Below
	NR Band n5 (Cell)	0.251	0.420	0.314	0.671	0.565	0.985
	NR Band n66 (AWS)	0.497	0.420	0.314	0.917	0.811	1.231
	NR Band n2 (PCS)	0.498	0.420	0.314	0.918	0.812	1.232

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.399	0.189	0.139	0.588	0.538	0.727
	Front	0.413	0.290	0.314*	0.703	0.727	**1.017**
	Top	-	0.420*	0.314	0.420	0.314	0.734
	Bottom	0.885	-	-	0.885	0.885	0.885
	Left	0.108	0.420	0.024	0.528	0.132	0.552

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.396	0.189	0.139	0.585	0.535	0.724
	Front	0.407	0.290	0.314*	0.697	0.721	**1.011**
	Top	-	0.420*	0.314	0.420	0.314	0.734
	Bottom	0.961	-	-	0.961	0.961	0.961
	Left	0.106	0.420	0.024	0.526	0.130	0.550

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.526	0.189	0.139	0.715	0.665	0.854
	Front	0.456	0.290	0.314*	0.746	0.770	**1.060**
	Top	-	0.420*	0.314	0.420	0.314	0.734
	Bottom	0.969	-	-	0.969	0.969	0.969
	Left	0.140	0.420	0.024	0.560	0.164	0.584

Simult Tx	Configuration	LTE Band 2 (PCS) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.476	0.189	0.139	0.665	0.615	0.804
	Front	0.421	0.290	0.314*	0.711	0.735	**1.025**
	Top	-	0.420*	0.314	0.420	0.314	0.734
	Bottom	0.947	-	-	0.947	0.947	0.947
	Left	0.133	0.420	0.024	0.553	0.157	0.577

Simult Tx	Configuration	LTE Band 48 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	1.122	0.189	0.139	1.311	1.261	**1.450**
	Front	0.037	0.290	0.314*	0.327	0.351	0.641
	Top	-	0.420*	0.314	0.420	0.314	0.734
	Right	0.420	-	-	0.420	0.420	0.420
	Left	-	0.420	0.024	0.420	0.024	0.444

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.695	0.189	0.139	0.884	0.834	**1.023**
	Front	0.374	0.290	0.314*	0.664	0.688	0.978
	Top	-	0.420*	0.314	0.420	0.314	0.734
	Bottom	1.019	-	-	1.019	1.019	1.019
	Left	0.101	0.420	0.024	0.521	0.125	0.545

Table 12-14
Simultaneous Transmission Scenario with 5 GHz WLAN (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Hotspot SAR	Cell. EVDO	0.685	0.313	0.248	0.998	0.933
	GPRS 850	0.478	0.313	0.248	0.791	0.726
	UMTS 850	0.760	0.313	0.248	1.073	1.008
	UMTS 1750	0.741	0.313	0.248	1.054	0.989
	PCS EVDO	0.885	0.313	0.248	1.198	1.133
	GPRS 1900	0.961	0.313	0.248	1.274	1.209
	UMTS 1900	0.969	0.313	0.248	1.282	1.217
	LTE Band 12	0.402	0.313	0.248	0.715	0.650
	LTE Band 13	0.502	0.313	0.248	0.815	0.750
	LTE Band 14	0.455	0.313	0.248	0.768	0.703
	LTE Band 5 (Cell)	0.654	0.313	0.248	0.967	0.902
	LTE Band 66 (AWS)	0.796	0.313	0.248	1.109	1.044
	LTE Band 2 (PCS)	0.947	0.313	0.248	1.260	1.195
	LTE Band 30	0.732	0.313	0.248	1.045	0.980
	LTE Band 48	1.122	0.313	0.248	**1.435**	1.370
	LTE Band 41	1.019	0.313	0.248	1.332	1.267
	NR Band n5 (Cell)	0.251	0.313	0.248	0.564	0.499
	NR Band n66 (AWS)	0.497	0.313	0.248	0.810	0.745
	NR Band n2 (PCS)	0.498	0.313	0.248	0.811	0.746

