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SAR EVALUATION REPORT

Applicant Name:
Samsung Electronics Co., Ltd.
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Gyeonggi-do, 16677, Korea

Date of Testing:
06/03/20 - 07/13/20
Test Site/Location:
PCTEST Lab, Columbia, MD, USA
Document Serial No.:
1M2005050082-01-R2.A3L

FCC ID: **A3LSMN981W**

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

DUT Type: Portable Handset
Application Type: Certification
FCC Rule Part(s): CFR §2.1093
Model: SM-N981W

Equipment Class	Band & Mode	Tx Frequency	SAR			
			1g Head (W/kg)	1g Body-Worn (W/kg)	1g Hotspot (W/kg)	10g Phablet (W/kg)
PCE	GSM/GPRS/EDGE 850	824.20 - 848.80 MHz	0.14	0.33	0.63	N/A
PCE	GSM/GPRS/EDGE 1900	1850.20 - 1909.80 MHz	< 0.1	0.34	1.12	2.35
PCE	UMTS 850	826.40 - 846.60 MHz	0.19	0.45	0.85	N/A
PCE	UMTS 1750	1712.4 - 1752.6 MHz	0.16	0.95	1.15	2.38
PCE	UMTS 1900	1852.4 - 1907.6 MHz	0.17	0.92	1.02	2.17
PCE	Cell. CDMA/EVDO	824.70 - 848.31 MHz	0.23	0.52	1.04	N/A
PCE	LTE Band 71	665.5 - 695.5 MHz	0.12	0.24	0.40	N/A
PCE	LTE Band 12	699.7 - 715.3 MHz	0.14	0.25	0.46	N/A
PCE	LTE Band 13	779.5 - 784.5 MHz	0.23	0.42	0.67	N/A
PCE	LTE Band 5 (Cell)	824.7 - 848.3 MHz	0.22	0.43	0.79	N/A
PCE	LTE Band 66 (AWS)	1710.7 - 1779.3 MHz	0.13	0.84	1.25	2.64
PCE	LTE Band 4 (AWS)	1710.7 - 1754.3 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 25 (PCS)	1850.7 - 1914.3 MHz	0.17	0.74	1.17	1.73
PCE	LTE Band 2 (PCS)	1850.7 - 1909.3 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 30	2307.5 - 2312.5 MHz	0.12	0.60	0.89	1.64
PCE	LTE Band 7	2502.5 - 2567.5 MHz	0.13	0.54	0.97	2.36
PCE	LTE Band 41	2498.5 - 2687.5 MHz	< 0.1	0.44	0.81	2.76
PCE	LTE Band 38	2572.5 - 2617.5 MHz	N/A	N/A	N/A	N/A
PCE	NR Band n71	665.5 - 695.5 MHz	0.10	0.24	0.40	N/A
PCE	NR Band n66 (AWS)	1712.5 - 1777.5 MHz	0.14	1.03	1.13	2.75
PCE	NR Band n41	2506.02 - 2679.99 MHz	0.41	< 0.1	0.31	N/A
DTS	2.4 GHz WLAN	2412 - 2462 MHz	0.34	0.13	0.50	N/A
NII	U-NII-1	5180 - 5240 MHz	N/A	N/A	N/A	N/A
NII	U-NII-2A	5260 - 5320 MHz	0.17	0.20	N/A	0.77
NII	U-NII-2C	5500 - 5720 MHz	< 0.1	0.14	N/A	0.94
NII	U-NII-3	5745 - 5825 MHz	< 0.1	0.26	0.42	N/A
DSS/DTS	Bluetooth	2402 - 2480 MHz	0.85	< 0.1	0.24	N/A
Simultaneous SAR per KDB 690783 D01v01r03:			1.43	1.53	1.59	3.88

Note: This revised Test Report (S/N: 1M2005050082-01-R2.A3L) supersedes and replaces the previously issued test report on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.

This wireless portable device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment/general population exposure limits specified in ANSI/IEEE C95.1-1992 and has been tested in accordance with the measurement procedures specified in Section 1.9 of this report; for North American frequency bands only.

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

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
GSM/GPRS/EDGE 1900	Voice/Data	1850.20 - 1909.80 MHz
UMTS 850	Voice/Data	826.40 - 846.60 MHz
UMTS 1750	Voice/Data	1712.4 - 1752.6 MHz
UMTS 1900	Voice/Data	1852.4 - 1907.6 MHz
LTE Band 71	Voice/Data	665.5 - 695.5 MHz
LTE Band 12	Voice/Data	699.7 - 715.3 MHz
LTE Band 13	Voice/Data	779.5 - 784.5 MHz
LTE Band 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 25 (PCS)	Voice/Data	1850.7 - 1914.3 MHz
LTE Band 2 (PCS)	Voice/Data	1850.7 - 1909.3 MHz
LTE Band 30	Voice/Data	2307.5 - 2312.5 MHz
LTE Band 7	Voice/Data	2502.5 - 2567.5 MHz
LTE Band 41	Voice/Data	2498.5 - 2687.5 MHz
LTE Band 38	Voice/Data	2572.5 - 2617.5 MHz
NR Band n71	Data	665.5 - 695.5 MHz
NR Band n66 (AWS)	Data	1712.5 - 1777.5 MHz
NR Band n 41	Data	2506.02 - 2679.99 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
MST	Data	555 Hz - 8.33 kHz

1.2 Time-Averaging Algorithm for RF Exposure Compliance

The equipment under test (EUT) contains:

a. Qualcomm® SDX55M modem supporting 2G/3G/4G/5G NR WWAN Technologies

Both of Qualcomm® 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 1.11 – 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 1.11 - 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 1.0dB for this EUT.

Exposure Scenario:	Body-Worn	Phablet	Phablet	Head	Hotspot	Earjack	Maximum Tune-up Output Power*
Averaging Volume:	1g	10g	10g	1g	1g	10g	
Spacing:	15 mm	8 mm, 6 mm, 11 mm	0 mm	0 mm	10 mm	0 mm	
DSI:	0	0	1	2	3	4	
Technology/Band	**Plimit corresponding to 1mW/g (SAR_design_target)**						Pmax
CDMA/EVDO BC0	28.7		26.7	32.3	25.6	26.7	24.8
GSM/GPRS/EDGE 850 MHz	29.2		28.6	32.8	27.6	28.6	24.8
GSM/GPRS/EDGE 1900 MHz	25.5		18.8	31.6	18.8	18.8	21.3
UMTS B5	29.0		27.1	32.8	26.2	27.1	24.5
UMTS B4	24.2		19.0	31.9	19.0	19.0	23.0
UMTS B2	24.4		18.0	31.6	18.0	18.0	23.0
LTE FDD B71	32.0		27.4	35.2	27.4	27.4	24.8
LTE FDD B12	31.9		27.6	34.1	27.6	27.6	24.8
LTE FDD B13	29.6		28.5	32.3	27.5	28.5	24.8
LTE FDD B5	29.4		27.2	32.4	26.7	27.2	24.8
LTE FDD B66/4	24.8		19.0	32.6	19.0	19.0	23.0
LTE FDD B25/2	25.3		18.0	31.8	18.0	18.0	23.0
LTE FDD B30	26.4		20.5	33.4	18.0	20.5	23.2
LTE FDD B7	26.7		20.5	33.1	19.5	20.5	23.0
LTE TDD B41	26.3		20.0	33.3	19.0	20.0	22.0
LTE TDD B38	26.3		19.0	33.3	19.0	19.0	21.5
NR FDD n71	31.9		27.7	35.0	27.7	27.7	24.8
NR FDD n66	24.3		19.0	32.9	19.0	19.0	23.5
NR TDD n41	24.8		24.8	14.0	24.1	24.8	18.0

*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 + 1dB device design uncertainty.

The maximum time-averaged output power (dBm) for any 2G/3G/4G/5G Sub6 WWAN technology, band, and DSI = minimum of "P_{limit} EFS" and "Maximum tune up output power P_{max}" + 1dB device uncertainty. SAR values in this report were scaled to this maximum time-averaged output power to determine compliance per KDB Publication 447498 D01v06.

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 when 5G NR is active and also during all voice or VoIP held to ear scenarios. 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. Detailed descriptions of the power reduction mechanism are included in the operational description.

1.4 Nominal and Maximum Output Power Specifications

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

1.4.1 2G/3G/4G/5G Output Power

CDMA BC0 (835 MHz)				
Power Level		Modulated Average Output Power (in dBm)		
		1x-RTT	EVDO Rev 0	EVDO Rev A
DSI = 0 (Body-Worn or Phablet Max)	Max allowed power	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8
DSI = 1 (Phablet Reduced)	Max allowed power	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8
DSI = 2 (Head)	Max allowed power	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8
DSI = 3 (Hotspot)	Max allowed power	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8
DSI = 4 (Earjack)	Max allowed power	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8

GSM/GPRS/EDGE 850										
Power Level		Voice (in dBm)	Data - Burst Average GMSK (in dBm)				Data - Burst Average 8-PSK (in dBm)			
		1 TX Slot	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots
DSI = 0 (Body-Worn or Phablet Max)	Max allowed power	33.5	33.5	32.0	30.0	28.0	27.5	25.5	23.5	22.5
	Nominal	32.5	32.5	31.0	29.0	27.0	26.5	24.5	22.5	21.5
DSI = 1 (Phablet Reduced)	Max allowed power	33.5	33.5	32.0	30.0	28.0	27.5	25.5	23.5	22.5
	Nominal	32.5	32.5	31.0	29.0	27.0	26.5	24.5	22.5	21.5
DSI = 2 (Head)	Max allowed power	33.5	33.5	32.0	30.0	28.0	27.5	25.5	23.5	22.5
	Nominal	32.5	32.5	31.0	29.0	27.0	26.5	24.5	22.5	21.5
DSI = 3 (Hotspot)	Max allowed power	N/A	33.5	32.0	30.0	28.0	27.5	25.5	23.5	22.5
	Nominal	N/A	32.5	31.0	29.0	27.0	26.5	24.5	22.5	21.5
DSI = 4 (Earjack)	Max allowed power	33.5	33.5	32.0	30.0	28.0	27.5	25.5	23.5	22.5
	Nominal	32.5	32.5	31.0	29.0	27.0	26.5	24.5	22.5	21.5
GSM/GPRS/EDGE 1900										
Power Level		Voice (in dBm)	Data - Burst Average GMSK (in dBm)				Data - Burst Average 8-PSK (in dBm)			
		1 TX Slot	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots
DSI = 0 (Body-Worn or Phablet Max)	Max allowed power	30.0	30.0	28.5	26.5	24.5	26.5	24.0	22.0	21.0
	Nominal	29.0	29.0	27.5	25.5	23.5	25.5	23.0	21.0	20.0
DSI = 1 (Phablet Reduced)	Max allowed power	29.0	29.0	26.0	24.2	23.0	26.5	24.0	22.0	21.0
	Nominal	28.0	28.0	25.0	23.2	22.0	25.5	23.0	21.0	20.0
DSI = 2 (Head)	Max allowed power	30.0	30.0	28.5	26.5	24.5	26.5	24.0	22.0	21.0
	Nominal	29.0	29.0	27.5	25.5	23.5	25.5	23.0	21.0	20.0
DSI = 3 (Hotspot)	Max allowed power	N/A	29.0	26.0	24.2	23.0	26.5	24.0	22.0	21.0
	Nominal	N/A	28.0	25.0	23.2	22.0	25.5	23.0	21.0	20.0
DSI = 4 (Earjack)	Max allowed power	29.0	29.0	26.0	24.2	23.0	26.5	24.0	22.0	21.0
	Nominal	28.0	28.0	25.0	23.2	22.0	25.5	23.0	21.0	20.0

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

UMTS Band 5 (850 MHz)					
Power Level		Modulated Average Output Power (in dBm)			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
DSI = 0 (Body-Worn or Phablet Max)	Max allowed power	25.5	24.5	24.5	24.5
	Nominal	24.5	23.5	23.5	23.5
DSI = 1 (Phablet Reduced)	Max allowed power	25.5	24.5	24.5	24.5
	Nominal	24.5	23.5	23.5	23.5
DSI = 2 (Head)	Max allowed power	25.5	24.5	24.5	24.5
	Nominal	24.5	23.5	23.5	23.5
DSI = 3 (Hotspot)	Max allowed power	25.5	24.5	24.5	24.5
	Nominal	24.5	23.5	23.5	23.5
DSI = 4 (Earjack)	Max allowed power	25.5	24.5	24.5	24.5
	Nominal	24.5	23.5	23.5	23.5
UMTS Band 4 (1750 MHz)					
Power Level		Modulated Average Output Power (in dBm)			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
DSI = 0 (Body-Worn or Phablet Max)	Max allowed power	24.0	23.0	23.0	23.0
	Nominal	23.0	22.0	22.0	22.0
DSI = 1 (Phablet Reduced)	Max allowed power	20.0	19.0	19.0	19.0
	Nominal	19.0	18.0	18.0	18.0
DSI = 2 (Head)	Max allowed power	24.0	23.0	23.0	23.0
	Nominal	23.0	22.0	22.0	22.0
DSI = 3 (Hotspot)	Max allowed power	20.0	19.0	19.0	19.0
	Nominal	19.0	18.0	18.0	18.0
DSI = 4 (Earjack)	Max allowed power	20.0	19.0	19.0	19.0
	Nominal	19.0	18.0	18.0	18.0
UMTS Band 2 (1900 MHz)					
Power Level		Modulated Average Output Power (in dBm)			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
DSI = 0 (Body-Worn or Phablet Max)	Max allowed power	24.0	23.0	23.0	23.0
	Nominal	23.0	22.0	22.0	22.0
DSI = 1 (Phablet Reduced)	Max allowed power	19.0	18.5	18.5	18.5
	Nominal	18.0	17.5	17.5	17.5
DSI = 2 (Head)	Max allowed power	24.0	23.0	23.0	23.0
	Nominal	23.0	22.0	22.0	22.0
DSI = 3 (Hotspot)	Max allowed power	19.0	18.5	18.5	18.5
	Nominal	18.0	17.5	17.5	17.5
DSI = 4 (Earjack)	Max allowed power	19.0	18.5	18.5	18.5
	Nominal	18.0	17.5	17.5	17.5

Mode / Band		Modulated Average Output Power (in dBm)				
		Max (DSI = 0)	RCV Mode Active (DSI = 2)	Hotspot Mode Active (DSI = 3)	Earjack Active (DSI = 4)	Proximity Sensor Active (DSI = 1)
LTE FDD Band 71	Max allowed power	25.8	25.8	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8	24.8	24.8
LTE FDD Band 12	Max allowed power	25.8	25.8	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8	24.8	24.8
LTE FDD Band 13	Max allowed power	25.8	25.8	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8	24.8	24.8
LTE FDD Band 5	Max allowed power	25.8	25.8	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8	24.8	24.8
LTE FDD Band 66	Max allowed power	24.0	24.0	20.0	20.0	20.0
	Nominal	23.0	23.0	19.0	19.0	19.0
LTE FDD Band 4	Max allowed power	24.0	24.0	20.0	20.0	20.0
	Nominal	23.0	23.0	19.0	19.0	19.0
LTE FDD Band 2	Max allowed power	24.0	24.0	19.0	19.0	19.0
	Nominal	23.0	23.0	18.0	18.0	18.0
LTE FDD Band 25	Max allowed power	24.0	24.0	19.0	19.0	19.0
	Nominal	23.0	23.0	18.0	18.0	18.0
LTE FDD Band 30	Max allowed power	24.2	24.2	19.0	21.5	21.5
	Nominal	23.2	23.2	18.0	20.5	20.5
LTE FDD Band 7	Max allowed power	24.0	24.0	20.5	21.5	21.5
	Nominal	23.0	23.0	19.5	20.5	20.5
LTE TDD Band 38	Max allowed power	24.5	24.5	22.0	22.0	22.0
	Nominal	23.5	23.5	21.0	21.0	21.0
LTE TDD Band 41	Max allowed power	25.0	25.0	22.0	23.0	23.0
	Nominal	24.0	24.0	21.0	22.0	22.0

Mode / Band		Modulated Average Output Power (in dBm)				
		Max (DSI = 0)	RCV Mode Active (DSI = 2)	Hotspot Mode Active (DSI = 3)	Earjack Active (DSI = 4)	Proximity Sensor Active (DSI = 1)
NR FDD Band n71	Max allowed power	25.8	25.8	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8	24.8	24.8
NR FDD Band n66	Max allowed power	24.5	24.5	20.0	20.0	20.0
	Nominal	23.5	23.5	19.0	19.0	19.0
NR TDD Band n41	Max allowed power	25.0	21.0	25.0	25.0	25.0
	Nominal	24.0	20.0	24.0	24.0	24.0

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

1.4.2 2.4 GHz 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		ax (SU)		g (CDD + STBC)		n (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.
2.4 GHz WIFI	2.45 GHz	21.0	20.0	18.0	17.0	18.0	17.0	17.0	16.0	21.0	20.0	21.0	20.0	17.0	16.0

Mode / Band		Modulated Average (dBm)
Bluetooth	Maximum	**17.0**
	Nominal	**16.0**
Bluetooth (EDR)	Maximum	**13.0**
	Nominal	**12.0**
Bluetooth LE 2Mbps	Maximum	**9.5**
	Nominal	**8.5**
Bluetooth LE 1 Mbps, 125/500 kbps	Maximum	**8.0**
	Nominal	**7.0**

1.4.3 2.4 GHz Reduced WLAN Output Powers

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

The below table is applicable in the following conditions:

- Head Conditions
- Simultaneous conditions with 5 GHz WLAN
- Simultaneous conditions with 5G NR and/or 5 GHz WLAN

Mode	Band	IEEE 802.11 (in dBm)													
		SISO								MIMO					
		Antenna 1/ Antenna 2													
		b		g		n		ax (SU)		g (CDD + STBC)		n (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.
2.4 GHz WIFI	2.45 GHz	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	20.0	19.0	20.0	19.0	17.0	16.0

The below table is applicable in the following conditions:

- Head Conditions during simultaneous conditions with 5 GHz WLAN
- Head Conditions during simultaneous conditions with 5G NR and/or 5 GHz WLAN

Mode	Band	IEEE 802.11 (in dBm)													
		SISO								MIMO					
		Antenna 1/ Antenna 2													
		b		g		n		ax (SU)		g (CDD + STBC)		n (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.
2.4 GHz WIFI	2.45 GHz	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	17.0	16.0	17.0	16.0	17.0	16.0

1.4.4 5 GHz Maximum 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															
		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	18.0	17.0	18.0	17.0	18.0	17.0	16.0	15.0	21.0	20.0	21.0	20.0	21.0	20.0	16.0	15.0
	5300 MHz	18.0 ch. 64: 17.0	17.0 16.0	18.0	17.0	18.0	17.0	16.0	15.0	21.0 ch. 64: 20.0	20.0 19.0	21.0	20.0	21.0	20.0	16.0	15.0
	5500 MHz	18.0 ch. 100: 17.0	17.0 16.0	18.0	17.0	18.0	17.0	16.0	15.0	21.0 ch. 100: 20.0	20.0 19.0	21.0	20.0	21.0	20.0	16.0	15.0
	5800 MHz	18.0	17.0	18.0	17.0	18.0	17.0	16.0	15.0	21.0	20.0	21.0	20.0	21.0	20.0	16.0	15.0
5 GHz WIFI (40MHz BW)	5200 MHz			17.0 ch. 38: 16.0	16.0 15.0	17.0 ch. 38: 16.0	16.0 15.0	14.0	13.0			20.0 ch. 38: 19.0	19.0 18.0	20.0 ch. 38: 19.0	19.0 18.0	14.0	13.0
	5300 MHz			17.0 ch. 62: 15.0	16.0 14.0	17.0 ch. 62: 15.0	16.0 14.0	14.0	13.0			20.0 ch. 62: 18.0	19.0 17.0	20.0 ch. 62: 18.0	19.0 17.0	14.0	13.0
	5500 MHz			17.0 ch. 102: 15.0	16.0 14.0	17.0 ch. 102: 15.0	16.0 14.0	14.0	13.0			20.0 ch. 102: 18.0	19.0 17.0	20.0 ch. 102: 18.0	19.0 17.0	14.0	13.0
	5800 MHz			17.0	16.0	17.0	16.0	14.0	13.0			20.0	19.0	20.0	19.0	14.0	13.0
5 GHz WIFI (80MHz BW)	5200 MHz					15.0	14.0	13.0	12.0					18.0	17.0	13.0	12.0
	5300 MHz					14.0	13.0	13.0	12.0					17.0	16.0	13.0	12.0
	5500 MHz					16.0 ch. 106: 14.0	15.0 13.0	13.0	12.0					19.0 ch. 106: 17.0	18.0 16.0	13.0	12.0
	5800 MHz					16.0	15.0	13.0	12.0					19.0	18.0	13.0	12.0

1.4.5 5 GHz Reduced WLAN Output Powers

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

The below table is applicable in the following conditions:

- Head Conditions
- Simultaneous conditions with 2.4 GHz WLAN
- Simultaneous conditions with 5G NR and/or 2.4 GHz WLAN
- Head Conditions during simultaneous conditions with 2.4 GHz WLAN
- Head Conditions during simultaneous conditions with 5G NR and/or 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	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	17.0	16.0	17.0	16.0	17.0	16.0	16.0	15.0
	5300 MHz	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	17.0	16.0	17.0	16.0	17.0	16.0	16.0	15.0
	5500 MHz	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	17.0	16.0	17.0	16.0	17.0	16.0	16.0	15.0
	5800 MHz	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	17.0	16.0	17.0	16.0	17.0	16.0	16.0	15.0
5 GHz WIFI (40MHz BW)	5200 MHz			14.0	13.0	14.0	13.0	14.0	13.0			17.0	16.0	17.0	16.0	14.0	13.0
	5300 MHz			14.0	13.0	14.0	13.0	14.0	13.0			17.0	16.0	17.0	16.0	14.0	13.0
	5500 MHz			14.0	13.0	14.0	13.0	14.0	13.0			17.0	16.0	17.0	16.0	14.0	13.0
	5800 MHz			14.0	13.0	14.0	13.0	14.0	13.0			17.0	16.0	17.0	16.0	14.0	13.0
5 GHz WIFI (80MHz BW)	5200 MHz					14.0	13.0	13.0	12.0					17.0	16.0	13.0	12.0
	5300 MHz					14.0	13.0	13.0	12.0					17.0	16.0	13.0	12.0
	5500 MHz					14.0	13.0	13.0	12.0					17.0	16.0	13.0	12.0
	5800 MHz					14.0	13.0	13.0	12.0					17.0	16.0	13.0	12.0

1.5 DUT Antenna Locations

The overall dimensions of this device are > 9 x 5 cm. The overall diagonal dimension of the device is ≤160 mm and the diagonal display is ≤150 mm. 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	Yes
GPRS 850	Yes	Yes	No	Yes	Yes	Yes
GPRS 1900	Yes	Yes	No	Yes	Yes	Yes
UMTS 850	Yes	Yes	No	Yes	Yes	Yes
UMTS 1750	Yes	Yes	No	Yes	Yes	Yes
UMTS 1900	Yes	Yes	No	Yes	Yes	Yes
LTE Band 71	Yes	Yes	No	Yes	Yes	Yes
LTE Band 12	Yes	Yes	No	Yes	Yes	Yes
LTE Band 13	Yes	Yes	No	Yes	Yes	Yes
LTE Band 5 (Cell)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 66 (AWS)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 25 (PCS)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 30	Yes	Yes	No	Yes	Yes	No
LTE Band 7	Yes	Yes	No	Yes	Yes	No
LTE Band 41	Yes	Yes	No	Yes	Yes	No
NR Band n71	Yes	Yes	No	Yes	Yes	Yes
NR Band n66 (AWS)	Yes	Yes	No	Yes	Yes	Yes
NR Band n41	Yes	Yes	Yes	No	No	Yes
2.4 GHz WLAN Ant 1	Yes	Yes	Yes	No	No	Yes
2.4 GHz WLAN Ant 2	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
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-1, U-NII-2A, U-NII-2C operations are disabled.

1.6 Near Field Communications (NFC) Antenna

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

1.7 Simultaneous Transmission Capabilities

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

This device contains multiple transmitters that may operate simultaneously, and therefore requires a simultaneous transmission analysis according to FCC KDB Publication 447498 D01v06 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 Bluetooth + 5GHz WI-FI	Yes^	Yes	N/A	Yes	^Bluetooth Tethering is considered
5	1x CDMA voice + 2.4 GHz WI-FI MIMO	Yes	Yes	N/A	Yes	
6	1x CDMA voice + 5 GHz WI-FI MIMO	Yes	Yes	N/A	Yes	
7	1x CDMA voice + 2.4 GHz WI-FI + 5 GHz WI-FI	Yes	Yes	N/A	Yes	
8	1x CDMA voice + 2.4 GHz WI-FI MIMO + 5 GHz WI-FI MIMO	Yes	Yes	N/A	Yes	
9	1x CDMA voice + 2.4 GHz Bluetooth + 5GHz WI-FI MIMO	Yes^	Yes	N/A	Yes	^Bluetooth Tethering is considered
10	GSM voice + 2.4 GHz WI-FI	Yes	Yes	N/A	Yes	
11	GSM voice + 5 GHz WI-FI	Yes	Yes	N/A	Yes	
12	GSM voice + 2.4 GHz Bluetooth	Yes^	Yes	N/A	Yes	^Bluetooth Tethering is considered
13	GSM voice + 2.4 GHz Bluetooth + 5GHz WI-FI	Yes^	Yes	N/A	Yes	^Bluetooth Tethering is considered
14	GSM voice + 2.4 GHz WI-FI MIMO	Yes	Yes	N/A	Yes	
15	GSM voice + 5 GHz WI-FI MIMO	Yes	Yes	N/A	Yes	
16	GSM voice + 2.4 GHz WI-FI + 5 GHz WI-FI	Yes	Yes	N/A	Yes	
17	GSM voice + 2.4 GHz WI-FI MIMO + 5 GHz WI-FI MIMO	Yes	Yes	N/A	Yes	
18	GSM voice + 2.4 GHz Bluetooth + 5GHz WI-FI MIMO	Yes^	Yes	N/A	Yes	^Bluetooth Tethering is considered
19	UMTS + 2.4 GHz WI-FI	Yes	Yes	Yes	Yes	
20	UMTS + 5 GHz WI-FI	Yes	Yes	Yes	Yes	
21	UMTS + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^Bluetooth Tethering is considered
22	UMTS + 2.4 GHz Bluetooth + 5 GHz WI-FI	Yes^	Yes	Yes^	Yes	^Bluetooth Tethering is considered
23	UMTS + 2.4 GHz WI-FI MIMO	Yes	Yes	Yes	Yes	
24	UMTS + 5 GHz WI-FI MIMO	Yes	Yes	Yes	Yes	
25	UMTS + 2.4 GHz WI-FI + 5 GHz WI-FI	Yes	Yes	Yes	Yes	
26	UMTS + 2.4 GHz WI-FI MIMO + 5 GHz WI-FI MIMO	Yes	Yes	Yes	Yes	
27	UMTS + 2.4 GHz Bluetooth + 5 GHz WI-FI MIMO	Yes^	Yes	Yes^	Yes	^Bluetooth Tethering is considered
28	LTE + 5G NR	Yes	Yes	N/A	Yes	
29	LTE + 2.4 GHz WI-FI	Yes	Yes	Yes	Yes	
30	LTE + 2.4 GHz WI-FI + 5G NR	Yes	Yes	Yes	Yes	
31	LTE + 5 GHz WI-FI	Yes	Yes	Yes	Yes	
32	LTE + 5 GHz WI-FI + 5G NR	Yes	Yes	Yes	Yes	
33	LTE + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^Bluetooth Tethering is considered
34	LTE + 2.4 GHz Bluetooth + 5G NR	Yes^	Yes	Yes^	Yes	^Bluetooth Tethering is considered
35	LTE + 2.4 GHz Bluetooth + 5 GHz WI-FI	Yes^	Yes	Yes^	Yes	^Bluetooth Tethering is considered
36	LTE + 2.4 GHz Bluetooth + 5 GHz WI-FI + 5G NR	Yes^	Yes	Yes^	Yes	^Bluetooth Tethering is considered
37	LTE + 2.4 GHz WI-FI MIMO	Yes	Yes	Yes	Yes	
38	LTE + 2.4 GHz WI-FI MIMO + 5G NR	Yes	Yes	Yes	Yes	
39	LTE + 5 GHz WI-FI MIMO	Yes	Yes	Yes	Yes	
40	LTE + 5 GHz WI-FI MIMO + 5G NR	Yes	Yes	Yes	Yes	
41	LTE + 2.4 GHz WI-FI + 5 GHz WI-FI	Yes	Yes	Yes	Yes	
42	LTE + 2.4 GHz WI-FI + 5 GHz WI-FI + 5G NR	Yes	Yes	Yes	Yes	
43	LTE + 2.4 GHz WI-FI MIMO + 5 GHz WI-FI MIMO	Yes	Yes	Yes	Yes	
44	LTE + 2.4 GHz WI-FI MIMO + 5 GHz WI-FI MIMO + 5G NR	Yes	Yes	Yes	Yes	
45	LTE + 2.4 GHz Bluetooth + 5 GHz WI-FI MIMO	Yes^	Yes	Yes^	Yes	^Bluetooth Tethering is considered
46	LTE + 2.4 GHz Bluetooth + 5 GHz WI-FI MIMO + 5G NR	Yes^	Yes	Yes^	Yes	^Bluetooth Tethering is considered
47	CDMA/EVDO data + 2.4 GHz WI-FI	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
48	CDMA/EVDO data + 5 GHz WI-FI	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
49	CDMA/EVDO data + 2.4 GHz Bluetooth	Yes*^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered ^Bluetooth Tethering is considered
50	CDMA/EVDO data + 2.4 GHz Bluetooth + 5 GHz WI-FI	Yes*^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered ^Bluetooth Tethering is considered
51	CDMA/EVDO data + 2.4 GHz WI-FI MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
52	CDMA/EVDO data + 5 GHz WI-FI MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
53	CDMA/EVDO data + 2.4 GHz WI-FI + 5 GHz WI-FI	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
54	CDMA/EVDO data + 2.4 GHz WI-FI MIMO + 5 GHz WI-FI MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
55	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
56	GPRS/EDGE + 2.4 GHz WI-FI	N/A	N/A	Yes	Yes	
57	GPRS/EDGE + 5 GHz WI-FI	N/A	N/A	Yes	Yes	
58	GPRS/EDGE + 2.4 GHz Bluetooth	N/A	N/A	Yes^	Yes	^Bluetooth Tethering is considered
59	GPRS/EDGE + 2.4 GHz Bluetooth + 5 GHz WI-FI	N/A	N/A	Yes^	Yes	^Bluetooth Tethering is considered
60	GPRS/EDGE + 2.4 GHz WI-FI MIMO	N/A	N/A	Yes	Yes	
61	GPRS/EDGE + 5 GHz WI-FI MIMO	N/A	N/A	Yes	Yes	
62	GPRS/EDGE + 2.4 GHz WI-FI + 5 GHz WI-FI	N/A	N/A	Yes	Yes	
63	GPRS/EDGE + 2.4 GHz WI-FI MIMO + 5 GHz WI-FI MIMO	N/A	N/A	Yes	Yes	
64	GPRS/EDGE + 2.4 GHz Bluetooth + 5 GHz WI-FI MIMO	N/A	N/A	Yes^	Yes	^Bluetooth Tethering is considered

1. 2.4 GHz WLAN 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 not expected to be used in conjunction with a held-to-ear or body-worn accessory voice call. Therefore, there are no simultaneous transmission scenarios involving WIFI direct beyond that listed in the above table.
5. 5 GHz Wireless Router is only supported for the U-NII-3 by S/W, therefore U-NII-1, U-NII-2A, 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 VoWIFI.
8. This device supports Bluetooth Tethering.
9. This device supports VoLTE.
10. LTE + 5G NR FR1 Scenarios are limited to LTE Anchor Bands, LTE B2/5/7/13/66.

1.8 Miscellaneous SAR Test Considerations

(A) WIFI/BT

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

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

This device supports IEEE 802.11ax 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-1, U-NII-2A & U-NII-2C WLAN, phablet SAR tests were performed. Phablet SAR was not evaluated for 2.4 GHz and U-NII-3 WLAN 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.

CDMA 1X Advanced technology was not required for SAR since the maximum allowed output powers for 1x Advanced was not more than 0.25 dB higher than the maximum powers for 1x and the measured SAR in any 1x mode exposure conditions was not greater than 1.2 W/kg per FCC KDB Publication 941225 D01v03r01.

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

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.

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 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 ≤ ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45W/kg, per Section 5.2.4 of FCC KDB Publication 941225 D05v02r05.

NR implementation of n71, n66, and n41 is limited to EN-DC operations only, with LTE Band 2/7/66/5/13 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.

NR Test Configurations were selected per the following guidelines

- MPR is permanently implemented per 3GPP standards. Conducted power and SAR test configurations were identified for RB configurations/modulations with MPR=0 dB as the most conservative SAR scenarios. 1 RB and 50% RB allocations with a low, mid and high offset within the “Inner RB allocation” range were selected to identify the configurations with the highest power.

• The SAR test guidance outlined in section 5 of KDB 941225 D05 was generally adapted for the NR testing. DFT-S-OFDM QPSK was used as the lowest order modulation. Additional modulations were not required since conducted power was not > 0.5 dB higher than the lowest order modulation.
• All available SCS settings for this device were evaluated. The NR checklist contains information about the SCS settings per band.

1.9 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, Dynamic Antenna Tuning)

1.10 Device Serial Numbers

Several samples with identical hardware were used to support SAR testing. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units. The serial numbers used for each test are indicated alongside the results in Section 11.

1.11 Bibliography

Report Type	Report Serial Number
RF Exposure Part 0 Test Report	1M2005050082-20.A3L
RF Exposure Part 2 Test Report	1M2005050082-25-R1.A3L
RF Exposure Compliance Summary Report	1M2005050082-26-R1.A3L

2 LTE AND NR INFORMATION

LTE Information					
Form Factor	Portable Handset				
Frequency Range of each LTE transmission band	LTE Band 71 (665.5 - 695.5 MHz)				
	LTE Band 12 (699.7 - 715.3 MHz)				
	LTE Band 13 (779.5 - 784.5 MHz)				
	LTE Band 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 25 (PCS) (1850.7 - 1914.3 MHz)				
	LTE Band 2 (PCS) (1850.7 - 1909.3 MHz)				
	LTE Band 30 (2307.5 - 2312.5 MHz)				
	LTE Band 7 (2502.5 - 2567.5 MHz)				
	LTE Band 41 (2498.5 - 2687.5 MHz)				
	LTE Band 38 (2572.5 - 2617.5 MHz)				
Channel Bandwidths	LTE Band 71: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 12: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 13: 5 MHz, 10 MHz				
	LTE Band 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 25 (PCS): 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 7: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 41: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 38: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
Channel Numbers and Frequencies (MHz)	Low	Low-Mid	Mid	Mid-High	High
LTE Band 71: 5 MHz	665.5 (133147)		680.5 (133297)	695.5 (133447)	
LTE Band 71: 10 MHz	668 (133172)		680.5 (133297)	693 (133422)	
LTE Band 71: 15 MHz	670.5 (133197)		680.5 (133297)	690.5 (133397)	
LTE Band 71: 20 MHz	673 (133222)		680.5 (133297)	688 (133372)	
LTE Band 12: 1.4 MHz	699.7 (23017)		707.5 (23095)	715.3 (23173)	
LTE Band 12: 3 MHz	700.5 (23025)		707.5 (23095)	714.5 (23165)	
LTE Band 12: 5 MHz	701.5 (23035)		707.5 (23095)	713.5 (23155)	
LTE Band 12: 10 MHz	704 (23060)		707.5 (23095)	711 (23130)	
LTE Band 13: 5 MHz	779.5 (23205)		782 (23230)	784.5 (23255)	
LTE Band 13: 10 MHz	N/A		782 (23230)	N/A	
LTE Band 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 25 (PCS): 1.4 MHz	1850.7 (26047)		1882.5 (26365)	1914.3 (26683)	
LTE Band 25 (PCS): 3 MHz	1851.5 (26055)		1882.5 (26365)	1913.5 (26675)	
LTE Band 25 (PCS): 5 MHz	1852.5 (26065)		1882.5 (26365)	1912.5 (26665)	
LTE Band 25 (PCS): 10 MHz	1855 (26090)		1882.5 (26365)	1910 (26640)	
LTE Band 25 (PCS): 15 MHz	1857.5 (26115)		1882.5 (26365)	1907.5 (26615)	
LTE Band 25 (PCS): 20 MHz	1860 (26140)		1882.5 (26365)	1905 (26590)	
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 7: 5 MHz	2502.5 (20775)		2535 (21100)	2567.5 (21425)	
LTE Band 7: 10 MHz	2505 (20800)		2535 (21100)	2565 (21400)	
LTE Band 7: 15 MHz	2507.5 (20825)		2535 (21100)	2562.5 (21375)	
LTE Band 7: 20 MHz	2510 (20850)		2535 (21100)	2560 (21350)	
LTE Band 41: 5 MHz	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)
LTE Band 38: 5 MHz	2572.5 (37775)		2595 (38000)	2617.5 (38225)	
LTE Band 38: 10 MHz	2575 (37800)		2595 (38000)	2615 (38200)	
LTE Band 38: 15 MHz	2577.5 (37825)		2595 (38000)	2612.5 (38175)	
LTE Band 38: 20 MHz	2580 (37850)		2595 (38000)	2610 (38150)	
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 16. It supports carrier aggregation, downlink MIMO, LAA features as shown in Appendix F. All uplink communications are identical to the Release 8 Specifications. Uplink communications are done on the PCC. The following LTE Release 16 Features are not supported: Relay, HetNet, Enhanced MIMO, eICIC, eMBMS, Cross-Carrier Scheduling, Enhanced SC-FDMA.				

NR Information					
Form Factor	Portable Handset				
Frequency Range of each NR transmission band	NR Band n71 (665.5 - 695.5 MHz)				
	NR Band n66 (AWS) (1712.5 - 1777.5 MHz)				
	NR Band n41 (2506.02 - 2679.99 MHz)				
Channel Bandwidths	NR Band n71: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	NR Band n66 (AWS): 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	NR Band n41: 20 MHz, 40 MHz, 50 MHz, 60 MHz, 80 MHz, 90 MHz, 100 MHz				
Channel Numbers and Frequencies (MHz)	Low	Low-Mid	Mid	Mid-High	High
NR Band n71: 5 MHz	665.5 (133100)		680.5 (136100)	695.5 (139100)	
NR Band n71: 10 MHz	668 (133600)		680.5 (136100)	693 (138600)	
NR Band n71: 15 MHz	670.5 (134100)		680.5 (136100)	690.5 (138100)	
NR Band n71: 20 MHz	673 (134600)		680.5 (136100)	688 (137600)	
NR Band 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 n41: 20 MHz	2506.02 (501204)	2549.49 (509898)	2592.99 (518598)	2636.49 (527298)	2679.99 (535998)
NR Band n41: 40 MHz	2516.01 (503202)	2567.34 (513468)	N/A	2618.67 (523734)	2670 (534000)
NR Band n41: 50 MHz	2521.02 (504204)		2592.99 (518598)	2664.99 (532998)	
NR Band n41: 60 MHz	2526 (505200)		2592.99 (518598)	2659.98 (531996)	
NR Band n41: 80 MHz	2536.02 (507204)		N/A	2649.99 (529998)	
NR Band n41: 90 MHz	2541 (508200)		N/A	2644.98 (528996)	
NR Band n41: 100 MHz	2546.01 (509202)		2592.99 (518598)	2640 (528000)	
NR Band n71/n66 SCS	15 kHz				
NR Band n41 SCS	30 kHz				
Modulations Supported in UL	DFT-s-OFDM: π/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM				
NR MPR Permanently implemented per 3GPP TS 38.101	YES				
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 n71	LTE Band 2/66/7				
LTE Anchor Bands for NR Band n66	LTE Band 13/5				
LTE Anchor Bands for NR Band n41	LTE Band 2/66				

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:

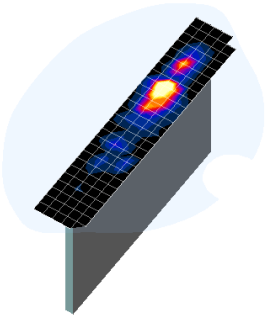


Figure 4-1
Sample SAR Area Scan

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].

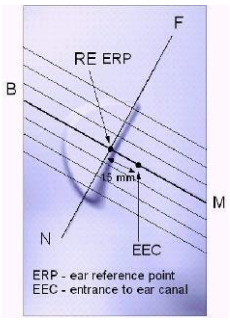


Figure 5-1
Close-Up Side view of ERP

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

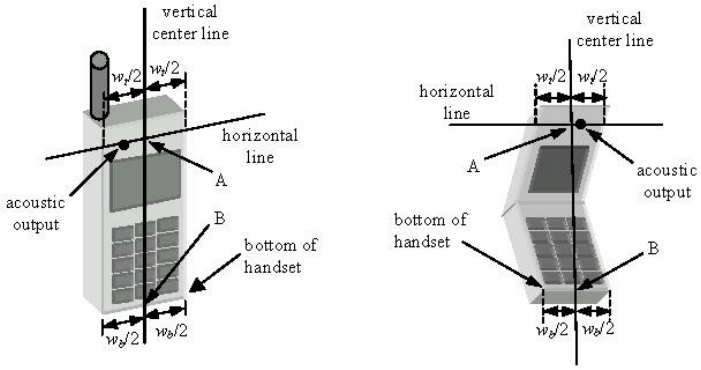


Figure 5-3
Handset Vertical Center & Horizontal Line Reference Points

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.

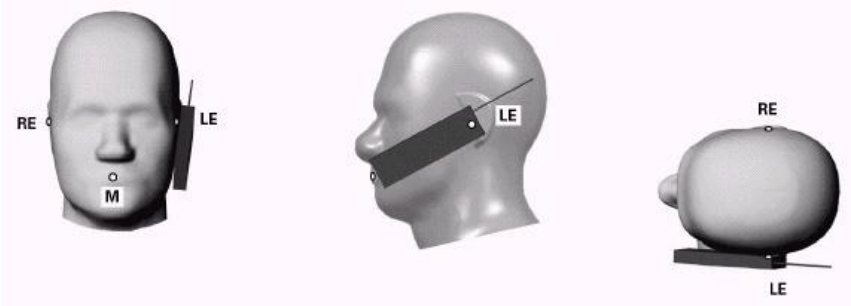


Figure 6-1 Front, Side and Top View of Cheek Position

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).

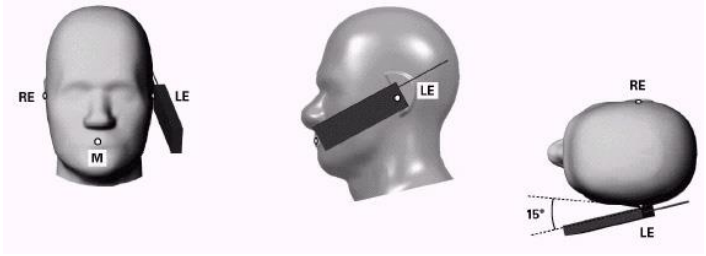


Figure 6-2 Front, Side and Top View of Ear/15º Tilt Position

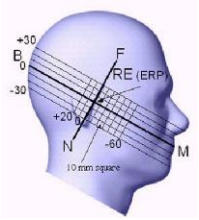


Figure 6-3
Side view w/ relevant markings

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.