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Cell. EVDO	0.685	0.308	0.993
	GPRS 850	0.478	0.308	0.786
	UMTS 850	0.760	0.308	1.068
	UMTS 1750	0.741	0.308	1.049
	PCS EVDO	0.885	0.308	1.193
	GPRS 1900	0.961	0.308	1.269
	UMTS 1900	0.969	0.308	1.277
	LTE Band 12	0.402	0.308	0.710
	LTE Band 13	0.502	0.308	0.810
	LTE Band 14	0.455	0.308	0.763
	LTE Band 5 (Cell)	0.654	0.308	0.962
	LTE Band 66 (AWS)	0.796	0.308	1.104
	LTE Band 2 (PCS)	0.947	0.308	1.255
	LTE Band 30	0.732	0.308	1.040
	LTE Band 48	1.122	0.308	**1.430**
	LTE Band 41	1.019	0.308	1.327
	NR Band n5 (Cell)	0.251	0.308	0.559
	NR Band n66 (AWS)	0.497	0.308	0.805
	NR Band n2 (PCS)	0.498	0.308	0.806

Table 12-15
Simultaneous Transmission Scenario with 2.4 GHz WLAN MIMO and 5 GHz WLAN MIMO (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	2.4 GHz WLAN MIMO at 17.5 dBm SAR (W/kg)	5 GHz WLAN MIMO at 17 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Cell. EVDO	0.685	0.362	0.125	1.172
	GPRS 850	0.478	0.362	0.125	0.965
	UMTS 850	0.760	0.362	0.125	1.247
	UMTS 1750	0.741	0.362	0.125	1.228
	PCS EVDO	0.885	0.362	0.125	1.372
	GPRS 1900	0.961	0.362	0.125	1.448
	UMTS 1900	0.969	0.362	0.125	1.456
	LTE Band 12	0.402	0.362	0.125	0.889
	LTE Band 13	0.502	0.362	0.125	0.989
	LTE Band 14	0.455	0.362	0.125	0.942
	LTE Band 5 (Cell)	0.654	0.362	0.125	1.141
	LTE Band 66 (AWS)	0.796	0.362	0.125	1.283
	LTE Band 2 (PCS)	0.947	0.362	0.125	1.434
	LTE Band 30	0.732	0.362	0.125	1.219
	LTE Band 48	1.122	0.362	0.125	See Table Below
	LTE Band 41	1.019	0.362	0.125	**1.506**
	NR Band n5 (Cell)	0.251	0.362	0.125	0.738
	NR Band n66 (AWS)	0.497	0.362	0.125	0.984
	NR Band n2 (PCS)	0.498	0.362	0.125	0.985

Simult Tx	Configuration	LTE Band 48 SAR (W/kg)	2.4 GHz WLAN MIMO at 17.5 dBm SAR (W/kg)	5 GHz WLAN MIMO at 17 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	1.122	0.101	0.125	**1.348**
	Front	0.037	0.162	0.125*	0.324
	Top	-	0.362	0.125*	0.487
	Bottom	-	-	-	-
	Right	0.420	-	-	0.420
	Left	-	0.116	0.125*	0.241

Table 12-16
Simultaneous Transmission Scenario with Bluetooth (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Cell. EVDO	0.685	0.102	0.787
	GPRS 850	0.478	0.102	0.580
	UMTS 850	0.760	0.102	0.862
	UMTS 1750	0.741	0.102	0.843
	PCS EVDO	0.885	0.102	0.987
	GPRS 1900	0.961	0.102	1.063
	UMTS 1900	0.969	0.102	1.071
	LTE Band 12	0.402	0.102	0.504
	LTE Band 13	0.502	0.102	0.604
	LTE Band 14	0.455	0.102	0.557
	LTE Band 5 (Cell)	0.654	0.102	0.756
	LTE Band 66 (AWS)	0.796	0.102	0.898
	LTE Band 2 (PCS)	0.947	0.102	1.049
	LTE Band 30	0.732	0.102	0.834
	LTE Band 48	1.122	0.102	**1.224**
	LTE Band 41	1.019	0.102	1.121
	NR Band n5 (Cell)	0.251	0.102	0.353
	NR Band n66 (AWS)	0.497	0.102	0.599
	NR Band n2 (PCS)	0.498	0.102	0.600

Table 12-17
Simultaneous Transmission Scenario with Bluetooth and 2.4 GHz WLAN Antenna 2 (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Cell. EVDO	0.685	0.102	0.314	1.101
	GPRS 850	0.478	0.102	0.314	0.894
	UMTS 850	0.760	0.102	0.314	1.176
	UMTS 1750	0.741	0.102	0.314	1.157
	PCS EVDO	0.885	0.102	0.314	1.301
	GPRS 1900	0.961	0.102	0.314	1.377
	UMTS 1900	0.969	0.102	0.314	1.385
	LTE Band 12	0.402	0.102	0.314	0.818
	LTE Band 13	0.502	0.102	0.314	0.918
	LTE Band 14	0.455	0.102	0.314	0.871
	LTE Band 5 (Cell)	0.654	0.102	0.314	1.070
	LTE Band 66 (AWS)	0.796	0.102	0.314	1.212
	LTE Band 2 (PCS)	0.947	0.102	0.314	1.363
	LTE Band 30	0.732	0.102	0.314	1.148
	LTE Band 48	1.122	0.102	0.314	**1.538**
	LTE Band 41	1.019	0.102	0.314	1.435
	NR Band n5 (Cell)	0.251	0.102	0.314	0.667
	NR Band n66 (AWS)	0.497	0.102	0.314	0.913
	NR Band n2 (PCS)	0.498	0.102	0.314	0.914

Table 12-18
Simultaneous Transmission Scenario with Bluetooth and 5 GHz WLAN MIMO (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Cell. EVDO	0.685	0.102	0.308	1.095
	GPRS 850	0.478	0.102	0.308	0.888
	UMTS 850	0.760	0.102	0.308	1.170
	UMTS 1750	0.741	0.102	0.308	1.151
	PCS EVDO	0.885	0.102	0.308	1.295
	GPRS 1900	0.961	0.102	0.308	1.371
	UMTS 1900	0.969	0.102	0.308	1.379
	LTE Band 12	0.402	0.102	0.308	0.812
	LTE Band 13	0.502	0.102	0.308	0.912
	LTE Band 14	0.455	0.102	0.308	0.865
	LTE Band 5 (Cell)	0.654	0.102	0.308	1.064
	LTE Band 66 (AWS)	0.796	0.102	0.308	1.206
	LTE Band 2 (PCS)	0.947	0.102	0.308	1.357
	LTE Band 30	0.732	0.102	0.308	1.142
	LTE Band 48	1.122	0.102	0.308	**1.532**
	LTE Band 41	1.019	0.102	0.308	1.429
	NR Band n5 (Cell)	0.251	0.102	0.308	0.661
	NR Band n66 (AWS)	0.497	0.102	0.308	0.907
	NR Band n2 (PCS)	0.498	0.102	0.308	0.908

12.6 Phablet Simultaneous Transmission Analysis

Per FCC KDB Publication 648474 D04 Handset SAR, Phablet SAR tests were not required if wireless router 1g SAR (scaled to the maximum output power, including tolerance) < 1.2 W/kg. Therefore, no further analysis beyond the tables included in this section was required to determine that possible simultaneous transmission scenarios would not exceed the SAR limit.

For SAR summation, the highest reported SAR across all test distances was used as the most conservative evaluation for simultaneous transmission analysis for each device edge.

Table 12-19
Simultaneous Transmission Scenario with 5 GHz WLAN (Phablet)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Phablet SAR	UMTS 1750	2.266	0.909	0.858	3.175	3.124
	PCS EVDO	2.917	0.909	0.858	3.826	3.775
	UMTS 1900	3.111	0.909	0.858	See Table Below	3.969
	LTE Band 66 (AWS)	2.620	0.909	0.858	3.529	3.478
	LTE Band 2 (PCS)	3.129	0.909	0.858	See Table Below	**3.987**

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	1.857	0.909	2.766
	Front	2.358	0.408	2.766
	Top	-	0.909*	0.909
	Bottom	3.111	-	**3.111**
	Right	-	-	-
	Left	0.546	0.909*	1.455