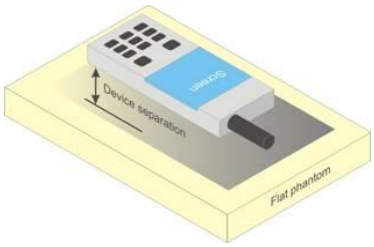


Figure 6-4
Sample Body-Worn Diagram

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 Considerations

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.

8.4.6 CDMA2000 1x Advanced

This device additionally supports 1x Advanced. Conducted powers are measured using SO75 with RC8 on the uplink and RC11 on the downlink per FCC KDB Publication 941225 D01v03r01. Smart blanking is disabled for all measurements. The EUT is configured with forward power control Mode 000 and reverse power control at 400 bps. Conducted powers are measured on an Agilent 8960 Series 10 Wireless Communications Test Set, Model E5515C using the CDMA2000 1x Advanced application, Option E1962B-410.

The 3G SAR test reduction procedure is applied to the 1x-Advanced transmission mode with 1x RTT RC3 as the primary mode. When SAR measurement is required, the 1x-Advanced power measurement configurations are used. The1x Advanced SAR procedures are applied separately to head, body-worn accessory and other exposure conditions.

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.

8.5.6 SAR Measurement Conditions for DC-HSDPA

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

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 factory test parameters for MCC and MNC 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

All conducted power measurements for 2G/3G/4G/5G Sub6 WWAN technologies and bands in this section were performed by setting *Reserve_power_margin* (Qualcomm® Smart Transmit EFS entry) to 0dB, so that the EUT transmits continuously at minimum (P_{limit}, maximum tune up output power P_{max}).

9.1 CDMA Conducted Powers

Table 9-1
Measured P_{max} for all DSI

Band	Channel	Rule Part	Frequency	SO55 [dBm]	SO55 [dBm]	SO75 [dBm]	TDSO SO32 [dBm]	TDSO SO32 [dBm]	1x EvDO Rev. 0 [dBm]	1x EvDO Rev. A [dBm]
	F-RC		MHz	RC1	RC3	RC11	FCH+SCH	FCH	(RTAP)	(RETAP)
Cellular	1013	22H	824.7	24.86	24.88	24.86	24.83	24.80	24.85	24.85
	384	22H	836.52	24.77	24.78	24.77	24.77	24.79	24.90	24.81
	777	22H	848.31	24.44	24.41	24.64	24.63	24.58	24.64	24.57

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

Figure 9-1
Power Measurement Setup

9.2 GSM Conducted Powers

Table 9-2
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**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 850	128	32.86	32.91	31.84	**29.45**	27.36	26.90	25.44	23.41	22.27
	190	32.88	32.90	31.57	**29.38**	27.69	26.82	25.47	23.43	22.31
	251	32.81	32.51	31.52	**29.49**	27.30	26.83	25.46	23.48	22.22
GSM 1900	512	28.99	29.02	28.03	**26.49**	24.27	25.44	23.80	21.87	20.95
	661	29.08	29.12	28.22	**26.45**	24.29	25.52	23.95	21.87	20.97
	810	29.11	29.14	28.15	**26.48**	24.35	25.57	23.84	21.83	21.00

Calculated Maximum Frame-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 850	128	23.66	23.71	25.65	**25.02**	24.18	17.70	19.25	18.98	19.09
	190	23.68	23.70	25.38	**24.95**	24.51	17.62	19.28	19.00	19.13
	251	23.61	23.31	25.33	**25.06**	24.12	17.63	19.27	19.05	19.04
GSM 1900	512	19.79	19.82	21.84	**22.06**	21.09	16.24	17.61	17.44	17.77
	661	19.88	19.92	22.03	**22.02**	21.11	16.32	17.76	17.44	17.79
	810	19.91	19.94	21.96	**22.05**	21.17	16.37	17.65	17.40	17.82

GSM 850	**Frame Avg.Targets:**	23.30	23.30	24.81	**24.57**	23.82	17.30	18.31	18.07	18.32
GSM 1900		19.80	19.80	21.31	**21.07**	20.32	16.30	16.81	16.57	16.82

Table 9-3
Measured P_{limit} for DSI = 3 (Hotspot mode), DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active)

Maximum Burst-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 1900	512	27.80	27.76	24.58	22.92	**21.52**	25.44	23.80	21.87	20.95
	661	28.15	28.12	24.94	23.17	**21.74**	25.52	23.95	21.87	20.97
	810	28.00	27.94	24.88	23.11	**21.63**	25.57	23.84	21.83	21.00

Calculated Maximum Frame-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 1900	512	18.60	18.56	18.39	18.49	**18.34**	16.24	17.61	17.44	17.77
	661	18.95	18.92	18.75	18.74	**18.56**	16.32	17.76	17.44	17.79
	810	18.80	18.74	18.69	18.68	**18.45**	16.37	17.65	17.40	17.82
GSM 1900	**Frame Avg.Targets:**	18.80	18.80	18.81	18.77	**18.82**	16.30	16.81	16.57	16.82

Note:

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

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

Figure 9-2
Power Measurement Setup

9.3 UMTS Conducted Powers

Table 9-4
Measured P_{max} for all DSI

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	25.03	24.94	24.87	23.35	23.22	23.18	23.06	23.11	23.16	-
99		12.2 kbps AMR	25.05	24.95	24.84	23.28	23.16	23.11	23.04	23.07	23.17	-
6	HSDPA	Subtest 1	24.02	23.87	23.81	22.18	22.14	22.05	21.97	22.08	22.15	0
6		Subtest 2	23.99	23.90	23.85	22.23	22.16	22.08	21.97	22.05	22.13	0
6		Subtest 3	23.48	23.39	23.28	21.68	21.61	21.60	21.47	21.56	21.60	0.5
6		Subtest 4	23.52	23.38	23.31	21.75	21.62	21.54	21.51	21.58	21.63	0.5
6	HSUPA	Subtest 1	24.05	23.92	23.83	22.19	22.14	22.11	22.00	22.07	22.13	0
6		Subtest 2	22.01	21.89	21.80	20.17	20.08	20.07	19.97	20.05	20.11	2
6		Subtest 3	23.01	22.87	22.78	21.18	21.07	21.07	20.98	21.06	21.13	1
6		Subtest 4	22.00	21.88	21.79	20.16	20.08	20.06	19.96	20.04	20.10	2
6		Subtest 5	23.54	23.40	23.32	21.68	21.61	21.59	21.50	21.57	21.63	0
8	DC-HSDPA	Subtest 1	23.97	23.90	23.78	22.24	22.08	22.06	21.97	22.03	22.00	0
8		Subtest 2	24.08	23.97	23.86	22.28	22.12	22.08	21.90	22.07	22.11	0
8		Subtest 3	23.45	23.36	23.24	21.64	21.57	21.56	21.44	21.49	21.58	0.5
8		Subtest 4	23.48	23.27	23.26	21.69	21.59	21.56	21.44	21.51	21.58	0.5

Table 9-5
Measured P_{limit} for DSI = 3 (Hotspot mode), DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active)

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	19.40	19.38	19.39	18.79	18.92	18.91	-
99		12.2 kbps AMR	19.41	19.40	19.36	18.77	18.83	18.92	-
6	HSDPA	Subtest 1	18.51	18.38	18.41	17.81	17.91	17.96	0
6		Subtest 2	18.48	18.39	18.42	17.78	17.83	17.91	0
6		Subtest 3	17.99	17.88	17.90	17.28	17.35	17.41	0.5
6		Subtest 4	18.00	17.90	17.90	17.27	17.33	17.40	0.5
6	HSUPA	Subtest 1	17.57	17.47	17.50	16.85	16.92	17.01	0
6		Subtest 2	15.58	15.47	15.49	14.86	14.92	15.02	2
6		Subtest 3	16.57	16.45	16.50	15.85	15.94	16.00	1
6		Subtest 4	15.57	15.46	15.49	14.87	14.92	15.02	2
6		Subtest 5	17.62	17.54	17.55	16.89	16.98	17.04	0
8	DC-HSDPA	Subtest 1	18.54	18.43	18.42	17.82	17.91	17.99	0
8		Subtest 2	18.53	18.43	18.44	17.82	17.88	17.96	0
8		Subtest 3	18.03	17.94	17.96	17.32	17.40	17.45	0.5
8		Subtest 4	18.04	17.96	17.95	17.31	17.37	17.44	0.5

DC-HSDPA considerations

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

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

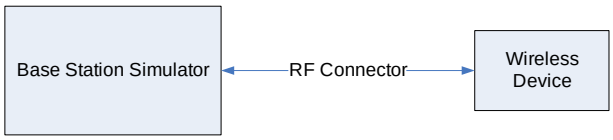


Figure 9-3
Power Measurement Setup

9.4 LTE Conducted Powers

9.4.1 LTE Band 71

Table 9-6
LTE Band 71 Measured P_{max} for all DSI - 20 MHz Bandwidth

LTE Band 71 20 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 133297 (680.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**25.15**	0	0
	1	50	25.04		0
	1	99	24.91		0
	50	0	**24.36**	0-1	1
	50	25	24.31		1
	50	50	24.26		1
	100	0	24.21		1
16QAM	1	0	24.79	0-1	1
	1	50	24.72		1
	1	99	24.40		1
	50	0	23.36	0-2	2
	50	25	23.32		2
	50	50	23.26		2
	100	0	23.25		2
64QAM	1	0	23.64	0-2	2
	1	50	23.64		2
	1	99	23.37		2
	50	0	22.37	0-3	3
	50	25	22.31		3
	50	50	22.29		3
	100	0	22.33		3
256QAM	1	0	20.26	0-5	5
	1	50	20.61		5
	1	99	20.16		5
	50	0	20.32		5
	50	25	20.37		5
	50	50	20.33		5
	100	0	20.25		5

Note: LTE Band 71 at 20 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 71 Measured P_{max} for all DSI - 15 MHz Bandwidth

LTE Band 71 15 MHz Bandwidth					
Modulation	**RB Size**	**RB Offset**	**Mid Channel** **133297 (680.5 MHz)** **Conducted Power [dBm]**	**MPR Allowed per 3GPP [dB]**	**MPR [dB]**
QPSK	1	0	25.58	0	0
	1	36	25.43		0
	1	74	25.27		0
	36	0	24.65	0-1	1
	36	18	24.60		1
	36	37	24.53		1
	75	0	24.46		1
16QAM	1	0	24.70	0-1	1
	1	36	24.50		1
	1	74	24.73		1
	36	0	23.62	0-2	2
	36	18	23.60		2
	36	37	23.55		2
	75	0	23.47		2
64QAM	1	0	23.62	0-2	2
	1	36	23.50		2
	1	74	23.64		2
	36	0	22.68	0-3	3
	36	18	22.61		3
	36	37	22.56		3
	75	0	22.54		3
256QAM	1	0	20.37	0-5	5
	1	36	20.40		5
	1	74	20.21		5
	36	0	20.28		5
	36	18	20.29		5
	36	37	20.27		5
	75	0	20.20		5

Note: LTE Band 71 at 15 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 9-8
LTE Band 71 Measured P_{max} for all DSI - 10 MHz Bandwidth

LTE Band 71 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 133172 (668.0 MHz)	Mid Channel 133297 (680.5 MHz)	High Channel 133422 (693.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.65	25.61	25.18	0	0
	1	25	25.51	25.50	25.04		0
	1	49	25.42	25.40	25.00		0
	25	0	24.62	24.61	24.18	0-1	1
	25	12	24.61	24.58	24.14		1
	25	25	24.51	24.58	24.16		1
	50	0	24.53	24.51	24.09		1
16QAM	1	0	24.77	24.73	24.10	0-1	1
	1	25	24.76	24.56	24.13		1
	1	49	24.78	24.49	24.07		1
	25	0	23.73	23.62	23.17	0-2	2
	25	12	23.72	23.59	23.16		2
	25	25	23.62	23.57	23.10		2
	50	0	23.54	23.52	23.06		2
64QAM	1	0	23.75	23.62	23.36	0-2	2
	1	25	23.64	23.77	23.60		2
	1	49	23.59	23.57	23.30		2
	25	0	22.70	22.69	22.22	0-3	3
	25	12	22.68	22.65	22.20		3
	25	25	22.55	22.63	22.18		3
	50	0	22.60	22.51	22.07		3
256QAM	1	0	20.58	20.25	20.02	0-5	5
	1	25	20.62	20.50	20.22		5
	1	49	20.29	20.27	19.96		5
	25	0	20.49	20.23	20.02		5
	25	12	20.54	20.31	20.11		5
	25	25	20.43	20.30	20.09		5
	50	0	20.50	20.19	20.01		5

Table 9-9
LTE Band 71 Measured P_{max} for all DSI - 5 MHz Bandwidth

LTE Band 71 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 133147 (665.5 MHz)	Mid Channel 133297 (680.5 MHz)	High Channel 133447 (695.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.50	25.06	24.91	0	0
	1	12	25.43	25.20	25.04		0
	1	24	25.42	25.14	24.96		0
	12	0	24.60	24.31	24.02	0-1	1
	12	6	24.66	24.40	24.08		1
	12	13	24.60	24.37	24.08		1
	25	0	24.62	24.36	24.02		1
16QAM	1	0	24.74	24.72	24.06	0-1	1
	1	12	24.77	24.78	24.15		1
	1	24	24.73	24.80	24.13		1
	12	0	23.60	23.39	22.98	0-2	2
	12	6	23.62	23.48	23.00		2
	12	13	23.57	23.46	23.02		2
	25	0	23.62	23.38	23.05		2
64QAM	1	0	23.71	23.43	23.46	0-2	2
	1	12	23.73	23.50	23.62		2
	1	24	23.74	23.38	23.47		2
	12	0	22.71	22.43	21.92	0-3	3
	12	6	22.75	22.42	22.01		3
	12	13	22.78	22.44	22.04		3
	25	0	22.63	22.22	22.01		3
256QAM	1	0	20.66	20.33	20.06	0-5	5
	1	12	20.71	20.45	20.22		5
	1	24	20.60	20.31	20.16		5
	12	0	20.55	20.25	20.04		5
	12	6	20.62	20.29	20.07		5
	12	13	20.55	20.30	20.10		5
	25	0	20.59	20.28	20.04		5

9.4.2 LTE Band 12

Table 9-10
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	**25.02**	0	0
	1	25	24.96		0
	1	49	24.92		0
	25	0	24.04	0-1	1
	25	12	**24.19**		1
	25	25	24.10		1
	50	0	24.15		1
16QAM	1	0	24.13	0-1	1
	1	25	24.05		1
	1	49	24.01		1
	25	0	23.14	0-2	2
	25	12	23.29		2
	25	25	23.22		2
	50	0	23.12		2
64QAM	1	0	23.31	0-2	2
	1	25	23.31		2
	1	49	23.26		2
	25	0	22.10	0-3	3
	25	12	22.25		3
	25	25	22.16		3
	50	0	22.15		3
256QAM	1	0	20.27	0-5	5
	1	25	20.62		5
	1	49	20.46		5
	25	0	20.15		5
	25	12	20.28		5
	25	25	20.21		5
	50	0	20.18		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 9-11
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	24.92	25.00	24.96	0	0
	1	12	24.91	25.04	24.91		0
	1	24	24.86	24.95	24.90		0
	12	0	24.06	24.09	24.10	0-1	1
	12	6	24.19	24.15	24.06		1
	12	13	24.16	24.05	24.09		1
	25	0	24.13	24.12	24.08		1
16QAM	1	0	24.22	24.16	24.53	0-1	1
	1	12	24.25	24.19	24.46		1
	1	24	24.23	24.17	24.52		1
	12	0	23.08	22.98	23.23	0-2	2
	12	6	23.16	23.02	23.20		2
	12	13	23.13	22.99	23.21		2
	25	0	23.12	23.11	23.10		2
64QAM	1	0	23.24	23.52	23.61	0-2	2
	1	12	23.21	23.59	23.63		2
	1	24	23.16	23.47	23.61		2
	12	0	22.19	21.98	22.19	0-3	3
	12	6	22.26	22.03	22.23		3
	12	13	22.25	21.95	22.23		3
	25	0	22.19	22.03	22.01		3
256QAM	1	0	20.13	20.22	20.29	0-5	5
	1	12	20.22	20.29	20.26		5
	1	24	20.21	20.25	20.22		5
	12	0	20.12	20.16	20.19		5
	12	6	20.16	20.19	20.18		5
	12	13	20.20	20.17	20.16		5
	25	0	20.12	20.15	20.13		5

Table 9-12
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	24.99	24.66	25.04	0	0
	1	7	24.97	24.60	25.03		0
	1	14	25.00	24.64	25.01		0
	8	0	24.03	24.14	24.09	0-1	1
	8	4	24.08	24.21	24.14		1
	8	7	24.11	24.18	24.11		1
	15	0	24.13	24.16	24.13		1
16QAM	1	0	24.43	24.38	24.55	0-1	1
	1	7	24.46	24.40	24.53		1
	1	14	24.51	24.38	24.62		1
	8	0	23.12	23.14	23.16	0-2	2
	8	4	23.13	23.22	23.24		2
	8	7	23.12	23.18	23.20		2
	15	0	23.19	23.24	23.09		2
64QAM	1	0	23.18	23.52	23.51	0-2	2
	1	7	23.21	23.56	23.50		2
	1	14	23.31	23.51	23.61		2
	8	0	22.18	22.09	22.20	0-3	3
	8	4	22.24	22.14	22.30		3
	8	7	22.21	22.10	22.28		3
	15	0	22.23	22.08	22.06		3
256QAM	1	0	20.17	20.28	20.23	0-5	5
	1	7	20.19	20.30	20.27		5
	1	14	20.17	20.27	20.22		5
	8	0	20.12	20.15	20.13		5
	8	4	20.17	20.22	20.25		5
	8	7	20.14	20.18	20.20		5
	15	0	20.16	20.20	20.22		5

Table 9-13
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	24.92	24.88	24.80	0	0
	1	2	24.99	25.03	24.93		0
	1	5	24.93	24.92	24.84		0
	3	0	24.91	24.97	24.82		0
	3	2	24.90	25.00	24.90		0
	3	3	24.90	24.96	24.89		0
	6	0	23.95	24.03	23.90	0-1	1
16QAM	1	0	24.30	24.39	24.16	0-1	1
	1	2	24.32	24.48	24.30		1
	1	5	24.27	24.46	24.21		1
	3	0	24.28	24.07	24.17		1
	3	2	24.35	24.08	24.28		1
	3	3	24.23	24.07	24.22		1
	6	0	23.07	23.05	22.98	0-2	2
64QAM	1	0	23.42	23.27	23.22	0-2	2
	1	2	23.45	23.42	23.38		2
	1	5	23.41	23.37	23.33		2
	3	0	23.11	23.01	23.04		2
	3	2	23.16	23.04	23.09		2
	3	3	23.08	23.02	23.06		2
	6	0	21.97	21.99	21.94	0-3	3
256QAM	1	0	20.12	20.10	20.13	0-5	5
	1	2	20.20	20.28	20.24		5
	1	5	20.12	20.19	20.18		5
	3	0	20.13	20.23	20.13		5
	3	2	20.20	20.28	20.22		5
	3	3	20.11	20.19	20.18		5
	6	0	20.04	20.09	20.00		5

9.4.3 LTE Band 13

Table 9-14
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	24.93	0	0
	1	25	25.02		0
	1	49	**25.05**		0
	25	0	**24.27**	0-1	1
	25	12	24.25		1
	25	25	24.25		1
	50	0	24.18		1
16QAM	1	0	24.08	0-1	1
	1	25	23.97		1
	1	49	23.95		1
	25	0	23.38	0-2	2
	25	12	23.36		2
	25	25	23.42		2
	50	0	23.19		2
64QAM	1	0	23.45	0-2	2
	1	25	23.39		2
	1	49	23.35		2
	25	0	22.34	0-3	3
	25	12	22.36		3
	25	25	22.36		3
	50	0	22.16		3
256QAM	1	0	20.52	0-5	5
	1	25	20.10		5
	1	49	20.32		5
	25	0	20.21		5
	25	12	20.26		5
	25	25	20.27		5
	50	0	20.22		5

Table 9-15
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	25.07	0	0
	1	12	25.10		0
	1	24	25.11		0
	12	0	24.24	0-1	1
	12	6	24.27		1
	12	13	24.26		1
	25	0	24.27		1
16QAM	1	0	24.29	0-1	1
	1	12	24.31		1
	1	24	24.33		1
	12	0	23.29	0-2	2
	12	6	23.31		2
	12	13	23.33		2
	25	0	23.23		2
64QAM	1	0	23.35	0-2	2
	1	12	23.39		2
	1	24	23.42		2
	12	0	22.19	0-3	3
	12	6	22.21		3
	12	13	22.24		3
	25	0	22.22		3
256QAM	1	0	20.18	0-5	5
	1	12	20.31		5
	1	24	20.25		5
	12	0	20.19		5
	12	6	20.20		5
	12	13	20.22		5
	25	0	20.23		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.

9.4.4 LTE Band 5 (Cell)

Table 9-16
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	**25.33**	0	0
	1	25	25.28		0
	1	49	25.32		0
	25	0	24.38	0-1	1
	25	12	**24.49**		1
	25	25	24.39		1
	50	0	24.33		1
16QAM	1	0	24.80	0-1	1
	1	25	24.79		1
	1	49	24.78		1
	25	0	23.48	0-2	2
	25	12	23.53		2
	25	25	23.45		2
	50	0	23.34		2
64QAM	1	0	23.53	0-2	2
	1	25	23.56		2
	1	49	23.59		2
	25	0	22.49	0-3	3
	25	12	22.54		3
	25	25	22.46		3
	50	0	22.36		3
256QAM	1	0	19.93	0-5	5
	1	25	20.21		5
	1	49	19.92		5
	25	0	20.41		5
	25	12	20.49		5
	25	25	20.36		5
	50	0	20.26		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 9-17
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	25.19	25.11	25.03	0	0
	1	12	25.31	25.22	25.26		0
	1	24	25.25	25.09	25.08		0
	12	0	24.41	24.02	24.14	0-1	1
	12	6	24.53	24.03	24.20		1
	12	13	24.47	24.03	24.21		1
	25	0	24.48	24.03	24.15		1
16QAM	1	0	24.61	24.03	24.40	0-1	1
	1	12	24.59	24.04	24.44		1
	1	24	24.61	24.04	24.49		1
	12	0	23.40	23.22	23.55	0-2	2
	12	6	23.52	23.34	23.57		2
	12	13	23.47	23.28	23.54		2
	25	0	23.56	23.20	23.57		2
64QAM	1	0	23.45	23.38	23.55	0-2	2
	1	12	23.61	23.40	23.55		2
	1	24	23.51	23.39	23.57		2
	12	0	22.45	22.24	22.17	0-3	3
	12	6	22.53	22.30	22.23		3
	12	13	22.51	22.25	22.24		3
	25	0	22.51	22.22	22.20		3
256QAM	1	0	20.40	20.52	20.37	0-5	5
	1	12	20.50	20.67	20.49		5
	1	24	20.43	20.56	20.46		5
	12	0	20.38	20.44	20.45		5
	12	6	20.50	20.58	20.46		5
	12	13	20.46	20.51	20.50		5
	25	0	20.49	20.49	20.39		5

Table 9-18
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	25.11	25.14	25.04	0	0
	1	7	25.22	25.25	25.12		0
	1	14	25.20	25.18	25.09		0
	8	0	24.24	24.20	24.17	0-1	1
	8	4	24.32	24.30	24.18		1
	8	7	24.26	24.23	24.19		1
	15	0	24.28	24.26	24.13		1
16QAM	1	0	24.46	24.53	24.42	0-1	1
	1	7	24.53	24.47	24.50		1
	1	14	24.57	24.58	24.51		1
	8	0	23.55	23.35	23.67	0-2	2
	8	4	23.52	23.34	23.69		2
	8	7	23.54	23.34	23.66		2
	15	0	23.55	23.35	23.69		2
64QAM	1	0	23.53	23.34	23.70	0-2	2
	1	7	23.54	23.34	23.68		2
	1	14	23.53	23.34	23.69		2
	8	0	22.26	22.22	22.18	0-3	3
	8	4	22.34	22.35	22.21		3
	8	7	22.27	22.25	22.27		3
	15	0	22.29	22.27	22.21		3
256QAM	1	0	20.25	20.51	20.08	0-5	5
	1	7	20.33	20.47	20.11		5
	1	14	20.30	20.49	20.13		5
	8	0	20.50	20.32	20.44		5
	8	4	20.61	20.41	20.47		5
	8	7	20.57	20.37	20.48		5
	15	0	20.43	20.49	20.43		5

Table 9-19
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	25.03	25.12	25.06	0	0
	1	2	25.15	25.17	25.15		0
	1	5	25.12	25.12	25.04		0
	3	0	25.07	25.14	25.08		0
	3	2	25.14	25.18	25.11		0
	3	3	25.12	25.09	25.08		0
	6	0	24.17	24.21	24.14	0-1	1
16QAM	1	0	24.41	24.44	24.40	0-1	1
	1	2	24.51	24.52	24.50		1
	1	5	24.48	24.45	24.42		1
	3	0	24.29	24.30	24.28		1
	3	2	24.31	24.33	24.29		1
	3	3	24.29	24.32	24.25		1
	6	0	23.71	23.29	23.19	0-2	2
64QAM	1	0	23.69	23.42	23.42	0-2	2
	1	2	23.71	23.40	23.41		2
	1	5	23.71	23.43	23.42		2
	3	0	23.68	23.43	23.41		2
	3	2	23.73	23.44	23.41		2
	3	3	23.73	23.41	23.42		2
	6	0	22.18	22.19	22.15	0-3	3
256QAM	1	0	20.34	20.42	20.40	0-5	5
	1	2	20.51	20.43	20.43		5
	1	5	20.38	20.42	20.39		5
	3	0	20.48	20.49	20.41		5
	3	2	20.51	20.54	20.41		5
	3	3	20.44	20.43	20.38		5
	6	0	20.44	20.32	20.28		5

9.4.5 LTE Band 66 (AWS)

Table 9-20
LTE Band 66 (AWS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (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	22.91	22.97	**23.21**	0	0
	1	50	23.16	23.15	23.16		0
	1	99	22.91	22.96	23.12		0
	50	0	22.19	22.16	22.19	0-1	1
	50	25	22.25	22.24	**22.26**		1
	50	50	22.21	22.20	22.19		1
	100	0	22.24	22.16	22.17		1
16QAM	1	0	22.42	22.48	22.71	0-1	1
	1	50	22.72	22.72	22.75		1
	1	99	22.49	22.47	22.70		1
	50	0	21.24	21.24	21.23	0-2	2
	50	25	21.35	21.28	21.29		2
	50	50	21.24	21.22	21.26		2
	100	0	21.26	21.17	21.21		2
64QAM	1	0	21.21	21.24	21.52	0-2	2
	1	50	21.52	21.49	21.56		2
	1	99	21.33	21.29	21.51		2
	50	0	20.27	20.28	20.28	0-3	3
	50	25	20.39	20.35	20.33		3
	50	50	20.30	20.32	20.31		3
	100	0	20.27	20.19	20.23		3
256QAM	1	0	18.05	18.06	18.29	0-5	5
	1	50	18.34	18.43	18.41		5
	1	99	18.18	18.18	18.16		5
	50	0	18.19	18.18	18.21		5
	50	25	18.32	18.26	18.25		5
	50	50	18.23	18.21	18.23		5
	100	0	18.22	18.16	18.13		5

Table 9-21
LTE Band 66 (AWS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (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	22.91	22.75	22.88	0	0
	1	36	22.94	22.96	22.86		0
	1	74	22.86	22.76	22.99		0
	36	0	22.09	21.97	22.06	0-1	1
	36	18	22.12	22.11	22.21		1
	36	37	22.05	22.07	22.10		1
	75	0	22.05	21.98	22.09		1
16QAM	1	0	22.61	22.44	22.72	0-1	1
	1	36	22.81	22.62	22.80		1
	1	74	22.58	22.37	22.65		1
	36	0	21.13	21.10	21.13	0-2	2
	36	18	21.14	21.10	21.23		2
	36	37	21.09	21.09	21.14		2
	75	0	21.12	21.02	21.14		2
64QAM	1	0	21.27	21.27	21.39	0-2	2
	1	36	21.57	21.48	21.50		2
	1	74	21.40	21.26	21.40		2
	36	0	20.19	20.14	20.15	0-3	3
	36	18	20.21	20.13	20.25		3
	36	37	20.13	20.15	20.16		3
	75	0	20.14	20.06	20.14		3
256QAM	1	0	18.41	18.20	18.70	0-5	5
	1	36	18.64	18.45	18.62		5
	1	74	18.43	18.15	18.69		5
	36	0	18.01	18.03	18.19		5
	36	18	18.03	18.05	18.28		5
	36	37	17.96	18.03	18.19		5
	75	0	18.05	18.01	18.17		5

Table 9-22
LTE Band 66 (AWS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (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	22.85	22.77	22.97	0	0
	1	25	22.94	22.96	22.99		0
	1	49	22.96	22.80	23.00		0
	25	0	22.03	21.97	22.12	0-1	1
	25	12	22.09	22.07	22.18		1
	25	25	21.97	22.01	22.09		1
	50	0	21.99	22.00	22.09		1
16QAM	1	0	22.66	22.37	22.41	0-1	1
	1	25	22.70	22.69	22.67		1
	1	49	22.70	22.47	22.50		1
	25	0	21.07	21.02	21.17	0-2	2
	25	12	21.10	21.10	21.22		2
	25	25	21.01	21.06	21.08		2
	50	0	21.00	20.94	21.10		2
64QAM	1	0	21.26	21.15	21.08	0-2	2
	1	25	21.61	21.47	21.34		2
	1	49	21.35	21.26	21.06		2
	25	0	20.14	20.07	20.14	0-3	3
	25	12	20.20	20.10	20.26		3
	25	25	20.08	20.08	20.11		3
	50	0	20.07	20.05	20.11		3
256QAM	1	0	17.97	17.96	18.79	0-5	5
	1	25	18.07	18.37	18.68		5
	1	49	17.91	18.13	18.77		5
	25	0	18.13	18.00	18.16		5
	25	12	18.16	18.11	18.25		5
	25	25	18.08	18.06	18.07		5
	50	0	18.12	17.97	18.10		5

Table 9-23
LTE Band 66 (AWS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (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	22.79	23.06	22.97	0	0
	1	12	22.82	23.02	22.91		0
	1	24	22.80	23.03	22.94		0
	12	0	22.05	22.05	22.13	0-1	1
	12	6	22.08	22.12	22.17		1
	12	13	21.96	22.01	22.10		1
	25	0	22.06	22.04	22.07		1
16QAM	1	0	22.50	22.86	22.47	0-1	1
	1	12	22.58	22.87	22.52		1
	1	24	22.48	22.83	22.44		1
	12	0	21.12	21.20	21.19	0-2	2
	12	6	21.13	21.25	21.23		2
	12	13	21.03	21.14	21.16		2
	25	0	21.02	21.03	21.11		2
64QAM	1	0	21.52	21.58	21.60	0-2	2
	1	12	21.58	21.62	21.58		2
	1	24	21.53	21.51	21.55		2
	12	0	20.12	20.09	20.19	0-3	3
	12	6	20.13	20.14	20.24		3
	12	13	20.06	20.03	20.11		3
	25	0	20.06	20.08	20.12		3
256QAM	1	0	18.39	18.60	18.15	0-5	5
	1	12	18.40	18.64	18.17		5
	1	24	18.42	18.63	18.14		5
	12	0	18.09	18.16	18.11		5
	12	6	18.10	18.23	18.21		5
	12	13	17.99	18.18	18.09		5
	25	0	18.05	17.97	18.06		5

Table 9-24
LTE Band 66 (AWS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (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	22.97	23.04	23.15	0	0
	1	7	22.92	22.99	23.06		0
	1	14	22.94	22.93	22.96		0
	8	0	22.04	22.13	22.21	0-1	1
	8	4	22.03	22.07	22.17		1
	8	7	22.00	22.05	22.15		1
	15	0	22.08	22.09	22.15		1
16QAM	1	0	22.78	22.78	22.71	0-1	1
	1	7	22.67	22.64	22.59		1
	1	14	22.65	22.68	22.58		1
	8	0	21.25	21.10	21.30	0-2	2
	8	4	21.23	21.09	21.28		2
	8	7	21.20	21.06	21.19		2
	15	0	21.18	21.28	21.25		2
64QAM	1	0	21.63	21.57	21.41	0-2	2
	1	7	21.51	21.50	21.28		2
	1	14	21.57	21.49	21.21		2
	8	0	20.18	20.28	20.14	0-3	3
	8	4	20.19	20.24	20.12		3
	8	7	20.15	20.23	20.12		3
	15	0	20.06	20.22	20.17		3
256QAM	1	0	18.27	18.50	18.74	0-5	5
	1	7	18.26	18.35	18.62		5
	1	14	18.19	18.35	18.78		5
	8	0	18.16	18.16	18.37		5
	8	4	18.13	18.14	18.35		5
	8	7	18.08	18.10	18.33		5
	15	0	18.11	18.20	18.26		5

Table 9-25
LTE Band 66 (AWS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (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	22.97	22.98	22.99	0	0
	1	2	23.00	22.99	23.00		0
	1	5	22.93	22.90	22.88		0
	3	0	22.90	23.03	22.98		0
	3	2	22.91	23.04	23.01		0
	3	3	22.92	23.00	22.95		0
	6	0	21.99	22.03	22.07	0-1	1
16QAM	1	0	22.31	22.69	22.61	0-1	1
	1	2	22.35	22.69	22.62		1
	1	5	22.26	22.58	22.52		1
	3	0	22.14	22.17	22.17		1
	3	2	22.13	22.11	22.14		1
	3	3	22.09	22.12	22.12		1
	6	0	21.13	21.03	21.26	0-2	2
64QAM	1	0	21.76	21.53	21.31	0-2	2
	1	2	21.80	21.53	21.36		2
	1	5	21.72	21.48	21.17		2
	3	0	21.33	21.28	21.35		2
	3	2	21.35	21.27	21.39		2
	3	3	21.29	21.23	21.36		2
	6	0	20.10	20.11	20.15	0-3	3
256QAM	1	0	18.07	18.35	18.56	0-5	5
	1	2	18.14	18.40	18.59		5
	1	5	18.06	18.31	18.47		5
	3	0	17.86	17.95	18.28		5
	3	2	17.90	18.01	18.28		5
	3	3	17.82	17.89	18.22		5
	6	0	18.01	18.01	18.17		5

Table 9-26
LTE Band 66 (AWS) Measured P_{limit} for DSI = 3 (Hotspot mode), DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 20 MHz Bandwidth

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132072 (1720.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132572 (1770.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	18.88	18.67	19.12	0	0
	1	50	**19.18**	18.88	19.17		0
	1	99	18.92	18.72	19.11		0
	50	0	19.13	19.17	19.16	0-1	0
	50	25	**19.23**	19.21	19.20		0
	50	50	19.16	19.12	19.16		0
	100	0	19.16	19.09	19.11		0
16QAM	1	0	19.41	19.28	19.61	0-1	0
	1	50	19.61	19.62	19.58		0
	1	99	19.47	19.23	19.54		0
	50	0	19.19	19.25	19.14	0-2	0
	50	25	19.26	19.21	19.18		0
	50	50	19.25	19.19	19.18		0
	100	0	19.19	19.13	19.12		0
64QAM	1	0	19.18	19.51	19.56	0-2	0
	1	50	19.48	19.29	19.41		0
	1	99	19.32	19.57	19.37		0
	50	0	19.26	19.22	19.22	0-3	0
	50	25	19.34	19.26	19.26		0
	50	50	19.29	19.21	19.22		0
	100	0	19.23	19.14	19.18		0
256QAM	1	0	18.05	18.15	17.88	0-5	1
	1	50	18.31	18.32	18.14		1
	1	99	18.16	18.13	18.00		1
	50	0	18.21	18.20	18.20		1
	50	25	18.29	18.23	18.25		1
	50	50	18.19	18.19	18.20		1
	100	0	18.18	18.15	18.16		1

Table 9-27
LTE Band 66 (AWS) Measured P_{limit} for DSI = 3 (Hotspot mode), DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 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	18.76	18.76	18.86	0	0
	1	36	18.74	18.92	18.92		0
	1	74	18.75	18.70	18.81		0
	36	0	19.03	19.00	19.00	0-1	0
	36	18	19.07	19.00	19.11		0
	36	37	18.99	19.01	19.05		0
	75	0	18.96	18.93	19.04		0
16QAM	1	0	19.20	19.15	19.27	0-1	0
	1	36	19.43	19.36	19.44		0
	1	74	19.24	19.04	19.52		0
	36	0	19.07	19.03	19.00	0-2	0
	36	18	19.05	19.04	19.11		0
	36	37	19.00	19.03	19.03		0
	75	0	18.99	19.00	19.08		0
64QAM	1	0	19.19	19.37	19.58	0-2	0
	1	36	19.45	19.60	19.48		0
	1	74	19.24	19.31	19.57		0
	36	0	19.07	19.14	19.10	0-3	0
	36	18	19.11	19.17	19.20		0
	36	37	19.03	19.15	19.13		0
	75	0	19.04	19.02	19.12		0
256QAM	1	0	18.39	18.20	18.25	0-5	1
	1	36	18.63	18.49	18.41		1
	1	74	18.44	18.14	18.65		1
	36	0	18.02	18.07	18.14		1
	36	18	18.05	18.12	18.24		1
	36	37	17.96	18.04	18.16		1
	75	0	18.06	17.98	18.15		1

Table 9-28
LTE Band 66 (AWS) Measured P_{limit} for DSI = 3 (Hotspot mode), DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 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	18.57	18.64	18.77	0	0
	1	25	18.81	18.89	18.91		0
	1	49	18.63	18.74	18.75		0
	25	0	18.94	18.93	19.05	0-1	0
	25	12	19.02	18.98	19.12		0
	25	25	18.91	19.00	19.01		0
	50	0	18.90	18.93	19.01		0
16QAM	1	0	19.24	19.18	19.49	0-1	0
	1	25	19.53	19.41	19.50		0
	1	49	19.32	19.26	19.48		0
	25	0	18.97	18.97	19.09	0-2	0
	25	12	19.05	19.07	19.13		0
	25	25	18.93	19.01	18.99		0
	50	0	18.99	18.94	19.02		0
64QAM	1	0	19.09	19.21	19.49	0-2	0
	1	25	19.36	19.56	19.66		0
	1	49	19.19	19.31	19.60		0
	25	0	19.15	19.09	19.14	0-3	0
	25	12	19.23	19.14	19.21		0
	25	25	19.14	19.12	19.05		0
	50	0	19.02	19.02	19.12		0
256QAM	1	0	17.79	18.01	18.23	0-5	1
	1	25	18.12	18.39	18.38		1
	1	49	17.82	18.13	18.21		1
	25	0	18.11	18.00	18.13		1
	25	12	18.17	18.09	18.23		1
	25	25	18.11	18.10	18.09		1
	50	0	18.09	17.98	18.12		1

Table 9-29
LTE Band 66 (AWS) Measured P_{limit} for DSI = 3 (Hotspot mode), DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 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	19.38	18.81	18.84	0	0
	1	12	19.39	18.87	18.84		0
	1	24	19.39	18.78	18.83		0
	12	0	19.40	19.03	19.05	0-1	0
	12	6	19.38	19.08	19.14		0
	12	13	19.41	19.01	19.04		0
	25	0	19.42	18.93	19.08		0
16QAM	1	0	19.42	19.35	19.53	0-1	0
	1	12	19.42	19.36	19.56		0
	1	24	19.41	19.35	19.51		0
	12	0	19.41	19.10	19.11	0-2	0
	12	6	19.41	19.18	19.16		0
	12	13	19.40	19.10	19.10		0
	25	0	19.41	19.01	19.00		0
64QAM	1	0	19.40	19.59	19.36	0-2	0
	1	12	19.40	19.61	19.36		0
	1	24	19.40	19.54	19.35		0
	12	0	19.40	19.10	19.02	0-3	0
	12	6	19.40	19.16	19.13		0
	12	13	19.40	19.10	18.98		0
	25	0	19.40	19.05	19.07		0
256QAM	1	0	18.40	18.59	18.16	0-5	1
	1	12	18.45	18.64	18.21		1
	1	24	18.39	18.61	18.14		1
	12	0	18.09	18.19	18.15		1
	12	6	18.12	18.21	18.21		1
	12	13	18.01	18.16	18.08		1
	25	0	18.02	17.96	18.04		1

Table 9-30
LTE Band 66 (AWS) Measured P_{limit} for DSI = 3 (Hotspot mode), DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 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	19.24	18.95	19.03	0	0
	1	7	19.25	18.88	18.96		0
	1	14	19.24	18.89	18.92		0
	8	0	19.30	19.07	19.11	0-1	0
	8	4	19.24	19.08	19.13		0
	8	7	19.29	18.99	19.04		0
	15	0	19.28	19.04	19.10		0
16QAM	1	0	19.33	19.44	19.47	0-1	0
	1	7	19.34	19.45	19.49		0
	1	14	19.28	19.36	19.39		0
	8	0	19.29	19.17	19.21	0-2	0
	8	4	19.29	19.13	19.17		0
	8	7	19.30	19.09	19.12		0
	15	0	19.34	19.01	19.15		0
64QAM	1	0	19.27	19.65	19.60	0-2	0
	1	7	19.29	19.50	19.65		0
	1	14	19.30	19.53	19.65		0
	8	0	19.32	19.07	19.42	0-3	0
	8	4	19.31	19.08	19.43		0
	8	7	19.27	19.00	19.36		0
	15	0	19.30	19.26	19.14		0
256QAM	1	0	18.25	18.46	18.44	0-5	1
	1	7	18.14	18.35	18.36		1
	1	14	18.15	18.39	18.30		1
	8	0	18.16	18.14	18.37		1
	8	4	18.15	18.14	18.34		1
	8	7	18.11	18.09	18.31		1
	15	0	18.03	18.19	18.28		1

Table 9-31
LTE Band 66 (AWS) Measured P_{limit} for DSI = 3 (Hotspot mode), DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 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	19.16	18.86	19.01	0	0
	1	2	19.20	18.91	19.03		0
	1	5	19.20	18.81	18.94		0
	3	0	19.21	18.91	18.92		0
	3	2	19.20	18.93	18.98		0
	3	3	19.19	18.88	18.92		0
	6	0	19.20	18.94	19.04	0-1	0
16QAM	1	0	19.17	19.41	19.45	0-1	0
	1	2	19.19	19.46	19.52		0
	1	5	19.21	19.36	19.41		0
	3	0	19.23	18.89	19.32		0
	3	2	19.23	18.92	19.36		0
	3	3	19.21	18.87	19.35		0
	6	0	19.22	18.87	19.14	0-2	0
64QAM	1	0	19.21	19.53	19.45	0-2	0
	1	2	19.23	19.56	19.42		0
	1	5	19.22	19.49	19.34		0
	3	0	19.19	19.28	19.06		0
	3	2	19.20	19.31	19.09		0
	3	3	19.24	19.23	19.03		0
	6	0	19.23	19.22	19.17	0-3	0
256QAM	1	0	18.05	18.36	18.28	0-5	1
	1	2	18.15	18.41	18.34		1
	1	5	18.02	18.31	18.26		1
	3	0	17.85	17.96	18.24		1
	3	2	17.91	17.98	18.25		1
	3	3	17.84	17.96	18.24		1
	6	0	18.03	18.01	18.18		1