Simult Tx	Configuration	LTE Band 2 (PCS) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	1.967	0.909	2.876
	Front	2.583	0.408	2.991
	Top	-	0.909*	0.909
	Bottom	3.129	-	**3.129**
	Right	-	-	-
	Left	0.546	0.909*	1.455

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	UMTS 1750	2.266	1.380	**3.646**
	PCS EVDO	2.917	1.380	See Table Below
	UMTS 1900	3.111	1.380	See Table Below
	LTE Band 66 (AWS)	2.620	1.380	See Table Below
	LTE Band 2 (PCS)	3.129	1.380	See Table Below

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	1.590	1.380	**2.970**
	Front	1.718	0.726	2.444
	Top	-	0.732	0.732
	Bottom	2.917	-	2.917
	Right	-	-	-
	Left	0.558	1.380*	1.938

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	1.857	1.380	**3.237**
	Front	2.358	0.726	3.084
	Top	-	0.732	0.732
	Bottom	3.111	-	3.111
	Right	-	-	-
	Left	0.546	1.380*	1.926

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	1.730	1.380	3.110
	Front	2.620	0.726	**3.346**
	Top	-	0.732	0.732
	Bottom	1.930	-	1.930
	Right	-	-	-
	Left	0.718	1.380*	2.098

Simult Tx	Configuration	LTE Band 2 (PCS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	1.967	1.380	**3.347**
	Front	2.583	0.726	3.309
	Top	-	0.732	0.732
	Bottom	3.129	-	3.129
	Right	-	-	-
	Left	0.546	1.380*	1.926

12.7 Simultaneous Transmission Conclusion

The above analysis for all the worst-case simultaneous transmission conditions were below the SAR limit. Therefore, the above analysis is sufficient to determine that simultaneous transmission cases will not exceed the SAR limit per FCC KDB Publication 447498 D01v06 and IEEE 1528-2013 Section 6.3.4.1.2.

13 SAR MEASUREMENT VARIABILITY

13.1 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 13-1
Head SAR Measurement Variability Results

HEAD VARIABILITY RESULTS														
Band	FREQUENCY		Mode	Service	Side	Test Position	Data Rate (Mbps)	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)	
5250	5280.00	56	802.11n, 20 MHz Bandwidth	OFDM, MIMO	Right	Cheek	13	0.894	0.849	1.05	N/A	N/A	N/A	N/A
5600	5500.00	100	802.11n, 20 MHz Bandwidth	OFDM, MIMO	Right	Cheek	13	0.958	0.957	1.00	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 13-2
Body SAR Measurement Variability Results

BODY VARIABILITY RESULTS													
Band	FREQUENCY		Mode	Service	Side	Spacing	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	back	10 mm	0.854	0.848	1.01	N/A	N/A	N/A	N/A
1900	1900.00	19100	LTE Band 2 (PCS), 20 MHz Bandwidth	QPSK, 50 RB, 25 RB Offset	bottom	10 mm	0.866	0.847	1.02	N/A	N/A	N/A	N/A
3500	3560.00	55340	LTE Band 48, 20 MHz Bandwidth	QPSK, 1 RB, 0 RB Offset	back	10 mm	1.050	1.020	1.03	N/A	N/A	N/A	N/A
2600	2680.00	41490	LTE Band 41, 20 MHz Bandwidth	QPSK, 1 RB, 50 RB Offset	bottom	10 mm	0.894	0.872	1.03	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								

Table 13-3
Phablet SAR Measurement Variability Results

PHABLET VARIABILITY RESULTS													
Band	FREQUENCY		Mode	Service	Side	Spacing	Measured SAR (10g)	1st Repeated SAR (10g)	Ratio	2nd Repeated SAR (10g)	Ratio	3rd Repeated SAR (10g)	Ratio
	MHz	Ch.					(W/kg)	(W/kg)		(W/kg)		(W/kg)	
1750	1770.00	132572	LTE Band 66 (AWS), 20 MHz Bandwidth	QPSK, 1 RB, 0 RB Offset	front	1 mm	2.620	2.570	1.02	N/A	N/A	N/A	N/A
1900	1900.00	19100	LTE Band 2 (PCS), 20 MHz Bandwidth	QPSK, 50 RB, 25 RB Offset	bottom	0 mm	2.860	2.840	1.01	N/A	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Phablet 4.0 W/kg (mW/g) averaged over 10 grams						

13.2 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.

14 EQUIPMENT LIST

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	8594A	(9kHz-2.9GHz) Spectrum Analyzer	N/A	N/A	N/A	3051A00187
Agilent	E4432B	ESG-D Series Signal Generator	7/14/2019	Annual	7/14/2020	US40053896
Agilent	E5515C	Wireless Communications Test Set	2/28/2018	Biennial	2/28/2020	GB41450275
Agilent	N9020A	MXA Signal Analyzer	4/20/2019	Annual	4/20/2020	US46470561
Pasternack	PE2208-6	Bidirectional Coupler	CBT	N/A	CBT	N/A
Rohde & Schwarz	CMU200	Base Station Simulator	6/3/2019	Annual	6/3/2020	109892
Agilent	E5515C	Wireless Communications Test Set	6/26/2019	Annual	6/26/2020	MY50267125
Agilent	N5182A	MXG Vector Signal Generator	6/27/2019	Annual	6/27/2020	US46240505
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Narda	BW-S3W2	Attenuator (3dB)	CBT	N/A	CBT	120
Mini-Circuits	NLP-1200+	Low Pass Filter DC to 1000 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT	N/A	CBT	N/A
MiniCircuits	VLF-6000+	Low Pass Filter	CBT	N/A	CBT	N/A
MCL	BW-N6W5+	6dB Attenuator	CBT	N/A	CBT	1139
Anritsu	MA24106A	USB Power Sensor	5/22/2019	Annual	5/22/2020	1231535
Anritsu	MA24106A	USB Power Sensor	5/6/2019	Annual	5/6/2020	1231538
Anritsu	MT8820C	Radio Communication Analyzer	7/25/2019	Annual	7/25/2020	6201240328
Anritsu	MT8820C	Radio Communication Analyzer	3/29/2019	Annual	3/29/2020	6201300731
Anritsu	MT8821C	Radio Communication Analyzer	8/16/2019	Annual	8/16/2020	6201144418
Anritsu	MT8821C	Radio Communication Analyzer	3/18/2019	Annual	3/18/2020	6201144419
Anritsu	ML2495A	Power Meter	12/17/2019	Annual	12/17/2020	941001
Anritsu	MA2411B	Pulse Power Sensor	8/8/2019	Annual	8/8/2020	1339008
Anritsu	MA2411B	Pulse Power Sensor	3/6/2019	Annual	3/6/2020	1339018
Anritsu	MT8821C	Radio Communication Analyzer	10/2/2019	Annual	10/2/2020	6201664756
Anritsu	MT8821C	Radio Communication Analyzer	3/6/2019	Annual	3/6/2020	6201381794
Anritsu	MT8862A	Wireless Connectivity Test Set	8/8/2019	Annual	8/8/2020	6261782395
Anritsu	MT8821C	Radio Communication Analyzer	5/13/2019	Annual	5/13/2020	6201524637
Control Company	4352	Ultra Long Stem Thermometer	2/28/2018	Biennial	2/28/2020	170330160
Control Company	4352	Ultra Long Stem Thermometer	2/28/2018	Biennial	2/28/2020	170330158
Amplifier Research	1S51G6	Amplifier	CBT	N/A	CBT	433971
Amplifier Research	1S51G6	Amplifier	CBT	N/A	CBT	433972
Amplifier Research	1S51G6	Amplifier	CBT	N/A	CBT	433974
Control Company	4040	Therm./ Clock/ Humidity Monitor	10/9/2018	Biennial	10/9/2020	181647802
Keysight	772D	Dual Directional Coupler	CBT	CBT	CBT	MY52180215
Mitutoyo	CD-6"CSX	Digital Caliper	4/18/2018	Biennial	4/18/2020	13264165
Rohde & Schwarz	CMW500	Radio Communication Tester	8/26/2019	Annual	8/26/2020	100976
Rohde & Schwarz	CMW500	Radio Communication Tester	6/26/2019	Annual	6/26/2020	112347
Rohde & Schwarz	CMW500	Radio Communication Tester	6/24/2019	Annual	6/24/2020	101699
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	11/14/2019	Annual	11/14/2020	164948
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	6/6/2019	Annual	6/6/2020	161662
Rohde & Schwarz	ZNLE6	Vector Network Analyzer	10/11/2019	Annual	10/11/2020	101307
Seekonk	NC-100	Torque Wrench (8" lb)	5/10/2018	Biennial	5/10/2020	21053