9.4.6 LTE Band 25 (PCS)

Table 9-32
LTE Band 25 (PCS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 20 MHz Bandwidth

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26140 (1860.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26590 (1905.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.15	23.13	23.04	0	0
	1	50	23.05	23.18	23.14		0
	1	99	23.11	**23.22**	23.07		0
	50	0	22.17	22.14	22.30	0-1	1
	50	25	22.16	22.16	22.28		1
	50	50	22.13	**22.31**	22.29		1
	100	0	22.10	22.07	22.24		1
16QAM	1	0	22.68	22.66	22.76	0-1	1
	1	50	22.62	22.74	22.80		1
	1	99	22.68	22.80	22.78		1
	50	0	21.24	21.19	21.32	0-2	2
	50	25	21.22	21.22	21.36		2
	50	50	21.21	21.29	21.39		2
	100	0	21.15	21.18	21.23		2
64QAM	1	0	21.50	21.44	21.96	0-2	2
	1	50	21.44	21.49	21.99		2
	1	99	21.51	21.59	21.93		2
	50	0	20.26	20.25	20.31	0-3	3
	50	25	20.30	20.30	20.34		3
	50	50	20.25	20.33	20.43		3
	100	0	20.16	20.13	20.22		3
256QAM	1	0	17.93	17.92	18.06	0-5	5
	1	50	18.31	18.36	18.51		5
	1	99	18.07	18.19	18.24		5
	50	0	18.09	18.06	18.23		5
	50	25	18.19	18.20	18.33		5
	50	50	18.16	18.21	18.38		5
	100	0	18.03	18.09	18.27		5

Table 9-33
LTE Band 25 (PCS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 15 MHz Bandwidth

LTE Band 25 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26115 (1857.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26615 (1907.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	22.86	23.14	23.24	0	0
	1	36	23.10	23.11	23.29		0
	1	74	22.95	23.16	23.28		0
	36	0	22.16	22.10	22.23	0-1	1
	36	18	22.28	22.22	22.33		1
	36	37	22.23	22.28	22.37		1
	75	0	22.19	22.14	22.34		1
16QAM	1	0	22.48	22.61	22.21	0-1	1
	1	36	22.78	22.59	22.27		1
	1	74	22.58	22.64	22.43		1
	36	0	21.22	21.18	21.21	0-2	2
	36	18	21.32	21.28	21.34		2
	36	37	21.28	21.38	21.39		2
	75	0	21.22	21.19	21.36		2
64QAM	1	0	20.82	21.24	21.62	0-2	2
	1	36	21.16	21.30	21.66		2
	1	74	20.92	21.45	21.61		2
	36	0	20.26	20.20	20.27	0-3	3
	36	18	20.37	20.32	20.25		3
	36	37	20.36	20.26	20.26		3
	75	0	20.18	20.24	20.27		3
256QAM	1	0	18.49	17.92	18.20	0-5	5
	1	36	18.75	18.31	18.65		5
	1	74	18.59	18.27	18.44		5
	36	0	18.22	18.11	18.35		5
	36	18	18.31	18.26	18.45		5
	36	37	18.25	18.28	18.46		5
	75	0	18.25	18.20	18.44		5

Table 9-34
LTE Band 25 (PCS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 10 MHz Bandwidth

LTE Band 25 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26090 (1855.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26640 (1910.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	22.81	22.91	23.18	0	0
	1	25	23.06	22.99	23.14		0
	1	49	22.84	22.81	23.21		0
	25	0	22.17	22.10	22.22	0-1	1
	25	12	22.24	22.20	22.30		1
	25	25	22.19	22.23	22.33		1
	50	0	22.18	22.15	22.23		1
16QAM	1	0	22.08	22.04	22.29	0-1	1
	1	25	22.21	22.18	22.35		1
	1	49	22.00	22.06	22.42		1
	25	0	21.26	21.20	21.31	0-2	2
	25	12	21.36	21.31	21.40		2
	25	25	21.23	21.34	21.41		2
	50	0	21.19	21.16	21.26		2
64QAM	1	0	20.97	20.99	21.50	0-2	2
	1	25	21.15	21.47	21.54		2
	1	49	20.91	21.20	21.49		2
	25	0	20.25	20.24	20.26	0-3	3
	25	12	20.38	20.21	20.25		3
	25	25	20.32	20.25	20.26		3
	50	0	20.27	20.26	20.27		3
256QAM	1	0	18.11	17.82	18.57	0-5	5
	1	25	18.27	17.94	18.82		5
	1	49	18.05	17.83	18.58		5
	25	0	18.22	18.27	18.30		5
	25	12	18.35	18.36	18.36		5
	25	25	18.24	18.32	18.40		5
	50	0	18.23	18.22	18.29		5

Table 9-35
LTE Band 25 (PCS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 5 MHz Bandwidth

LTE Band 25 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26065 (1852.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26665 (1912.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.01	22.78	22.89	0	0
	1	12	23.00	22.92	22.96		0
	1	24	23.04	22.98	22.97		0
	12	0	22.23	21.85	22.00	0-1	1
	12	6	22.29	21.92	22.07		1
	12	13	22.27	22.00	22.10		1
	25	0	22.27	21.89	22.06		1
16QAM	1	0	22.50	22.42	22.18	0-1	1
	1	12	22.39	22.49	22.25		1
	1	24	22.42	22.50	22.27		1
	12	0	21.23	20.98	21.11	0-2	2
	12	6	21.28	21.04	21.18		2
	12	13	21.27	21.11	21.18		2
	25	0	21.32	20.94	21.11		2
64QAM	1	0	21.31	21.20	20.98	0-2	2
	1	12	21.31	21.25	21.01		2
	1	24	21.35	21.29	21.00		2
	12	0	20.30	19.81	20.05	0-3	3
	12	6	20.35	19.88	20.15		3
	12	13	20.32	19.92	20.17		3
	25	0	20.28	19.89	20.09		3
256QAM	1	0	18.27	18.31	18.37	0-5	5
	1	12	18.38	18.47	18.47		5
	1	24	18.32	18.45	18.51		5
	12	0	18.27	18.25	18.42		5
	12	6	18.32	18.32	18.52		5
	12	13	18.31	18.37	18.53		5
	25	0	18.34	18.24	18.45		5

Table 9-36
LTE Band 25 (PCS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 3 MHz Bandwidth

LTE Band 25 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26055 (1851.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26675 (1913.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.08	23.07	23.13	0	0
	1	7	23.07	23.13	23.30		0
	1	14	23.13	23.24	23.26		0
	8	0	22.19	22.17	22.26	0-1	1
	8	4	22.28	22.21	22.34		1
	8	7	22.25	22.22	22.36		1
	15	0	22.24	22.21	22.31		1
16QAM	1	0	22.74	22.55	22.34	0-1	1
	1	7	22.74	22.61	22.36		1
	1	14	22.75	22.66	22.41		1
	8	0	21.31	21.24	21.34	0-2	2
	8	4	21.41	21.28	21.40		2
	8	7	21.35	21.38	21.42		2
	15	0	21.31	21.22	21.30		2
64QAM	1	0	21.12	21.26	21.51	0-2	2
	1	7	21.09	21.35	21.49		2
	1	14	21.15	21.42	21.66		2
	8	0	20.30	20.25	20.28	0-3	3
	8	4	20.31	20.29	20.35		3
	8	7	20.31	20.34	20.37		3
	15	0	20.23	20.27	20.35		3
256QAM	1	0	18.78	18.26	18.08	0-5	5
	1	7	18.75	18.41	18.16		5
	1	14	18.76	18.40	18.18		5
	8	0	18.34	18.08	18.35		5
	8	4	18.40	18.14	18.42		5
	8	7	18.37	18.19	18.45		5
	15	0	18.25	18.23	18.36		5

Table 9-37
LTE Band 25 (PCS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 1.4 MHz Bandwidth

LTE Band 25 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26047 (1850.7 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26683 (1914.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.16	23.13	23.18	0	0
	1	2	23.25	23.25	23.22		0
	1	5	23.20	23.21	23.19		0
	3	0	23.08	23.06	23.20		0
	3	2	23.15	23.15	23.26		0
	3	3	23.06	23.11	23.24		0
	6	0	22.17	22.06	22.30	0-1	1
16QAM	1	0	22.31	22.18	22.66	0-1	1
	1	2	22.39	22.37	22.73		1
	1	5	22.38	22.27	22.69		1
	3	0	22.35	22.12	22.45		1
	3	2	22.42	22.29	22.54		1
	3	3	22.39	22.22	22.47		1
	6	0	21.27	21.23	21.22	0-2	2
64QAM	1	0	21.45	21.51	21.50	0-2	2
	1	2	21.55	21.66	21.51		2
	1	5	21.43	21.58	21.51		2
	3	0	21.42	21.44	21.50		2
	3	2	21.50	21.54	21.50		2
	3	3	21.44	21.48	21.49		2
	6	0	20.06	20.09	20.62	0-3	3
256QAM	1	0	18.18	18.10	17.94	0-5	5
	1	2	18.30	18.23	18.12		5
	1	5	18.16	18.23	18.03		5
	3	0	18.27	18.18	18.27		5
	3	2	18.28	18.32	18.36		5
	3	3	18.23	18.23	18.29		5
	6	0	18.25	18.04	18.37		5

Table 9-38
LTE Band 25 (PCS) Measured P_{limit} for DSI = 3 (Hotspot mode), DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 20 MHz Bandwidth

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26140 (1860.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26590 (1905.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	18.63	18.42	**18.77**	0	0
	1	50	18.58	18.45	18.75		0
	1	99	18.62	18.50	18.76		0
	50	0	18.67	18.66	18.79	0-1	0
	50	25	18.64	18.68	18.82		0
	50	50	18.62	18.74	**18.89**		0
	100	0	18.59	18.54	18.73		0
16QAM	1	0	18.86	18.86	18.98	0-1	0
	1	50	18.82	18.97	19.00		0
	1	99	18.88	19.00	18.99		0
	50	0	18.71	18.73	18.84	0-2	0
	50	25	18.66	18.71	18.86		0
	50	50	18.64	18.74	18.93		0
	100	0	18.61	18.61	18.76		0
64QAM	1	0	18.90	18.96	18.90	0-2	0
	1	50	18.82	18.99	18.91		0
	1	99	18.91	19.00	18.87		0
	50	0	18.75	18.66	18.89	0-3	0
	50	25	18.72	18.71	18.91		0
	50	50	18.70	18.75	18.94		0
	100	0	18.61	18.59	18.77		0
256QAM	1	0	18.08	18.16	18.19	0-5	0
	1	50	18.15	18.25	18.56		0
	1	99	18.17	18.12	18.23		0
	50	0	18.10	18.03	18.20		0
	50	25	18.17	18.21	18.36		0
	50	50	18.18	18.25	18.33		0
	100	0	18.13	18.12	18.19		0

Table 9-39
LTE Band 25 (PCS) Measured P_{limit} for DSI = 3 (Hotspot mode), DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 15 MHz Bandwidth

LTE Band 25 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26115 (1857.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26615 (1907.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	18.08	18.34	18.41	0	0
	1	36	18.18	18.35	18.50		0
	1	74	18.16	18.32	18.47		0
	36	0	18.36	18.34	18.47	0-1	0
	36	18	18.48	18.46	18.61		0
	36	37	18.41	18.52	18.67		0
	75	0	18.36	18.38	18.59		0
16QAM	1	0	18.57	18.57	19.00	0-1	0
	1	36	18.90	18.81	18.83		0
	1	74	18.72	18.99	18.82		0
	36	0	18.40	18.38	18.49	0-2	0
	36	18	18.52	18.50	18.55		0
	36	37	18.44	18.56	18.62		0
	75	0	18.41	18.42	18.66		0
64QAM	1	0	18.55	18.75	18.90	0-2	0
	1	36	18.85	18.96	18.87		0
	1	74	18.68	18.95	18.87		0
	36	0	18.40	18.45	18.53	0-3	0
	36	18	18.48	18.58	18.65		0
	36	37	18.44	18.61	18.68		0
	75	0	18.39	18.47	18.61		0
256QAM	1	0	18.23	18.00	18.60	0-5	0
	1	36	18.51	18.33	18.97		0
	1	74	18.32	18.39	18.80		0
	36	0	18.00	18.10	18.11		0
	36	18	18.13	18.23	18.25		0
	36	37	18.06	18.01	18.24		0
	75	0	18.10	18.17	18.21		0

Table 9-40
LTE Band 25 (PCS) Measured P_{limit} for DSI = 3 (Hotspot mode), DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 10 MHz Bandwidth

LTE Band 25 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26090 (1855.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26640 (1910.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	18.09	18.14	18.47	0	0
	1	25	18.29	18.30	18.44		0
	1	49	18.02	18.17	18.46		0
	25	0	18.40	18.35	18.43	0-1	0
	25	12	18.47	18.45	18.50		0
	25	25	18.40	18.48	18.57		0
	50	0	18.37	18.37	18.45		0
16QAM	1	0	18.73	18.47	18.51	0-1	0
	1	25	18.92	18.85	18.64		0
	1	49	18.73	18.64	18.69		0
	25	0	18.40	18.41	18.47	0-2	0
	25	12	18.47	18.46	18.56		0
	25	25	18.39	18.48	18.54		0
	50	0	18.42	18.40	18.46		0
64QAM	1	0	18.66	18.54	18.78	0-2	0
	1	25	18.74	18.62	18.65		0
	1	49	18.58	18.85	18.85		0
	25	0	18.56	18.51	18.57	0-3	0
	25	12	18.63	18.59	18.62		0
	25	25	18.55	18.67	18.62		0
	50	0	18.40	18.42	18.59		0
256QAM	1	0	18.17	18.10	18.64	0-5	0
	1	25	18.10	18.36	18.92		0
	1	49	18.19	18.14	18.75		0
	25	0	18.03	18.10	17.98		0
	25	12	18.10	18.01	18.10		0
	25	25	18.01	18.05	18.09		0
	50	0	17.99	17.85	18.01		0

Table 9-41
LTE Band 25 (PCS) Measured P_{limit} for DSI = 3 (Hotspot mode), DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 5 MHz Bandwidth

LTE Band 25 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26065 (1852.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26665 (1912.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	18.24	18.25	18.34	0	0
	1	12	18.21	18.30	18.30		0
	1	24	18.25	18.36	18.43		0
	12	0	18.44	18.36	18.50	0-1	0
	12	6	18.47	18.42	18.59		0
	12	13	18.48	18.50	18.66		0
	25	0	18.44	18.38	18.59		0
16QAM	1	0	18.76	18.69	19.00	0-1	0
	1	12	18.78	18.77	18.97		0
	1	24	18.80	18.86	18.87		0
	12	0	18.42	18.48	18.50	0-2	0
	12	6	18.47	18.51	18.63		0
	12	13	18.44	18.60	18.61		0
	25	0	18.43	18.43	18.55		0
64QAM	1	0	18.90	18.80	18.89	0-2	0
	1	12	18.88	18.81	18.82		0
	1	24	18.98	18.86	18.85		0
	12	0	18.47	18.49	18.48	0-3	0
	12	6	18.53	18.52	18.59		0
	12	13	18.48	18.57	18.59		0
	25	0	18.53	18.47	18.61		0
256QAM	1	0	18.37	18.52	18.12	0-5	0
	1	12	18.34	18.59	18.14		0
	1	24	18.44	18.63	18.23		0
	12	0	17.98	18.04	18.05		0
	12	6	18.04	18.10	18.09		0
	12	13	17.99	18.15	18.12		0
	25	0	18.00	17.93	18.08		0

Table 9-42
LTE Band 25 (PCS) Measured P_{limit} for DSI = 3 (Hotspot mode), DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 3 MHz Bandwidth

LTE Band 25 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26055 (1851.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26675 (1913.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	18.33	18.26	18.45	0	0
	1	7	18.26	18.30	18.45		0
	1	14	18.37	18.43	18.51		0
	8	0	18.48	18.37	18.48	0-1	0
	8	4	18.48	18.43	18.50		0
	8	7	18.47	18.36	18.59		0
	15	0	18.51	18.43	18.56		0
16QAM	1	0	18.87	18.79	18.87	0-1	0
	1	7	18.84	18.77	18.89		0
	1	14	18.91	18.86	18.77		0
	8	0	18.57	18.48	18.56	0-2	0
	8	4	18.61	18.50	18.61		0
	8	7	18.57	18.58	18.62		0
	15	0	18.57	18.36	18.61		0
64QAM	1	0	18.80	18.93	18.89	0-2	0
	1	7	18.78	18.94	18.90		0
	1	14	18.82	18.84	18.84		0
	8	0	18.56	18.41	18.75	0-3	0
	8	4	18.58	18.46	18.80		0
	8	7	18.60	18.51	18.86		0
	15	0	18.59	18.59	18.57		0
256QAM	1	0	18.20	18.27	18.75	0-5	0
	1	7	18.18	18.27	18.81		0
	1	14	18.17	18.37	18.88		0
	8	0	18.05	17.96	18.18		0
	8	4	18.08	17.97	18.25		0
	8	7	18.11	18.02	18.32		0
	15	0	18.01	18.04	18.18		0

Table 9-43
LTE Band 25 (PCS) Measured P_{limit} for DSI = 3 (Hotspot mode), DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) – 1.4 MHz Bandwidth

LTE Band 25 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26047 (1850.7 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26683 (1914.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	18.51	18.20	18.48	0	0
	1	2	18.54	18.32	18.53		0
	1	5	18.53	18.27	18.46		0
	3	0	18.53	18.28	18.44		0
	3	2	18.52	18.39	18.45		0
	3	3	18.55	18.39	18.40		0
	6	0	18.53	18.34	18.51	0-1	0
16QAM	1	0	18.56	18.74	18.90	0-1	0
	1	2	18.51	18.82	18.97		0
	1	5	18.52	18.76	18.94		0
	3	0	18.53	18.27	18.81		0
	3	2	18.52	18.39	18.83		0
	3	3	18.53	18.31	18.79		0
	6	0	18.53	18.25	18.61	0-2	0
64QAM	1	0	18.51	18.90	18.85	0-2	0
	1	2	18.54	18.79	18.89		0
	1	5	18.56	18.97	18.86		0
	3	0	18.53	18.64	18.49		0
	3	2	18.55	18.77	18.58		0
	3	3	18.54	18.75	18.54		0
	6	0	18.55	18.65	18.62	0-3	0
256QAM	1	0	18.16	18.24	18.46	0-5	0
	1	2	18.04	18.32	18.53		0
	1	5	17.97	18.29	18.51		0
	3	0	17.77	18.06	18.15		0
	3	2	17.81	18.08	18.21		0
	3	3	17.80	18.04	18.20		0
	6	0	17.96	18.05	18.12		0

9.4.7 LTE Band 30

Table 9-44
LTE Band 30 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 10 MHz Bandwidth

LTE Band 30 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	23.71	0	0
	1	25	23.69		0
	1	49	**23.72**		0
	25	0	22.72	0-1	1
	25	12	**22.77**		1
	25	25	22.74		1
	50	0	22.69		1
16QAM	1	0	23.18	0-1	1
	1	25	23.20		1
	1	49	23.13		1
	25	0	21.78	0-2	2
	25	12	21.83		2
	25	25	21.81		2
	50	0	21.76		2
64QAM	1	0	21.89	0-2	2
	1	25	21.94		2
	1	49	21.91		2
	25	0	20.84	0-3	3
	25	12	20.91		3
	25	25	20.84		3
	50	0	20.76		3
256QAM	1	0	18.45	0-5	5
	1	25	18.67		5
	1	49	18.37		5
	25	0	18.81		5
	25	12	18.88		5
	25	25	18.83		5
	50	0	18.73		5

Table 9-45
LTE Band 30 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) – 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	23.66	0	0
	1	12	23.78		0
	1	24	23.73		0
	12	0	22.75	0-1	1
	12	6	22.81		1
	12	13	22.82		1
	25	0	22.76		1
16QAM	1	0	23.20	0-1	1
	1	12	23.19		1
	1	24	23.17		1
	12	0	21.87	0-2	2
	12	6	21.93		2
	12	13	21.94		2
	25	0	21.85		2
64QAM	1	0	22.05	0-2	2
	1	12	22.13		2
	1	24	22.07		2
	12	0	20.74	0-3	3
	12	6	20.79		3
	12	13	20.83		3
	25	0	20.77		3
256QAM	1	0	18.66	0-5	5
	1	12	18.76		5
	1	24	18.75		5
	12	0	18.93		5
	12	6	18.97		5
	12	13	18.96		5
	25	0	18.84		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.

Table 9-46
LTE Band 30 Measured P_{limit} for DSI = 3 (Hotspot mode) - 10 MHz Bandwidth

LTE Band 30 10 MHz Bandwidth					
Modulation	**RB Size**	**RB Offset**	**Mid Channel** **27710** **(2310.0 MHz)** **Conducted Power [dBm]**	**MPR Allowed per 3GPP [dB]**	**MPR [dB]**
QPSK	1	0	18.26	0	0
	1	25	18.18		0
	1	49	**18.27**		0
	25	0	18.26	0-1	0
	25	12	**18.33**		0
	25	25	18.27		0
	50	0	18.23		0
16QAM	1	0	18.37	0-1	0
	1	25	18.35		0
	1	49	18.26		0
	25	0	18.28	0-2	0
	25	12	18.34		0
	25	25	18.32		0
	50	0	18.23		0
64QAM	1	0	18.41	0-2	0
	1	25	18.47		0
	1	49	18.49		0
	25	0	18.30	0-3	0
	25	12	18.41		0
	25	25	18.34		0
	50	0	18.27		0
256QAM	1	0	18.26	0-5	0
	1	25	18.23		0
	1	49	18.09		0
	25	0	18.34		0
	25	12	18.37		0
	25	25	18.37		0
	50	0	18.26		0

Table 9-47
LTE Band 30 Measured P_{limit} for DSI = 3 (Hotspot mode) - 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	18.38	0	0
	1	12	18.37		0
	1	24	18.37		0
	12	0	18.29	0-1	0
	12	6	18.39		0
	12	13	18.36		0
	25	0	18.34		0
16QAM	1	0	18.37	0-1	0
	1	12	18.38		0
	1	24	18.41		0
	12	0	18.41	0-2	0
	12	6	18.40		0
	12	13	18.38		0
	25	0	18.41		0
64QAM	1	0	18.39	0-2	0
	1	12	18.40		0
	1	24	18.38		0
	12	0	18.40	0-3	0
	12	6	18.39		0
	12	13	18.37		0
	25	0	18.38		0
256QAM	1	0	18.01	0-5	0
	1	12	18.06		0
	1	24	18.00		0
	12	0	18.33		0
	12	6	18.36		0
	12	13	18.37		0
	25	0	18.34		0

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.

Table 9-48
LTE Band 30 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 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	**20.85**	0	0
	1	25	20.62		0
	1	49	20.67		0
	25	0	20.72	0-1	0
	25	12	**20.79**		0
	25	25	20.75		0
	50	0	20.69		0
16QAM	1	0	21.27	0-1	0
	1	25	21.20		0
	1	49	21.16		0
	25	0	20.82	0-2	0
	25	12	20.85		0
	25	25	20.80		0
	50	0	20.77		0
64QAM	1	0	20.84	0-2	0
	1	25	20.91		0
	1	49	20.94		0
	25	0	20.82	0-3	0.3
	25	12	20.86		0.3
	25	25	20.84		0.3
	50	0	20.76		0.3
256QAM	1	0	18.43	0-5	2.3
	1	25	18.68		2.3
	1	49	18.32		2.3
	25	0	18.81		2.3
	25	12	18.88		2.3
	25	25	18.83		2.3
	50	0	18.74		2.3

Table 9-49
LTE Band 30 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 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	20.71	0	0
	1	12	20.79		0
	1	24	20.78		0
	12	0	20.77	0-1	0
	12	6	20.80		0
	12	13	20.82		0
	25	0	20.79		0
16QAM	1	0	21.01	0-1	0
	1	12	21.33		0
	1	24	20.95		0
	12	0	20.87	0-2	0
	12	6	20.92		0
	12	13	20.93		0
	25	0	20.82		0
64QAM	1	0	21.11	0-2	0
	1	12	21.25		0
	1	24	21.13		0
	12	0	20.87	0-3	0.3
	12	6	20.91		0.3
	12	13	20.93		0.3
	25	0	20.85		0.3
256QAM	1	0	18.66	0-5	2.3
	1	12	18.77		2.3
	1	24	18.81		2.3
	12	0	18.90		2.3
	12	6	18.98		2.3
	12	13	18.99		2.3
	25	0	18.85		2.3

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 7

Table 9-50
LTE Band 7 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 20 MHz Bandwidth

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20850 (2510.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21350 (2560.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	22.76	**23.26**	22.80	0	0
	1	50	23.20	23.08	23.17		0
	1	99	22.91	22.72	22.76		0
	50	0	22.13	22.27	22.31	0-1	1
	50	25	22.37	**22.38**	22.34		1
	50	50	22.35	22.33	22.32		1
	100	0	22.02	22.32	22.24		1
16QAM	1	0	22.41	22.46	22.34	0-1	1
	1	50	22.37	22.51	22.56		1
	1	99	22.35	22.46	22.39		1
	50	0	21.20	21.25	21.38	0-2	2
	50	25	21.49	21.32	21.37		2
	50	50	21.41	21.26	21.41		2
	100	0	21.28	21.35	21.22		2
64QAM	1	0	21.36	21.44	21.42	0-2	2
	1	50	21.14	21.19	21.26		2
	1	99	21.58	21.37	21.61		2
	50	0	20.25	20.28	20.30	0-3	3
	50	25	20.48	20.41	20.47		3
	50	50	20.34	20.35	20.33		3
	100	0	20.20	20.34	20.33		3
256QAM	1	0	18.13	18.37	18.22	0-5	5
	1	50	18.31	18.49	18.31		5
	1	99	17.87	17.80	18.18		5
	50	0	18.15	18.30	18.33		5
	50	25	18.44	18.38	18.40		5
	50	50	18.29	18.28	18.43		5
	100	0	18.31	18.35	18.26		5

Table 9-51
LTE Band 7 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 15 MHz Bandwidth

LTE Band 7 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20825 (2507.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21375 (2562.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.21	23.29	23.14	0	0
	1	36	23.53	23.34	23.17		0
	1	74	23.21	23.07	23.09		0
	36	0	22.51	22.48	22.43	0-1	1
	36	18	22.59	22.56	22.48		1
	36	37	22.59	22.54	22.53		1
	75	0	22.51	22.48	22.40		1
16QAM	1	0	22.38	22.49	22.62	0-1	1
	1	36	22.44	22.56	22.94		1
	1	74	22.40	22.48	22.71		1
	36	0	21.50	21.53	21.51	0-2	2
	36	18	21.64	21.63	21.53		2
	36	37	21.60	21.57	21.55		2
	75	0	21.52	21.50	21.42		2
64QAM	1	0	21.30	21.44	21.68	0-2	2
	1	36	21.44	21.56	21.41		2
	1	74	21.32	21.51	21.75		2
	36	0	20.57	20.46	20.51	0-3	3
	36	18	20.67	20.56	20.53		3
	36	37	20.63	20.52	20.47		3
	75	0	20.59	20.56	20.45		3
256QAM	1	0	18.63	18.27	18.70	0-5	5
	1	36	18.61	18.55	18.65		5
	1	74	18.24	18.11	18.48		5
	36	0	18.51	18.50	18.50		5
	36	18	18.68	18.62	18.61		5
	36	37	18.62	18.53	18.59		5
	75	0	18.58	18.56	18.54		5

Table 9-52
LTE Band 7 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 10 MHz Bandwidth

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20800 (2505.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21400 (2565.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.17	23.13	23.16	0	0
	1	25	23.15	23.09	23.11		0
	1	49	23.25	23.10	23.14		0
	25	0	22.24	22.21	22.18	0-1	1
	25	12	22.25	22.26	22.28		1
	25	25	22.24	22.23	22.27		1
	50	0	22.16	22.19	22.10		1
16QAM	1	0	22.88	22.89	22.72	0-1	1
	1	25	22.84	22.81	22.78		1
	1	49	22.83	22.83	22.73		1
	25	0	21.28	21.24	21.25	0-2	2
	25	12	21.31	21.41	21.36		2
	25	25	21.31	21.38	21.35		2
	50	0	21.22	21.28	21.17		2
64QAM	1	0	21.59	21.68	21.56	0-2	2
	1	25	21.50	21.72	21.38		2
	1	49	21.53	21.74	21.43		2
	25	0	20.26	20.21	20.22	0-3	3
	25	12	20.35	20.28	20.31		3
	25	25	20.29	20.26	20.16		3
	50	0	20.22	20.28	20.18		3
256QAM	1	0	18.36	18.36	18.54	0-5	5
	1	25	18.52	18.72	18.60		5
	1	49	18.35	18.21	18.31		5
	25	0	18.22	18.18	18.21		5
	25	12	18.31	18.34	18.33		5
	25	25	18.20	18.26	18.21		5
	50	0	18.22	18.26	18.23		5

Table 9-53
LTE Band 7 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 5 MHz Bandwidth

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20775 (2502.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21425 (2567.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.16	23.03	23.15	0	0
	1	12	23.09	23.12	23.14		0
	1	24	23.13	23.12	23.15		0
	12	0	22.22	22.33	22.30	0-1	1
	12	6	22.26	22.37	22.30		1
	12	13	22.28	22.32	22.27		1
	25	0	22.23	22.32	22.28		1
16QAM	1	0	22.73	22.65	22.56	0-1	1
	1	12	22.74	22.64	22.52		1
	1	24	22.68	22.67	22.54		1
	12	0	21.31	21.37	21.40	0-2	2
	12	6	21.40	21.41	21.40		2
	12	13	21.36	21.35	21.36		2
	25	0	21.22	21.31	21.31		2
64QAM	1	0	21.42	21.68	21.57	0-2	2
	1	12	21.46	21.67	21.46		2
	1	24	21.41	21.73	21.59		2
	12	0	20.39	20.39	20.10	0-3	3
	12	6	20.45	20.40	20.12		3
	12	13	20.38	20.35	20.15		3
	25	0	20.31	20.32	20.04		3
256QAM	1	0	18.53	18.31	18.56	0-5	5
	1	12	18.52	18.33	18.49		5
	1	24	18.29	18.22	18.45		5
	12	0	18.22	18.38	18.22		5
	12	6	18.27	18.42	18.29		5
	12	13	18.20	18.33	18.22		5
	25	0	18.26	18.36	18.30		5

Table 9-54
LTE Band 7 Measured P_{limit} for DSI = 3 (Hotspot mode) - 20 MHz Bandwidth

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20850 (2510.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21350 (2560.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.71	**19.77**	19.68	0	0
	1	50	19.68	19.65	19.46		0
	1	99	19.64	19.56	19.55		0
	50	0	19.83	19.77	19.82	0-1	0
	50	25	19.84	**19.86**	19.84		0
	50	50	19.79	19.85	19.83		0
	100	0	19.73	19.71	19.75		0
16QAM	1	0	20.05	20.08	20.14	0-1	0
	1	50	20.11	19.97	20.09		0
	1	99	20.07	19.99	20.02		0
	50	0	19.78	19.80	19.90	0-2	0
	50	25	19.83	19.91	19.89		0
	50	50	19.86	19.89	19.87		0
	100	0	19.81	19.82	19.83		0
64QAM	1	0	20.06	19.92	19.95	0-2	0
	1	50	19.84	19.87	19.88		0
	1	99	20.09	19.88	19.89		0
	50	0	19.85	19.76	19.85	0-3	0
	50	25	19.92	19.91	19.84		0
	50	50	19.88	19.82	19.82		0
	100	0	19.86	19.80	19.78		0
256QAM	1	0	18.02	18.10	18.28	0-5	1.5
	1	50	18.48	18.46	18.51		1.5
	1	99	18.13	17.99	17.96		1.5
	50	0	18.18	18.24	18.33		1.5
	50	25	18.38	18.35	18.47		1.5
	50	50	18.24	18.32	18.31		1.5
	100	0	18.32	18.34	18.30		1.5

Table 9-55
LTE Band 7 Measured P_{limit} for DSI = 3 (Hotspot mode) - 15 MHz Bandwidth

LTE Band 7 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20825 (2507.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21375 (2562.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.96	19.82	19.98	0	0
	1	36	20.02	19.84	19.99		0
	1	74	19.98	19.74	19.89		0
	36	0	20.00	20.00	20.00	0-1	0
	36	18	20.12	20.10	20.01		0
	36	37	20.08	20.06	20.05		0
	75	0	20.03	20.02	19.94		0
16QAM	1	0	20.02	20.00	19.98	0-1	0
	1	36	20.09	20.15	19.96		0
	1	74	19.93	20.02	19.91		0
	36	0	20.05	20.11	20.01	0-2	0
	36	18	20.15	20.18	20.06		0
	36	37	20.14	20.12	20.08		0
	75	0	20.04	20.07	19.95		0
64QAM	1	0	20.09	19.97	19.75	0-2	0
	1	36	19.92	20.10	19.90		0
	1	74	20.04	19.99	19.84		0
	36	0	20.11	19.99	20.08	0-3	0
	36	18	20.23	20.10	20.09		0
	36	37	20.16	20.06	20.13		0
	75	0	20.14	20.09	20.02		0
256QAM	1	0	18.45	18.68	18.22	0-5	1.5
	1	36	18.44	18.55	18.43		1.5
	1	74	18.44	18.35	18.23		1.5
	36	0	18.28	18.25	18.06		1.5
	36	18	18.16	18.02	18.13		1.5
	36	37	18.17	18.00	18.07		1.5
	75	0	18.11	18.13	18.07		1.5

Table 9-56
LTE Band 7 Measured P_{limit} for DSI = 3 (Hotspot mode) - 10 MHz Bandwidth

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20800 (2505.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21400 (2565.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.04	19.96	19.95	0	0
	1	25	19.99	19.90	19.95		0
	1	49	20.06	19.95	19.99		0
	25	0	20.04	20.05	19.98	0-1	0
	25	12	20.06	20.09	20.06		0
	25	25	20.02	20.05	20.01		0
	50	0	19.96	20.08	19.90		0
16QAM	1	0	20.14	20.19	20.13	0-1	0
	1	25	20.13	20.15	20.02		0
	1	49	20.16	20.15	20.09		0
	25	0	20.11	20.08	20.04	0-2	0
	25	12	20.16	20.19	20.13		0
	25	25	20.14	20.16	20.12		0
	50	0	20.05	20.10	19.95		0
64QAM	1	0	19.78	19.99	19.84	0-2	0
	1	25	19.76	20.06	19.95		0
	1	49	19.80	20.07	19.94		0
	25	0	20.09	19.99	20.02	0-3	0
	25	12	20.10	20.07	20.13		0
	25	25	20.11	20.04	20.07		0
	50	0	20.03	20.03	19.97		0
256QAM	1	0	18.05	18.08	18.20	0-5	1.5
	1	25	18.25	18.40	18.31		1.5
	1	49	18.06	18.16	18.05		1.5
	25	0	17.97	17.91	17.91		1.5
	25	12	18.03	18.00	18.09		1.5
	25	25	17.95	17.92	17.95		1.5
	50	0	17.94	17.98	17.93		1.5

Table 9-57
LTE Band 7 Measured P_{limit} for DSI = 3 (Hotspot mode) - 5 MHz Bandwidth

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20775 (2502.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21425 (2567.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.97	19.93	19.88	0	0
	1	12	19.90	19.96	19.88		0
	1	24	19.90	20.03	19.89		0
	12	0	20.04	20.08	20.10	0-1	0
	12	6	20.10	20.11	20.13		0
	12	13	20.02	20.08	20.09		0
	25	0	20.07	20.09	20.08		0
16QAM	1	0	19.94	19.98	19.83	0-1	0
	1	12	19.84	20.10	19.78		0
	1	24	19.90	20.08	19.80		0
	12	0	19.94	19.94	19.88	0-2	0
	12	6	19.94	19.98	19.91		0
	12	13	19.88	19.90	19.90		0
	25	0	19.84	19.84	19.86		0
64QAM	1	0	20.21	19.81	20.14	0-2	0
	1	12	20.15	19.86	20.07		0
	1	24	20.20	19.89	20.08		0
	12	0	20.11	20.22	20.11	0-3	0
	12	6	20.14	20.26	20.16		0
	12	13	20.14	20.22	20.12		0
	25	0	20.08	20.12	20.09		0
256QAM	1	0	18.67	18.56	18.65	0-5	1.5
	1	12	18.68	18.52	18.61		1.5
	1	24	18.59	18.54	18.35		1.5
	12	0	18.52	18.59	18.34		1.5
	12	6	18.57	18.63	18.38		1.5
	12	13	18.51	18.59	18.32		1.5
	25	0	18.53	18.65	18.31		1.5

Table 9-58
LTE Band 7 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 20 MHz Bandwidth

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20850 (2510.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21350 (2560.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.67	20.71	**20.83**	0	0
	1	50	20.62	20.59	20.68		0
	1	99	20.68	20.45	20.71		0
	50	0	20.77	20.90	20.87	0-1	0
	50	25	20.87	20.91	**20.94**		0
	50	50	20.78	20.88	20.83		0
	100	0	20.77	20.79	20.80		0
16QAM	1	0	20.99	20.95	21.05	0-1	0
	1	50	20.96	21.14	21.04		0
	1	99	21.06	21.10	21.10		0
	50	0	20.83	20.85	20.88	0-2	0
	50	25	21.04	20.91	20.94		0
	50	50	20.75	20.86	20.85		0
	100	0	20.80	20.81	20.71		0
64QAM	1	0	20.90	20.79	20.93	0-2	0
	1	50	20.97	20.97	20.61		0
	1	99	20.80	20.90	20.83		0
	50	0	20.35	20.34	20.30	0-3	0.5
	50	25	20.41	20.47	20.51		0.5
	50	50	20.47	20.37	20.46		0.5
	100	0	20.22	20.40	20.20		0.5
256QAM	1	0	18.12	18.10	18.21	0-5	2.5
	1	50	18.38	18.36	18.43		2.5
	1	99	18.09	18.16	17.95		2.5
	50	0	18.31	18.32	18.37		2.5
	50	25	18.37	18.43	18.53		2.5
	50	50	18.27	18.29	18.10		2.5
	100	0	18.29	18.46	18.33		2.5

Table 9-59
LTE Band 7 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 15 MHz Bandwidth

LTE Band 7 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20825 (2507.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21375 (2562.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.97	20.84	20.90	0	0
	1	36	21.01	20.86	20.93		0
	1	74	20.98	20.73	20.86		0
	36	0	21.02	21.04	21.01	0-1	0
	36	18	21.09	21.13	21.05		0
	36	37	21.09	21.07	21.06		0
	75	0	21.05	21.04	20.94		0
16QAM	1	0	21.00	21.29	20.92	0-1	0
	1	36	21.10	21.31	20.99		0
	1	74	21.14	21.16	20.96		0
	36	0	21.02	21.07	21.03	0-2	0
	36	18	21.15	21.18	21.07		0
	36	37	21.14	21.11	21.08		0
	75	0	21.07	21.10	20.93		0
64QAM	1	0	21.29	21.18	21.22	0-2	0
	1	36	21.19	21.20	21.13		0
	1	74	21.32	21.15	21.18		0
	36	0	20.61	20.49	20.53	0-3	0.5
	36	18	20.72	20.60	20.56		0.5
	36	37	20.69	20.54	20.55		0.5
	75	0	20.65	20.58	20.44		0.5
256QAM	1	0	18.69	18.69	18.74	0-5	2.5
	1	36	18.55	18.86	18.95		2.5
	1	74	18.46	18.85	18.80		2.5
	36	0	18.54	18.54	18.58		2.5
	36	18	18.71	18.66	18.61		2.5
	36	37	18.66	18.54	18.62		2.5
	75	0	18.62	18.54	18.56		2.5

Table 9-60
LTE Band 7 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 10 MHz Bandwidth

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20800 (2505.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21400 (2565.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	21.07	20.91	20.97	0	0
	1	25	20.99	20.87	20.93		0
	1	49	21.09	20.92	20.97		0
	25	0	21.06	21.02	20.97	0-1	0
	25	12	21.08	21.10	21.08		0
	25	25	21.05	21.07	21.06		0
	50	0	21.02	21.04	20.93		0
16QAM	1	0	21.16	21.17	21.06	0-1	0
	1	25	21.11	21.07	21.08		0
	1	49	21.15	21.08	21.09		0
	25	0	21.12	21.08	21.03	0-2	0
	25	12	21.17	21.18	21.11		0
	25	25	21.12	21.13	21.10		0
	50	0	21.05	21.05	20.95		0
64QAM	1	0	21.09	21.02	20.97	0-2	0
	1	25	20.98	21.09	20.81		0
	1	49	21.03	21.11	20.84		0
	25	0	20.61	20.52	20.52	0-3	0.5
	25	12	20.63	20.61	20.66		0.5
	25	25	20.62	20.58	20.51		0.5
	50	0	20.51	20.56	20.48		0.5
256QAM	1	0	18.62	18.67	18.68	0-5	2.5
	1	25	18.82	18.99	18.88		2.5
	1	49	18.64	18.74	18.66		2.5
	25	0	18.58	18.48	18.52		2.5
	25	12	18.61	18.63	18.70		2.5
	25	25	18.52	18.54	18.55		2.5
	50	0	18.54	18.55	18.52		2.5

Table 9-61
LTE Band 7 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 5 MHz Bandwidth

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20775 (2502.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21425 (2567.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.90	20.95	20.96	0	0
	1	12	20.90	20.96	20.89		0
	1	24	20.91	20.94	21.00		0
	12	0	21.08	21.11	21.10	0-1	0
	12	6	21.12	21.10	21.13		0
	12	13	21.09	21.12	21.04		0
	25	0	21.10	21.07	21.11		0
16QAM	1	0	21.14	21.08	21.25	0-1	0
	1	12	21.07	21.06	21.20		0
	1	24	21.07	21.11	21.26		0
	12	0	21.08	21.27	21.13	0-2	0
	12	6	21.16	21.27	21.18		0
	12	13	21.10	21.27	21.12		0
	25	0	21.06	21.17	21.06		0
64QAM	1	0	21.00	21.04	21.03	0-2	0
	1	12	20.92	21.04	21.10		0
	1	24	20.98	21.10	21.07		0
	12	0	20.66	20.72	20.46	0-3	0.5
	12	6	20.67	20.74	20.45		0.5
	12	13	20.67	20.69	20.50		0.5
	25	0	20.57	20.64	20.42		0.5
256QAM	1	0	18.91	18.64	18.68	0-5	2.5
	1	12	18.95	18.69	18.63		2.5
	1	24	18.90	18.65	18.64		2.5
	12	0	18.56	18.68	18.55		2.5
	12	6	18.57	18.71	18.59		2.5
	12	13	18.55	18.63	18.56		2.5
	25	0	18.60	18.64	18.64		2.5

9.4.9 LTE Band 41

Table 9-62
LTE Band 41 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 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	24.13	24.17	23.81	23.86	23.51	0	0
	1	50	24.13	24.06	24.04	24.06	23.85		0
	1	99	**24.27**	24.06	23.74	23.60	23.78		0
	50	0	**23.24**	23.11	23.03	23.04	22.78	0-1	1
	50	25	23.16	23.22	23.09	23.16	22.96		1
	50	50	23.19	23.15	23.08	22.97	22.97		1
	100	0	23.21	23.11	23.01	23.06	22.85		1
16QAM	1	0	23.30	23.22	22.77	22.80	22.56	0-1	1
	1	50	23.14	23.12	23.06	23.00	22.86		1
	1	99	23.03	23.08	22.74	22.60	22.74		1
	50	0	22.27	22.17	22.08	21.97	21.77	0-2	2
	50	25	22.30	22.26	22.19	22.18	22.02		2
	50	50	22.22	22.23	22.13	22.00	22.02		2
	100	0	22.23	22.19	22.10	22.13	21.89		2
64QAM	1	0	22.07	21.94	21.93	21.95	21.82	0-2	2
	1	50	22.00	21.91	22.23	22.34	21.91		2
	1	99	21.91	21.92	21.74	21.85	21.98		2
	50	0	21.35	21.21	21.12	21.08	20.84	0-3	3
	50	25	21.31	21.28	21.17	21.29	21.07		3
	50	50	21.20	21.24	21.12	21.06	21.01		3
	100	0	21.23	21.13	21.07	21.06	20.81		3
256QAM	1	0	18.86	18.62	18.75	18.79	18.43	0-5	5
	1	50	19.12	19.03	19.00	18.99	18.72		5
	1	99	19.00	18.75	18.70	18.52	18.69		5
	50	0	19.29	19.12	19.16	19.14	18.90		5
	50	25	19.38	19.32	19.20	19.26	19.09		5
	50	50	19.24	19.21	19.20	19.01	19.05		5
	100	0	19.21	19.16	19.07	19.08	18.91		5

Table 9-63
LTE Band 41 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 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	24.61	24.24	24.26	24.14	23.83	0	0
	1	36	24.46	24.36	24.52	24.26	24.15		0
	1	74	24.57	24.13	24.26	23.93	24.09		0
	36	0	23.64	23.33	23.36	23.24	23.16	0-1	1
	36	18	23.67	23.46	23.44	23.30	23.29		1
	36	37	23.60	23.40	23.48	23.28	23.36		1
	75	0	23.55	23.39	23.33	23.26	23.30		1
16QAM	1	0	23.66	23.32	23.12	22.81	22.87	0-1	1
	1	36	23.72	23.60	23.36	23.00	23.19		1
	1	74	23.43	23.21	23.14	22.68	23.09		1
	36	0	22.65	22.36	22.38	22.26	22.18	0-2	2
	36	18	22.66	22.52	22.46	22.30	22.31		2
	36	37	22.64	22.40	22.49	22.29	22.37		2
	75	0	22.54	22.39	22.34	22.28	22.25		2
64QAM	1	0	22.35	22.33	21.96	22.00	21.64	0-2	2
	1	36	22.37	22.25	22.25	22.26	22.06		2
	1	74	22.30	22.19	21.74	21.53	21.96		2
	36	0	21.63	21.28	21.34	21.32	21.14	0-3	3
	36	18	21.65	21.46	21.44	21.39	21.31		3
	36	37	21.60	21.36	21.47	21.32	21.36		3
	75	0	21.58	21.43	21.35	21.32	21.28		3
256QAM	1	0	18.91	18.85	18.68	19.20	18.45	0-5	5
	1	36	19.14	19.13	19.06	19.33	18.85		5
	1	74	18.98	18.80	18.70	18.96	18.84		5
	36	0	19.59	19.41	19.40	19.22	19.19		5
	36	18	19.69	19.56	19.49	19.25	19.33		5
	36	37	19.60	19.47	19.46	19.23	19.38		5
	75	0	19.59	19.52	19.38	19.26	19.34		5

Table 9-64
LTE Band 41 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 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	24.40	24.30	24.29	24.08	23.97	0	0
	1	25	24.41	24.53	24.33	24.30	24.05		0
	1	49	24.58	24.28	24.16	24.06	24.03		0
	25	0	23.61	23.45	23.41	23.26	23.21	0-1	1
	25	12	23.62	23.58	23.46	23.34	23.29		1
	25	25	23.61	23.48	23.40	23.32	23.26		1
	50	0	23.53	23.49	23.40	23.31	23.26		1
16QAM	1	0	23.54	23.42	23.27	23.18	23.02	0-1	1
	1	25	23.50	23.43	23.38	23.42	23.33		1
	1	49	23.32	23.38	23.17	22.89	23.14		1
	25	0	22.65	22.45	22.48	22.30	22.23	0-2	2
	25	12	22.69	22.65	22.60	22.38	22.37		2
	25	25	22.67	22.52	22.51	22.34	22.31		2
	50	0	22.57	22.53	22.48	22.34	22.32		2
64QAM	1	0	22.29	22.10	21.96	21.80	21.71	0-2	2
	1	25	22.25	22.38	22.18	22.11	21.92		2
	1	49	22.21	22.12	21.89	21.63	21.66		2
	25	0	21.66	21.48	21.50	21.24	21.25	0-3	3
	25	12	21.69	21.64	21.55	21.28	21.33		3
	25	25	21.65	21.51	21.49	21.30	21.26		3
	50	0	21.61	21.52	21.39	21.38	21.09		3
256QAM	1	0	19.24	18.97	19.16	19.05	18.76	0-5	5
	1	25	19.44	19.22	19.37	19.04	18.96		5
	1	49	19.23	18.95	19.14	18.92	18.89		5
	25	0	19.61	19.48	19.45	19.19	19.23		5
	25	12	19.64	19.62	19.49	19.32	19.31		5
	25	25	19.58	19.48	19.43	19.27	19.33		5
	50	0	19.60	19.57	19.44	19.33	19.34		5

Table 9-65
LTE Band 41 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 5 MHz Bandwidth

LTE Band 41 5 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	24.48	24.46	24.19	24.21	23.99	0	0
	1	12	24.53	24.49	24.31	24.30	24.10		0
	1	24	24.65	24.49	24.23	24.20	24.06		0
	12	0	23.63	23.56	23.49	23.33	23.30	0-1	1
	12	6	23.65	23.57	23.50	23.36	23.04		1
	12	13	23.64	23.53	23.51	23.38	23.32		1
	25	0	23.66	23.56	23.50	23.39	23.35		1
16QAM	1	0	23.66	23.66	23.22	23.25	23.00	0-1	1
	1	12	23.43	23.51	23.47	23.30	23.23		1
	1	24	23.39	23.50	23.24	23.09	23.28		1
	12	0	22.65	22.60	22.54	22.37	22.34	0-2	2
	12	6	22.69	22.64	22.55	22.39	22.34		2
	12	13	22.65	22.59	22.56	22.41	22.34		2
	25	0	22.61	22.52	22.47	22.36	22.34		2
64QAM	1	0	22.41	22.27	22.45	22.40	22.23	0-2	2
	1	12	22.42	22.30	22.48	22.49	22.21		2
	1	24	22.36	22.28	22.45	22.41	22.25		2
	12	0	21.69	21.68	21.54	21.34	21.35	0-3	3
	12	6	21.68	21.72	21.55	21.34	21.36		3
	12	13	21.66	21.67	21.58	21.41	21.34		3
	25	0	21.60	21.59	21.50	21.34	21.33		3
256QAM	1	0	19.01	19.14	18.89	18.92	18.69	0-5	5
	1	12	19.11	19.07	18.97	19.06	18.75		5
	1	24	18.98	19.16	18.93	18.99	18.70		5
	12	0	19.50	19.55	19.39	19.25	19.20		5
	12	6	19.53	19.62	19.42	19.27	19.20		5
	12	13	19.52	19.59	19.47	19.27	19.21		5
	25	0	19.58	19.60	19.43	19.40	19.29		5

Table 9-66
LTE Band 41 Measured P_{limit} for DSI = 3 (Hotspot mode) - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	**21.43**	21.28	21.03	20.96	20.59	0	0
	1	50	21.29	21.24	21.20	21.14	20.95		0
	1	99	21.18	21.27	20.90	20.70	20.78		0
	50	0	**21.42**	21.22	21.15	21.11	20.89	0-1	0
	50	25	21.40	21.30	21.23	21.27	21.09		0
	50	50	21.32	21.28	21.17	21.09	21.06		0
	100	0	21.32	21.23	21.17	21.15	20.95		0
16QAM	1	0	21.40	21.28	20.96	20.90	20.65	0-1	0
	1	50	21.30	21.29	21.23	21.14	20.94		0
	1	99	21.24	21.21	20.85	20.64	20.84		0
	50	0	21.45	21.23	21.15	21.17	20.86	0-2	0
	50	25	21.41	21.39	21.32	21.28	21.13		0
	50	50	21.35	21.24	21.26	21.12	21.13		0
	100	0	21.35	21.32	21.21	21.23	20.99		0
64QAM	1	0	21.21	21.03	20.75	20.65	20.41	0-2	0
	1	50	21.03	21.06	21.01	20.93	20.78		0
	1	99	21.01	21.04	20.62	20.48	20.65		0
	50	0	21.39	21.25	21.16	21.12	20.86	0-3	0
	50	25	21.34	21.32	21.21	21.20	21.08		0
	50	50	21.30	21.30	21.18	21.01	21.03		0
	100	0	21.22	21.20	21.10	21.08	20.85		0
256QAM	1	0	18.92	18.71	18.75	18.71	18.42	0-5	2
	1	50	19.10	19.10	19.02	19.05	18.83		2
	1	99	18.78	18.63	18.75	18.51	18.64		2
	50	0	19.34	19.14	19.16	19.14	18.88		2
	50	25	19.40	19.27	19.26	19.24	19.07		2
	50	50	19.29	19.25	19.19	19.06	19.04		2
	100	0	19.22	19.20	19.09	19.11	18.90		2

Table 9-67
LTE Band 41 Measured P_{limit} for DSI = 3 (Hotspot mode) - 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	21.61	21.29	21.25	21.18	21.01	0	0
	1	36	21.61	21.56	21.50	21.23	21.34		0
	1	74	21.56	21.25	21.26	20.99	21.26		0
	36	0	21.70	21.44	21.43	21.32	21.24	0-1	0
	36	18	21.75	21.61	21.51	21.35	21.36		0
	36	37	21.69	21.50	21.55	21.30	21.42		0
	75	0	21.63	21.49	21.44	21.30	21.35		0
16QAM	1	0	21.33	21.44	20.96	21.37	20.76	0-1	0
	1	36	21.35	21.65	21.25	21.30	21.09		0
	1	74	21.24	21.29	20.99	21.18	20.98		0
	36	0	21.72	21.48	21.46	21.21	21.28	0-2	0
	36	18	21.74	21.61	21.54	21.28	21.40		0
	36	37	21.70	21.52	21.57	21.14	21.47		0
	75	0	21.62	21.47	21.43	21.28	21.40		0
64QAM	1	0	21.60	21.10	21.22	21.05	20.82	0-2	0
	1	36	21.40	21.30	21.31	21.17	21.16		0
	1	74	21.32	20.98	21.10	20.80	21.08		0
	36	0	21.68	21.37	21.23	21.19	21.27	0-3	0
	36	18	21.71	21.49	21.52	21.24	21.39		0
	36	37	21.67	21.38	21.53	21.21	21.45		0
	75	0	21.60	21.41	21.43	21.30	21.15		0
256QAM	1	0	18.96	18.86	18.71	18.72	18.91	0-5	2
	1	36	19.21	19.12	19.05	19.48	18.86		2
	1	74	19.03	18.82	18.72	18.69	18.76		2
	36	0	19.60	19.44	19.40	19.21	19.22		2
	36	18	19.69	19.59	19.51	19.26	19.35		2
	36	37	19.66	19.45	19.49	19.27	19.40		2
	75	0	19.63	19.49	19.41	19.28	19.35		2

Table 9-68
LTE Band 41 Measured P_{limit} for DSI = 3 (Hotspot mode) - 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	21.67	21.39	21.36	21.16	20.97	0	0
	1	25	21.71	21.57	21.64	21.34	21.42		0
	1	49	21.61	21.31	21.30	21.08	21.12		0
	25	0	21.72	21.51	21.55	21.35	21.29	0-1	0
	25	12	21.78	21.68	21.68	21.39	21.36		0
	25	25	21.75	21.58	21.53	21.39	21.30		0
	50	0	21.65	21.63	21.52	21.44	21.34		0
16QAM	1	0	21.76	21.44	21.35	21.27	21.11	0-1	0
	1	25	21.60	21.65	21.66	21.41	21.22		0
	1	49	21.62	21.46	21.25	21.19	21.03		0
	25	0	21.81	21.53	21.59	21.42	21.16	0-2	0
	25	12	21.78	21.71	21.67	21.48	21.43		0
	25	25	21.83	21.62	21.59	21.45	21.41		0
	50	0	21.66	21.65	21.56	21.43	21.38		0
64QAM	1	0	21.00	21.20	21.17	20.85	20.67	0-2	0
	1	25	21.28	21.53	21.28	21.09	20.93		0
	1	49	21.32	21.13	21.05	21.06	20.74		0
	25	0	21.69	21.51	21.48	21.27	21.22	0-3	0
	25	12	21.69	21.66	21.54	21.32	21.34		0
	25	25	21.63	21.53	21.49	21.29	21.22		0
	50	0	21.59	21.58	21.42	21.35	21.29		0
256QAM	1	0	19.31	18.95	19.12	19.02	18.74	0-5	2
	1	25	19.45	19.18	19.41	19.52	19.15		2
	1	49	19.22	18.94	19.13	19.24	18.92		2
	25	0	19.63	19.52	19.45	19.26	19.26		2
	25	12	19.66	19.65	19.51	19.34	19.32		2
	25	25	19.59	19.55	19.49	19.32	19.29		2
	50	0	19.61	19.58	19.48	19.35	19.31		2

Table 9-69
LTE Band 41 Measured P_{limit} for DSI = 3 (Hotspot mode) - 5 MHz Bandwidth

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	21.77	21.56	21.38	21.31	21.15	0	0
	1	12	21.62	21.59	21.53	21.43	21.14		0
	1	24	21.52	21.58	21.39	21.32	21.17		0
	12	0	21.77	21.67	21.59	21.42	21.35	0-1	0
	12	6	21.77	21.69	21.60	21.41	21.38		0
	12	13	21.75	21.66	21.64	21.44	21.41		0
	25	0	21.75	21.69	21.58	21.49	21.42		0
16QAM	1	0	21.75	21.58	21.32	21.24	21.11	0-1	0
	1	12	21.67	21.49	21.57	21.24	21.39		0
	1	24	21.73	21.58	21.33	21.00	21.23		0
	12	0	21.80	21.72	21.65	21.50	21.21	0-2	0
	12	6	21.80	21.72	21.69	21.49	21.45		0
	12	13	21.81	21.69	21.66	21.50	21.44		0
	25	0	21.72	21.64	21.61	21.51	21.45		0
64QAM	1	0	21.52	21.40	21.25	21.03	20.94	0-2	0
	1	12	21.38	21.45	21.22	21.10	21.14		0
	1	24	21.45	21.44	20.90	20.98	21.13		0
	12	0	21.76	21.69	21.58	21.34	21.35	0-3	0
	12	6	21.73	21.74	21.57	21.37	21.36		0
	12	13	21.70	21.68	21.58	21.38	21.36		0
	25	0	21.66	21.62	21.51	21.40	21.34		0
256QAM	1	0	19.02	19.13	18.90	18.75	18.70	0-5	2
	1	12	18.97	19.07	19.00	18.77	18.78		2
	1	24	19.10	18.97	18.91	18.66	18.75		2
	12	0	19.55	19.59	19.41	19.30	19.22		2
	12	6	19.57	19.63	19.41	19.31	19.19		2
	12	13	19.54	19.59	19.44	19.34	19.23		2
	25	0	19.60	19.60	19.45	19.40	19.29		2

Table 9-70
LTE Band 41 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	22.61	22.54	22.31	22.33	21.95	0	0
	1	50	**22.65**	22.52	22.44	22.29	22.37		0
	1	99	22.55	22.43	22.37	22.11	22.25		0
	50	0	**22.73**	22.47	22.38	22.34	22.19	0-1	0
	50	25	22.70	22.53	22.49	22.44	22.38		0
	50	50	22.70	22.49	22.55	22.30	22.36		0
	100	0	22.64	22.44	22.59	22.39	22.23		0
16QAM	1	0	22.95	22.88	22.64	22.44	22.19	0-1	0
	1	50	22.86	22.73	22.73	22.61	22.58		0
	1	99	22.80	22.68	22.48	22.20	22.45		0
	50	0	22.65	22.44	22.34	22.29	22.18	0-2	0
	50	25	22.64	22.49	22.42	22.42	22.36		0
	50	50	22.60	22.46	22.46	22.25	22.35		0
	100	0	22.53	22.38	22.30	22.26	22.22		0
64QAM	1	0	22.83	22.12	22.48	22.32	21.61	0-2	0
	1	50	22.81	22.14	22.62	22.52	22.00		0
	1	99	22.77	22.13	22.53	22.02	21.91		0
	50	0	21.70	21.41	21.32	21.24	21.12	0-3	1
	50	25	21.68	21.48	21.46	21.37	21.33		1
	50	50	21.61	21.43	21.39	21.22	21.30		1
	100	0	21.57	21.37	21.35	21.28	21.19		1
256QAM	1	0	19.42	19.07	19.32	19.14	18.82	0-5	3
	1	50	19.68	19.39	19.45	19.39	19.18		3
	1	99	19.42	18.91	19.36	18.95	19.13		3
	50	0	19.53	19.36	19.30	19.29	19.13		3
	50	25	19.66	19.48	19.42	19.41	19.37		3
	50	50	19.58	19.34	19.41	19.24	19.32		3
	100	0	19.56	19.39	19.31	19.30	19.26		3

Table 9-71
LTE Band 41 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 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	22.63	22.34	22.27	22.26	22.03	0	0
	1	36	22.68	22.56	22.51	22.30	22.37		0
	1	74	22.56	22.25	22.26	21.93	22.29		0
	36	0	22.72	22.48	22.44	22.36	22.26	0-1	0
	36	18	22.72	22.59	22.55	22.39	22.41		0
	36	37	22.67	22.50	22.55	22.36	22.50		0
	75	0	22.64	22.48	22.42	22.37	22.40		0
16QAM	1	0	22.29	22.44	21.98	22.40	21.99	0-1	0
	1	36	22.33	22.65	22.27	22.53	22.11		0
	1	74	22.25	22.37	21.99	22.15	21.99		0
	36	0	22.61	22.40	22.38	22.20	22.18	0-2	0
	36	18	22.64	22.50	22.47	22.27	22.32		0
	36	37	22.62	22.43	22.49	22.25	22.39		0
	75	0	22.54	22.39	22.38	22.26	22.30		0
64QAM	1	0	22.46	22.07	22.11	22.10	21.91	0-2	0
	1	36	22.49	22.32	22.41	22.26	22.26		0
	1	74	22.38	21.90	22.17	21.99	22.17		0
	36	0	21.66	21.37	21.44	21.15	21.26	0-3	1
	36	18	21.70	21.54	21.55	21.18	21.39		1
	36	37	21.65	21.39	21.56	21.20	21.45		1
	75	0	21.61	21.39	21.44	21.31	21.35		1
256QAM	1	0	19.51	18.82	19.66	19.12	19.46	0-5	3
	1	36	19.67	19.10	19.95	19.32	19.85		3
	1	74	19.47	18.80	19.71	19.13	19.77		3
	36	0	19.60	19.41	19.39	19.17	19.23		3
	36	18	19.72	19.56	19.51	19.25	19.34		3
	36	37	19.64	19.42	19.51	19.18	19.37		3
	75	0	19.57	19.48	19.40	19.16	19.33		3

Table 9-72
LTE Band 41 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 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	22.86	22.39	22.39	22.19	22.26	0	0
	1	25	22.75	22.65	22.69	22.39	22.46		0
	1	49	22.67	22.36	22.33	22.16	22.43		0
	25	0	22.74	22.52	22.53	22.38	22.34	0-1	0
	25	12	22.72	22.73	22.57	22.44	22.40		0
	25	25	22.70	22.55	22.53	22.42	22.37		0
	50	0	22.68	22.58	22.50	22.43	22.40		0
16QAM	1	0	22.70	22.50	22.36	22.31	22.12	0-1	0
	1	25	22.62	22.78	22.53	22.51	22.47		0
	1	49	22.82	22.49	22.16	22.28	22.13		0
	25	0	22.71	22.47	22.50	22.35	22.29	0-2	0
	25	12	22.72	22.64	22.51	22.42	22.35		0
	25	25	22.69	22.53	22.52	22.37	22.34		0
	50	0	22.61	22.56	22.32	22.36	22.36		0
64QAM	1	0	22.33	22.12	21.83	22.08	21.76	0-2	0
	1	25	22.18	22.35	22.07	22.35	21.96		0
	1	49	22.25	22.06	21.86	22.12	21.72		0
	25	0	21.71	21.49	21.41	21.24	21.25	0-3	1
	25	12	21.70	21.65	21.56	21.29	21.38		1
	25	25	21.67	21.48	21.46	21.31	21.23		1
	50	0	21.64	21.56	21.35	21.39	21.32		1
256QAM	1	0	19.40	18.97	19.30	19.19	18.87	0-5	3
	1	25	19.43	19.10	19.41	19.51	19.17		3
	1	49	19.24	18.97	19.13	19.24	18.89		3
	25	0	19.64	19.46	19.50	19.24	19.24		3
	25	12	19.67	19.68	19.52	19.36	19.29		3
	25	25	19.53	19.50	19.49	19.28	19.30		3
	50	0	19.60	19.57	19.42	19.32	19.29		3

Table 9-73
LTE Band 41 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 5 MHz Bandwidth

LTE Band 41 5 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	22.75	22.59	22.57	22.31	22.40	0	0
	1	12	22.84	22.62	22.79	22.41	22.46		0
	1	24	22.76	22.63	22.61	22.31	22.40		0
	12	0	22.74	22.69	22.58	22.46	22.40	0-1	0
	12	6	22.74	22.68	22.59	22.47	22.41		0
	12	13	22.72	22.67	22.65	22.50	22.42		0
	25	0	22.74	22.65	22.57	22.49	22.44		0
16QAM	1	0	22.76	22.81	22.60	22.64	22.40	0-1	0
	1	12	22.65	22.81	22.61	22.70	22.40		0
	1	24	22.79	22.84	22.61	22.65	22.44		0
	12	0	22.66	22.62	22.54	22.42	22.35	0-2	0
	12	6	22.72	22.63	22.56	22.40	22.35		0
	12	13	22.67	22.58	22.55	22.44	22.38		0
	25	0	22.62	22.57	22.49	22.40	22.34		0
64QAM	1	0	22.66	22.30	22.46	22.42	22.29	0-2	0
	1	12	22.57	22.36	22.49	22.48	22.29		0
	1	24	22.64	22.33	22.47	22.44	22.27		0
	12	0	21.72	21.68	21.53	21.37	21.34	0-3	1
	12	6	21.74	21.70	21.55	21.38	21.38		1
	12	13	21.70	21.67	21.58	21.41	21.39		1
	25	0	21.62	21.63	21.50	21.41	21.39		1
256QAM	1	0	19.59	19.14	19.53	19.47	19.01	0-5	3
	1	12	19.49	19.11	19.52	19.57	19.07		3
	1	24	19.41	19.18	19.43	19.49	19.08		3
	12	0	19.58	19.61	19.39	19.30	19.05		3
	12	6	19.58	19.61	19.41	19.30	19.13		3
	12	13	19.55	19.59	19.44	19.30	18.93		3
	25	0	19.60	19.60	19.46	19.42	18.80		3

9.5 NR Conducted Powers

9.5.1 NR Band n71

Table 9-74
NR Band n71 Measured P_{max} for all DSI - 20 MHz Bandwidth

NR Band n71 20 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	136100 (680.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM π/2 BPSK	1	1	25.17	0	0.0
	1	53	25.13		0.0
	1	104	25.02		0.0
	50	0	24.42	0-0.5	0.5
	50	28	25.21	0	0.0
	50	56	24.40	0-0.5	0.5
	100	0	24.45		0.5
DFT-s-OFDM QPSK	1	1	**25.03**	0	0.0
	1	53	25.00		0.0
	1	104	24.93		0.0
	50	0	23.92	0-1	1.0
	50	28	**25.01**	0	0.0
	50	56	23.87	0-1	1.0
	100	0	24.02		1.0
DFT-s-OFDM 16QAM	1	1	24.46	0-1	1.0
CP-OFDM QPSK	1	1	23.26	0-1.5	1.5

Note: NR Band n71 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 9-75
NR Band n71 Measured P_{max} for all DSI - 15 MHz Bandwidth

NR Band n71 15 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	136100 (680.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM π/2 BPSK	1	1	25.16	0	0.0
	1	40	25.15		0.0
	1	77	25.12		0.0
	36	0	24.64	0-0.5	0.5
	36	22	25.14	0	0.0
	36	43	24.48	0-0.5	0.5
	75	0	24.57		0.5
DFT-s-OFDM QPSK	1	1	25.14	0	0.0
	1	40	24.96		0.0
	1	77	24.99		0.0
	36	0	24.14	0-1	1.0
	36	22	25.03	0	0.0
	36	43	23.99	0-1	1.0
	75	0	24.11		1.0
DFT-s-OFDM 16QAM	1	1	24.09	0-1	1.0
CP-OFDM QPSK	1	1	23.37	0-1.5	1.5

Note: NR Band n71 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 9-76
NR Band n71 Measured P_{max} for all DSI - 10 MHz Bandwidth

NR Band n71 10 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	133600 (668 MHz)	136100 (680.5 MHz)	138600 (693 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	25.13	25.12	25.02	0	0.0
	1	26	25.27	25.11	25.09		0.0
	1	50	25.24	25.10	24.98		0.0
	25	0	24.46	24.42	24.40	0-0.5	0.5
	25	14	25.17	25.12	25.08	0	0.0
	25	27	24.49	24.44	24.36	0-0.5	0.5
	50	0	24.58	24.52	24.46		0.5
DFT-s-OFDM QPSK	1	1	25.01	25.03	25.10	0	0.0
	1	26	25.03	24.97	25.00		0.0
	1	50	25.07	24.94	24.91		0.0
	25	0	24.00	24.00	23.91	0-1	1.0
	25	14	25.15	25.09	24.99	0	0.0
	25	27	24.00	24.03	23.90	0-1	1.0
	50	0	24.10	24.14	23.97		1.0
DFT-s-OFDM 16QAM	1	1	23.98	23.99	24.19	0-1	1.0
CP-OFDM QPSK	1	1	23.28	23.30	23.12	0-1.5	1.5

Table 9-77
NR Band n71 Measured P_{max} for all DSI - 5 MHz Bandwidth

NR Band n71 5 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	133100 (665.5 MHz)	136100 (680.5 MHz)	139100 (695.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	25.05	25.13	25.07	0	0.0
	1	13	25.18	25.12	25.01		0.0
	1	23	25.13	25.04	24.84		0.0
	12	0	24.54	24.59	24.36	0-0.5	0.5
	12	7	25.12	25.17	24.97	0	0.0
	12	13	24.42	24.49	24.28	0-0.5	0.5
	25	0	24.47	24.50	24.29		0.5
DFT-s-OFDM QPSK	1	1	24.99	25.03	24.93	0	0.0
	1	13	25.00	25.02	24.81		0.0
	1	23	24.89	24.86	24.64		0.0
	12	0	24.09	24.13	23.94	0-1	1.0
	12	7	25.02	25.05	24.90	0	0.0
	12	13	23.98	24.06	23.83	0-1	1.0
	25	0	24.03	24.07	23.85		1.0
DFT-s-OFDM 16QAM	1	1	24.27	24.32	24.26	0-1	1.0
CP-OFDM QPSK	1	1	23.39	23.43	23.19	0-1.5	1.5

9.5.2 NR Band n66

Table 9-78
NR Band n66 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 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	23.90	23.91	23.85	0	0.0
	1	53	23.83	23.81	23.89		0.0
	1	104	23.85	23.83	23.94		0.0
	50	0	23.34	23.41	23.33	0-0.5	0.5
	50	28	23.88	23.96	23.99	0	0.0
	50	56	23.30	23.34	23.43	0-0.5	0.5
	100	0	23.14	23.15	23.17		0.5
DFT-s-OFDM QPSK	1	1	23.74	23.85	23.82	0	0.0
	1	53	23.78	23.77	23.72		0.0
	1	104	23.81	23.82	**23.86**		0.0
	50	0	22.73	22.72	22.70	0-1	1.0
	50	28	23.79	23.81	**23.96**	0	0.0
	50	56	22.65	22.71	22.76	0-1	1.0
	100	0	22.71	22.69	22.70		1.0
DFT-s-OFDM 16QAM	1	1	22.76	22.65	22.59	0-1	1.0
CP-OFDM QPSK	1	1	22.12	22.01	22.02	0-1.5	1.5

Table 9-79
NR Band n66 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 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	23.89	23.74	23.91	0	0.0
	1	40	23.93	23.67	24.00		0.0
	1	77	23.95	23.78	24.07		0.0
	36	0	23.45	23.29	23.47	0-0.5	0.5
	36	22	23.86	23.68	24.00	0	0.0
	36	43	23.46	23.28	23.55	0-0.5	0.5
	75	0	23.23	23.14	23.23		0.5
DFT-s-OFDM QPSK	1	1	23.95	23.84	24.01	0	0.0
	1	40	23.90	23.73	23.98		0.0
	1	77	24.07	23.87	24.13		0.0
	36	0	22.88	22.74	22.86	0-1	1.0
	36	22	23.81	23.65	23.93	0	0.0
	36	43	22.84	22.68	22.96	0-1	1.0
	75	0	22.88	22.77	22.96		1.0
DFT-s-OFDM 16QAM	1	1	22.75	22.65	22.83	0-1	1.0
CP-OFDM QPSK	1	1	22.27	22.20	22.32	0-1.5	1.5

Table 9-80
NR Band n66 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 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	23.69	23.85	24.03	0	0.0
	1	26	23.75	23.93	23.94		0.0
	1	50	23.76	23.75	23.98		0.0
	25	0	23.22	23.44	23.50	0-0.5	0.5
	25	14	23.87	23.97	24.06	0	0.0
	25	27	23.27	23.43	23.53	0-0.5	0.5
	50	0	23.06	23.19	23.28		0.5
DFT-s-OFDM QPSK	1	1	23.80	23.88	23.99	0	0.0
	1	26	23.76	23.85	23.92		0.0
	1	50	23.78	23.87	23.99		0.0
	25	0	22.64	22.78	22.86	0-1	1.0
	25	14	23.80	23.90	24.03	0	0.0
	25	27	22.66	22.81	22.88	0-1	1.0
	50	0	22.67	22.84	22.86		1.0
DFT-s-OFDM 16QAM	1	1	22.58	22.68	22.77	0-1	1.0
CP-OFDM QPSK	1	1	21.99	22.18	22.22	0-1.5	1.5

Table 9-81
NR Band n66 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 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	23.80	23.77	23.96	0	0.0
	1	13	23.91	23.91	24.13		0.0
	1	23	23.86	23.78	23.95		0.0
	12	0	23.32	23.30	23.48	0-0.5	0.5
	12	7	23.91	23.92	24.07	0	0.0
	12	13	23.33	23.30	23.52	0-0.5	0.5
	25	0	23.05	23.04	23.23		0.5
DFT-s-OFDM QPSK	1	1	23.77	23.71	23.89	0	0.0
	1	13	23.81	23.78	23.99		0.0
	1	23	23.78	23.74	24.06		0.0
	12	0	22.73	22.68	22.90	0-1	1.0
	12	7	23.75	23.75	23.93	0	0.0
	12	13	22.73	22.66	22.89	0-1	1.0
	25	0	22.72	22.68	22.84		1.0
DFT-s-OFDM 16QAM	1	1	22.60	22.58	22.75	0-1	1.0
CP-OFDM QPSK	1	1	22.11	22.05	22.22	0-1.5	1.5

Table 9-82
NR Band n66 Measured P_{limit} for DSI = 3 (Hotspot mode) or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 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	19.91	19.87	19.93	0	0.0
	1	53	19.82	19.96	19.99		0.0
	1	104	19.88	19.86	19.97		0.0
	50	0	19.94	19.94	19.81	0-0.5	0.0
	50	28	19.93	19.83	19.90	0	0.0
	50	56	19.95	19.87	19.91	0-0.5	0.0
	100	0	19.98	19.93	19.94		0.0
DFT-s-OFDM QPSK	1	1	19.97	19.94	**19.98**	0	0.0
	1	53	19.93	19.89	19.88		0.0
	1	104	19.92	19.93	19.94		0.0
	50	0	19.93	19.82	19.91	0-1	0.0
	50	28	19.94	19.90	**19.95**	0	0.0
	50	56	19.89	19.88	19.94	0-1	0.0
	100	0	19.87	19.88	19.89		0.0
DFT-s-OFDM 16QAM	1	1	19.81	19.83	19.82	0-1	0.0
CP-OFDM QPSK	1	1	19.77	19.82	19.85	0-1.5	0.0

Table 9-83
NR Band n66 Measured P_{limit} for DSI = 3 (Hotspot mode) or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active)- 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	19.93	19.95	19.87	0	0.0
	1	40	19.86	19.74	19.90		0.0
	1	77	19.94	19.79	19.98		0.0
	36	0	19.82	19.70	19.74	0-0.5	0.0
	36	22	19.81	19.73	19.85	0	0.0
	36	43	19.77	19.70	19.82	0-0.5	0.0
	75	0	19.79	19.70	19.88		0.0
DFT-s-OFDM QPSK	1	1	19.81	19.83	19.81	0	0.0
	1	40	19.82	19.75	19.83		0.0
	1	77	19.95	19.86	19.95		0.0
	36	0	19.73	19.62	19.70	0-1	0.0
	36	22	19.69	19.63	19.77	0	0.0
	36	43	19.74	19.65	19.76	0-1	0.0
	75	0	19.79	19.64	19.86		0.0
DFT-s-OFDM 16QAM	1	1	19.87	19.81	19.85	0-1	0.0
CP-OFDM QPSK	1	1	19.94	19.90	19.98	0-1.5	0.0

Table 9-84
NR Band n66 Measured P_{limit} for DSI = 3 (Hotspot mode) or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active)- 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	19.99	19.93	19.72	0	0.0
	1	26	19.91	19.98	19.73		0.0
	1	50	20.00	20.00	19.74		0.0
	25	0	19.89	19.87	19.62	0-0.5	0.0
	25	14	19.90	19.88	19.80	0	0.0
	25	27	19.93	19.91	19.55	0-0.5	0.0
	50	0	19.88	19.91	19.58		0.0
DFT-s-OFDM QPSK	1	1	19.97	20.00	19.64	0	0.0
	1	26	19.93	19.90	19.63		0.0
	1	50	19.97	19.91	19.99		0.0
	25	0	19.86	19.88	19.93	0-1	0.0
	25	14	19.91	19.97	19.86	0	0.0
	25	27	19.85	19.85	19.90	0-1	0.0
	50	0	19.88	19.90	19.91		0.0
DFT-s-OFDM 16QAM	1	1	19.73	19.75	19.75	0-1	0.0
CP-OFDM QPSK	1	1	19.72	19.68	19.76	0-1.5	0.0

Table 9-85
NR Band n66 Measured P_{limit} for DSI = 3 (Hotspot mode) or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active)- 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	19.91	19.90	19.99	0	0.0
	1	13	19.89	19.97	19.95		0.0
	1	23	19.89	19.85	19.82		0.0
	12	0	19.82	19.79	19.97	0-0.5	0.0
	12	7	19.98	19.95	19.95	0	0.0
	12	13	19.95	19.80	19.99	0-0.5	0.0
	25	0	19.94	19.76	19.96		0.0
DFT-s-OFDM QPSK	1	1	19.88	19.85	19.92	0	0.0
	1	13	19.97	19.87	19.97		0.0
	1	23	19.90	19.90	19.97		0.0
	12	0	19.84	19.79	19.81	0-1	0.0
	12	7	19.89	19.82	19.90	0	0.0
	12	13	19.83	19.74	19.80	0-1	0.0
	25	0	19.82	19.74	19.92		0.0
DFT-s-OFDM 16QAM	1	1	19.61	19.70	19.99	0-1	0.0
CP-OFDM QPSK	1	1	19.64	19.72	19.54	0-1.5	0.0

9.5.3 NR Band n41

Table 9-86
NR Band n41 Measured P_{max} for DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) and/or DSI = 3 (Hotspot mode) / DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 100 MHz Bandwidth

NR Band n41 100 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	518598 (2592.99 MHz) Conducted Power [dBm]		
DFT-s-OFDM π/2 BPSK	1	1	23.36	0	0.0
	1	137	23.21		0.0
	1	271	23.15		0.0
	135	0	22.78	0-0.5	0.5
	135	69	23.19	0	0.0
	135	138	22.80	0-0.5	0.5
	270	0	22.81		0.5
DFT-s-OFDM QPSK	1	1	23.30	0	0.0
	1	137	**23.34**		0.0
	1	271	23.12		0.0
	135	0	22.50	0-1	1.0
	135	69	**23.15**	0	0.0
	135	138	22.15	0-1	1.0
	270	0	22.16		1.0
DFT-s-OFDM 16QAM	1	1	22.67	0-1	1.0
CP-OFDM QPSK	1	1	22.28	0-1.5	1.5

Note: NR Band n41 at 100 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 9-87
NR Band n41 Measured P_{max} for DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) and/or DSI = 3 (Hotspot mode) / DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 90 MHz Bandwidth

NR Band n41 90 MHz Bandwidth						
			Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	508200 (2541 MHz)	528996 (2644.98 MHz)		
			Conducted Power [dBm]			
DFT-s-OFDM π/2 BPSK	1	1	23.94	23.62	0	0.0
	1	123	23.42	23.48		0.0
	1	243	23.16	23.87		0.0
	120	0	23.25	22.84	0-0.5	0.5
	120	63	23.40	23.39	0	0.0
	120	125	22.87	23.25	0-0.5	0.5
	243	0	23.01	23.06		0.5
DFT-s-OFDM QPSK	1	1	23.89	23.41	0	0.0
	1	123	23.49	23.38		0.0
	1	243	23.19	23.98		0.0
	120	0	22.81	22.29	0-1	1.0
	120	63	23.50	23.31	0	0.0
	120	125	22.34	22.53	0-1	1.0
	243	0	22.44	22.45		1.0
DFT-s-OFDM 16QAM	1	1	22.87	22.41	0-1	1.0
CP-OFDM QPSK	1	1	22.35	21.80	0-1.5	1.5

Table 9-88
NR Band n41 Measured P_{max} for DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) and/or DSI = 3 (Hotspot mode) / DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 80 MHz Bandwidth

NR Band n41 80 MHz Bandwidth						
			Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	507204 (2536.02 MHz)	529998 (2649.99 MHz)		
			Conducted Power [dBm]			
DFT-s-OFDM π/2 BPSK	1	1	23.98	23.54	0	0.0
	1	109	23.32	23.37		0.0
	1	215	23.17	23.88		0.0
	108	0	23.36	22.83	0-0.5	0.5
	108	55	23.44	23.32	0	0.0
	108	109	23.03	23.23	0-0.5	0.5
	216	0	23.06	23.04		0.5
DFT-s-OFDM QPSK	1	1	24.01	23.37	0	0.0
	1	109	23.43	23.39		0.0
	1	215	23.27	23.96		0.0
	108	0	22.63	22.23	0-1	1.0
	108	55	23.45	23.31	0	0.0
	108	109	22.39	22.65	0-1	1.0
	216	0	22.48	22.42		1.0
DFT-s-OFDM 16QAM	1	1	23.13	22.78	0-1	1.0
CP-OFDM QPSK	1	1	22.42	22.04	0-1.5	1.5

Table 9-89
NR Band n41 Measured P_{max} for DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) and/or DSI = 3 (Hotspot mode) / DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 60 MHz Bandwidth

NR Band n41 60 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	505200 (2526 MHz)	518598 (2592.99 MHz)	531996 (2659.98 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	23.89	23.48	23.26	0	0.0
	1	81	23.68	23.32	23.46		0.0
	1	160	23.53	23.31	24.09		0.0
	81	0	23.48	22.95	22.94	0-0.5	0.5
	81	41	23.61	23.27	23.40	0	0.0
	81	81	23.04	22.75	23.29	0-0.5	0.5
	162	0	23.29	22.81	23.11		0.5
DFT-s-OFDM QPSK	1	1	23.89	23.39	23.33	0	0.0
	1	81	23.77	23.36	23.49		0.0
	1	160	23.42	23.31	24.08		0.0
	81	0	22.90	22.29	22.31	0-1	1.0
	81	41	23.59	23.30	23.43	0	0.0
	81	81	22.65	22.37	22.70	0-1	1.0
	162	0	22.69	22.22	22.54		1.0
DFT-s-OFDM 16QAM	1	1	22.94	22.69	22.57	0-1	1.0
CP-OFDM QPSK	1	1	22.67	21.92	21.77	0-1.5	1.5

Table 9-90
NR Band n41 Measured P_{max} for DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) and/or DSI = 3 (Hotspot mode) / DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 50 MHz Bandwidth

NR Band n41 50 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	504204 (2521.02 MHz)	518598 (2592.99 MHz)	532998 (2664.99 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	24.08	23.42	23.28	0	0.0
	1	67	23.92	23.41	23.32		0.0
	1	131	23.77	23.62	24.03		0.0
	64	0	23.51	22.88	22.85	0-0.5	0.5
	64	35	23.81	23.29	23.59	0	0.0
	64	69	23.28	22.92	23.48	0-0.5	0.5
	128	0	23.37	22.91	23.15		0.5
DFT-s-OFDM QPSK	1	1	24.05	23.48	23.45	0	0.0
	1	67	23.84	23.37	23.62		0.0
	1	131	23.68	23.42	23.95		0.0
	64	0	22.96	22.35	22.38	0-1	1.0
	64	35	23.82	23.24	23.57	0	0.0
	64	69	22.73	22.27	22.83	0-1	1.0
	128	0	22.74	22.27	22.56		1.0
DFT-s-OFDM 16QAM	1	1	23.11	22.61	22.47	0-1	1.0
CP-OFDM QPSK	1	1	22.65	21.85	21.90	0-1.5	1.5

Table 9-91
NR Band n41 Measured P_{max} for DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) and/or DSI = 3 (Hotspot mode) / DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 40 MHz Bandwidth