Seekonk	NC-100	Torque Wrench (8" lb)	5/23/2018	Biennial	5/23/2020	N/A
SPEAG	EX3DV4	SAR Probe	7/16/2019	Annual	7/16/2020	7410
SPEAG	EX3DV4	SAR Probe	12/11/2019	Annual	12/11/2020	7570
SPEAG	EX3DV4	SAR Probe	9/19/2019	Annual	9/19/2020	7551
SPEAG	EX3DV4	SAR Probe	5/16/2019	Annual	5/16/2020	7406
SPEAG	EX3DV4	SAR Probe	2/19/2019	Annual	2/19/2020	7417
SPEAG	EX3DV4	SAR Probe	1/21/2020	Annual	1/21/2021	3589
SPEAG	EX3DV4	SAR Probe	4/24/2019	Annual	4/24/2020	7357
SPEAG	EX3DV4	SAR Probe	1/21/2020	Annual	1/21/2021	7488
SPEAG	EX3DV4	SAR Probe	12/11/2019	Annual	12/11/2020	7571
SPEAG	EX3DV4	SAR Probe	7/15/2019	Annual	7/15/2020	7547
SPEAG	EX3DV4	SAR Probe	2/19/2019	Annual	2/19/2020	3914
SPEAG	EX3DV4	SAR Probe	6/19/2019	Annual	6/19/2020	7409
SPEAG	EX3DV4	SAR Probe	9/19/2019	Annual	9/19/2020	7552
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/11/2019	Annual	7/11/2020	1322
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/13/2020	Annual	1/13/2021	1558
SPEAG	DAE4	Dasy Data Acquisition Electronics	9/17/2019	Annual	9/17/2020	1333
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/8/2019	Annual	5/8/2020	728
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/13/2019	Annual	2/13/2020	665
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/18/2019	Annual	4/18/2020	1407
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/13/2020	Annual	1/13/2021	1530
SPEAG	DAE4	Dasy Data Acquisition Electronics	12/5/2019	Annual	12/5/2020	1533
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/11/2019	Annual	7/11/2020	1323
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/14/2019	Annual	2/14/2020	1272
SPEAG	DAE4	Dasy Data Acquisition Electronics	12/18/2019	Annual	12/18/2020	859
SPEAG	DAE4	Dasy Data Acquisition Electronics	9/12/2019	Annual	9/12/2020	1449
SPEAG	DAE4	Dasy Data Acquisition Electronics	6/20/2019	Annual	6/20/2020	1334
SPEAG	D750V3	750 MHz SAR Dipole	10/19/2018	Biennial	10/19/2020	1161
SPEAG	D835V2	835 MHz SAR Dipole	3/13/2019	Annual	3/13/2020	4d047
SPEAG	D835V2	835 MHz SAR Dipole	1/13/2020	Annual	1/13/2021	4d132
SPEAG	D835V2	835 MHz SAR Dipole	10/19/2018	Biennial	10/19/2020	4d133
SPEAG	D3500V2	3500 MHz SAR Dipole	1/11/2018	Triennial	1/11/2021	1059
SPEAG	D1750V2	1750 MHz SAR Dipole	5/15/2019	Annual	5/15/2020	1148
SPEAG	D1765V2	1765 MHz SAR Dipole	5/23/2018	Biennial	5/23/2020	1008
SPEAG	D1900V2	1900 MHz SAR Dipole	2/21/2019	Annual	2/21/2020	5d148
SPEAG	D2300V2	2300 MHz SAR Dipole	8/13/2018	Biennial	8/13/2020	1073
SPEAG	D2450V2	2450 MHz SAR Dipole	8/16/2018	Biennial	8/16/2020	981
SPEAG	D2450V2	2450 MHz SAR Dipole	8/14/2019	Annual	8/14/2020	719
SPEAG	D2600V2	2600 MHz SAR Dipole	6/14/2019	Annual	6/14/2020	1064
SPEAG	D3700V2	3700 MHz SAR Dipole	1/11/2018	Triennial	1/11/2021	1018
SPEAG	D5GHzV2	5 GHz SAR Dipole	9/17/2019	Annual	9/17/2020	1191
SPEAG	D2450V2	2450 MHz SAR Dipole	9/11/2017	Triennial	9/11/2020	797
SPEAG	D1900V2	1900 MHz SAR Dipole	10/23/2018	Biennial	10/23/2020	5d149
SPEAG	D750V3	750 MHz Dipole	3/18/2019	Annual	3/18/2020	1054
SPEAG	D5GHzV2	5 GHz SAR Dipole	1/16/2018	Triennial	1/16/2021	1057
SPEAG	DAK-3.5	Dielectric Assessment Kit	5/7/2019	Annual	5/7/2020	1070