NR Band n41 40 MHz Bandwidth								
			Channel				MPR Allowed per 3GPP [dB]	MPR Allowed per 3GPP [dB]
Modulation	RB Size	RB Offset	503202 (2516.01 MHz)	513468 (2567.34 MHz)	523734 (2618.67 MHz)	534000 (2670 MHz)		
			Conducted Power [dBm]					
DFT-s-OFDM π/2 BPSK	1	1	24.07	23.75	23.45	23.61	0	0.0
	1	53	24.24	23.69	23.76	23.81		0.0
	1	104	23.88	23.51	23.65	23.97		0.0
	50	0	23.81	23.25	23.17	23.29	0-0.5	0.5
	50	28	24.05	23.62	23.56	23.80	0	0.0
	50	56	23.43	23.09	23.13	23.64	0-0.5	0.5
	100	0	23.65	23.17	23.17	23.46		0.5
DFT-s-OFDM QPSK	1	1	24.26	23.86	23.90	23.73	0	0.0
	1	53	24.10	23.69	23.67	23.88		0.0
	1	104	23.84	23.56	23.69	24.29		0.0
	50	0	23.15	22.72	22.60	22.61	0-1	1.0
	50	28	23.98	23.48	23.54	23.83	0	0.0
	50	56	22.89	22.63	22.61	23.05	0-1	1.0
	100	0	23.02	22.65	22.55	22.80		1.0
DFT-s-OFDM 16QAM	1	1	22.75	22.61	22.53	22.52	0-1	1.0
CP-OFDM QPSK	1	1	22.65	22.37	22.24	22.16	0-1.5	1.5

Table 9-92
NR Band n41 Measured P_{max} for DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) and/or DSI = 3 (Hotspot mode) / DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 20 MHz Bandwidth

NR Band n41 20 MHz Bandwidth									
			Channel					MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	501204 (2506.02 MHz)	509898 (2549.49 MHz)	518598 (2592.99 MHz)	527298 (2636.49 MHz)	535998 (2679.99 MHz)		
			Conducted Power [dBm]						
DFT-s-OFDM π/2 BPSK	1	1	23.92	23.63	23.60	23.67	23.58	0	0.0
	1	26	23.97	23.31	23.49	23.35	23.73		0.0
	1	49	24.10	23.52	23.55	23.69	23.84		0.0
	25	0	23.64	23.11	22.94	22.92	23.37	0-0.5	0.5
	25	13	23.90	23.47	23.40	23.44	23.79	0	0.0
	25	26	23.42	23.06	22.95	22.94	23.54	0-0.5	0.5
	50	0	23.57	23.08	22.87	22.96	23.43		0.5
DFT-s-OFDM QPSK	1	1	24.04	23.77	23.43	23.47	23.65	0	0.0
	1	26	23.74	23.65	23.35	23.55	23.98		0.0
	1	49	23.82	23.51	23.33	23.69	23.84		0.0
	25	0	22.95	22.62	22.56	22.47	22.76	0-1	1.0
	25	13	23.79	23.38	23.37	23.33	23.80	0	0.0
	25	26	22.83	22.60	22.24	22.39	22.87	0-1	1.0
	50	0	22.81	22.59	22.25	22.35	22.81		1.0
DFT-s-OFDM 16QAM	1	1	22.69	22.46	22.27	22.26	23.10	0-1	1.0
CP-OFDM QPSK	1	1	22.58	22.32	22.08	22.17	22.37	0-1.5	1.5

Table 9-93
NR Band n41 Measured P_{limit} for DSI = 2 (Head) - 100 MHz Bandwidth

NR Band n41 100 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	518598 (2592.99 MHz) Conducted Power [dBm]		
DFT-s-OFDM π/2 BPSK	1	1	19.92	0	0.0
	1	137	19.95		0.0
	1	271	19.84		0.0
	135	0	19.94	0-0.5	0.0
	135	69	19.97	0	0.0
	135	138	20.02	0-0.5	0.0
	270	0	19.96		0.0
DFT-s-OFDM QPSK	1	1	**20.15**	0	0.0
	1	137	19.90		0.0
	1	271	19.89		0.0
	135	0	**19.96**	0-1	0.0
	135	69	19.81	0	0.0
	135	138	19.82	0-1	0.0
	270	0	19.95		0.0
DFT-s-OFDM 16QAM	1	1	20.06	0-1	0.0
CP-OFDM QPSK	1	1	20.17	0-1.5	0.0

Note: NR Band n41 at 100 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 9-94
NR Band n41 Measured P_{limit} for DSI = 2 (Head) - 90 MHz Bandwidth

NR Band n41 90 MHz Bandwidth						
			Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	508200 (2541 MHz)	528996 (2644.98 MHz)		
			Conducted Power [dBm]			
DFT-s-OFDM π/2 BPSK	1	1	20.44	19.81	0	0.0
	1	123	20.32	19.73		0.0
	1	243	19.91	20.32		0.0
	120	0	20.36	19.55	0-0.5	0.0
	120	63	20.33	19.63	0	0.0
	120	125	20.13	19.94	0-0.5	0.0
	243	0	20.17	19.79		0.0
DFT-s-OFDM QPSK	1	1	20.52	19.75	0	0.0
	1	123	20.39	19.66		0.0
	1	243	19.91	20.23		0.0
	120	0	20.44	19.54	0-1	0.0
	120	63	20.27	19.62	0	0.0
	120	125	20.19	19.86	0-1	0.0
	243	0	20.30	19.74		0.0
DFT-s-OFDM 16QAM	1	1	20.42	20.11	0-1	0.0
CP-OFDM QPSK	1	1	20.41	19.83	0-1.5	0.0

Table 9-95
NR Band n41 Measured P_{limit} for DSI = 2 (Head) - 80 MHz Bandwidth

NR Band n41 80 MHz Bandwidth						
			Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	507204 (2536.02 MHz)	529998 (2649.99 MHz)		
			Conducted Power [dBm]			
DFT-s-OFDM π/2 BPSK	1	1	20.51	19.74	0	0.0
	1	109	20.37	19.64		0.0
	1	215	20.14	20.31		0.0
	108	0	20.29	19.52	0-0.5	0.0
	108	55	20.31	19.68	0	0.0
	108	109	20.19	19.92	0-0.5	0.0
	216	0	20.12	19.65		0.0
DFT-s-OFDM QPSK	1	1	20.49	19.77	0	0.0
	1	109	20.46	19.71		0.0
	1	215	19.93	20.33		0.0
	108	0	20.42	19.47	0-1	0.0
	108	55	20.34	19.65	0	0.0
	108	109	20.15	19.89	0-1	0.0
	216	0	20.16	19.74		0.0
DFT-s-OFDM 16QAM	1	1	20.32	19.93	0-1	0.0
CP-OFDM QPSK	1	1	20.43	19.68	0-1.5	0.0

Table 9-96
NR Band n41 Measured P_{limit} for DSI = 2 (Head) - 60 MHz Bandwidth

NR Band n41 60 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	505200 (2526 MHz)	518598 (2592.99 MHz)	531996 (2659.98 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	20.46	20.24	19.70	0	0.0
	1	81	20.61	20.15	19.79		0.0
	1	160	20.24	19.82	20.28		0.0
	81	0	20.35	19.95	19.56	0-0.5	0.0
	81	41	20.29	19.74	19.75	0	0.0
	81	81	20.32	19.78	20.15	0-0.5	0.0
	162	0	20.26	19.90	19.80		0.0
DFT-s-OFDM QPSK	1	1	20.40	20.17	19.62	0	0.0
	1	81	20.38	19.97	19.88		0.0
	1	160	20.04	19.72	20.38		0.0
	81	0	20.34	20.10	19.59	0-1	0.0
	81	41	20.28	19.80	19.64	0	0.0
	81	81	20.25	19.77	20.02	0-1	0.0
	162	0	20.28	19.82	19.83		0.0
DFT-s-OFDM 16QAM	1	1	20.51	20.20	19.62	0-1	0.0
CP-OFDM QPSK	1	1	20.37	20.26	19.65	0-1.5	0.0

Table 9-97
NR Band n41 Measured P_{limit} for DSI = 2 (Head) - 50 MHz Bandwidth

NR Band n41 50 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	504204 (2521.02 MHz)	518598 (2592.99 MHz)	532998 (2664.99 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM π/2 BPSK	1	1	20.51	20.25	19.72	0	0.0
	1	67	20.40	19.78	19.84		0.0
	1	131	20.29	19.82	20.36		0.0
	64	0	20.44	19.96	19.65	0-0.5	0.0
	64	35	20.37	19.82	19.78	0	0.0
	64	69	20.22	19.78	20.13	0-0.5	0.0
	128	0	20.34	19.84	19.82		0.0
DFT-s-OFDM QPSK	1	1	20.55	20.22	19.71	0	0.0
	1	67	20.46	20.00	19.88		0.0
	1	131	20.52	19.76	20.43		0.0
	64	0	20.53	19.87	19.57	0-1	0.0
	64	35	20.38	19.81	19.82	0	0.0
	64	69	20.26	19.75	20.18	0-1	0.0
	128	0	20.39	19.79	19.79		0.0
DFT-s-OFDM 16QAM	1	1	20.15	20.27	19.73	0-1	0.0
CP-OFDM QPSK	1	1	20.47	20.35	19.86	0-1.5	0.0

Table 9-98
NR Band n41 Measured P_{limit} for DSI = 2 (Head) - 40 MHz Bandwidth

NR Band n41 40 MHz Bandwidth								
			Channel				MPR Allowed per 3GPP [dB]	MPR Allowed per 3GPP [dB]
Modulation	RB Size	RB Offset	503202 (2516.01 MHz)	513468 (2567.34 MHz)	523734 (2618.67 MHz)	534000 (2670 MHz)		
			Conducted Power [dBm]					
DFT-s-OFDM π/2 BPSK	1	1	20.64	20.37	20.08	20.09		0.0
	1	53	20.63	20.43	20.05	20.28	0	0.0
	1	104	20.61	20.14	20.11	20.53		0.0
	50	0	20.59	20.41	20.06	19.98	0-0.5	0.0
	50	28	20.54	20.36	20.02	20.17	0	0.0
	50	56	20.62	20.22	19.98	20.52	0-0.5	0.0
	100	0	20.51	20.38	20.06	20.23		0.0
DFT-s-OFDM QPSK	1	1	20.44	20.58	20.15	20.07		0.0
	1	53	20.54	20.39	20.23	20.43	0	0.0
	1	104	20.63	20.27	20.18	20.50		0.0
	50	0	20.64	20.33	20.05	20.03	0-1	0.0
	50	28	20.56	20.25	20.09	20.11	0	0.0
	50	56	20.47	20.31	20.01	20.48	0-1	0.0
	100	0	20.65	20.36	20.07	20.29		0.0
DFT-s-OFDM 16QAM	1	1	20.39	20.44	20.55	20.40	0-1	0.0
CP-OFDM QPSK	1	1	20.55	20.56	20.37	20.16	0-1.5	0.0

Table 9-99
NR Band n41 Measured P_{limit} for DSI = 2 (Head) - 20 MHz Bandwidth

NR Band n41 20 MHz Bandwidth									
			Channel					MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	501204 (2506.02 MHz)	509898 (2549.49 MHz)	518598 (2592.99 MHz)	527298 (2636.49 MHz)	535998 (2679.99 MHz)		
			Conducted Power [dBm]						
DFT-s-OFDM π/2 BPSK	1	1	20.42	20.33	20.06	19.76	19.89	0	0.0
	1	26	20.40	20.29	19.94	19.83	19.96		0.0
	1	49	20.48	20.19	19.87	19.79	20.27		0.0
	25	0	20.34	20.30	19.85	19.64	19.94	0-0.5	0.0
	25	13	20.25	20.26	19.82	19.74	20.13	0	0.0
	25	26	20.22	20.12	19.77	19.67	20.17	0-0.5	0.0
	50	0	20.31	20.17	19.80	19.69	20.08		0.0
DFT-s-OFDM QPSK	1	1	20.56	20.31	20.08	19.85	20.04	0	0.0
	1	26	20.28	20.33	19.95	19.81	19.98		0.0
	1	49	20.32	20.24	19.99	19.89	20.31		0.0
	25	0	20.34	20.32	19.93	19.73	19.95	0-1	0.0
	25	13	20.31	20.18	19.84	19.68	20.12	0	0.0
	25	26	20.27	20.15	19.79	19.79	20.20	0-1	0.0
	50	0	20.34	20.24	19.85	19.73	20.14		0.0
DFT-s-OFDM 16QAM	1	1	20.29	20.48	19.82	20.03	19.82	0-1	0.0
CP-OFDM QPSK	1	1	20.56	20.39	19.96	19.75	19.91	0-1.5	0.0

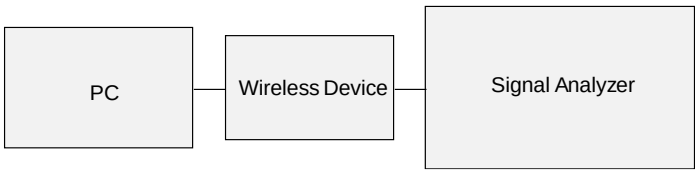


Figure 9-4
Power Measurement Setup

9.6 WLAN Conducted Powers

Table 9-100
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	802.11ax
		Average	Average	Average	Average
2412	1	20.03	17.23	17.56	16.75
2437	6	20.04	17.73	17.39	16.14
2462	11	20.10	17.72	17.83	16.87

Table 9-101
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	802.11ax
		Average	Average	Average	Average
2412	1	20.67	17.84	17.42	16.61
2437	6	20.84	17.96	17.83	16.50
2462	11	20.26	17.61	17.68	16.97

Table 9-102
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	17.45	17.48	17.42	15.34
5200	40	17.80	17.95	17.96	15.28
5220	44	17.86	17.78	17.77	15.10
5240	48	17.84	17.84	17.86	15.12
5260	52	17.26	17.32	17.39	15.94
5280	56	17.20	17.21	17.30	15.88
5300	60	17.25	17.31	17.35	15.97
5320	64	16.79	17.72	17.96	15.80
5500	100	16.60	17.77	17.77	15.67
5520	104	17.89	17.85	17.98	15.72
5600	120	17.45	17.53	17.50	15.21
5620	124	17.42	17.37	17.45	15.13
5720	144	17.79	17.77	17.90	15.56
5745	149	17.80	17.81	17.81	15.28
5785	157	17.82	17.90	17.93	15.40
5825	165	17.47	17.48	17.57	15.01

Table 9-103
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	17.62	17.59	17.68	15.42
5200	40	17.61	17.69	17.81	15.58
5220	44	17.58	17.76	17.82	15.50
5240	48	17.62	17.84	17.90	15.57
5260	52	17.52	17.68	17.75	15.35
5280	56	17.58	17.71	17.81	15.34
5300	60	17.56	17.81	17.84	15.55
5320	64	16.40	17.65	17.75	15.40
5500	100	16.54	17.81	17.83	15.64
5520	104	17.98	17.04	17.08	15.69
5600	120	17.03	17.16	17.17	15.75
5620	124	17.03	17.11	17.23	15.48
5720	144	17.11	17.31	17.34	15.98
5745	149	17.32	17.41	17.46	15.34
5785	157	17.54	17.64	17.62	15.47
5825	165	17.51	17.56	17.58	15.46

Table 9-104
5 GHz WLAN Maximum Average RF Power – MIMO

5GHz (20MHz) 802.11n Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
5180	36	17.48	17.59	20.55
5200	40	17.95	17.69	20.83
5220	44	17.78	17.76	20.78
5240	48	17.84	17.84	20.85
5260	52	17.32	17.68	20.51
5280	56	17.21	17.71	20.48
5300	60	17.31	17.81	20.58
5320	64	17.72	17.65	20.70
5500	100	17.77	17.81	20.80
5600	120	17.53	17.16	20.36
5620	124	17.37	17.11	20.25
5720	144	17.77	17.31	20.56
5745	149	17.81	17.41	20.62
5785	157	17.90	17.64	20.78
5825	165	17.48	17.56	20.53

Table 9-105
2.4 GHz WLAN Reduced Average RF Power (Head Condition) – Ant 1

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ax
		Average	Average	Average	Average
2412	1	16.85	16.74	16.66	16.94
2437	6	17.00	16.77	16.82	16.15
2462	11	16.95	16.25	16.30	16.21

Table 9-106
2.4 GHz WLAN Reduced Average RF Power (Head Condition) – Ant 2

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ax
		Average	Average	Average	Average
2412	1	16.97	16.12	16.20	16.52
2437	6	16.99	16.54	16.16	16.68
2462	11	17.00	16.81	16.58	16.74

Table 9-107
2.4 GHz WLAN Reduced Average RF Power – MIMO

2.4GHz 802.11n Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
2412	1	16.66	16.20	19.45
2437	6	16.82	16.16	19.51
2462	11	16.30	16.58	19.45

Table 9-108
5 GHz WLAN Reduced Average RF Power – Ant 1

5GHz (80MHz) Conducted Power [dBm]			
Freq [MHz]	Channel	IEEE Transmission Mode	
		802.11ac	802.11ax
		Average	Average
5210	42	13.66	12.99
5290	58	13.61	12.54
5530	106	13.87	12.64
5610	122	13.86	12.11
5690	138	14.00	12.42
5775	155	13.99	12.99

Table 9-109
5 GHz WLAN Reduced Average RF Power – Ant 2

5GHz (80MHz) Conducted Power [dBm]			
Freq [MHz]	Channel	IEEE Transmission Mode	
		802.11ac	802.11ax
		Average	Average
5210	42	13.98	12.42
5290	58	13.99	12.18
5530	106	13.81	12.42
5610	122	13.67	12.43
5690	138	13.82	12.34
5775	155	13.58	12.41

Table 9-110
5 GHz WLAN Reduced Average RF Power – MIMO

5GHz (80MHz) 802.11ac Conducted Power [dBm]				
Freq [MHz]	**Channel**	**ANT1**	**ANT2**	**MIMO**
5210	42	13.66	13.98	16.83
5290	58	13.61	13.99	16.81
5530	106	13.87	13.81	16.85
5610	122	13.86	13.67	16.78
5690	138	14.00	13.82	16.92
5775	155	13.99	13.58	16.80

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.

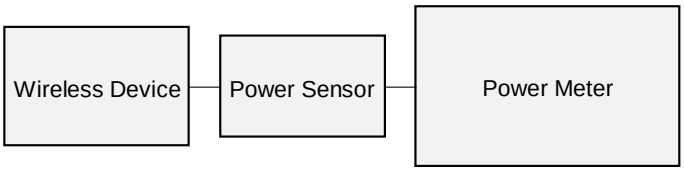


Figure 9-5
Power Measurement Setup

9.7 Bluetooth Conducted Powers

Table 9-111
Bluetooth Average RF Power

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
			[dBm]	[mW]
2402	1.0	0	15.40	34.674
2441	1.0	39	16.58	45.468
2480	1.0	78	16.05	40.275
2402	2.0	0	11.47	14.029
2441	2.0	39	12.65	18.411
2480	2.0	78	11.10	12.881
2402	3.0	0	11.40	13.795
2441	3.0	39	12.73	18.757
2480	3.0	78	11.31	13.521

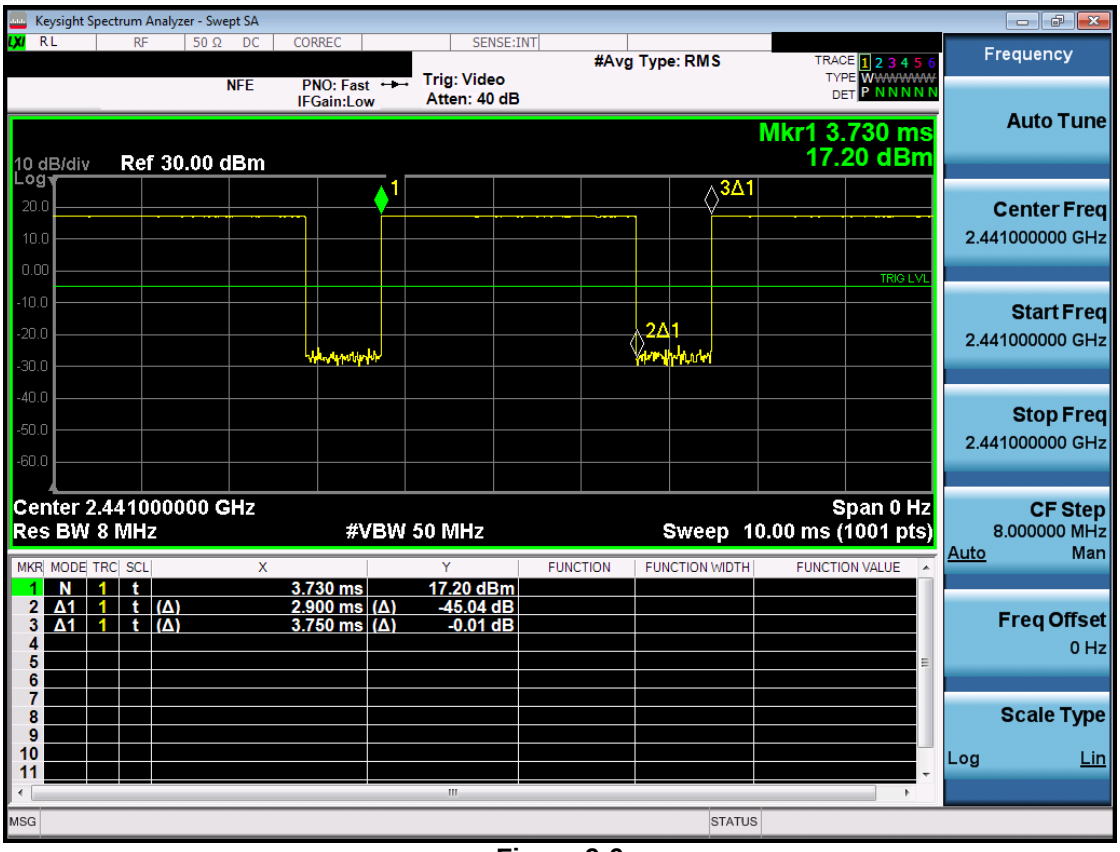


Figure 9-6
Bluetooth Transmission Plot

Equation 9-1
Bluetooth Duty Cycle Calculation

$$\boldsymbol{Duty\ Cycle} = \frac{\boldsymbol{Pulse\ Width}}{\boldsymbol{Period}} * \mathbf{100\%} = \frac{\mathbf{2.90}\boldsymbol{ms}}{\mathbf{3.75}\boldsymbol{ms}} * \mathbf{100\%} = \mathbf{77.3\%}$$

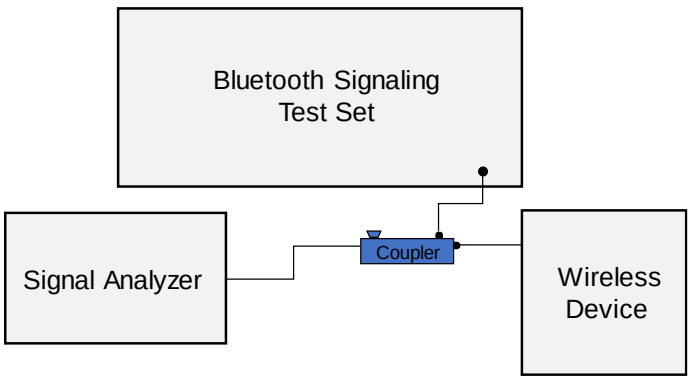


Figure 9-7
Power Measurement Setup

10 SYSTEM VERIFICATION

10.1 Tissue Verification

Table 10-1
Measured Head Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (°C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
06/08/2020	750H	21.5	680	0.849	41.469	0.888	42.305	-4.39%	-1.98%
			695	0.854	41.413	0.889	42.227	-3.94%	-1.93%
			700	0.855	41.394	0.889	42.201	-3.82%	-1.91%
			710	0.859	41.355	0.890	42.149	-3.48%	-1.88%
			725	0.864	41.295	0.891	42.071	-3.03%	-1.84%
			750	0.873	41.208	0.894	41.942	-2.35%	-1.75%
			770	0.880	41.159	0.895	41.838	-1.68%	-1.62%
			785	0.885	41.119	0.896	41.760	-1.23%	-1.53%
			800	0.889	41.075	0.897	41.682	-0.89%	-1.46%
06/11/2020	750H	21.7	680	0.852	40.788	0.888	42.305	-4.05%	-3.59%
			695	0.856	40.751	0.889	42.227	-3.71%	-3.50%
			700	0.858	40.739	0.889	42.201	-3.49%	-3.46%
			710	0.861	40.720	0.890	42.149	-3.26%	-3.39%
			725	0.867	40.687	0.891	42.071	-2.69%	-3.29%
			750	0.875	40.611	0.894	41.942	-2.13%	-3.17%
			770	0.882	40.540	0.895	41.838	-1.45%	-3.10%
			785	0.887	40.488	0.896	41.760	-1.00%	-3.05%
			800	0.892	40.443	0.897	41.682	-0.56%	-2.97%
6/10/2020	835H	21.6	820	0.879	40.688	0.899	41.578	-2.22%	-2.14%
			835	0.886	40.641	0.900	41.500	-1.56%	-2.07%
			850	0.891	40.605	0.916	41.500	-2.73%	-2.16%
6/10/2020	1750H	21.7	1710	1.331	39.316	1.348	40.142	-1.26%	-2.06%
			1720	1.336	39.313	1.354	40.126	-1.33%	-2.03%
			1745	1.349	39.271	1.368	40.087	-1.39%	-2.04%
			1750	1.353	39.243	1.371	40.079	-1.31%	-2.09%
			1770	1.366	39.216	1.383	40.047	-1.23%	-2.08%
			1790	1.377	39.171	1.394	40.016	-1.22%	-2.11%
06/12/2020	1900H	21.8	1850	1.397	39.547	1.400	40.000	-0.21%	-1.13%
			1860	1.409	39.498	1.400	40.000	0.64%	-1.26%
			1880	1.429	39.398	1.400	40.000	2.07%	-1.50%
			1900	1.451	39.329	1.400	40.000	3.64%	-1.68%
			1905	1.456	39.293	1.400	40.000	4.00%	-1.77%
			1910	1.462	39.281	1.400	40.000	4.43%	-1.80%
06/05/2020	2450H	22.9	2300	1.671	40.381	1.670	39.500	0.06%	2.23%
			2310	1.678	40.369	1.679	39.480	-0.06%	2.25%
			2320	1.685	40.358	1.687	39.460	-0.12%	2.28%
06/07/2020	2450H	23.1	2400	1.752	38.656	1.756	39.289	-0.23%	-1.61%
			2450	1.790	38.583	1.800	39.200	-0.56%	-1.57%
			2480	1.809	38.539	1.833	39.162	-1.31%	-1.59%
			2500	1.823	38.502	1.855	39.136	-1.73%	-1.62%
			2510	1.831	38.486	1.866	39.123	-1.88%	-1.63%
			2535	1.852	38.450	1.893	39.092	-2.17%	-1.64%
			2550	1.864	38.430	1.909	39.073	-2.36%	-1.65%
			2560	1.871	38.420	1.920	39.060	-2.55%	-1.64%
			2600	1.899	38.364	1.964	39.009	-3.31%	-1.65%
			2650	1.939	38.278	2.018	38.945	-3.91%	-1.71%
			2680	1.963	38.235	2.051	38.907	-4.29%	-1.73%
			2700	1.977	38.205	2.073	38.882	-4.63%	-1.74%
06/10/2020	2450H	21.5	2400	1.736	40.267	1.756	39.289	-1.14%	2.49%
			2450	1.776	40.196	1.800	39.200	-1.33%	2.54%
			2480	1.798	40.148	1.833	39.162	-1.91%	2.52%

Table 10-2
Measured Head Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (°C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
7/13/2020	5200-5800 Head	21.7	5180	4.524	36.794	4.635	36.009	-2.39%	2.18%
			5190	4.531	36.794	4.645	35.998	-2.45%	2.21%
			5200	4.539	36.780	4.655	35.986	-2.49%	2.21%
			5210	4.548	36.758	4.666	35.975	-2.53%	2.18%
			5220	4.554	36.731	4.676	35.963	-2.61%	2.14%
			5240	4.568	36.676	4.696	35.940	-2.73%	2.05%
			5250	4.583	36.641	4.706	35.929	-2.61%	1.98%
			5260	4.597	36.604	4.717	35.917	-2.54%	1.91%
			5270	4.610	36.579	4.727	35.906	-2.48%	1.87%
			5280	4.621	36.569	4.737	35.894	-2.45%	1.88%
			5290	4.632	36.563	4.748	35.883	-2.44%	1.90%
			5300	4.644	36.555	4.758	35.871	-2.40%	1.91%
			5310	4.654	36.530	4.768	35.860	-2.39%	1.87%
			5320	4.660	36.503	4.778	35.849	-2.47%	1.82%
			5500	4.836	36.140	4.963	35.643	-2.56%	1.39%
			5510	4.851	36.123	4.973	35.632	-2.45%	1.38%
			5520	4.860	36.121	4.983	35.620	-2.47%	1.41%
			5530	4.867	36.119	4.994	35.609	-2.54%	1.43%
			5540	4.874	36.103	5.004	35.597	-2.60%	1.42%
			5550	4.881	36.072	5.014	35.586	-2.65%	1.37%
			5560	4.888	36.035	5.024	35.574	-2.71%	1.30%
			5580	4.907	35.991	5.045	35.551	-2.74%	1.24%
			5600	4.938	35.953	5.065	35.529	-2.51%	1.19%
			5610	4.951	35.922	5.076	35.518	-2.46%	1.14%
			5620	4.960	35.900	5.086	35.506	-2.48%	1.11%
			5640	4.980	35.891	5.106	35.483	-2.47%	1.15%
			5660	4.997	35.841	5.127	35.460	-2.54%	1.07%
			5670	5.003	35.819	5.137	35.449	-2.61%	1.04%
			5680	5.013	35.804	5.147	35.437	-2.60%	1.04%
			5690	5.023	35.775	5.158	35.426	-2.62%	0.99%
			5700	5.033	35.745	5.168	35.414	-2.61%	0.93%
			5710	5.042	35.720	5.178	35.403	-2.63%	0.90%
			5720	5.055	35.708	5.188	35.391	-2.56%	0.90%
			5745	5.088	35.676	5.214	35.363	-2.42%	0.89%
			5750	5.092	35.667	5.219	35.357	-2.43%	0.88%
			5755	5.095	35.661	5.224	35.351	-2.47%	0.88%
			5765	5.103	35.647	5.234	35.340	-2.50%	0.87%
			5775	5.112	35.633	5.245	35.329	-2.54%	0.86%
			5785	5.122	35.616	5.255	35.317	-2.53%	0.85%
			5795	5.133	35.594	5.265	35.305	-2.51%	0.82%
			5800	5.137	35.584	5.270	35.300	-2.52%	0.80%
			5805	5.141	35.579	5.275	35.294	-2.54%	0.81%
			5825	5.161	35.539	5.296	35.271	-2.55%	0.76%

Table 10-3
Measured Body Tissue Properties (Cont.)

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
06/03/2020	750 Body	21.5	680	0.937	55.099	0.958	55.804	-2.19%	-1.26%
			695	0.942	55.043	0.959	55.745	-1.77%	-1.26%
			700	0.944	55.026	0.959	55.726	-1.56%	-1.26%
			710	0.947	54.926	0.960	55.687	-1.35%	-1.37%
			725	0.953	54.917	0.961	55.629	-0.83%	-1.28%
			750	0.965	54.843	0.964	55.531	0.10%	-1.24%
			770	0.970	54.806	0.965	55.453	0.52%	-1.17%
			785	0.978	54.776	0.966	55.395	1.24%	-1.12%
			800	0.981	54.750	0.967	55.336	1.45%	-1.06%
06/18/2020	750 Body	23	680	0.915	56.971	0.958	55.804	-4.49%	2.09%
			695	0.921	56.926	0.959	55.745	-3.96%	2.12%
			700	0.923	56.905	0.959	55.726	-3.75%	2.12%
			710	0.926	56.873	0.960	55.687	-3.54%	2.13%
			725	0.931	56.823	0.961	55.629	-3.12%	2.15%
			750	0.939	56.756	0.964	55.531	-2.59%	2.21%
			770	0.946	56.725	0.965	55.453	-1.97%	2.29%
			785	0.952	56.704	0.966	55.395	-1.45%	2.36%
			800	0.959	56.680	0.967	55.336	-0.83%	2.43%
06/15/2020	835 Body	21.7	820	0.946	53.588	0.969	55.258	-2.37%	-3.02%
			835	0.961	53.410	0.970	55.200	-0.93%	-3.24%
			850	0.977	53.282	0.988	55.154	-1.11%	-3.39%
06/17/2020	835 Body	21.6	820	0.934	53.236	0.969	55.258	-3.61%	-3.66%
			835	0.950	53.076	0.970	55.200	-2.06%	-3.85%
			850	0.966	52.921	0.988	55.154	-2.23%	-4.05%
06/10/2020	1750 Body	22.0	1710	1.462	51.575	1.463	53.537	-0.07%	-3.66%
			1720	1.474	51.532	1.469	53.511	0.34%	-3.70%
			1745	1.503	51.436	1.485	53.445	1.21%	-3.76%
			1750	1.509	51.416	1.488	53.432	1.41%	-3.77%
			1770	1.530	51.334	1.501	53.379	1.93%	-3.83%
			1790	1.550	51.245	1.514	53.326	2.38%	-3.90%
6/12/2020	1750 Body	21.4	1710	1.473	51.124	1.463	53.537	0.68%	-4.51%
			1720	1.486	51.085	1.469	53.511	1.16%	-4.53%
			1745	1.516	50.981	1.485	53.445	2.09%	-4.61%
			1750	1.522	50.958	1.488	53.432	2.28%	-4.63%
			1770	1.544	50.868	1.501	53.379	2.86%	-4.70%
			1790	1.565	50.779	1.514	53.326	3.37%	-4.78%
06/15/2020	1750 Body	21.2	1710	1.459	52.152	1.463	53.537	-0.27%	-2.59%
			1720	1.466	52.133	1.469	53.511	-0.20%	-2.58%
			1745	1.482	52.084	1.485	53.445	-0.20%	-2.55%
			1750	1.486	52.075	1.488	53.432	-0.13%	-2.54%
			1770	1.499	52.043	1.501	53.379	-0.13%	-2.50%
			1790	1.512	52.012	1.514	53.326	-0.13%	-2.46%
06/08/2020	1900 Body	21.5	1850	1.518	51.846	1.520	53.300	-0.13%	-2.73%
			1860	1.530	51.812	1.520	53.300	0.66%	-2.79%
			1880	1.552	51.748	1.520	53.300	2.11%	-2.91%
			1900	1.575	51.680	1.520	53.300	3.62%	-3.04%
			1905	1.581	51.662	1.520	53.300	4.01%	-3.07%
			1910	1.587	51.644	1.520	53.300	4.41%	-3.11%
6/10/2020	1900 Body	23.8	1850	1.515	52.982	1.520	53.300	-0.33%	-0.60%
			1860	1.526	52.937	1.520	53.300	0.39%	-0.68%
			1880	1.549	52.891	1.520	53.300	1.91%	-0.77%
			1900	1.573	52.802	1.520	53.300	3.49%	-0.93%
			1905	1.579	52.801	1.520	53.300	3.88%	-0.94%
			1910	1.584	52.762	1.520	53.300	4.21%	-1.01%
06/12/2020	1900 Body	23.8	1850	1.513	53.119	1.520	53.300	-0.46%	-0.34%
			1860	1.525	53.085	1.520	53.300	0.33%	-0.40%
			1880	1.547	53.022	1.520	53.300	1.78%	-0.52%
			1900	1.569	52.954	1.520	53.300	3.22%	-0.65%
			1905	1.575	52.936	1.520	53.300	3.62%	-0.68%
			1910	1.580	52.917	1.520	53.300	3.95%	-0.72%
06/15/2020	1900 Body	23.2	1850	1.528	51.829	1.520	53.300	0.53%	-2.76%
			1860	1.539	51.803	1.520	53.300	1.25%	-2.81%
			1880	1.561	51.753	1.520	53.300	2.70%	-2.90%
			1900	1.584	51.694	1.520	53.300	4.21%	-3.01%
			1905	1.589	51.678	1.520	53.300	4.54%	-3.04%
			1910	1.595	51.661	1.520	53.300	4.93%	-3.08%
6/4/2020	2450 Body	23.0	2400	1.968	52.765	1.902	52.767	3.47%	0.00%
			2450	2.026	52.633	1.950	52.700	3.90%	-0.13%
			2480	2.059	52.541	1.993	52.662	3.31%	-0.23%
			2500	2.082	52.477	2.021	52.636	3.02%	-0.30%
			2510	2.093	52.446	2.035	52.623	2.85%	-0.34%
			2535	2.124	52.384	2.071	52.592	2.56%	-0.40%
			2550	2.143	52.348	2.092	52.573	2.44%	-0.43%
			2560	2.155	52.326	2.106	52.560	2.33%	-0.45%
			2600	2.201	52.220	2.163	52.509	1.76%	-0.55%
			2650	2.262	52.062	2.234	52.445	1.25%	-0.73%
			2680	2.300	51.984	2.277	52.407	1.01%	-0.81%
			2700	2.325	51.928	2.305	52.382	0.87%	-0.87%
06/07/2020	2450 Body	23.6	2400	1.986	52.800	1.902	52.767	4.42%	0.06%
			2450	2.046	52.664	1.950	52.700	4.92%	-0.07%
			2480	2.081	52.587	1.993	52.662	4.42%	-0.14%
			2500	2.104	52.528	2.021	52.636	4.11%	-0.21%
			2510	2.116	52.496	2.035	52.623	3.98%	-0.24%
			2535	2.147	52.422	2.071	52.592	3.67%	-0.32%
			2550	2.166	52.384	2.092	52.573	3.54%	-0.36%
			2560	2.179	52.359	2.106	52.560	3.47%	-0.38%
			2600	2.228	52.244	2.163	52.509	3.01%	-0.50%
			2650	2.289	52.079	2.234	52.445	2.46%	-0.70%
			2680	2.328	51.990	2.277	52.407	2.24%	-0.80%
			2700	2.353	51.928	2.305	52.382	2.08%	-0.87%
06/11/2020	2450 Body	21.9	2300	1.865	51.212	1.809	52.900	3.10%	-3.19%
			2310	1.876	51.190	1.816	52.887	3.30%	-3.21%
			2320	1.887	51.165	1.826	52.873	3.34%	-3.23%
06/14/2020	2450 Body	21.1	2400	1.967	51.147	1.902	52.767	3.42%	-3.07%
			2450	2.025	51.009	1.950	52.700	3.85%	-3.21%
			2480	2.060	50.925	1.993	52.662	3.36%	-3.30%
			2500	2.084	50.865	2.021	52.636	3.12%	-3.36%
			2510	2.096	50.836	2.035	52.623	3.00%	-3.40%
			2535	2.125	50.763	2.071	52.592	2.61%	-3.48%
			2550	2.143	50.722	2.092	52.573	2.44%	-3.52%
			2560	2.155	50.697	2.106	52.560	2.33%	-3.54%
			2600	2.202	50.574	2.163	52.509	1.80%	-3.69%
			2650	2.264	50.413	2.234	52.445	1.34%	-3.87%
			2680	2.301	50.324	2.277	52.407	1.05%	-3.97%
			2700	2.325	50.263	2.305	52.382	0.87%	-4.05%
06/25/2020	2450 Body	23.4	2400	1.981	51.512	1.902	52.767	4.15%	-2.38%
			2450	2.038	51.373	1.950	52.700	4.51%	-2.52%
			2480	2.072	51.280	1.993	52.662	3.96%	-2.62%
			2500	2.096	51.209	2.021	52.636	3.71%	-2.71%
			2510	2.109	51.174	2.035	52.623	3.64%	-2.75%
			2535	2.139	51.101	2.071	52.592	3.28%	-2.84%
			2550	2.156	51.065	2.092	52.573	3.06%	-2.87%
			2560	2.167	51.038	2.106	52.560	2.90%	-2.90%
			2600	2.212	50.910	2.163	52.509	2.27%	-3.05%
			2650	2.273	50.743	2.234	52.445	1.75%	-3.25%
			2680	2.308	50.654	2.277	52.407	1.36%	-3.34%
			2700	2.330	50.596	2.305	52.382	1.08%	-3.41%

Table 10-4
Measured Body Tissue Properties (Cont.)