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

15 MEASUREMENT UNCERTAINTIES

a	c	d	e= f(d,k)	f	g	h = c x f/e	i = c x g/e	k
Uncertainty Component	Tol. (± %)	Prob. Dist.	Div.	c_i 1gm	c_i 10 gms	1gm u_i (± %)	10gms u_i (± %)	v_i
Measurement System								
Probe Calibration	6.55	N	1	1.0	1.0	6.6	6.6	∞
Axial Isotropy	0.25	N	1	0.7	0.7	0.2	0.2	∞
Hemishperical Isotropy	1.3	N	1	0.7	0.7	0.9	0.9	∞
Boundary Effect	2.0	R	1.73	1.0	1.0	1.2	1.2	∞
Linearity	0.3	N	1	1.0	1.0	0.3	0.3	∞
System Detection Limits	0.25	R	1.73	1.0	1.0	0.1	0.1	∞
Readout Electronics	0.3	N	1	1.0	1.0	0.3	0.3	∞
Response Time	0.8	R	1.73	1.0	1.0	0.5	0.5	∞
Integration Time	2.6	R	1.73	1.0	1.0	1.5	1.5	∞
RF Ambient Conditions - Noise	3.0	R	1.73	1.0	1.0	1.7	1.7	∞
RF Ambient Conditions - Reflections	3.0	R	1.73	1.0	1.0	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	0.4	R	1.73	1.0	1.0	0.2	0.2	∞
Probe Positioning w/ respect to Phantom	6.7	R	1.73	1.0	1.0	3.9	3.9	∞
Extrapolation, Interpolation & Integration algorithms for Max. SAR Evaluation	4.0	R	1.73	1.0	1.0	2.3	2.3	∞
Test Sample Related								
Test Sample Positioning	2.7	N	1	1.0	1.0	2.7	2.7	35
Device Holder Uncertainty	1.67	N	1	1.0	1.0	1.7	1.7	5
Output Power Variation - SAR drift measurement	5.0	R	1.73	1.0	1.0	2.9	2.9	∞
SAR Scaling	0.0	R	1.73	1.0	1.0	0.0	0.0	∞
Phantom & Tissue Parameters								
Phantom Uncertainty (Shape & Thickness tolerances)	7.6	R	1.73	1.0	1.0	4.4	4.4	∞
Liquid Conductivity - measurement uncertainty	4.2	N	1	0.78	0.71	3.3	3.0	10
Liquid Permittivity - measurement uncertainty	4.1	N	1	0.23	0.26	1.0	1.1	10
Liquid Conductivity - Temperature Uncertainty	3.4	R	1.73	0.78	0.71	1.5	1.4	∞
Liquid Permittivity - Temperature Unceritainty	0.6	R	1.73	0.23	0.26	0.1	0.1	∞
Liquid Conductivity - deviation from target values	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Permittivity - deviation from target values	5.0	R	1.73	0.60	0.49	1.7	1.4	∞
Combined Standard Uncertainty (k=1)		RSS				11.5	11.3	60
Expanded Uncertainty (95% CONFIDENCE LEVEL)		k=2				23.0	22.6	

16 CONCLUSION

16.1 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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