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
06/14/2020	5200-5800 Body	23.3	5180	5.351	47.651	5.276	49.041	1.42%	-2.83%
			5190	5.360	47.645	5.288	49.028	1.36%	-2.82%
			5200	5.373	47.636	5.299	49.014	1.40%	-2.81%
			5210	5.387	47.623	5.311	49.001	1.43%	-2.81%
			5220	5.398	47.594	5.323	48.987	1.41%	-2.84%
			5240	5.422	47.559	5.346	48.960	1.42%	-2.86%
			5250	5.438	47.540	5.358	48.947	1.49%	-2.87%
			5260	5.453	47.517	5.369	48.933	1.56%	-2.89%
			5270	5.465	47.491	5.381	48.919	1.56%	-2.92%
			5280	5.477	47.481	5.393	48.906	1.56%	-2.91%
			5290	5.492	47.478	5.404	48.892	1.63%	-2.89%
			5300	5.509	47.471	5.416	48.879	1.72%	-2.88%
			5310	5.523	47.458	5.428	48.865	1.75%	-2.88%
			5320	5.533	47.440	5.439	48.851	1.73%	-2.89%
			5500	5.768	47.138	5.650	48.607	2.09%	-3.02%
			5510	5.784	47.118	5.661	48.594	2.17%	-3.04%
			5520	5.796	47.111	5.673	48.580	2.17%	-3.02%
			5530	5.807	47.105	5.685	48.566	2.15%	-3.01%
			5540	5.823	47.094	5.696	48.553	2.23%	-3.00%
			5550	5.838	47.068	5.708	48.539	2.28%	-3.03%
			5560	5.846	47.035	5.720	48.526	2.20%	-3.07%
			5580	5.871	47.008	5.743	48.499	2.23%	-3.07%
			5600	5.907	46.984	5.766	48.471	2.45%	-3.07%
			5610	5.920	46.962	5.778	48.458	2.46%	-3.09%
			5620	5.934	46.948	5.790	48.444	2.49%	-3.09%
			5640	5.966	46.930	5.813	48.417	2.61%	-3.07%
			5660	5.989	46.885	5.837	48.390	2.60%	-3.11%
			5670	5.999	46.867	5.848	48.376	2.58%	-3.12%
			5680	6.010	46.853	5.860	48.363	2.56%	-3.12%
			5690	6.025	46.839	5.872	48.349	2.61%	-3.12%
			5700	6.040	46.824	5.883	48.336	2.67%	-3.13%
			5710	6.055	46.814	5.895	48.322	2.71%	-3.12%
			5720	6.070	46.794	5.907	48.309	2.76%	-3.14%
			5745	6.109	46.749	5.936	48.275	2.91%	-3.16%
			5750	6.116	46.739	5.942	48.268	2.93%	-3.17%
			5755	6.120	46.727	5.947	48.261	2.91%	-3.18%
			5765	6.130	46.711	5.959	48.248	2.87%	-3.19%
			5775	6.144	46.695	5.971	48.234	2.90%	-3.19%
			5785	6.159	46.687	5.982	48.220	2.96%	-3.18%
			5795	6.173	46.673	5.994	48.207	2.99%	-3.18%
			5800	6.180	46.669	6.000	48.200	3.00%	-3.18%
			5805	6.184	46.665	6.006	48.193	2.96%	-3.17%
			5825	6.216	46.645	6.029	48.166	3.10%	-3.16%
06/21/2020	5200-5800 Body	21.7	5180	5.409	47.325	5.276	49.041	2.52%	-3.50%
			5190	5.420	47.320	5.288	49.028	2.50%	-3.48%
			5200	5.430	47.306	5.299	49.014	2.47%	-3.48%
			5210	5.443	47.286	5.311	49.001	2.49%	-3.50%
			5220	5.455	47.262	5.323	48.987	2.48%	-3.52%
			5240	5.487	47.209	5.346	48.960	2.64%	-3.58%
			5250	5.502	47.183	5.358	48.947	2.69%	-3.60%
			5260	5.517	47.165	5.369	48.933	2.76%	-3.61%
			5270	5.532	47.157	5.381	48.919	2.81%	-3.60%
			5280	5.545	47.151	5.393	48.906	2.82%	-3.59%
			5290	5.557	47.141	5.404	48.892	2.83%	-3.58%
			5300	5.567	47.118	5.416	48.879	2.79%	-3.60%
			5310	5.575	47.089	5.428	48.865	2.71%	-3.63%
			5320	5.585	47.074	5.439	48.851	2.68%	-3.64%
			5500	5.833	46.766	5.650	48.607	3.24%	-3.79%
			5510	5.849	46.758	5.661	48.594	3.32%	-3.78%
			5520	5.862	46.751	5.673	48.580	3.33%	-3.76%
			5530	5.872	46.732	5.685	48.566	3.29%	-3.78%
			5540	5.883	46.707	5.696	48.553	3.28%	-3.80%
			5550	5.890	46.681	5.708	48.539	3.19%	-3.83%
			5560	5.903	46.661	5.720	48.526	3.20%	-3.84%
			5580	5.936	46.613	5.743	48.499	3.36%	-3.89%
			5600	5.969	46.605	5.766	48.471	3.52%	-3.85%
			5610	5.982	46.593	5.778	48.458	3.53%	-3.85%
			5620	5.994	46.577	5.790	48.444	3.52%	-3.85%
			5640	6.024	46.553	5.813	48.417	3.63%	-3.85%
			5660	6.047	46.498	5.837	48.390	3.60%	-3.91%
			5670	6.059	46.468	5.848	48.376	3.59%	-3.94%
			5680	6.074	46.453	5.860	48.363	3.65%	-3.95%
			5690	6.092	46.440	5.872	48.349	3.75%	-3.95%
			5700	6.109	46.426	5.883	48.336	3.84%	-3.95%
			5710	6.122	46.407	5.895	48.322	3.85%	-3.96%
			5720	6.137	46.386	5.907	48.309	3.89%	-3.98%
			5745	6.170	46.358	5.936	48.275	3.94%	-3.97%
			5750	6.176	46.355	5.942	48.268	3.94%	-3.96%
			5755	6.181	46.347	5.947	48.261	3.93%	-3.97%
			5765	6.194	46.335	5.959	48.248	3.94%	-3.96%
			5775	6.208	46.316	5.971	48.234	3.97%	-3.98%
			5785	6.218	46.291	5.982	48.220	3.95%	-4.00%
			5795	6.235	46.263	5.994	48.207	4.02%	-4.03%
			5800	6.242	46.256	6.000	48.200	4.03%	-4.03%
			5805	6.249	46.252	6.006	48.193	4.05%	-4.03%
			5825	6.281	46.229	6.029	48.166	4.18%	-4.02%
7/13/2020	5200-5800 Body	22.6	5180	5.376	46.926	5.276	49.041	1.90%	-4.31%
			5190	5.386	46.912	5.288	49.028	1.85%	-4.32%
			5200	5.397	46.891	5.299	49.014	1.85%	-4.33%
			5210	5.405	46.864	5.311	49.001	1.77%	-4.36%
			5220	5.412	46.839	5.323	48.987	1.67%	-4.38%
			5240	5.443	46.807	5.346	48.960	1.81%	-4.40%
			5250	5.460	46.788	5.358	48.947	1.90%	-4.41%
			5260	5.475	46.770	5.369	48.933	1.97%	-4.42%
			5270	5.486	46.757	5.381	48.919	1.95%	-4.42%
			5280	5.500	46.743	5.393	48.906	1.98%	-4.42%
			5290	5.512	46.718	5.404	48.892	2.00%	-4.45%
			5300	5.521	46.693	5.416	48.879	1.94%	-4.47%
			5310	5.530	46.673	5.428	48.865	1.88%	-4.49%
			5320	5.541	46.654	5.439	48.851	1.88%	-4.50%
			5500	5.787	46.366	5.650	48.607	2.42%	-4.61%
			5510	5.803	46.358	5.661	48.594	2.51%	-4.60%
			5520	5.816	46.343	5.673	48.580	2.52%	-4.60%
			5530	5.828	46.327	5.685	48.566	2.52%	-4.61%
			5540	5.840	46.318	5.696	48.553	2.53%	-4.60%
			5550	5.856	46.301	5.708	48.539	2.59%	-4.61%
			5560	5.872	46.279	5.720	48.526	2.66%	-4.63%
			5580	5.898	46.246	5.743	48.499	2.70%	-4.65%
			5600	5.929	46.207	5.766	48.471	2.83%	-4.67%
			5610	5.940	46.188	5.778	48.458	2.80%	-4.68%
			5620	5.950	46.171	5.790	48.444	2.76%	-4.69%
			5640	5.974	46.144	5.813	48.417	2.77%	-4.69%
			5660	5.992	46.118	5.837	48.390	2.66%	-4.70%
			5670	6.004	46.096	5.848	48.376	2.67%	-4.71%
			5680	6.023	46.083	5.860	48.363	2.78%	-4.71%
			5690	6.043	46.064	5.872	48.349	2.91%	-4.73%
			5700	6.060	46.035	5.883	48.336	3.01%	-4.76%
			5710	6.073	46.018	5.895	48.322	3.02%	-4.77%
			5720	6.085	46.010	5.907	48.309	3.01%	-4.76%
			5745	6.103	45.962	5.936	48.275	2.81%	-4.79%
			5750	6.107	45.951	5.942	48.268	2.79%	-4.80%
			5755	6.111	45.946	5.947	48.261	2.76%	-4.80%
			5765	6.123	45.929	5.959	48.248	2.75%	-4.81%
			5775	6.144	45.898	5.971	48.234	2.90%	-4.84%
			5785	6.155	45.864	5.982	48.220	3.06%	-4.89%
			5795	6.187	45.851	5.994	48.207	3.22%	-4.89%
			5800	6.194	45.848	6.000	48.200	3.23%	-4.88%
			5805	6.204	45.849	6.006	48.193	3.30%	-4.86%
			5825	6.232	45.843	6.029	48.166	3.37%	-4.82%

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 D.

Table 10-5
System Verification Results – 1g Head

System Verification TARGET & MEASURED												
SAR System #	Tissue Frequency (MHz)	Tissue Type	Date	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Source SN	Probe SN	Measured SAR_{1g} (W/kg)	1 W Target SAR_{1g} (W/kg)	1 W Normalized SAR_{1g} (W/kg)	$Deviation_{1g}$ (%)
L	750	HEAD	06/08/2020	22.3	22.0	0.200	1054	7410	1.650	8.630	8.250	-4.40%
L	750	HEAD	06/11/2020	24.0	22.5	0.200	1054	7410	1.650	8.630	8.250	-4.40%
L	835	HEAD	06/10/2020	24.0	21.6	0.200	4d132	7410	1.860	9.650	9.300	-3.63%
P	1750	HEAD	06/10/2020	23.5	21.7	0.100	1150	7551	3.780	36.500	37.800	3.56%
P	1900	HEAD	06/12/2020	23.9	22.0	0.100	5d148	7551	4.190	39.100	41.900	7.16%
E	2300	HEAD	06/05/2020	23.5	22.9	0.100	1073	3589	4.800	49.200	48.000	-2.44%
E	2450	HEAD	06/07/2020	21.7	21.5	0.100	719	3589	5.350	53.100	53.500	0.75%
E	2450	HEAD	06/10/2020	21.1	21.5	0.100	719	3589	5.040	53.100	50.400	-5.08%
E	2600	HEAD	06/07/2020	21.7	21.5	0.100	1064	3589	5.650	58.100	56.500	-2.75%
H	5250	HEAD	07/13/2020	21.7	21.8	0.050	1057	7357	3.820	79.200	76.400	-3.54%
H	5600	HEAD	07/13/2020	21.7	21.8	0.050	1057	7357	3.870	84.100	77.400	-7.97%
H	5750	HEAD	07/13/2020	21.7	21.8	0.050	1057	7357	3.890	80.500	77.800	-3.35%

Table 10-6
System Verification Results – 1g Body

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	BODY	06/03/2020	23.4	21.5	0.200	1054	7410	1.820	8.530	9.100	6.68%
E	750	BODY	06/18/2020	22.2	21.5	0.200	1003	3589	1.740	8.610	8.700	1.05%
P	835	BODY	06/15/2020	23.1	21.7	0.200	4d132	7551	1.940	9.960	9.700	-2.61%
P	835	BODY	06/17/2020	22.0	21.6	0.200	4d047	7551	2.020	9.470	10.100	6.65%
I	1750	BODY	06/10/2020	23.1	22.0	0.100	1008	7527	3.800	37.400	38.000	1.60%
I	1750	BODY	06/12/2020	22.3	21.4	0.100	1008	7527	3.940	37.400	39.400	5.35%
L	1750	BODY	06/15/2020	23.1	21.2	0.100	1150	7410	3.800	36.600	38.000	3.83%
H	1900	BODY	06/08/2020	22.2	21.4	0.100	5d148	7357	4.100	39.100	41.000	4.86%
J	1900	BODY	06/12/2020	22.6	22.5	0.100	5d149	7571	4.230	39.400	42.300	7.36%
J	1900	BODY	06/15/2020	22.1	23.2	0.100	5d080	7571	4.260	39.200	42.600	8.67%
K	2300	BODY	06/11/2020	24.0	22.0	0.100	1073	7547	5.090	47.700	50.900	6.71%
K	2450	BODY	06/04/2020	22.1	22.0	0.100	719	7547	5.080	50.800	50.800	0.00%
K	2450	BODY	06/07/2020	23.6	23.3	0.100	719	7547	5.260	50.800	52.600	3.54%
K	2450	BODY	06/14/2020	21.1	23.1	0.100	719	7547	5.130	50.800	51.300	0.98%
K	2600	BODY	06/04/2020	22.1	22.0	0.100	1064	7547	5.420	55.600	54.200	-2.52%
K	2600	BODY	06/07/2020	23.6	23.3	0.100	1064	7547	5.700	55.600	57.000	2.52%
K	2600	BODY	06/14/2020	21.1	23.1	0.100	1064	7547	5.430	55.600	54.300	-2.34%
G	5250	BODY	06/14/2020	22.6	22.4	0.050	1191	7538	3.590	77.000	71.800	-6.75%
G	5250	BODY	06/21/2020	22.8	23.0	0.050	1057	7538	3.630	75.900	72.600	-4.35%
G	5600	BODY	06/14/2020	22.6	22.4	0.050	1191	7538	3.760	78.600	75.200	-4.33%
G	5600	BODY	06/21/2020	22.8	23.0	0.050	1057	7538	3.960	79.900	79.200	-0.88%
G	5750	BODY	06/14/2020	22.6	22.4	0.050	1191	7538	3.690	76.900	73.800	-4.03%
G	5750	BODY	06/21/2020	22.8	23.0	0.050	1057	7538	3.690	76.700	73.800	-3.78%

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	06/10/2020	23.1	22.0	0.100	1008	7527	2.000	19.900	20.000	0.50%
L	1750	BODY	06/15/2020	23.1	21.2	0.100	1150	7410	2.010	19.400	20.100	3.61%
J	1900	BODY	06/10/2020	22.0	22.9	0.100	5d080	7571	2.150	20.600	21.500	4.37%
J	1900	BODY	06/12/2020	22.6	22.5	0.100	5d149	7571	2.170	20.700	21.700	4.83%
J	1900	BODY	06/15/2020	22.1	23.2	0.100	5d080	7571	2.200	20.600	22.000	6.80%
K	2300	BODY	06/11/2020	24.0	22.0	0.100	1073	7547	2.430	23.200	24.300	4.74%
K	2450	BODY	06/07/2020	23.6	23.3	0.100	719	7547	2.420	24.000	24.200	0.83%
K	2450	BODY	06/25/2020	22.0	21.7	0.100	719	7547	2.420	24.000	24.200	0.83%
K	2600	BODY	06/07/2020	23.6	23.3	0.100	1064	7547	2.510	25.000	25.100	0.40%
K	2600	BODY	06/25/2020	22.0	21.7	0.100	1064	7547	2.430	25.000	24.300	-2.80%
G	5250	BODY	07/13/2020	22.6	22.1	0.050	1237	7538	1.020	21.200	20.400	-3.77%
G	5600	BODY	07/13/2020	22.6	22.1	0.050	1237	7538	1.050	22.000	21.000	-4.55%
G	5750	BODY	07/13/2020	22.6	22.1	0.050	1237	7538	1.000	21.200	20.000	-5.66%

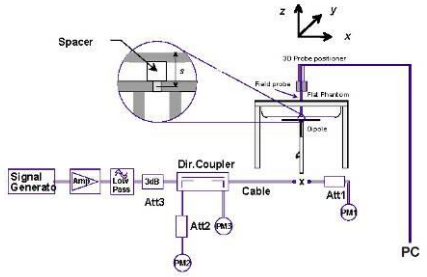


Figure 10-1
System Verification Setup Diagram

Figure 10-2
System Verification Setup Photo

11 SAR DATA SUMMARY

11.1 Standalone Head SAR Data

Table 11-1
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	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
836.60	190	GSM 850	GSM	33.5	32.88	0.03	Right	Cheek	0278M	1:8.3	0.078	1.153	0.090	
836.60	190	GSM 850	GSM	33.5	32.88	-0.02	Right	Tilt	0278M	1:8.3	0.050	1.153	0.058	
836.60	190	GSM 850	GSM	33.5	32.88	-0.03	Left	Cheek	0278M	1:8.3	0.122	1.153	0.141	A1
836.60	190	GSM 850	GSM	33.5	32.88	0.03	Left	Tilt	0278M	1:8.3	0.055	1.153	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 11-2
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	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1880.00	661	GSM 1900	GSM	30.0	29.08	0.05	Right	Cheek	0280M	1:8.3	0.067	1.236	0.083	A2
1880.00	661	GSM 1900	GSM	30.0	29.08	0.07	Right	Tilt	0280M	1:8.3	0.040	1.236	0.049	
1880.00	661	GSM 1900	GSM	30.0	29.08	0.11	Left	Cheek	0280M	1:8.3	0.057	1.236	0.070	
1880.00	661	GSM 1900	GSM	30.0	29.08	0.04	Left	Tilt	0280M	1:8.3	0.041	1.236	0.051	
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	Antenna State	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	24.94	0.09	Right	Cheek	27	0278M	1:1	0.118	1.138	0.134	
836.60	4183	UMTS 850	RMC	25.5	24.94	0.13	Right	Tilt	27	0278M	1:1	0.087	1.138	0.099	
836.60	4183	UMTS 850	RMC	25.5	24.94	0.10	Left	Cheek	27	0278M	1:1	0.165	1.138	0.188	A3
836.60	4183	UMTS 850	RMC	25.5	24.94	0.08	Left	Tilt	27	0278M	1:1	0.080	1.138	0.091	
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	Antenna State	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	24.0	23.22	-0.17	Right	Cheek	9	0255M	1:1	0.136	1.197	0.163	A4
1732.40	1412	UMTS 1750	RMC	24.0	23.22	0.14	Right	Tilt	9	0255M	1:1	0.091	1.197	0.109	
1732.40	1412	UMTS 1750	RMC	24.0	23.22	0.05	Left	Cheek	9	0255M	1:1	0.101	1.197	0.121	
1732.40	1412	UMTS 1750	RMC	24.0	23.22	0.06	Left	Tilt	9	0255M	1:1	0.081	1.197	0.097	
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
UMTS 1900 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna State	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	24.0	23.11	0.14	Right	Cheek	1	0280M	1:1	0.141	1.227	0.173	A5
1880.00	9400	UMTS 1900	RMC	24.0	23.11	0.12	Right	Tilt	1	0280M	1:1	0.065	1.227	0.080	
1880.00	9400	UMTS 1900	RMC	24.0	23.11	0.07	Left	Cheek	1	0280M	1:1	0.101	1.227	0.124	
1880.00	9400	UMTS 1900	RMC	24.0	23.11	0.12	Left	Tilt	1	0280M	1:1	0.091	1.227	0.112	
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
CDMA BC0 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna State	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	25.8	24.78	0.00	Right	Cheek	27	0278M	1:1	0.125	1.265	0.158	
836.52	384	Cell. CDMA	RC3 / SO55	25.8	24.78	-0.02	Right	Tilt	27	0278M	1:1	0.090	1.265	0.114	
836.52	384	Cell. CDMA	RC3 / SO55	25.8	24.78	-0.02	Left	Cheek	27	0278M	1:1	0.178	1.265	0.225	
836.52	384	Cell. CDMA	RC3 / SO55	25.8	24.78	0.00	Left	Tilt	27	0278M	1:1	0.084	1.265	0.106	
836.52	384	Cell. CDMA	EVDO Rev. A	25.8	24.81	0.18	Right	Cheek	27	0278M	1:1	0.138	1.256	0.173	
836.52	384	Cell. CDMA	EVDO Rev. A	25.8	24.81	0.13	Right	Tilt	27	0278M	1:1	0.084	1.256	0.106	
836.52	384	Cell. CDMA	EVDO Rev. A	25.8	24.81	-0.01	Left	Cheek	27	0278M	1:1	0.180	1.256	0.226	A6
836.52	384	Cell. CDMA	EVDO Rev. A	25.8	24.81	0.11	Left	Tilt	27	0278M	1:1	0.071	1.256	0.089	
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
LTE Band 71 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Antenna State	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
680.50	133297	Mid	LTE Band 71	20	25.8	25.15	0.14	0	Right	Cheek	41	QPSK	1	0	0302M	1:1	0.073	1.161	0.085	
680.50	133297	Mid	LTE Band 71	20	24.8	24.36	0.18	1	Right	Cheek	41	QPSK	50	0	0302M	1:1	0.055	1.107	0.061	
680.50	133297	Mid	LTE Band 71	20	25.8	25.15	0.15	0	Right	Tilt	41	QPSK	1	0	0302M	1:1	0.039	1.161	0.045	
680.50	133297	Mid	LTE Band 71	20	24.8	24.36	0.11	1	Right	Tilt	41	QPSK	50	0	0302M	1:1	0.029	1.107	0.032	
680.50	133297	Mid	LTE Band 71	20	25.8	25.15	0.04	0	Left	Cheek	39	QPSK	1	0	0302M	1:1	0.100	1.161	0.116	A7
680.50	133297	Mid	LTE Band 71	20	24.8	24.36	0.11	1	Left	Cheek	39	QPSK	50	0	0302M	1:1	0.073	1.107	0.081	
680.50	133297	Mid	LTE Band 71	20	25.8	25.15	-0.03	0	Left	Tilt	39	QPSK	1	0	0302M	1:1	0.037	1.161	0.043	
680.50	133297	Mid	LTE Band 71	20	24.8	24.36	-0.12	1	Left	Tilt	39	QPSK	50	0	0302M	1:1	0.026	1.107	0.029	
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	Antenna State	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	25.8	25.02	-0.01	0	Right	Cheek	2	QPSK	1	0	0288M	1:1	0.083	1.197	0.099	
707.50	23095	Mid	LTE Band 12	10	24.8	24.19	0.16	1	Right	Cheek	2	QPSK	25	12	0288M	1:1	0.071	1.151	0.082	
707.50	23095	Mid	LTE Band 12	10	25.8	25.02	0.18	0	Right	Tilt	2	QPSK	1	0	0288M	1:1	0.054	1.197	0.065	
707.50	23095	Mid	LTE Band 12	10	24.8	24.19	0.15	1	Right	Tilt	2	QPSK	25	12	0288M	1:1	0.051	1.151	0.059	
707.50	23095	Mid	LTE Band 12	10	25.8	25.02	0.11	0	Left	Cheek	2	QPSK	1	0	0288M	1:1	0.116	1.197	0.139	A8
707.50	23095	Mid	LTE Band 12	10	24.8	24.19	0.05	1	Left	Cheek	2	QPSK	25	12	0288M	1:1	0.102	1.151	0.117	
707.50	23095	Mid	LTE Band 12	10	25.8	25.02	-0.15	0	Left	Tilt	2	QPSK	1	0	0288M	1:1	0.056	1.197	0.067	
707.50	23095	Mid	LTE Band 12	10	24.8	24.19	-0.12	1	Left	Tilt	2	QPSK	25	12	0288M	1:1	0.044	1.151	0.051	
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	Antenna State	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	25.8	25.05	-0.13	0	Right	Cheek	54	QPSK	1	49	0288M	1:1	0.133	1.189	0.158	
782.00	23230	Mid	LTE Band 13	10	24.8	24.27	0.17	1	Right	Cheek	54	QPSK	25	0	0288M	1:1	0.086	1.130	0.097	
782.00	23230	Mid	LTE Band 13	10	25.8	25.05	0.16	0	Right	Tilt	54	QPSK	1	49	0288M	1:1	0.062	1.189	0.074	
782.00	23230	Mid	LTE Band 13	10	24.8	24.27	0.04	1	Right	Tilt	54	QPSK	25	0	0288M	1:1	0.045	1.130	0.051	
782.00	23230	Mid	LTE Band 13	10	25.8	25.05	-0.13	0	Left	Cheek	54	QPSK	1	49	0288M	1:1	0.190	1.189	0.226	A9
782.00	23230	Mid	LTE Band 13	10	24.8	24.27	0.01	1	Left	Cheek	54	QPSK	25	0	0288M	1:1	0.144	1.130	0.163	
782.00	23230	Mid	LTE Band 13	10	25.8	25.05	0.16	0	Left	Tilt	54	QPSK	1	49	0288M	1:1	0.086	1.189	0.102	
782.00	23230	Mid	LTE Band 13	10	24.8	24.27	-0.10	1	Left	Tilt	54	QPSK	25	0	0288M	1:1	0.061	1.130	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 11-10
LTE Band 5 (Cell) Head SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Antenna State	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	20525	Mid	LTE Band 5 (Cell)	10	25.8	25.33	0.12	0	Right	Cheek	0	QPSK	1	0	0288M	1:1	0.127	1.114	0.141	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	24.49	-0.06	1	Right	Cheek	0	QPSK	25	12	0288M	1:1	0.107	1.074	0.115	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	25.33	0.04	0	Right	Tilt	0	QPSK	1	0	0288M	1:1	0.095	1.114	0.106	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	24.49	0.08	1	Right	Tilt	0	QPSK	25	12	0288M	1:1	0.072	1.074	0.077	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	25.33	-0.01	0	Left	Cheek	0	QPSK	1	0	0288M	1:1	0.197	1.114	0.219	A10
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	24.49	0.01	1	Left	Cheek	0	QPSK	25	12	0288M	1:1	0.151	1.074	0.162	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	25.33	0.15	0	Left	Tilt	0	QPSK	1	0	0288M	1:1	0.080	1.114	0.089	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	24.49	0.11	1	Left	Tilt	0	QPSK	25	12	0288M	1:1	0.059	1.074	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 11-11
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	Antenna State	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	24.0	23.21	0.11	0	Right	Cheek	7	QPSK	1	0	0286M	1:1	0.108	1.199	0.129	A11
1770.00	132572	High	LTE Band 66 (AWS)	20	23.0	22.26	0.07	1	Right	Cheek	7	QPSK	50	25	0286M	1:1	0.092	1.186	0.109	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.21	-0.06	0	Right	Tilt	7	QPSK	1	0	0286M	1:1	0.081	1.199	0.097	
1770.00	132572	High	LTE Band 66 (AWS)	20	23.0	22.26	0.15	1	Right	Tilt	7	QPSK	50	25	0286M	1:1	0.060	1.186	0.071	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.21	-0.09	0	Left	Cheek	7	QPSK	1	0	0286M	1:1	0.073	1.199	0.088	
1770.00	132572	High	LTE Band 66 (AWS)	20	23.0	22.26	0.17	1	Left	Cheek	7	QPSK	50	25	0286M	1:1	0.054	1.186	0.064	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.21	0.10	0	Left	Tilt	7	QPSK	1	0	0286M	1:1	0.070	1.199	0.084	
1770.00	132572	High	LTE Band 66 (AWS)	20	23.0	22.26	0.10	1	Left	Tilt	7	QPSK	50	25	0286M	1:1	0.054	1.186	0.064	
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 25 (PCS) Head SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Antenna State	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.0	23.22	-0.20	0	Right	Cheek	1	QPSK	1	99	0286M	1:1	0.139	1.197	0.166	A12
1882.50	26365	Mid	LTE Band 25 (PCS)	20	23.0	22.31	0.07	1	Right	Cheek	1	QPSK	50	50	0286M	1:1	0.109	1.172	0.128	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.0	23.22	0.15	0	Right	Tilt	1	QPSK	1	99	0286M	1:1	0.065	1.197	0.078	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	23.0	22.31	0.02	1	Right	Tilt	1	QPSK	50	50	0286M	1:1	0.054	1.172	0.063	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.0	23.22	0.17	0	Left	Cheek	1	QPSK	1	99	0286M	1:1	0.083	1.197	0.099	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	23.0	22.31	0.10	1	Left	Cheek	1	QPSK	50	50	0286M	1:1	0.074	1.172	0.087	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.0	23.22	-0.13	0	Left	Tilt	1	QPSK	1	99	0286M	1:1	0.060	1.197	0.072	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	23.0	22.31	0.10	1	Left	Tilt	1	QPSK	50	50	0286M	1:1	0.047	1.172	0.055	
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 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	24.2	23.72	0.00	0	Right	Cheek	QPSK	1	49	0286M	1:1	0.107	1.117	0.120	A13
2310.00	27710	Mid	LTE Band 30	10	23.2	22.77	0.13	1	Right	Cheek	QPSK	25	12	0286M	1:1	0.083	1.104	0.092	
2310.00	27710	Mid	LTE Band 30	10	24.2	23.72	0.13	0	Right	Tilt	QPSK	1	49	0286M	1:1	0.052	1.117	0.058	
2310.00	27710	Mid	LTE Band 30	10	23.2	22.77	0.14	1	Right	Tilt	QPSK	25	12	0286M	1:1	0.050	1.104	0.055	
2310.00	27710	Mid	LTE Band 30	10	24.2	23.72	0.10	0	Left	Cheek	QPSK	1	49	0286M	1:1	0.063	1.117	0.070	
2310.00	27710	Mid	LTE Band 30	10	23.2	22.77	0.16	1	Left	Cheek	QPSK	25	12	0286M	1:1	0.052	1.104	0.057	
2310.00	27710	Mid	LTE Band 30	10	24.2	23.72	0.14	0	Left	Tilt	QPSK	1	49	0286M	1:1	0.075	1.117	0.084	
2310.00	27710	Mid	LTE Band 30	10	23.2	22.77	0.12	1	Left	Tilt	QPSK	25	12	0286M	1:1	0.061	1.104	0.067	

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 11-14
LTE Band 7 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)	
2535.00	21100	Mid	LTE Band 7	20	24.0	23.26	0.00	0	Right	Cheek	QPSK	1	0	0295M	1:1	0.105	1.186	0.125	A14
2535.00	21100	Mid	LTE Band 7	20	23.0	22.38	0.07	1	Right	Cheek	QPSK	50	25	0295M	1:1	0.071	1.153	0.082	
2535.00	21100	Mid	LTE Band 7	20	24.0	23.26	0.15	0	Right	Tilt	QPSK	1	0	0295M	1:1	0.062	1.186	0.074	
2535.00	21100	Mid	LTE Band 7	20	23.0	22.38	0.15	1	Right	Tilt	QPSK	50	25	0295M	1:1	0.047	1.153	0.054	
2535.00	21100	Mid	LTE Band 7	20	24.0	23.26	0.12	0	Left	Cheek	QPSK	1	0	0295M	1:1	0.092	1.186	0.109	
2535.00	21100	Mid	LTE Band 7	20	23.0	22.38	0.15	1	Left	Cheek	QPSK	50	25	0295M	1:1	0.072	1.153	0.083	
2535.00	21100	Mid	LTE Band 7	20	24.0	23.26	-0.02	0	Left	Tilt	QPSK	1	0	0295M	1:1	0.092	1.186	0.109	
2535.00	21100	Mid	LTE Band 7	20	23.0	22.38	0.14	1	Left	Tilt	QPSK	50	25	0295M	1:1	0.078	1.153	0.090	

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 11-15
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)	
2506.00	39750	Low	LTE Band 41	20	25.0	24.27	0.14	0	Right	Cheek	QPSK	1	99	0257M	1:1.58	0.079	1.183	0.093	A15
2506.00	39750	Low	LTE Band 41	20	24.0	23.24	0.15	1	Right	Cheek	QPSK	50	0	0257M	1:1.58	0.059	1.191	0.070	
2506.00	39750	Low	LTE Band 41	20	25.0	24.27	0.15	0	Right	Tilt	QPSK	1	99	0257M	1:1.58	0.040	1.183	0.047	
2506.00	39750	Low	LTE Band 41	20	24.0	23.24	0.15	1	Right	Tilt	QPSK	50	0	0257M	1:1.58	0.032	1.191	0.038	
2506.00	39750	Low	LTE Band 41	20	25.0	24.27	0.18	0	Left	Cheek	QPSK	1	99	0257M	1:1.58	0.063	1.183	0.075	
2506.00	39750	Low	LTE Band 41	20	24.0	23.24	0.13	1	Left	Cheek	QPSK	50	0	0257M	1:1.58	0.047	1.191	0.056	
2506.00	39750	Low	LTE Band 41	20	25.0	24.27	0.16	0	Left	Tilt	QPSK	1	99	0257M	1:1.58	0.065	1.183	0.077	
2506.00	39750	Low	LTE Band 41	20	24.0	23.24	0.19	1	Left	Tilt	QPSK	50	0	0257M	1:1.58	0.053	1.191	0.063	

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 11-16
NR Band n71 Head SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Antenna State	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
680.50	136100	Mid	NR Band n71	20	25.8	25.03	0.14	0	Right	Cheek	41	DFT-S-OFDM QPSK	1	1	0305M	1:1	0.048	1.194	0.057	
680.50	136100	Mid	NR Band n71	20	25.8	25.01	0.06	0	Right	Cheek	41	DFT-S-OFDM QPSK	50	28	0305M	1:1	0.042	1.199	0.050	
680.50	136100	Mid	NR Band n71	20	25.8	25.03	0.14	0	Right	Tilt	41	DFT-S-OFDM QPSK	1	1	0305M	1:1	0.026	1.194	0.031	
680.50	136100	Mid	NR Band n71	20	25.8	25.01	0.18	0	Right	Tilt	41	DFT-S-OFDM QPSK	50	28	0305M	1:1	0.020	1.199	0.024	
680.50	136100	Mid	NR Band n71	20	25.8	25.03	0.04	0	Left	Cheek	39	DFT-S-OFDM QPSK	1	1	0305M	1:1	0.085	1.194	0.101	A16
680.50	136100	Mid	NR Band n71	20	25.8	25.01	0.19	0	Left	Cheek	39	DFT-S-OFDM QPSK	50	28	0305M	1:1	0.078	1.199	0.094	
680.50	136100	Mid	NR Band n71	20	24.3	23.26	-0.02	1.5	Left	Cheek	39	CP-OFDM QPSK	1	1	0305M	1:1	0.067	1.271	0.085	
680.50	136100	Mid	NR Band n71	20	25.8	25.03	0.11	0	Left	Tilt	39	DFT-S-OFDM QPSK	1	1	0305M	1:1	0.031	1.194	0.037	
680.50	136100	Mid	NR Band n71	20	25.8	25.01	0.17	0	Left	Tilt	39	DFT-S-OFDM QPSK	50	28	0305M	1:1	0.022	1.199	0.026	
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 n66 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Antenna State	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	354000	High	NR Band n66 (AWS)	20	24.5	23.86	-0.11	0	Right	Cheek	7	DFT-S-OFDM QPSK	1	104	0261M	1:1	0.102	1.159	0.118	
1770.00	354000	High	NR Band n66 (AWS)	20	24.5	23.96	0.19	0	Right	Cheek	7	DFT-S-OFDM QPSK	50	28	0261M	1:1	0.119	1.132	0.135	A17
1720.00	344000	Low	NR Band n66 (AWS)	20	23.0	22.12	0.14	1.5	Right	Cheek	7	CP-OFDM QPSK	1	1	0261M	1:1	0.084	1.225	0.103	
1770.00	354000	High	NR Band n66 (AWS)	20	24.5	23.86	0.16	0	Right	Tilt	7	DFT-S-OFDM QPSK	1	104	0261M	1:1	0.073	1.159	0.085	
1770.00	354000	High	NR Band n66 (AWS)	20	24.5	23.96	-0.12	0	Right	Tilt	7	DFT-S-OFDM QPSK	50	28	0261M	1:1	0.085	1.132	0.096	
1770.00	354000	High	NR Band n66 (AWS)	20	24.5	23.86	-0.18	0	Left	Cheek	7	DFT-S-OFDM QPSK	1	104	0261M	1:1	0.077	1.159	0.089	
1770.00	354000	High	NR Band n66 (AWS)	20	24.5	23.96	0.10	0	Left	Cheek	7	DFT-S-OFDM QPSK	50	28	0261M	1:1	0.082	1.132	0.093	
1770.00	354000	High	NR Band n66 (AWS)	20	24.5	23.86	0.11	0	Left	Tilt	7	DFT-S-OFDM QPSK	1	104	0261M	1:1	0.071	1.159	0.082	
1770.00	354000	High	NR Band n66 (AWS)	20	24.5	23.96	0.05	0	Left	Tilt	7	DFT-S-OFDM QPSK	50	28	0261M	1:1	0.081	1.132	0.092	
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 n41 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)	
2592.99	518598	Mid	NR Band n41	100	21.0	20.15	0.12	0	Right	Cheek	DFT-S-OFDM QPSK	1	1	0260M	1:4	0.234	1.216	0.285	
2592.99	518598	Mid	NR Band n41	100	21.0	19.96	0.11	0	Right	Cheek	DFT-S-OFDM QPSK	135	0	0260M	1:4	0.213	1.271	0.271	
2592.99	518598	Mid	NR Band n41	100	21.0	20.15	0.07	0	Right	Tilt	DFT-S-OFDM QPSK	1	1	0260M	1:4	0.335	1.216	**0.407**	A18
2592.99	518598	Mid	NR Band n41	100	21.0	19.96	0.10	0	Right	Tilt	DFT-S-OFDM QPSK	135	0	0260M	1:4	0.305	1.271	0.388	
2592.99	518598	Mid	NR Band n41	100	21.0	20.17	0.05	0	Right	Tilt	CP-OFDM QPSK	1	1	0260M	1:4	0.305	1.211	0.369	
2592.99	518598	Mid	NR Band n41	100	21.0	20.15	0.15	0	Left	Cheek	DFT-S-OFDM QPSK	1	1	0260M	1:4	0.161	1.216	0.196	
2592.99	518598	Mid	NR Band n41	100	21.0	19.96	0.11	0	Left	Cheek	DFT-S-OFDM QPSK	135	0	0260M	1:4	0.161	1.271	0.205	
2592.99	518598	Mid	NR Band n41	100	21.0	20.15	0.15	0	Left	Tilt	DFT-S-OFDM QPSK	1	1	0260M	1:4	0.193	1.216	0.235	
2592.99	518598	Mid	NR Band n41	100	21.0	19.96	0.13	0	Left	Tilt	DFT-S-OFDM QPSK	135	0	0260M	1:4	0.175	1.271	0.222	
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
DTS Head SISO 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	17.0	17.00	0.07	Right	Cheek	1	0297M	1	99.9	0.472	-	1.000	1.001	-	
2437	6	802.11b	DSSS	22	17.0	17.00	0.08	Right	Tilt	1	0297M	1	99.9	0.633	0.336	1.000	1.001	0.336	
2437	6	802.11b	DSSS	22	17.0	17.00	-0.08	Left	Cheek	1	0297M	1	99.9	0.479	-	1.000	1.001	-	
2437	6	802.11b	DSSS	22	17.0	17.00	0.17	Left	Tilt	1	0297M	1	99.9	0.571	0.344	1.000	1.001	**0.344**	A19
2462	11	802.11b	DSSS	22	17.0	17.00	0.13	Right	Cheek	2	0297M	1	99.9	0.029	-	1.000	1.001	-	
2462	11	802.11b	DSSS	22	17.0	17.00	0.16	Right	Tilt	2	0297M	1	99.9	0.036	0.025	1.000	1.001	0.025	
2462	11	802.11b	DSSS	22	17.0	17.00	-0.05	Left	Cheek	2	0297M	1	99.9	0.024	-	1.000	1.001	-	
2462	11	802.11b	DSSS	22	17.0	17.00	0.12	Left	Tilt	2	0297M	1	99.9	0.032	-	1.000	1.001	-	
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
NII SISO 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)	
5290	58	802.11ac	OFDM	80	14.0	13.61	0.13	Right	Cheek	1	0294M	29.3	94.6	0.308	-	1.094	1.057	-	
5290	58	802.11ac	OFDM	80	14.0	13.61	0.15	Right	Tilt	1	0294M	29.3	94.6	0.373	0.147	1.094	1.057	**0.170**	A20
5290	58	802.11ac	OFDM	80	14.0	13.61	0.14	Left	Cheek	1	0294M	29.3	94.6	0.135	-	1.094	1.057	-	
5290	58	802.11ac	OFDM	80	14.0	13.61	0.16	Left	Tilt	1	0294M	29.3	94.6	0.165	-	1.094	1.057	-	
5290	58	802.11ac	OFDM	80	14.0	13.99	0.01	Right	Cheek	2	0294M	29.3	94.5	0.006	-	1.002	1.058	-	
5290	58	802.11ac	OFDM	80	14.0	13.99	0.02	Right	Tilt	2	0294M	29.3	94.5	0.006	-	1.002	1.058	-	
5290	58	802.11ac	OFDM	80	14.0	13.99	0.00	Left	Cheek	2	0294M	29.3	94.5	0.010	-	1.002	1.058	-	
5290	58	802.11ac	OFDM	80	14.0	13.99	0.02	Left	Tilt	2	0294M	29.3	94.5	0.014	0.006	1.002	1.058	0.006	
5690	138	802.11ac	OFDM	80	14.0	14.00	0.08	Right	Cheek	1	0294M	29.3	94.6	0.098	-	1.000	1.057	-	
5690	138	802.11ac	OFDM	80	14.0	14.00	0.16	Right	Tilt	1	0294M	29.3	94.6	0.100	0.035	1.000	1.057	0.037	
5690	138	802.11ac	OFDM	80	14.0	14.00	0.02	Left	Cheek	1	0294M	29.3	94.6	0.057	-	1.000	1.057	-	
5690	138	802.11ac	OFDM	80	14.0	14.00	0.16	Left	Tilt	1	0294M	29.3	94.6	0.065	-	1.000	1.057	-	
5690	138	802.11ac	OFDM	80	14.0	13.82	0.02	Right	Cheek	2	0294M	29.3	94.5	0.010	-	1.042	1.058	-	
5690	138	802.11ac	OFDM	80	14.0	13.82	0.01	Right	Tilt	2	0294M	29.3	94.5	0.016	0.000	1.042	1.058	0.000	
5690	138	802.11ac	OFDM	80	14.0	13.82	-0.19	Left	Cheek	2	0294M	29.3	94.5	0.013	-	1.042	1.058	-	
5690	138	802.11ac	OFDM	80	14.0	13.82	0.04	Left	Tilt	2	0294M	29.3	94.5	0.013	-	1.042	1.058	-	
5775	155	802.11ac	OFDM	80	14.0	13.99	0.15	Right	Cheek	1	0294M	29.3	94.6	0.109	-	1.002	1.057	-	
5775	155	802.11ac	OFDM	80	14.0	13.99	0.17	Right	Tilt	1	0294M	29.3	94.6	0.132	0.041	1.002	1.057	0.043	
5775	155	802.11ac	OFDM	80	14.0	13.99	-0.16	Left	Cheek	1	0294M	29.3	94.6	0.069	-	1.002	1.057	-	
5775	155	802.11ac	OFDM	80	14.0	13.99	0.13	Left	Tilt	1	0294M	29.3	94.6	0.076	-	1.002	1.057	-	
5775	155	802.11ac	OFDM	80	14.0	13.58	0.01	Right	Cheek	2	0294M	29.3	94.5	0.013	-	1.102	1.058	-	
5775	155	802.11ac	OFDM	80	14.0	13.58	0.02	Right	Tilt	2	0294M	29.3	94.5	0.016	0.001	1.102	1.058	0.001	
5775	155	802.11ac	OFDM	80	14.0	13.58	0.00	Left	Cheek	2	0294M	29.3	94.5	0.010	-	1.102	1.058	-	
5775	155	802.11ac	OFDM	80	14.0	13.58	0.04	Left	Tilt	2	0294M	29.3	94.5	0.013	-	1.102	1.058	-	
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
DSS Head SAR

MEASUREMENT RESULTS																	
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna State	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	17.0	16.58	0.17	Right	Cheek	N/A	0297M	1	77.3	0.327	1.102	1.294	0.466	
2441.00	39	Bluetooth	FHSS	17.0	16.58	0.04	Right	Tilt	N/A	0297M	1	77.3	0.434	1.102	1.294	0.619	
2441.00	39	Bluetooth	FHSS	17.0	16.58	0.12	Left	Cheek	N/A	0297M	1	77.3	0.349	1.102	1.294	0.498	
2402.00	0	Bluetooth	FHSS	17.0	15.40	-0.13	Left	Tilt	N/A	0297M	1	77.3	0.353	1.445	1.294	0.660	
2441.00	39	Bluetooth	FHSS	17.0	16.58	0.12	Left	Tilt	N/A	0297M	1	77.3	0.480	1.102	1.294	0.684	
2480.00	78	Bluetooth	FHSS	17.0	16.05	0.04	Left	Tilt	N/A	0297M	1	77.3	0.529	1.245	1.294	**0.852**	A21
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 11-22
GSM/UMTS/CDMA Body-Worn SAR Data

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna State	Device Serial Number	# of Time Slots	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.												(W/kg)		(W/kg)	
836.60	190	GSM 850	GSM	33.5	32.88	-0.02	15 mm	N/A	0300M	1	1:8.3	back	0.283	1.153	0.326	A22
1880.00	661	GSM 1900	GSM	30.0	29.08	0.02	15 mm	N/A	0280M	1	1:8.3	back	0.276	1.236	0.341	A24
836.60	4183	UMTS 850	RMC	25.5	24.94	0.01	15 mm	27	0300M	N/A	1:1	back	0.391	1.138	0.445	A26
1712.40	1312	UMTS 1750	RMC	24.0	23.35	0.04	15 mm	9	0255M	N/A	1:1	back	0.725	1.161	0.842	
1732.40	1412	UMTS 1750	RMC	24.0	23.22	-0.02	15 mm	9	0255M	N/A	1:1	back	0.763	1.197	0.913	
1752.60	1513	UMTS 1750	RMC	24.0	23.18	-0.01	15 mm	9	0255M	N/A	1:1	back	0.782	1.208	0.945	A28
1852.40	9262	UMTS 1900	RMC	24.0	23.06	-0.03	15 mm	1	0280M	N/A	1:1	back	0.658	1.242	0.817	
1880.00	9400	UMTS 1900	RMC	24.0	23.11	-0.01	15 mm	1	0280M	N/A	1:1	back	0.709	1.227	0.870	
1907.60	9538	UMTS 1900	RMC	24.0	23.16	0.01	15 mm	1	0280M	N/A	1:1	back	0.761	1.213	0.923	A30
836.52	384	Cell. CDMA	TDSO / SO32	25.8	24.79	-0.02	15 mm	0	0278M	N/A	1:1	back	0.409	1.262	0.516	A32
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 11-23
LTE Body-Worn SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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)	
680.50	133297	Mid	LTE Band 71	20	25.8	25.15	0.01	0	26	0302M	QPSK	1	0	15 mm	back	1:1	0.209	1.161	0.243	A34
680.50	133297	Mid	LTE Band 71	20	24.8	24.36	0.00	1	26	0302M	QPSK	50	0	15 mm	back	1:1	0.167	1.107	0.185	
707.50	23095	Mid	LTE Band 12	10	25.8	25.02	0.02	0	2	0302M	QPSK	1	0	15 mm	back	1:1	0.205	1.197	0.245	A36
707.50	23095	Mid	LTE Band 12	10	24.8	24.19	0.05	1	2	0302M	QPSK	25	12	15 mm	back	1:1	0.171	1.151	0.197	
782.00	23230	Mid	LTE Band 13	10	25.8	25.05	-0.01	0	54	0302M	QPSK	1	49	15 mm	back	1:1	0.354	1.189	0.421	A38
782.00	23230	Mid	LTE Band 13	10	24.8	24.27	-0.02	1	54	0302M	QPSK	25	0	15 mm	back	1:1	0.287	1.130	0.324	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	25.33	0.00	0	27	0288M	QPSK	1	0	15 mm	back	1:1	0.390	1.114	0.434	A40
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	24.49	0.03	1	27	0288M	QPSK	25	12	15 mm	back	1:1	0.325	1.074	0.349	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.0	23.16	-0.01	0	37	0282M	QPSK	1	50	15 mm	back	1:1	0.680	1.213	0.825	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	23.15	-0.05	0	37	0282M	QPSK	1	50	15 mm	back	1:1	0.689	1.216	0.838	A42
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.21	-0.03	0	37	0282M	QPSK	1	0	15 mm	back	1:1	0.682	1.199	0.818	
1770.00	132572	High	LTE Band 66 (AWS)	20	23.0	22.26	-0.02	1	37	0282M	QPSK	50	25	15 mm	back	1:1	0.538	1.186	0.638	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23.0	22.24	0.00	1	37	0282M	QPSK	100	0	15 mm	back	1:1	0.552	1.191	0.657	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.15	-0.05	0	1	0286M	QPSK	1	0	15 mm	back	1:1	0.553	1.216	0.672	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.0	23.22	-0.01	0	1	0286M	QPSK	1	99	15 mm	back	1:1	0.520	1.197	0.622	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.0	23.14	-0.02	0	1	0286M	QPSK	1	50	15 mm	back	1:1	0.605	1.219	0.737	A44
1882.50	26365	Mid	LTE Band 25 (PCS)	20	23.0	22.31	-0.05	1	1	0286M	QPSK	50	50	15 mm	back	1:1	0.434	1.172	0.509	
2310.00	27710	Mid	LTE Band 30	10	24.2	23.72	-0.04	0	N/A	0282M	QPSK	1	49	15 mm	back	1:1	0.538	1.117	0.601	A46
2310.00	27710	Mid	LTE Band 30	10	23.2	22.77	-0.01	1	N/A	0282M	QPSK	25	12	15 mm	back	1:1	0.430	1.104	0.475	
2535.00	21100	Mid	LTE Band 7	20	24.0	23.26	-0.04	0	N/A	0295M	QPSK	1	0	15 mm	back	1:1	0.458	1.186	0.543	A48
2535.00	21100	Mid	LTE Band 7	20	23.0	22.38	-0.07	1	N/A	0295M	QPSK	50	25	15 mm	back	1:1	0.336	1.153	0.387	
2506.00	39750	Low	LTE Band 41	20	25.0	24.27	-0.04	0	N/A	0258M	QPSK	1	99	15 mm	back	1:1.58	0.369	1.183	0.437	A50
2506.00	39750	Low	LTE Band 41	20	24.0	23.24	-0.01	1	N/A	0258M	QPSK	50	0	15 mm	back	1:1.58	0.311	1.191	0.370	
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 11-24
NR Body-Worn SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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)	
680.50	136100	Mid	NR Band n71	20	25.8	25.03	0.00	0	26	0305M	DFT-S-OFDM QPSK	1	1	15 mm	back	1:1	0.195	1.194	0.233	
680.50	136100	Mid	NR Band n71	20	25.8	25.01	-0.03	0	26	0305M	DFT-S-OFDM QPSK	50	28	15 mm	back	1:1	0.201	1.199	0.241	A52
680.50	136100	Mid	NR Band n71	20	24.3	23.26	-0.04	1.5	26	0305M	CP-OFDM QPSK	1	1	15 mm	back	1:1	0.136	1.271	0.173	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.5	23.81	-0.14	0	37	0261M	DFT-S-OFDM QPSK	1	104	15 mm	back	1:1	0.818	1.172	0.959	
1745.00	349000	Mid	NR Band n66 (AWS)	20	24.5	23.85	-0.14	0	37	0261M	DFT-S-OFDM QPSK	1	1	15 mm	back	1:1	0.790	1.161	0.917	
1770.00	354000	High	NR Band n66 (AWS)	20	24.5	23.86	-0.13	0	37	0261M	DFT-S-OFDM QPSK	1	104	15 mm	back	1:1	0.746	1.159	0.865	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.5	23.79	0.01	0	37	0261M	DFT-S-OFDM QPSK	50	28	15 mm	back	1:1	0.737	1.178	0.868	
1745.00	349000	Mid	NR Band n66 (AWS)	20	24.5	23.81	0.05	0	37	0261M	DFT-S-OFDM QPSK	50	28	15 mm	back	1:1	0.881	1.172	**1.033**	A54
1770.00	354000	High	NR Band n66 (AWS)	20	24.5	23.96	0.01	0	37	0261M	DFT-S-OFDM QPSK	50	28	15 mm	back	1:1	0.847	1.132	0.959	
1720.00	344000	Low	NR Band n66 (AWS)	20	23.5	22.71	0.16	1	37	0261M	DFT-S-OFDM QPSK	100	0	15 mm	back	1:1	0.611	1.199	0.733	
1720.00	344000	Low	NR Band n66 (AWS)	20	23.0	22.12	-0.05	1.5	37	0261M	CP-OFDM QPSK	1	1	15 mm	back	1:1	0.515	1.225	0.631	
2592.99	518598	Mid	NR Band n41	100	25.0	23.34	0.06	0	N/A	0260M	DFT-S-OFDM QPSK	1	137	15 mm	back	1:4	0.051	1.466	0.075	A56
2592.99	518598	Mid	NR Band n41	100	25.0	23.15	0.12	0	N/A	0260M	DFT-S-OFDM QPSK	135	69	15 mm	back	1:4	0.051	1.531	0.078	
2592.99	518598	Mid	NR Band n41	100	23.5	22.28	0.02	1.5	N/A	0260M	CP-OFDM QPSK	1	1	15 mm	back	1:4	0.038	1.324	0.050	
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 11-25
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)	
2462	11	802.11b	DSSS	22	21.0	20.10	0.14	15 mm	1	0297M	1	back	99.9	0.098	0.073	1.230	1.001	0.090	
2437	6	802.11b	DSSS	22	21.0	20.84	-0.13	15 mm	2	0297M	1	back	99.9	0.173	0.126	1.038	1.001	**0.131**	A58
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 11-26
NII SISO 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)	
5260	52	802.11a	OFDM	20	18.0	17.26	0.11	15 mm	1	0294M	6	back	98.8	0.363	0.163	1.186	1.012	0.196	
5280	56	802.11a	OFDM	20	18.0	17.58	0.03	15 mm	2	0294M	6	back	98.8	0.248	0.107	1.102	1.012	0.119	
5520	104	802.11a	OFDM	20	18.0	17.89	0.05	15 mm	1	0294M	6	back	98.8	0.320	0.138	1.026	1.012	0.143	
5520	104	802.11a	OFDM	20	18.0	17.98	-0.02	15 mm	2	0294M	6	back	98.8	0.340	0.141	1.005	1.012	0.143	
5785	157	802.11a	OFDM	20	18.0	17.82	-0.02	15 mm	1	0294M	6	back	98.8	0.298	0.124	1.042	1.012	0.131	
5785	157	802.11a	OFDM	20	18.0	17.54	-0.03	15 mm	2	0294M	6	back	98.8	0.572	0.232	1.112	1.012	**0.261**	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								

Table 11-27
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 W/kg	SAR (1g) (W/kg)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g) (W/kg)	Plot #
MHz	Ch.																				
5290	58	802.11ac	OFDM	80	14.0	13.61	14.0	13.99	-0.14	15 mm	MIMO	0294M	58.5	back	91.1	0.131	0.049	1.094	1.098	0.059	
5690	138	802.11ac	OFDM	80	14.0	14.00	14.0	13.82	0.05	15 mm	MIMO	0294M	58.5	back	91.1	0.151	0.060	1.042	1.098	0.069	
5775	155	802.11ac	OFDM	80	14.0	13.99	14.0	13.58	0.14	15 mm	MIMO	0294M	58.5	back	91.1	0.242	0.096	1.102	1.098	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: 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 11-28
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) (W/kg)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g) (W/kg)	Plot #
MHz	Ch.															
2441	39	Bluetooth	FHSS	17.0	16.58	0.18	15 mm	0297M	1	back	77.3	0.029	1.102	1.294	**0.041**	A62
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 11-29
GSM 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)	
824.20	128	GSM 850	GPRS	30.0	29.45	-0.14	10 mm	0300M	3	1:2.76	back	0.540	1.135	0.613	
836.60	190	GSM 850	GPRS	30.0	29.38	-0.08	10 mm	0300M	3	1:2.76	back	0.549	1.153	0.633	A23
848.80	251	GSM 850	GPRS	30.0	29.49	-0.12	10 mm	0300M	3	1:2.76	back	0.519	1.125	0.584	
836.60	190	GSM 850	GPRS	30.0	29.38	-0.20	10 mm	0300M	3	1:2.76	front	0.463	1.153	0.534	
836.60	190	GSM 850	GPRS	30.0	29.38	0.18	10 mm	0300M	3	1:2.76	bottom	0.374	1.153	0.431	
836.60	190	GSM 850	GPRS	30.0	29.38	0.16	10 mm	0300M	3	1:2.76	right	0.053	1.153	0.061	
836.60	190	GSM 850	GPRS	30.0	29.38	-0.04	10 mm	0300M	3	1:2.76	left	0.273	1.153	0.315	
1880.00	661	GSM 1900	GPRS	23.0	21.74	-0.04	10 mm	0280M	4	1:2.076	back	0.361	1.337	0.483	
1880.00	661	GSM 1900	GPRS	23.0	21.74	-0.07	10 mm	0280M	4	1:2.076	front	0.308	1.337	0.412	
1850.20	512	GSM 1900	GPRS	23.0	21.52	-0.12	10 mm	0280M	4	1:2.076	bottom	0.640	1.406	0.900	
1880.00	661	GSM 1900	GPRS	23.0	21.74	-0.12	10 mm	0280M	4	1:2.076	bottom	0.836	1.337	1.118	A25
1909.80	810	GSM 1900	GPRS	23.0	21.63	0.01	10 mm	0280M	4	1:2.076	bottom	0.810	1.371	1.111	
1880.00	661	GSM 1900	GPRS	23.0	21.74	0.03	10 mm	0280M	4	1:2.076	right	0.065	1.337	0.087	
1880.00	661	GSM 1900	GPRS	23.0	21.74	0.02	10 mm	0280M	4	1:2.076	left	0.048	1.337	0.064	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-30
UMTS Hotspot SAR Data

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna State	Device Serial Number	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
826.40	4132	UMTS 850	RMC	25.5	25.03	0.00	10 mm	27	0300M	1:1	back	0.742	1.114	0.827	
836.60	4183	UMTS 850	RMC	25.5	24.94	-0.01	10 mm	27	0300M	1:1	back	0.744	1.138	0.847	A27
846.60	4233	UMTS 850	RMC	25.5	24.87	0.01	10 mm	27	0300M	1:1	back	0.650	1.156	0.751	
836.60	4183	UMTS 850	RMC	25.5	24.94	0.01	10 mm	27	0300M	1:1	front	0.500	1.138	0.569	
836.60	4183	UMTS 850	RMC	25.5	24.94	-0.05	10 mm	27	0300M	1:1	bottom	0.363	1.138	0.413	
836.60	4183	UMTS 850	RMC	25.5	24.94	0.01	10 mm	27	0300M	1:1	right	0.096	1.138	0.109	
836.60	4183	UMTS 850	RMC	25.5	24.94	-0.02	10 mm	27	0300M	1:1	left	0.266	1.138	0.303	
1732.40	1412	UMTS 1750	RMC	20.0	19.38	-0.01	10 mm	9	0255M	1:1	back	0.581	1.153	0.670	
1732.40	1412	UMTS 1750	RMC	20.0	19.38	-0.01	10 mm	9	0255M	1:1	front	0.447	1.153	0.515	
1712.40	1312	UMTS 1750	RMC	20.0	19.40	0.00	10 mm	9	0255M	1:1	bottom	0.860	1.148	0.987	
1732.40	1412	UMTS 1750	RMC	20.0	19.38	0.00	10 mm	9	0255M	1:1	bottom	0.942	1.153	1.086	
1752.60	1513	UMTS 1750	RMC	20.0	19.39	-0.01	10 mm	9	0255M	1:1	bottom	1.000	1.151	1.151	A29
1732.40	1412	UMTS 1750	RMC	20.0	19.38	0.06	10 mm	9	0255M	1:1	right	0.098	1.153	0.113	
1732.40	1412	UMTS 1750	RMC	20.0	19.38	0.00	10 mm	9	0255M	1:1	left	0.061	1.153	0.070	
1880.00	9400	UMTS 1900	RMC	19.0	18.92	-0.09	10 mm	1	0280M	1:1	back	0.480	1.019	0.489	
1880.00	9400	UMTS 1900	RMC	19.0	18.92	-0.04	10 mm	1	0280M	1:1	front	0.443	1.019	0.451	
1852.40	9262	UMTS 1900	RMC	19.0	18.79	-0.05	10 mm	1	0280M	1:1	bottom	0.871	1.050	0.915	
1880.00	9400	UMTS 1900	RMC	19.0	18.92	-0.04	10 mm	1	0280M	1:1	bottom	0.907	1.019	0.924	
1907.60	9538	UMTS 1900	RMC	19.0	18.91	-0.04	10 mm	1	0280M	1:1	bottom	0.995	1.021	1.016	A31
1880.00	9400	UMTS 1900	RMC	19.0	18.92	-0.04	10 mm	1	0280M	1:1	right	0.093	1.019	0.095	
1880.00	9400	UMTS 1900	RMC	19.0	18.92	0.08	10 mm	1	0280M	1:1	left	0.051	1.019	0.052	
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
CDMA Hotspot SAR Data

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna State	Device Serial Number	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
824.70	1013	Cell. CDMA	EVDO Rev. 0	25.8	24.85	-0.04	10 mm	0	0278M	1:1	back	0.833	1.245	1.037	A33
836.52	384	Cell. CDMA	EVDO Rev. 0	25.8	24.90	-0.02	10 mm	0	0278M	1:1	back	0.805	1.230	0.990	
848.31	777	Cell. CDMA	EVDO Rev. 0	25.8	24.64	-0.16	10 mm	0	0278M	1:1	back	0.704	1.306	0.919	
836.52	384	Cell. CDMA	EVDO Rev. 0	25.8	24.90	-0.01	10 mm	0	0278M	1:1	front	0.645	1.230	0.793	
836.52	384	Cell. CDMA	EVDO Rev. 0	25.8	24.90	0.04	10 mm	0	0278M	1:1	bottom	0.387	1.230	0.476	
836.52	384	Cell. CDMA	EVDO Rev. 0	25.8	24.90	-0.02	10 mm	0	0278M	1:1	right	0.091	1.230	0.112	
836.52	384	Cell. CDMA	EVDO Rev. 0	25.8	24.90	0.00	10 mm	0	0278M	1:1	left	0.288	1.230	0.354	
824.70	1013	Cell. CDMA	EVDO Rev. 0	25.8	24.85	-0.04	10 mm	0	0278M	1:1	back	0.789	1.245	0.982	
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 11-32
LTE Band 71 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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)	
680.50	133297	Mid	LTE Band 71	20	25.8	25.15	0.02	0	39	0302M	QPSK	1	0	10 mm	back	1:1	0.344	1.161	0.399	A35
680.50	133297	Mid	LTE Band 71	20	24.8	24.36	-0.04	1	39	0302M	QPSK	50	0	10 mm	back	1:1	0.288	1.107	0.319	
680.50	133297	Mid	LTE Band 71	20	25.8	25.15	0.00	0	39	0302M	QPSK	1	0	10 mm	front	1:1	0.231	1.161	0.268	
680.50	133297	Mid	LTE Band 71	20	24.8	24.36	0.00	1	39	0302M	QPSK	50	0	10 mm	front	1:1	0.193	1.107	0.214	
680.50	133297	Mid	LTE Band 71	20	25.8	25.15	0.01	0	39	0302M	QPSK	1	0	10 mm	bottom	1:1	0.185	1.161	0.215	
680.50	133297	Mid	LTE Band 71	20	24.8	24.36	-0.02	1	39	0302M	QPSK	50	0	10 mm	bottom	1:1	0.150	1.107	0.166	
680.50	133297	Mid	LTE Band 71	20	25.8	25.15	0.03	0	39	0302M	QPSK	1	0	10 mm	right	1:1	0.101	1.161	0.117	
680.50	133297	Mid	LTE Band 71	20	24.8	24.36	-0.01	1	39	0302M	QPSK	50	0	10 mm	right	1:1	0.079	1.107	0.087	
680.50	133297	Mid	LTE Band 71	20	25.8	25.15	-0.05	0	39	0302M	QPSK	1	0	10 mm	left	1:1	0.175	1.161	0.203	
680.50	133297	Mid	LTE Band 71	20	24.8	24.36	-0.03	1	39	0302M	QPSK	50	0	10 mm	left	1:1	0.141	1.107	0.156	
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
LTE Band 12 Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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	25.8	25.02	0.03	0	2	0302M	QPSK	1	0	10 mm	back	1:1	0.382	1.197	0.457	A37
707.50	23095	Mid	LTE Band 12	10	24.8	24.19	0.06	1	2	0302M	QPSK	25	12	10 mm	back	1:1	0.327	1.151	0.376	
707.50	23095	Mid	LTE Band 12	10	25.8	25.02	-0.03	0	2	0302M	QPSK	1	0	10 mm	front	1:1	0.254	1.197	0.304	
707.50	23095	Mid	LTE Band 12	10	24.8	24.19	-0.04	1	2	0302M	QPSK	25	12	10 mm	front	1:1	0.210	1.151	0.242	
707.50	23095	Mid	LTE Band 12	10	25.8	25.02	-0.13	0	2	0302M	QPSK	1	0	10 mm	bottom	1:1	0.244	1.197	0.292	
707.50	23095	Mid	LTE Band 12	10	24.8	24.19	-0.08	1	2	0302M	QPSK	25	12	10 mm	bottom	1:1	0.206	1.151	0.237	
707.50	23095	Mid	LTE Band 12	10	25.8	25.02	-0.05	0	2	0302M	QPSK	1	0	10 mm	right	1:1	0.103	1.197	0.123	
707.50	23095	Mid	LTE Band 12	10	24.8	24.19	0.15	1	2	0302M	QPSK	25	12	10 mm	right	1:1	0.076	1.151	0.087	
707.50	23095	Mid	LTE Band 12	10	25.8	25.02	-0.04	0	2	0302M	QPSK	1	0	10 mm	left	1:1	0.245	1.197	0.293	
707.50	23095	Mid	LTE Band 12	10	24.8	24.19	-0.01	1	2	0302M	QPSK	25	12	10 mm	left	1:1	0.213	1.151	0.245	
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 11-34
LTE Band 13 Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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	25.8	25.05	0.08	0	54	0302M	QPSK	1	49	10 mm	back	1:1	0.567	1.189	0.674	A39
782.00	23230	Mid	LTE Band 13	10	24.8	24.27	0.06	1	54	0302M	QPSK	25	0	10 mm	back	1:1	0.477	1.130	0.539	
782.00	23230	Mid	LTE Band 13	10	25.8	25.05	-0.06	0	54	0302M	QPSK	1	49	10 mm	front	1:1	0.435	1.189	0.517	
782.00	23230	Mid	LTE Band 13	10	24.8	24.27	-0.09	1	54	0302M	QPSK	25	0	10 mm	front	1:1	0.355	1.130	0.401	
782.00	23230	Mid	LTE Band 13	10	25.8	25.05	-0.13	0	54	0302M	QPSK	1	49	10 mm	bottom	1:1	0.344	1.189	0.409	
782.00	23230	Mid	LTE Band 13	10	24.8	24.27	-0.04	1	54	0302M	QPSK	25	0	10 mm	bottom	1:1	0.295	1.130	0.333	
782.00	23230	Mid	LTE Band 13	10	25.8	25.05	-0.11	0	54	0302M	QPSK	1	49	10 mm	right	1:1	0.117	1.189	0.139	
782.00	23230	Mid	LTE Band 13	10	24.8	24.27	-0.02	1	54	0302M	QPSK	25	0	10 mm	right	1:1	0.085	1.130	0.096	
782.00	23230	Mid	LTE Band 13	10	25.8	25.05	-0.18	0	54	0302M	QPSK	1	49	10 mm	left	1:1	0.305	1.189	0.363	
782.00	23230	Mid	LTE Band 13	10	24.8	24.27	-0.06	1	54	0302M	QPSK	25	0	10 mm	left	1:1	0.235	1.130	0.266	
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 11-35
LTE Band 5 (Cell) Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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.																			
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	25.33	0.00	0	27	0288M	QPSK	1	0	10 mm	back	1:1	0.712	1.114	0.793	A41
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	24.49	-0.02	1	27	0288M	QPSK	25	12	10 mm	back	1:1	0.601	1.074	0.645	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	25.33	0.03	0	27	0288M	QPSK	1	0	10 mm	front	1:1	0.455	1.114	0.507	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	24.49	0.04	1	27	0288M	QPSK	25	12	10 mm	front	1:1	0.370	1.074	0.397	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	25.33	0.04	0	27	0288M	QPSK	1	0	10 mm	bottom	1:1	0.344	1.114	0.383	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	24.49	-0.04	1	27	0288M	QPSK	25	12	10 mm	bottom	1:1	0.277	1.074	0.297	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	25.33	-0.01	0	27	0288M	QPSK	1	0	10 mm	right	1:1	0.093	1.114	0.104	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	24.49	0.04	1	27	0288M	QPSK	25	12	10 mm	right	1:1	0.071	1.074	0.076	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	25.33	-0.10	0	27	0288M	QPSK	1	0	10 mm	left	1:1	0.282	1.114	0.314	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	24.49	0.00	1	27	0288M	QPSK	25	12	10 mm	left	1:1	0.226	1.074	0.243	
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 11-36
LTE Band 66 (AWS) Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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	20.0	19.18	-0.02	0	9	0282M	QPSK	1	50	10 mm	back	1:1	0.488	1.208	0.590	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.23	-0.03	0	9	0282M	QPSK	50	25	10 mm	back	1:1	0.517	1.194	0.617	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.18	-0.03	0	11	0282M	QPSK	1	50	10 mm	front	1:1	0.448	1.208	0.541	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.23	-0.02	0	11	0282M	QPSK	50	25	10 mm	front	1:1	0.469	1.194	0.560	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.18	-0.03	0	9	0282M	QPSK	1	50	10 mm	bottom	1:1	0.909	1.208	1.098	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	20.0	18.88	-0.08	0	9	0282M	QPSK	1	50	10 mm	bottom	1:1	0.963	1.294	**1.246**	
1770.00	132572	High	LTE Band 66 (AWS)	20	20.0	19.17	-0.03	0	9	0282M	QPSK	1	50	10 mm	bottom	1:1	0.900	1.211	1.090	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.23	-0.04	0	9	0282M	QPSK	50	25	10 mm	bottom	1:1	0.956	1.194	1.141	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	20.0	19.21	-0.08	0	9	0282M	QPSK	50	25	10 mm	bottom	1:1	0.981	1.199	1.176	A43
1770.00	132572	High	LTE Band 66 (AWS)	20	20.0	19.20	-0.08	0	9	0282M	QPSK	50	25	10 mm	bottom	1:1	0.954	1.202	1.147	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.16	-0.06	0	9	0282M	QPSK	100	0	10 mm	bottom	1:1	0.940	1.213	1.140	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.18	-0.04	0	9	0282M	QPSK	1	50	10 mm	right	1:1	0.097	1.208	0.117	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.23	-0.03	0	9	0282M	QPSK	50	25	10 mm	right	1:1	0.099	1.194	0.118	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.18	-0.09	0	12	0282M	QPSK	1	50	10 mm	left	1:1	0.052	1.208	0.063	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.23	0.13	0	12	0282M	QPSK	50	25	10 mm	left	1:1	0.055	1.194	0.066	
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 25 (PCS) Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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)	
1905.00	26590	High	LTE Band 25 (PCS)	20	19.0	18.77	0.03	0	1	0286M	QPSK	1	0	10 mm	back	1:1	0.481	1.054	0.507	
1905.00	26590	High	LTE Band 25 (PCS)	20	19.0	18.89	-0.05	0	1	0286M	QPSK	50	50	10 mm	back	1:1	0.541	1.026	0.555	
1905.00	26590	High	LTE Band 25 (PCS)	20	19.0	18.77	-0.11	0	1	0286M	QPSK	1	0	10 mm	front	1:1	0.417	1.054	0.440	
1905.00	26590	High	LTE Band 25 (PCS)	20	19.0	18.89	-0.08	0	1	0286M	QPSK	50	50	10 mm	front	1:1	0.456	1.026	0.468	
1860.00	26140	Low	LTE Band 25 (PCS)	20	19.0	18.63	-0.06	0	1	0286M	QPSK	1	0	10 mm	bottom	1:1	0.952	1.089	1.037	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	19.0	18.50	-0.02	0	1	0286M	QPSK	1	99	10 mm	bottom	1:1	0.965	1.122	1.083	
1905.00	26590	High	LTE Band 25 (PCS)	20	19.0	18.77	-0.06	0	1	0286M	QPSK	1	0	10 mm	bottom	1:1	1.020	1.054	1.075	
1860.00	26140	Low	LTE Band 25 (PCS)	20	19.0	18.67	-0.05	0	1	0286M	QPSK	50	0	10 mm	bottom	1:1	0.988	1.079	1.066	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	19.0	18.74	-0.04	0	1	0286M	QPSK	50	50	10 mm	bottom	1:1	1.040	1.062	1.104	
1905.00	26590	High	LTE Band 25 (PCS)	20	19.0	18.89	-0.06	0	1	0286M	QPSK	50	50	10 mm	bottom	1:1	1.140	1.026	1.170	A45
1905.00	26590	High	LTE Band 25 (PCS)	20	19.0	18.73	-0.10	0	1	0286M	QPSK	100	0	10 mm	bottom	1:1	1.090	1.064	1.160	
1905.00	26590	High	LTE Band 25 (PCS)	20	19.0	18.77	-0.09	0	1	0286M	QPSK	1	0	10 mm	right	1:1	0.062	1.054	0.065	
1905.00	26590	High	LTE Band 25 (PCS)	20	19.0	18.89	-0.01	0	1	0286M	QPSK	50	50	10 mm	right	1:1	0.071	1.026	0.073	
1905.00	26590	High	LTE Band 25 (PCS)	20	19.0	18.77	0.04	0	1	0286M	QPSK	1	0	10 mm	left	1:1	0.051	1.054	0.054	
1905.00	26590	High	LTE Band 25 (PCS)	20	19.0	18.89	-0.03	0	1	0286M	QPSK	50	50	10 mm	left	1:1	0.054	1.026	0.055	
1905.00	26590	High	LTE Band 25 (PCS)	20	19.0	18.89	-0.15	0	1	0286M	QPSK	50	50	10 mm	bottom	1:1	0.997	1.026	1.023	
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 11-38
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	19.0	18.27	0.03	0	0282M	QPSK	1	49	10 mm	back	1:1	0.290	1.183	0.343	
2310.00	27710	Mid	LTE Band 30	10	19.0	18.33	0.02	0	0282M	QPSK	25	12	10 mm	back	1:1	0.301	1.167	0.351	
2310.00	27710	Mid	LTE Band 30	10	19.0	18.27	-0.05	0	0282M	QPSK	1	49	10 mm	front	1:1	0.278	1.183	0.329	
2310.00	27710	Mid	LTE Band 30	10	19.0	18.33	0.02	0	0282M	QPSK	25	12	10 mm	front	1:1	0.297	1.167	0.347	
2310.00	27710	Mid	LTE Band 30	10	19.0	18.27	-0.07	0	0282M	QPSK	1	49	10 mm	bottom	1:1	0.715	1.183	0.846	
2310.00	27710	Mid	LTE Band 30	10	19.0	18.33	-0.08	0	0282M	QPSK	25	12	10 mm	bottom	1:1	0.764	1.167	0.892	A47
2310.00	27710	Mid	LTE Band 30	10	19.0	18.23	-0.05	0	0282M	QPSK	50	0	10 mm	bottom	1:1	0.746	1.194	0.891	
2310.00	27710	Mid	LTE Band 30	10	19.0	18.27	0.13	0	0282M	QPSK	1	49	10 mm	right	1:1	0.059	1.183	0.070	
2310.00	27710	Mid	LTE Band 30	10	19.0	18.33	-0.01	0	0282M	QPSK	25	12	10 mm	right	1:1	0.068	1.167	0.079	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-39
LTE Band 7 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)	
2535.00	21100	Mid	LTE Band 7	20	20.5	19.77	0.02	0	0295M	QPSK	1	0	10 mm	back	1:1	0.437	1.183	0.517	
2535.00	21100	Mid	LTE Band 7	20	20.5	19.86	0.06	0	0295M	QPSK	50	25	10 mm	back	1:1	0.416	1.159	0.482	
2535.00	21100	Mid	LTE Band 7	20	20.5	19.77	-0.04	0	0295M	QPSK	1	0	10 mm	front	1:1	0.312	1.183	0.369	
2535.00	21100	Mid	LTE Band 7	20	20.5	19.86	0.01	0	0295M	QPSK	50	25	10 mm	front	1:1	0.306	1.159	0.355	
2510.00	20850	Low	LTE Band 7	20	20.5	19.71	0.05	0	0295M	QPSK	1	0	10 mm	bottom	1:1	0.807	1.199	0.968	A49
2535.00	21100	Mid	LTE Band 7	20	20.5	19.77	-0.02	0	0295M	QPSK	1	0	10 mm	bottom	1:1	0.737	1.183	0.872	
2560.00	21350	High	LTE Band 7	20	20.5	19.68	0.02	0	0295M	QPSK	1	0	10 mm	bottom	1:1	0.657	1.208	0.794	
2510.00	20850	Low	LTE Band 7	20	20.5	19.84	0.01	0	0295M	QPSK	50	25	10 mm	bottom	1:1	0.773	1.164	0.900	
2535.00	21100	Mid	LTE Band 7	20	20.5	19.86	-0.02	0	0295M	QPSK	50	25	10 mm	bottom	1:1	0.728	1.159	0.844	
2560.00	21350	High	LTE Band 7	20	20.5	19.84	0.03	0	0295M	QPSK	50	25	10 mm	bottom	1:1	0.691	1.164	0.804	
2560.00	21350	High	LTE Band 7	20	20.5	19.75	-0.02	0	0295M	QPSK	100	0	10 mm	bottom	1:1	0.658	1.189	0.782	
2535.00	21100	Mid	LTE Band 7	20	20.5	19.77	0.06	0	0295M	QPSK	1	0	10 mm	right	1:1	0.130	1.183	0.154	
2535.00	21100	Mid	LTE Band 7	20	20.5	19.86	0.01	0	0295M	QPSK	50	25	10 mm	right	1:1	0.134	1.159	0.155	
2510.00	20850	Low	LTE Band 7	20	20.5	19.71	0.00	0	0295M	QPSK	1	0	10 mm	bottom	1:1	0.734	1.199	0.880	
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 11-40
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	22.0	21.43	-0.02	0	0258M	QPSK	1	0	10 mm	back	1:1.58	0.343	1.140	0.391	
2506.00	39750	Low	LTE Band 41	20	22.0	21.42	-0.03	0	0258M	QPSK	50	0	10 mm	back	1:1.58	0.339	1.143	0.387	
2506.00	39750	Low	LTE Band 41	20	22.0	21.43	0.06	0	0258M	QPSK	1	0	10 mm	front	1:1.58	0.264	1.140	0.301	
2506.00	39750	Low	LTE Band 41	20	22.0	21.42	-0.02	0	0258M	QPSK	50	0	10 mm	front	1:1.58	0.269	1.143	0.307	
2506.00	39750	Low	LTE Band 41	20	22.0	21.43	0.02	0	0258M	QPSK	1	0	10 mm	bottom	1:1.58	0.704	1.140	0.803	
2549.50	40185	Low-Mid	LTE Band 41	20	22.0	21.28	-0.01	0	0258M	QPSK	1	0	10 mm	bottom	1:1.58	0.633	1.180	0.747	
2593.00	40620	Mid	LTE Band 41	20	22.0	21.20	-0.04	0	0258M	QPSK	1	50	10 mm	bottom	1:1.58	0.543	1.202	0.653	
2636.50	41055	Mid-High	LTE Band 41	20	22.0	21.14	-0.11	0	0258M	QPSK	1	50	10 mm	bottom	1:1.58	0.444	1.219	0.541	
2680.00	41490	High	LTE Band 41	20	22.0	20.95	-0.16	0	0258M	QPSK	1	50	10 mm	bottom	1:1.58	0.441	1.274	0.562	
2506.00	39750	Low	LTE Band 41	20	22.0	21.42	-0.03	0	0258M	QPSK	50	0	10 mm	bottom	1:1.58	0.711	1.143	0.813	A51
2549.50	40185	Low-Mid	LTE Band 41	20	22.0	21.30	-0.06	0	0258M	QPSK	50	25	10 mm	bottom	1:1.58	0.635	1.175	0.746	
2593.00	40620	Mid	LTE Band 41	20	22.0	21.23	-0.03	0	0258M	QPSK	50	25	10 mm	bottom	1:1.58	0.545	1.194	0.651	
2636.50	41055	Mid-High	LTE Band 41	20	22.0	21.27	-0.14	0	0258M	QPSK	50	25	10 mm	bottom	1:1.58	0.460	1.183	0.544	
2680.00	41490	High	LTE Band 41	20	22.0	21.09	-0.21	0	0258M	QPSK	50	25	10 mm	bottom	1:1.58	0.456	1.233	0.562	
2506.00	39750	Low	LTE Band 41	20	22.0	21.32	-0.02	0	0258M	QPSK	100	0	10 mm	bottom	1:1.58	0.687	1.169	0.803	
2506.00	39750	Low	LTE Band 41	20	22.0	21.43	-0.06	0	0258M	QPSK	1	0	10 mm	right	1:1.58	0.128	1.140	0.146	
2506.00	39750	Low	LTE Band 41	20	22.0	21.42	-0.05	0	0258M	QPSK	50	0	10 mm	right	1:1.58	0.133	1.143	0.152	
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 11-41
NR Band n71 Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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)	
680.50	136100	Mid	NR Band n71	20	25.8	25.03	0.03	0	39	0305M	DFT-S-OFDM QPSK	1	1	10 mm	back	1:1	0.312	1.194	0.373	
680.50	136100	Mid	NR Band n71	20	25.8	25.01	0.04	0	39	0305M	DFT-S-OFDM QPSK	50	28	10 mm	back	1:1	0.333	1.199	0.399	A53
680.50	136100	Mid	NR Band n71	20	24.3	23.26	0.03	1.5	39	0305M	CP-OFDM QPSK	1	1	10 mm	back	1:1	0.216	1.271	0.275	
680.50	136100	Mid	NR Band n71	20	25.8	25.03	-0.07	0	39	0305M	DFT-S-OFDM QPSK	1	1	10 mm	front	1:1	0.201	1.194	0.240	
680.50	136100	Mid	NR Band n71	20	25.8	25.01	0.01	0	39	0305M	DFT-S-OFDM QPSK	50	28	10 mm	front	1:1	0.210	1.199	0.252	
680.50	136100	Mid	NR Band n71	20	25.8	25.03	0.02	0	39	0305M	DFT-S-OFDM QPSK	1	1	10 mm	bottom	1:1	0.164	1.194	0.196	
680.50	136100	Mid	NR Band n71	20	25.8	25.01	-0.05	0	39	0305M	DFT-S-OFDM QPSK	50	28	10 mm	bottom	1:1	0.167	1.199	0.200	
680.50	136100	Mid	NR Band n71	20	25.8	25.03	-0.01	0	39	0305M	DFT-S-OFDM QPSK	1	1	10 mm	right	1:1	0.090	1.194	0.107	
680.50	136100	Mid	NR Band n71	20	25.8	25.01	0.01	0	39	0305M	DFT-S-OFDM QPSK	50	28	10 mm	right	1:1	0.080	1.199	0.096	
680.50	136100	Mid	NR Band n71	20	25.8	25.03	-0.01	0	39	0305M	DFT-S-OFDM QPSK	1	1	10 mm	left	1:1	0.174	1.194	0.208	
680.50	136100	Mid	NR Band n71	20	25.8	25.01	-0.02	0	39	0305M	DFT-S-OFDM QPSK	50	28	10 mm	left	1:1	0.167	1.199	0.200	
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 11-42
NR Band n66 Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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)	
1770.00	354000	High	NR Band n66 (AWS)	20	20.0	19.98	-0.02	0	9	0261M	DFT-S-OFDM QPSK	1	1	10 mm	back	1:1	0.664	1.005	0.667	
1770.00	354000	High	NR Band n66 (AWS)	20	20.0	19.95	-0.12	0	9	0261M	DFT-S-OFDM QPSK	50	28	10 mm	back	1:1	0.622	1.012	0.629	
1770.00	354000	High	NR Band n66 (AWS)	20	20.0	19.98	0.05	0	11	0261M	DFT-S-OFDM QPSK	1	1	10 mm	front	1:1	0.516	1.005	0.519	
1770.00	354000	High	NR Band n66 (AWS)	20	20.0	19.95	-0.01	0	11	0261M	DFT-S-OFDM QPSK	50	28	10 mm	front	1:1	0.491	1.012	0.497	
1720.00	344000	Low	NR Band n66 (AWS)	20	20.0	19.97	-0.11	0	9	0261M	DFT-S-OFDM QPSK	1	1	10 mm	bottom	1:1	1.110	1.007	1.118	
1745.00	349000	Mid	NR Band n66 (AWS)	20	20.0	19.94	-0.04	0	9	0261M	DFT-S-OFDM QPSK	1	1	10 mm	bottom	1:1	1.110	1.014	1.126	
1770.00	354000	High	NR Band n66 (AWS)	20	20.0	19.98	-0.05	0	9	0261M	DFT-S-OFDM QPSK	1	1	10 mm	bottom	1:1	1.120	1.005	1.126	A55
1720.00	344000	Low	NR Band n66 (AWS)	20	20.0	19.94	-0.07	0	9	0261M	DFT-S-OFDM QPSK	50	28	10 mm	bottom	1:1	1.080	1.014	1.095	
1745.00	349000	Mid	NR Band n66 (AWS)	20	20.0	19.90	-0.09	0	9	0261M	DFT-S-OFDM QPSK	50	28	10 mm	bottom	1:1	1.090	1.023	1.115	
1770.00	354000	High	NR Band n66 (AWS)	20	20.0	19.95	-0.02	0	9	0261M	DFT-S-OFDM QPSK	50	28	10 mm	bottom	1:1	1.030	1.012	1.042	
1770.00	354000	High	NR Band n66 (AWS)	20	20.0	19.89	-0.05	0	9	0261M	DFT-S-OFDM QPSK	100	0	10 mm	bottom	1:1	1.040	1.026	1.067	
1770.00	354000	High	NR Band n66 (AWS)	20	20.0	19.85	-0.01	0	9	0261M	CP-OFDM QPSK	1	1	10 mm	bottom	1:1	1.050	1.035	1.087	
1770.00	354000	High	NR Band n66 (AWS)	20	20.0	19.98	0.04	0	9	0261M	DFT-S-OFDM QPSK	1	1	10 mm	right	1:1	0.117	1.005	0.118	
1770.00	354000	High	NR Band n66 (AWS)	20	20.0	19.95	-0.04	0	9	0261M	DFT-S-OFDM QPSK	50	28	10 mm	right	1:1	0.100	1.012	0.101	
1770.00	354000	High	NR Band n66 (AWS)	20	20.0	19.98	0.10	0	12	0261M	DFT-S-OFDM QPSK	1	1	10 mm	left	1:1	0.057	1.005	0.057	
1770.00	354000	High	NR Band n66 (AWS)	20	20.0	19.95	0.18	0	12	0261M	DFT-S-OFDM QPSK	50	28	10 mm	left	1:1	0.050	1.012	0.051	
1770.00	354000	High	NR Band n66 (AWS)	20	20.0	19.98	0.02	0	9	0261M	DFT-S-OFDM QPSK	1	1	10 mm	bottom	1:1	1.080	1.005	1.085	
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
NR Band n41 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)	
2592.99	518598	Mid	NR Band n41	100	25.0	23.34	0.01	0	0260M	DFT-S-OFDM QPSK	1	137	10 mm	back	1:4	0.092	1.466	0.135	
2592.99	518598	Mid	NR Band n41	100	25.0	23.15	0.11	0	0260M	DFT-S-OFDM QPSK	135	69	10 mm	back	1:4	0.094	1.531	0.144	
2592.99	518598	Mid	NR Band n41	100	25.0	23.34	0.11	0	0260M	DFT-S-OFDM QPSK	1	137	10 mm	front	1:4	0.061	1.466	0.089	
2592.99	518598	Mid	NR Band n41	100	25.0	23.15	0.08	0	0260M	DFT-S-OFDM QPSK	135	69	10 mm	front	1:4	0.064	1.531	0.098	
2592.99	518598	Mid	NR Band n41	100	25.0	23.34	0.04	0	0260M	DFT-S-OFDM QPSK	1	137	10 mm	top	1:4	0.192	1.466	0.281	
2592.99	518598	Mid	NR Band n41	100	25.0	23.15	-0.02	0	0260M	DFT-S-OFDM QPSK	135	69	10 mm	top	1:4	0.202	1.531	0.309	A57
2592.99	518598	Mid	NR Band n41	100	23.5	22.28	0.18	1.5	0260M	CP-OFDM QPSK	1	1	10 mm	top	1:4	0.158	1.324	0.209	
2592.99	518598	Mid	NR Band n41	100	25.0	23.34	0.06	0	0260M	DFT-S-OFDM QPSK	1	137	10 mm	left	1:4	0.029	1.466	0.043	
2592.99	518598	Mid	NR Band n41	100	25.0	23.15	0.11	0	0260M	DFT-S-OFDM QPSK	135	69	10 mm	left	1:4	0.030	1.531	0.046	

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 11-44
WLAN Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Anteena 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)	
2462	11	802.11b	DSSS	22	21.0	20.10	0.10	10 mm	1	0297M	1	back	99.9	0.219	0.135	1.230	1.001	0.166	
2462	11	802.11b	DSSS	22	21.0	20.10	0.14	10 mm	1	0297M	1	front	99.9	0.177	-	1.230	1.001	-	
2462	11	802.11b	DSSS	22	21.0	20.10	0.12	10 mm	1	0297M	1	top	99.9	0.701	0.408	1.230	1.001	**0.502**	A59
2462	11	802.11b	DSSS	22	21.0	20.10	0.13	10 mm	1	0297M	1	left	99.9	0.047	-	1.230	1.001	-	
2437	6	802.11b	DSSS	22	21.0	20.84	-0.16	10 mm	2	0297M	1	back	99.9	0.675	0.333	1.038	1.001	0.346	
2437	6	802.11b	DSSS	22	21.0	20.84	0.16	10 mm	2	0297M	1	front	99.9	0.039	0.017	1.038	1.001	0.018	
2437	6	802.11b	DSSS	22	21.0	20.84	0.19	10 mm	2	0297M	1	top	99.9	0.138	-	1.038	1.001	-	
2437	6	802.11b	DSSS	22	21.0	20.84	0.13	10 mm	2	0297M	1	left	99.9	0.143	-	1.038	1.001	-	
5785	157	802.11a	OFDM	20	18.0	17.82	0.12	10 mm	1	0294M	6	back	98.8	0.440	0.172	1.042	1.012	0.181	
5785	157	802.11a	OFDM	20	18.0	17.82	0.00	10 mm	1	0294M	6	front	98.8	0.073	-	1.042	1.012	-	
5785	157	802.11a	OFDM	20	18.0	17.82	-0.08	10 mm	1	0294M	6	top	98.8	0.211	-	1.042	1.012	-	
5785	157	802.11a	OFDM	20	18.0	17.82	0.15	10 mm	1	0294M	6	left	98.8	0.253	-	1.042	1.012	-	
5785	157	802.11a	OFDM	20	18.0	17.54	0.00	10 mm	2	0294M	6	back	98.8	0.944	0.370	1.112	1.012	**0.416**	
5785	157	802.11a	OFDM	20	18.0	17.54	0.00	10 mm	2	0294M	6	front	98.8	0.017	-	1.112	1.012	-	
5785	157	802.11a	OFDM	20	18.0	17.54	0.17	10 mm	2	0294M	6	top	98.8	0.085	-	1.112	1.012	-	
5785	157	802.11a	OFDM	20	18.0	17.54	0.13	10 mm	2	0294M	6	left	98.8	0.209	0.082	1.112	1.012	0.092	

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 11-45
WLAN 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)	
5785	157	802.11n	OFDM	20	18.0	17.90	18.0	17.64	0.17	10 mm	MIMO	0294M	13	back	97.6	1.242	0.451	1.086	1.025	0.502	A61
5785	157	802.11n	OFDM	20	18.0	17.90	18.0	17.64	0.10	10 mm	MIMO	0294M	13	front	97.6	0.075	-	1.086	1.025	-	
5785	157	802.11n	OFDM	20	18.0	17.90	18.0	17.64	0.14	10 mm	MIMO	0294M	13	top	97.6	0.315	0.129	1.086	1.025	0.144	
5785	157	802.11n	OFDM	20	18.0	17.90	18.0	17.64	0.16	10 mm	MIMO	0294M	13	left	97.6	0.364	-	1.086	1.025	-	

ANSI / IEEE C95.1 1992 - SAFETY LIMIT	Body
Spatial Peak	1.6 W/kg (mW/g)
Uncontrolled Exposure/General Population	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 11-46
WLAN 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	17.0	16.82	17.0	16.16	0.13	10 mm	MIMO	0297M	13	back	97.3	0.114	0.089	1.213	1.028	0.111	
2437	6	802.11n	OFDM	20	17.0	16.82	17.0	16.16	0.13	10 mm	MIMO	0297M	13	front	97.3	0.052	0.034	1.213	1.028	0.042	
2437	6	802.11n	OFDM	20	17.0	16.82	17.0	16.16	0.14	10 mm	MIMO	0297M	13	top	97.3	0.159	0.095	1.213	1.028	0.118	
2437	6	802.11n	OFDM	20	17.0	16.82	17.0	16.16	0.17	10 mm	MIMO	0297M	13	left	97.3	0.037	0.027	1.213	1.028	0.034	
5775	155	802.11ac	OFDM	80	14.0	13.99	14.0	13.58	0.01	10 mm	MIMO	0294M	58.5	back	91.1	0.380	0.140	1.102	1.098	0.169	
5775	155	802.11ac	OFDM	80	14.0	13.99	14.0	13.58	0.03	10 mm	MIMO	0294M	58.5	front	91.1	0.035	0.010	1.102	1.098	0.012	
5775	155	802.11ac	OFDM	80	14.0	13.99	14.0	13.58	0.16	10 mm	MIMO	0294M	58.5	top	91.1	0.085	-	1.102	1.098	-	
5775	155	802.11ac	OFDM	80	14.0	13.99	14.0	13.58	0.02	10 mm	MIMO	0294M	58.5	left	91.1	0.117	-	1.102	1.098	-	

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

DTS and NII MIMO were 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 NII MIMO evaluations and 5 GHz WIFI was not transmitting during DTS MIMO evaluations.

Table 11-47
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	17.0	16.58	0.02	10 mm	0297M	1	back	77.3	0.047	1.102	1.294	0.067	
2441	39	Bluetooth	FHSS	17.0	16.58	-0.14	10 mm	0297M	1	front	77.3	0.044	1.102	1.294	0.063	
2441	39	Bluetooth	FHSS	17.0	16.58	0.16	10 mm	0297M	1	top	77.3	0.166	1.102	1.294	**0.237**	A63
2441	39	Bluetooth	FHSS	17.0	16.58	0.11	10 mm	0297M	1	left	77.3	0.011	1.102	1.294	0.016	

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

11.4 Standalone Phablet SAR Data

Table 11-48
GPRS Phablet 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 (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1880.00	661	GSM 1900	GPRS	26.5	26.45	-0.04	8 mm	0280M	3	1:2.76	back	0.548	1.012	0.555	
1880.00	661	GSM 1900	GPRS	26.5	26.45	-0.06	6 mm	0280M	3	1:2.76	front	0.636	1.012	0.644	
1880.00	661	GSM 1900	GPRS	26.5	26.45	0.02	11 mm	0280M	3	1:2.76	bottom	0.805	1.012	0.815	
1880.00	661	GSM 1900	GPRS	26.5	26.45	-0.12	0 mm	0280M	3	1:2.76	right	0.362	1.012	0.366	
1880.00	661	GSM 1900	GPRS	26.5	26.45	-0.13	0 mm	0280M	3	1:2.76	left	0.224	1.012	0.227	
1880.00	661	GSM 1900	GPRS	23.0	21.74	-0.08	0 mm	0280M	4	1:2.076	back	1.310	1.337	1.751	
1880.00	661	GSM 1900	GPRS	23.0	21.74	-0.05	0 mm	0280M	4	1:2.076	front	1.180	1.337	1.578	
1850.20	512	GSM 1900	GPRS	23.0	21.52	0.05	0 mm	0280M	4	1:2.076	bottom	1.660	1.406	2.334	
1880.00	661	GSM 1900	GPRS	23.0	21.74	-0.02	0 mm	0280M	4	1:2.076	bottom	1.760	1.337	2.353	A64
1909.80	810	GSM 1900	GPRS	23.0	21.63	-0.02	0 mm	0280M	4	1:2.076	bottom	1.560	1.371	2.139	
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 11-49
UMTS 1750 Phablet SAR Data

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna State	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	24.0	23.22	0.02	8 mm	9	0255M	1:1	back	1.060	1.197	1.269	
1732.40	1412	UMTS 1750	RMC	24.0	23.22	-0.06	6 mm	9	0255M	1:1	front	1.170	1.197	1.400	
1732.40	1412	UMTS 1750	RMC	24.0	23.22	-0.01	11 mm	9	0255M	1:1	bottom	1.100	1.197	1.317	
1732.40	1412	UMTS 1750	RMC	24.0	23.22	-0.01	0 mm	9	0255M	1:1	right	0.506	1.197	0.606	
1732.40	1412	UMTS 1750	RMC	24.0	23.22	0.06	0 mm	9	0255M	1:1	left	0.304	1.197	0.364	
1732.40	1412	UMTS 1750	RMC	20.0	19.38	-0.03	0 mm	9	0255M	1:1	back	1.620	1.153	1.868	
1732.40	1412	UMTS 1750	RMC	20.0	19.38	-0.10	0 mm	9	0255M	1:1	front	1.540	1.153	1.776	
1712.40	1312	UMTS 1750	RMC	20.0	19.40	0.00	0 mm	9	0255M	1:1	bottom	2.070	1.148	2.376	A65
1732.40	1412	UMTS 1750	RMC	20.0	19.38	0.00	0 mm	9	0255M	1:1	bottom	2.050	1.153	2.364	
1752.60	1513	UMTS 1750	RMC	20.0	19.39	0.01	0 mm	9	0255M	1:1	bottom	1.980	1.151	2.279	
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 11-50
UMTS 1900 Phablet SAR Data

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna State	Device Serial Number	Duty Cycle	Side	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1880.00	9400	UMTS 1900	RMC	24.0	23.11	0.02	8 mm	1	0280M	1:1	back	1.010	1.227	1.239	
1880.00	9400	UMTS 1900	RMC	24.0	23.11	-0.04	6 mm	1	0280M	1:1	front	1.190	1.227	1.460	
1880.00	9400	UMTS 1900	RMC	24.0	23.11	0.21	11 mm	1	0280M	1:1	bottom	1.190	1.227	1.460	
1880.00	9400	UMTS 1900	RMC	24.0	23.11	0.09	0 mm	1	0280M	1:1	right	0.588	1.227	0.721	
1880.00	9400	UMTS 1900	RMC	24.0	23.11	-0.06	0 mm	1	0280M	1:1	left	0.376	1.227	0.461	
1880.00	9400	UMTS 1900	RMC	19.0	18.92	-0.03	0 mm	1	0280M	1:1	back	1.330	1.019	1.355	
1880.00	9400	UMTS 1900	RMC	19.0	18.92	-0.03	0 mm	1	0280M	1:1	front	1.250	1.019	1.274	
1852.40	9262	UMTS 1900	RMC	19.0	18.79	-0.10	0 mm	1	0280M	1:1	bottom	2.070	1.050	2.174	A66
1880.00	9400	UMTS 1900	RMC	19.0	18.92	-0.12	0 mm	1	0280M	1:1	bottom	2.060	1.019	2.099	
1907.60	9538	UMTS 1900	RMC	19.0	18.91	-0.16	0 mm	1	0280M	1:1	bottom	2.040	1.021	2.083	
1852.40	9262	UMTS 1900	RMC	19.0	18.79	-0.10	0 mm	1	0280M	1:1	bottom	2.070	1.050	2.174	
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 11-51
LTE Band 66 (AWS) Phablet SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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	24.0	23.21	0.01	0	7	0282M	QPSK	1	0	8 mm	back	1:1	0.849	1.199	1.018	
1770.00	132572	High	LTE Band 66 (AWS)	20	23.0	22.26	-0.03	1	7	0282M	QPSK	50	25	8 mm	back	1:1	0.722	1.186	0.856	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.21	0.00	0	9	0282M	QPSK	1	0	6 mm	front	1:1	1.090	1.199	1.307	
1770.00	132572	High	LTE Band 66 (AWS)	20	23.0	22.26	0.01	1	9	0282M	QPSK	50	25	6 mm	front	1:1	0.915	1.186	1.085	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.21	-0.07	0	9	0282M	QPSK	1	0	11 mm	bottom	1:1	1.240	1.199	1.487	
1770.00	132572	High	LTE Band 66 (AWS)	20	23.0	22.26	-0.08	1	9	0282M	QPSK	50	25	11 mm	bottom	1:1	0.958	1.186	1.136	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.21	-0.11	0	7	0282M	QPSK	1	0	0 mm	right	1:1	0.520	1.199	0.623	
1770.00	132572	High	LTE Band 66 (AWS)	20	23.0	22.26	-0.08	1	7	0282M	QPSK	50	25	0 mm	right	1:1	0.417	1.186	0.495	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.21	0.08	0	8	0282M	QPSK	1	0	0 mm	left	1:1	0.275	1.199	0.330	
1770.00	132572	High	LTE Band 66 (AWS)	20	23.0	22.26	0.10	1	8	0282M	QPSK	50	25	0 mm	left	1:1	0.226	1.186	0.268	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.18	0.14	0	9	0282M	QPSK	1	50	0 mm	back	1:1	1.410	1.208	1.703	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.23	0.03	0	9	0282M	QPSK	50	25	0 mm	back	1:1	1.480	1.194	1.767	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.18	-0.08	0	11	0282M	QPSK	1	50	0 mm	front	1:1	1.330	1.208	1.607	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.23	-0.06	0	11	0282M	QPSK	50	25	0 mm	front	1:1	1.400	1.194	1.672	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.18	-0.15	0	5	0282M	QPSK	1	50	0 mm	bottom	1:1	2.050	1.208	2.476	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	20.0	18.88	-0.13	0	5	0282M	QPSK	1	50	0 mm	bottom	1:1	2.010	1.294	2.601	
1770.00	132572	High	LTE Band 66 (AWS)	20	20.0	19.17	-0.16	0	5	0282M	QPSK	1	50	0 mm	bottom	1:1	1.980	1.211	2.398	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.23	-0.17	0	5	0282M	QPSK	50	25	0 mm	bottom	1:1	2.200	1.194	2.627	A67
1745.00	132322	Mid	LTE Band 66 (AWS)	20	20.0	19.21	-0.13	0	5	0282M	QPSK	50	25	0 mm	bottom	1:1	2.130	1.199	2.554	
1770.00	132572	High	LTE Band 66 (AWS)	20	20.0	19.20	-0.17	0	5	0282M	QPSK	50	25	0 mm	bottom	1:1	2.070	1.202	2.488	
1720.00	132072	Low	LTE Band 66 (AWS)	20	20.0	19.16	-0.13	0	5	0282M	QPSK	100	0	0 mm	bottom	1:1	2.180	1.213	2.644	
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 11-52
LTE Band 25 (PCS) Phablet SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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)	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.0	23.22	-0.06	0	1	0286M	QPSK	1	99	8 mm	back	1:1	0.790	1.197	0.946	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	23.0	22.31	-0.02	1	1	0286M	QPSK	50	50	8 mm	back	1:1	0.697	1.172	0.817	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.0	23.22	-0.04	0	1	0286M	QPSK	1	99	6 mm	front	1:1	1.000	1.197	1.197	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	23.0	22.31	-0.04	1	1	0286M	QPSK	50	50	6 mm	front	1:1	0.867	1.172	1.016	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.0	23.22	-0.03	0	1	0286M	QPSK	1	99	11 mm	bottom	1:1	1.280	1.197	1.532	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	23.0	22.31	0.01	1	1	0286M	QPSK	50	50	11 mm	bottom	1:1	1.080	1.172	1.266	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.0	23.22	-0.19	0	1	0286M	QPSK	1	99	0 mm	right	1:1	0.494	1.197	0.591	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	23.0	22.31	-0.15	1	1	0286M	QPSK	50	50	0 mm	right	1:1	0.445	1.172	0.522	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.0	23.22	0.05	0	1	0286M	QPSK	1	99	0 mm	left	1:1	0.260	1.197	0.311	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	23.0	22.31	0.05	1	1	0286M	QPSK	50	50	0 mm	left	1:1	0.225	1.172	0.264	
1905.00	26590	High	LTE Band 25 (PCS)	20	19.0	18.77	0.00	0	1	0286M	QPSK	1	0	0 mm	back	1:1	1.160	1.054	1.223	
1905.00	26590	High	LTE Band 25 (PCS)	20	19.0	18.89	-0.04	0	1	0286M	QPSK	50	50	0 mm	back	1:1	1.250	1.026	1.283	
1905.00	26590	High	LTE Band 25 (PCS)	20	19.0	18.77	0.05	0	1	0286M	QPSK	1	0	0 mm	front	1:1	1.150	1.054	1.212	
1905.00	26590	High	LTE Band 25 (PCS)	20	19.0	18.89	0.06	0	1	0286M	QPSK	50	50	0 mm	front	1:1	1.230	1.026	1.262	
1905.00	26590	High	LTE Band 25 (PCS)	20	19.0	18.77	0.02	0	1	0286M	QPSK	1	0	0 mm	bottom	1:1	1.490	1.054	1.570	
1860.00	26140	Low	LTE Band 25 (PCS)	20	19.0	18.67	0.03	0	1	0286M	QPSK	50	0	0 mm	bottom	1:1	1.600	1.079	1.726	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	19.0	18.74	0.02	0	1	0286M	QPSK	50	50	0 mm	bottom	1:1	1.540	1.062	1.635	
1905.00	26590	High	LTE Band 25 (PCS)	20	19.0	18.89	0.04	0	1	0286M	QPSK	50	50	0 mm	bottom	1:1	1.610	1.026	1.652	A68

ANSI / IEEE C95.1 1992 - SAFETY LIMIT	Phablet
Spatial Peak	4.0 W/kg (mW/g)
Uncontrolled Exposure/General Population	averaged over 10 grams

Table 11-53
LTE Band 30 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)	
2310.00	27710	Mid	LTE Band 30	10	24.2	23.72	-0.03	0	0282M	QPSK	1	49	8 mm	back	1:1	0.598	1.117	0.668	
2310.00	27710	Mid	LTE Band 30	10	23.2	22.77	-0.03	1	0282M	QPSK	25	12	8 mm	back	1:1	0.499	1.104	0.551	
2310.00	27710	Mid	LTE Band 30	10	24.2	23.72	0.04	0	0282M	QPSK	1	49	6 mm	front	1:1	0.854	1.117	0.954	
2310.00	27710	Mid	LTE Band 30	10	23.2	22.77	0.02	1	0282M	QPSK	25	12	6 mm	front	1:1	0.712	1.104	0.786	
2310.00	27710	Mid	LTE Band 30	10	24.2	23.72	-0.11	0	0282M	QPSK	1	49	11 mm	bottom	1:1	1.060	1.117	1.184	
2310.00	27710	Mid	LTE Band 30	10	23.2	22.77	-0.06	1	0282M	QPSK	25	12	11 mm	bottom	1:1	0.897	1.104	0.990	
2310.00	27710	Mid	LTE Band 30	10	24.2	23.72	0.09	0	0282M	QPSK	1	49	0 mm	right	1:1	0.593	1.117	0.662	
2310.00	27710	Mid	LTE Band 30	10	23.2	22.77	0.12	1	0282M	QPSK	25	12	0 mm	right	1:1	0.497	1.104	0.549	
2310.00	27710	Mid	LTE Band 30	10	21.5	20.85	0.15	0	0282M	QPSK	1	0	0 mm	back	1:1	1.370	1.161	1.591	
2310.00	27710	Mid	LTE Band 30	10	21.5	20.79	0.09	0	0282M	QPSK	25	12	0 mm	back	1:1	1.390	1.178	1.637	A69
2310.00	27710	Mid	LTE Band 30	10	21.5	20.85	-0.10	0	0282M	QPSK	1	0	0 mm	front	1:1	1.040	1.161	1.207	
2310.00	27710	Mid	LTE Band 30	10	21.5	20.79	-0.09	0	0282M	QPSK	25	12	0 mm	front	1:1	1.060	1.178	1.249	
2310.00	27710	Mid	LTE Band 30	10	21.5	20.85	0.10	0	0282M	QPSK	1	0	0 mm	bottom	1:1	1.150	1.161	1.335	
2310.00	27710	Mid	LTE Band 30	10	21.5	20.79	0.08	0	0282M	QPSK	25	12	0 mm	bottom	1:1	1.210	1.178	1.425	

ANSI / IEEE C95.1 1992 - SAFETY LIMIT	Phablet
Spatial Peak	4.0 W/kg (mW/g)
Uncontrolled Exposure/General Population	averaged over 10 grams

Table 11-54
LTE Band 7 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)	
2535.00	21100	Mid	LTE Band 7	20	24.0	23.26	-0.01	0	0295M	QPSK	1	0	8 mm	back	1:1	0.608	1.186	0.721	
2535.00	21100	Mid	LTE Band 7	20	23.0	22.38	0.08	1	0295M	QPSK	50	25	8 mm	back	1:1	0.450	1.153	0.519	
2535.00	21100	Mid	LTE Band 7	20	24.0	23.26	0.03	0	0295M	QPSK	1	0	6 mm	front	1:1	0.509	1.186	0.604	
2535.00	21100	Mid	LTE Band 7	20	23.0	22.38	0.06	1	0295M	QPSK	50	25	6 mm	front	1:1	0.409	1.153	0.472	
2535.00	21100	Mid	LTE Band 7	20	24.0	23.26	-0.03	0	0295M	QPSK	1	0	11 mm	bottom	1:1	0.692	1.186	0.821	
2535.00	21100	Mid	LTE Band 7	20	23.0	22.38	-0.05	1	0295M	QPSK	50	25	11 mm	bottom	1:1	0.531	1.153	0.612	
2535.00	21100	Mid	LTE Band 7	20	24.0	23.26	-0.09	0	0295M	QPSK	1	0	0 mm	right	1:1	0.823	1.186	0.976	
2535.00	21100	Mid	LTE Band 7	20	23.0	22.38	-0.06	1	0295M	QPSK	50	25	0 mm	right	1:1	0.643	1.153	0.741	
2560.00	21350	High	LTE Band 7	20	21.5	20.83	-0.09	0	0295M	QPSK	1	0	0 mm	back	1:1	1.540	1.167	1.797	
2560.00	21350	High	LTE Band 7	20	21.5	20.94	-0.04	0	0295M	QPSK	50	25	0 mm	back	1:1	1.600	1.138	1.821	
2560.00	21350	High	LTE Band 7	20	21.5	20.83	-0.13	0	0295M	QPSK	1	0	0 mm	front	1:1	1.510	1.167	1.762	
2560.00	21350	High	LTE Band 7	20	21.5	20.94	-0.06	0	0295M	QPSK	50	25	0 mm	front	1:1	1.490	1.138	1.696	
2510.00	20850	Low	LTE Band 7	20	21.5	20.68	-0.15	0	0295M	QPSK	1	99	0 mm	bottom	1:1	1.900	1.208	2.295	
2535.00	21100	Mid	LTE Band 7	20	21.5	20.71	-0.14	0	0295M	QPSK	1	0	0 mm	bottom	1:1	1.870	1.199	2.242	
2560.00	21350	High	LTE Band 7	20	21.5	20.83	-0.15	0	0295M	QPSK	1	0	0 mm	bottom	1:1	1.800	1.167	2.101	
2510.00	20850	Low	LTE Band 7	20	21.5	20.87	-0.13	0	0295M	QPSK	50	25	0 mm	bottom	1:1	2.040	1.156	2.358	A70
2535.00	21100	Mid	LTE Band 7	20	21.5	20.91	-0.11	0	0295M	QPSK	50	25	0 mm	bottom	1:1	1.920	1.146	2.200	
2560.00	21350	High	LTE Band 7	20	21.5	20.94	-0.15	0	0295M	QPSK	50	25	0 mm	bottom	1:1	1.850	1.138	2.105	
2560.00	21350	High	LTE Band 7	20	21.5	20.80	-0.15	0	0295M	QPSK	100	0	0 mm	bottom	1:1	1.810	1.175	2.127	
2510.00	20850	Low	LTE Band 7	20	21.5	20.87	-0.14	0	0295M	QPSK	50	25	0 mm	bottom	1:1	1.920	1.156	2.220	
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 11-55
LTE Band 41 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)	
2506.00	39750	Low	LTE Band 41	20	25.0	24.27	0.03	0	0258M	QPSK	1	99	8 mm	back	1:1.58	0.429	1.183	0.508	
2506.00	39750	Low	LTE Band 41	20	24.0	23.24	0.02	1	0258M	QPSK	50	0	8 mm	back	1:1.58	0.370	1.191	0.441	
2506.00	39750	Low	LTE Band 41	20	25.0	24.27	-0.17	0	0258M	QPSK	1	99	6 mm	front	1:1.58	0.407	1.183	0.481	
2506.00	39750	Low	LTE Band 41	20	24.0	23.24	-0.10	1	0258M	QPSK	50	0	6 mm	front	1:1.58	0.352	1.191	0.419	
2506.00	39750	Low	LTE Band 41	20	25.0	24.27	0.01	0	0258M	QPSK	1	99	11 mm	bottom	1:1.58	0.546	1.183	0.646	
2506.00	39750	Low	LTE Band 41	20	24.0	23.24	-0.06	1	0258M	QPSK	50	0	11 mm	bottom	1:1.58	0.463	1.191	0.551	
2506.00	39750	Low	LTE Band 41	20	25.0	24.27	-0.12	0	0258M	QPSK	1	99	0 mm	right	1:1.58	0.654	1.183	0.774	
2506.00	39750	Low	LTE Band 41	20	24.0	23.24	-0.19	1	0258M	QPSK	50	0	0 mm	right	1:1.58	0.569	1.191	0.678	
2506.00	39750	Low	LTE Band 41	20	23.0	22.65	-0.01	0	0258M	QPSK	1	50	0 mm	back	1:1.58	1.570	1.084	1.702	
2549.50	40185	Low-Mid	LTE Band 41	20	23.0	22.54	-0.20	0	0258M	QPSK	1	0	0 mm	back	1:1.58	1.500	1.112	1.668	
2593.00	40620	Mid	LTE Band 41	20	23.0	22.44	0.10	0	0258M	QPSK	1	50	0 mm	back	1:1.58	1.260	1.138	1.434	
2636.50	41055	Mid-High	LTE Band 41	20	23.0	22.33	-0.16	0	0258M	QPSK	1	0	0 mm	back	1:1.58	1.260	1.167	1.470	
2680.00	41490	High	LTE Band 41	20	23.0	22.37	0.15	0	0258M	QPSK	1	50	0 mm	back	1:1.58	1.560	1.156	1.803	
2506.00	39750	Low	LTE Band 41	20	23.0	22.73	-0.03	0	0258M	QPSK	50	0	0 mm	back	1:1.58	1.680	1.064	1.788	
2549.50	40185	Low-Mid	LTE Band 41	20	23.0	22.53	-0.08	0	0258M	QPSK	50	25	0 mm	back	1:1.58	1.500	1.114	1.671	
2593.00	40620	Mid	LTE Band 41	20	23.0	22.55	0.16	0	0258M	QPSK	50	50	0 mm	back	1:1.58	1.290	1.109	1.431	
2636.50	41055	Mid-High	LTE Band 41	20	23.0	22.44	0.20	0	0258M	QPSK	50	25	0 mm	back	1:1.58	1.400	1.138	1.593	
2680.00	41490	High	LTE Band 41	20	23.0	22.38	0.19	0	0258M	QPSK	50	25	0 mm	back	1:1.58	1.630	1.153	1.879	
2506.00	39750	Low	LTE Band 41	20	23.0	22.64	-0.04	0	0258M	QPSK	100	0	0 mm	back	1:1.58	1.650	1.086	1.792	
2506.00	39750	Low	LTE Band 41	20	23.0	22.65	0.16	0	0258M	QPSK	1	50	0 mm	front	1:1.58	1.310	1.084	1.420	
2506.00	39750	Low	LTE Band 41	20	23.0	22.73	0.14	0	0258M	QPSK	50	0	0 mm	front	1:1.58	1.370	1.064	1.458	
2506.00	39750	Low	LTE Band 41	20	23.0	22.65	-0.15	0	0258M	QPSK	1	50	0 mm	bottom	1:1.58	1.570	1.084	1.702	
2549.50	40185	Low-Mid	LTE Band 41	20	23.0	22.54	0.15	0	0258M	QPSK	1	0	0 mm	bottom	1:1.58	1.500	1.112	1.668	
2593.00	40620	Mid	LTE Band 41	20	23.0	22.44	0.13	0	0258M	QPSK	1	50	0 mm	bottom	1:1.58	1.470	1.138	1.673	
2636.50	41055	Mid-High	LTE Band 41	20	23.0	22.33	0.19	0	0258M	QPSK	1	0	0 mm	bottom	1:1.58	1.710	1.167	1.996	
2680.00	41490	High	LTE Band 41	20	23.0	22.37	0.19	0	0258M	QPSK	1	50	0 mm	bottom	1:1.58	2.280	1.156	2.636	
2506.00	39750	Low	LTE Band 41	20	23.0	22.73	-0.17	0	0258M	QPSK	50	0	0 mm	bottom	1:1.58	1.670	1.064	1.777	
2549.50	40185	Low-Mid	LTE Band 41	20	23.0	22.53	0.18	0	0258M	QPSK	50	25	0 mm	bottom	1:1.58	1.520	1.114	1.693	
2593.00	40620	Mid	LTE Band 41	20	23.0	22.55	0.13	0	0258M	QPSK	50	50	0 mm	bottom	1:1.58	1.510	1.109	1.675	
2636.50	41055	Mid-High	LTE Band 41	20	23.0	22.44	0.15	0	0258M	QPSK	50	25	0 mm	bottom	1:1.58	1.900	1.138	2.162	
2680.00	41490	High	LTE Band 41	20	23.0	22.38	0.17	0	0258M	QPSK	50	25	0 mm	bottom	1:1.58	2.390	1.153	**2.756**	A71
2506.00	39750	Low	LTE Band 41	20	23.0	22.64	-0.17	0	0258M	QPSK	100	0	0 mm	bottom	1:1.58	1.630	1.086	1.770	
2680.00	41490	High	LTE Band 41	20	23.0	22.38	0.17	0	0258M	QPSK	50	25	0 mm	bottom	1:1.58	2.250	1.153	2.594	
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
NR Band n66 Phablet SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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	354000	High	NR Band n66 (AWS)	20	24.5	23.86	-0.07	0	7	0261M	DFT-S-OFDM QPSK	1	104	8 mm	back	1:1	0.922	1.159	1.069	
1770.00	354000	High	NR Band n66 (AWS)	20	24.5	23.96	0.03	0	7	0261M	DFT-S-OFDM QPSK	50	28	8 mm	back	1:1	1.010	1.132	1.143	
1770.00	354000	High	NR Band n66 (AWS)	20	24.5	23.86	0.15	0	9	0261M	DFT-S-OFDM QPSK	1	104	6 mm	front	1:1	1.110	1.159	1.286	
1770.00	354000	High	NR Band n66 (AWS)	20	24.5	23.96	0.18	0	9	0261M	DFT-S-OFDM QPSK	50	28	6 mm	front	1:1	1.190	1.132	1.347	
1770.00	354000	High	NR Band n66 (AWS)	20	24.5	23.86	0.12	0	9	0261M	DFT-S-OFDM QPSK	1	104	11 mm	bottom	1:1	1.140	1.159	1.321	
1770.00	354000	High	NR Band n66 (AWS)	20	24.5	23.96	0.02	0	9	0261M	DFT-S-OFDM QPSK	50	28	11 mm	bottom	1:1	1.230	1.132	1.392	
1770.00	354000	High	NR Band n66 (AWS)	20	24.5	23.86	0.17	0	7	0261M	DFT-S-OFDM QPSK	1	104	0 mm	right	1:1	0.519	1.159	0.602	
1770.00	354000	High	NR Band n66 (AWS)	20	24.5	23.96	0.01	0	7	0261M	DFT-S-OFDM QPSK	50	28	0 mm	right	1:1	0.537	1.132	0.608	
1770.00	354000	High	NR Band n66 (AWS)	20	24.5	23.86	0.05	0	8	0261M	DFT-S-OFDM QPSK	1	104	0 mm	left	1:1	0.289	1.159	0.335	
1770.00	354000	High	NR Band n66 (AWS)	20	24.5	23.96	0.06	0	8	0261M	DFT-S-OFDM QPSK	50	28	0 mm	left	1:1	0.302	1.132	0.342	
1770.00	354000	High	NR Band n66 (AWS)	20	20.0	19.98	0.01	0	9	0261M	DFT-S-OFDM QPSK	1	1	0 mm	back	1:1	1.640	1.005	1.648	
1770.00	354000	High	NR Band n66 (AWS)	20	20.0	19.95	-0.02	0	9	0261M	DFT-S-OFDM QPSK	50	28	0 mm	back	1:1	1.640	1.012	1.660	
1770.00	354000	High	NR Band n66 (AWS)	20	20.0	19.98	0.15	0	11	0261M	DFT-S-OFDM QPSK	1	1	0 mm	front	1:1	1.550	1.005	1.558	
1770.00	354000	High	NR Band n66 (AWS)	20	20.0	19.95	0.00	0	11	0261M	DFT-S-OFDM QPSK	50	28	0 mm	front	1:1	1.530	1.012	1.548	
1720.00	344000	Low	NR Band n66 (AWS)	20	20.0	19.97	-0.11	0	5	0261M	DFT-S-OFDM QPSK	1	1	0 mm	bottom	1:1	2.670	1.007	2.689	
1745.00	349000	Mid	NR Band n66 (AWS)	20	20.0	19.94	-0.15	0	5	0261M	DFT-S-OFDM QPSK	1	1	0 mm	bottom	1:1	2.640	1.014	2.677	
1770.00	354000	High	NR Band n66 (AWS)	20	20.0	19.98	-0.17	0	5	0261M	DFT-S-OFDM QPSK	1	1	0 mm	bottom	1:1	2.570	1.005	2.583	
1720.00	344000	Low	NR Band n66 (AWS)	20	20.0	19.94	-0.13	0	5	0261M	DFT-S-OFDM QPSK	50	28	0 mm	bottom	1:1	2.710	1.014	2.748	A72
1745.00	349000	Mid	NR Band n66 (AWS)	20	20.0	19.90	-0.10	0	5	0261M	DFT-S-OFDM QPSK	50	28	0 mm	bottom	1:1	2.640	1.023	2.701	
1770.00	354000	High	NR Band n66 (AWS)	20	20.0	19.95	-0.07	0	5	0261M	DFT-S-OFDM QPSK	50	28	0 mm	bottom	1:1	2.580	1.012	2.611	
1770.00	354000	High	NR Band n66 (AWS)	20	20.0	19.89	-0.11	0	5	0261M	DFT-S-OFDM QPSK	100	0	0 mm	bottom	1:1	2.620	1.026	2.688	
1770.00	354000	High	NR Band n66 (AWS)	20	20.0	19.85	-0.11	0	5	0261M	CP-OFDM QPSK	1	1	0 mm	bottom	1:1	2.500	1.035	2.588	
1720.00	344000	Low	NR Band n66 (AWS)	20	20.0	19.94	0.13	0	5	0261M	DFT-S-OFDM QPSK	50	28	0 mm	bottom	1:1	2.690	1.014	2.728	
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 11-57
WLAN SISO 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)	
5260	52	802.11a	OFDM	20	18.0	17.26	0.16	0 mm	1	0294M	6	back	98.8	6.429	0.636	1.186	1.012	0.763	
5260	52	802.11a	OFDM	20	18.0	17.26	-0.19	0 mm	1	0294M	6	front	98.8	1.745	-	1.186	1.012	-	
5260	52	802.11a	OFDM	20	18.0	17.26	0.12	0 mm	1	0294M	6	top	98.8	3.130	-	1.186	1.012	-	
5260	52	802.11a	OFDM	20	18.0	17.26	0.00	0 mm	1	0294M	6	left	98.8	6.059	-	1.186	1.012	-	
5280	56	802.11a	OFDM	20	18.0	17.58	0.12	0 mm	2	0294M	6	back	98.8	4.910	0.693	1.102	1.012	0.773	
5280	56	802.11a	OFDM	20	18.0	17.58	0.19	0 mm	2	0294M	6	front	98.8	0.088	-	1.102	1.012	-	
5280	56	802.11a	OFDM	20	18.0	17.58	0.12	0 mm	2	0294M	6	top	98.8	0.220	-	1.102	1.012	-	
5280	56	802.11a	OFDM	20	18.0	17.58	0.02	0 mm	2	0294M	6	left	98.8	1.286	0.091	1.102	1.012	0.101	
5520	104	802.11a	OFDM	20	18.0	17.89	0.12	0 mm	1	0294M	6	back	98.8	7.074	0.783	1.026	1.012	0.813	
5520	104	802.11a	OFDM	20	18.0	17.89	0.00	0 mm	1	0294M	6	front	98.8	1.017	-	1.026	1.012	-	
5520	104	802.11a	OFDM	20	18.0	17.89	0.15	0 mm	1	0294M	6	top	98.8	2.529	-	1.026	1.012	-	
5520	104	802.11a	OFDM	20	18.0	17.89	0.01	0 mm	1	0294M	6	left	98.8	4.387	-	1.026	1.012	-	
5520	104	802.11a	OFDM	20	18.0	17.98	-0.12	0 mm	2	0294M	6	back	98.8	8.014	0.924	1.005	1.012	**0.940**	
5520	104	802.11a	OFDM	20	18.0	17.98	0.19	0 mm	2	0294M	6	front	98.8	0.009	-	1.005	1.012	-	
5520	104	802.11a	OFDM	20	18.0	17.98	0.00	0 mm	2	0294M	6	top	98.8	0.355	-	1.005	1.012	-	
5520	104	802.11a	OFDM	20	18.0	17.98	0.00	0 mm	2	0294M	6	left	98.8	1.548	0.106	1.005	1.012	0.108	

ANSI / IEEE C95.1 1992 - SAFETY LIMIT	Phablet
Spatial Peak	4.0 W/kg (mW/g)
Uncontrolled Exposure/General Population	averaged over 10 grams

Table 11-58
WLAN 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)	
5320	64	802.11n	OFDM	20	18.0	17.72	18.0	17.65	0.13	0 mm	MIMO	0294M	13	back	97.6	8.633	1.260	1.084	1.025	1.400	
5320	64	802.11n	OFDM	20	18.0	17.72	18.0	17.65	0.01	0 mm	MIMO	0294M	13	front	97.6	2.310	-	1.084	1.025	-	
5320	64	802.11n	OFDM	20	18.0	17.72	18.0	17.65	0.12	0 mm	MIMO	0294M	13	top	97.6	3.067	-	1.084	1.025	-	
5320	64	802.11n	OFDM	20	18.0	17.72	18.0	17.65	0.02	0 mm	MIMO	0294M	13	left	97.6	4.698	0.598	1.084	1.025	0.664	
5500	100	802.11n	OFDM	20	18.0	17.77	18.0	17.81	0.19	0 mm	MIMO	0294M	13	back	97.6	10.521	1.440	1.054	1.025	1.556	
5600	120	802.11n	OFDM	20	18.0	17.53	18.0	17.16	-0.20	0 mm	MIMO	0294M	13	back	97.6	9.239	1.610	1.213	1.025	2.002	
5720	144	802.11n	OFDM	20	18.0	17.77	18.0	17.31	-0.19	0 mm	MIMO	0294M	13	back	97.6	12.677	1.620	1.172	1.025	1.946	A73
5500	100	802.11n	OFDM	20	18.0	17.77	18.0	17.81	0.01	0 mm	MIMO	0294M	13	front	97.6	1.065	-	1.054	1.025	-	
5500	100	802.11n	OFDM	20	18.0	17.77	18.0	17.81	0.12	0 mm	MIMO	0294M	13	top	97.6	2.506	-	1.054	1.025	-	
5500	100	802.11n	OFDM	20	18.0	17.77	18.0	17.81	0.00	0 mm	MIMO	0294M	13	left	97.6	4.723	0.372	1.054	1.025	0.402	

ANSI / IEEE C95.1 1992 - SAFETY LIMIT	Phablet
Spatial Peak	4.0 W/kg (mW/g)
Uncontrolled Exposure/General Population	averaged over 10 grams

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

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 15 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. 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 supports dynamic antenna tuning for some bands. Per FCC Guidance, SAR was measured according to the normally required SAR measurement configurations with tuner active. The auto-tune state determined by the device was verified before and after each SAR measurement and is listed in tables above. Please see Section 14 for supplemental data.
12. Additional SAR tests for phablet SAR were evaluated per KDB 616217 Section 6 (See Section 6.9 for more information).
13. Unless otherwise noted, when 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds below.
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).

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.

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.
6. CDMA 1X Advanced technology was not required for SAR since the maximum allowed output powers for 1X Advanced was not more than 0.25 dB higher than the maximum powers for 1X.

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 and MCC=001 on the base station simulator. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).
4. Per FCC KDB Publication 447498 D01v06, when the reported LTE Band 41 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.

NR Notes:

1. NR implementation of n71, n66, and n41 is limited to EN-DC operations only, with LTE Bands 2/5/7/13/66 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 Section 1.11 -Bibliography).
4. This device additionally supports some EN-DC conditions where additional LTE carriers are added on the downlink only.
5. Per FCC Guidance, the device was configured with the tuner state selected by the device in LTE mode with auto-tune active at the same frequency as the NR test results. Additional tuner states were evaluated per April 2019 TCBC Workshop Guidance. Please see Section 14 for supplemental data.
6. 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.
7. For final implementation, NR Band n41 slot configuration is synchronized using maximum duty cycle of 25%. SAR testing was performed using FTM mode with a 25% duty cycle applied to match final duty cycle.
8. NR Test Configurations were selected per the following guidelines
    a. MPR is permanently implemented per 3GPP standards. Conducted power and SAR test configurations were identified for RB configurations/modulations with MPR=0 dB as the most conservative SAR scenarios. 1 RB and 50% RB allocations with a low, mid and high offset within the “Inner RB allocation” range were selected to identify the configurations with the highest power.
    b. The SAR test guidance outlined in section 5 of KDB 941225 D05 was generally adapted for the NR testing. DFT-S-OFDM QPSK was used as the lowest order modulation. Additional modulations were not required since conducted power was not > 0.5 dB higher than the lowest order modulation.
    c. All available SCS settings for this device were evaluated. The NR checklist contains information about the SCS settings per band.

WLAN Notes:

1. For held-to-ear, and 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.

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 ("-").

(*) 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.

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	1+2+3
Head SAR	GSM 850	0.141	0.344	0.025	0.485	0.166	0.510
	GSM 1900	0.083	0.344	0.025	0.427	0.108	0.452
	UMTS 850	0.188	0.344	0.025	0.532	0.213	0.557
	UMTS 1750	0.163	0.344	0.025	0.507	0.188	0.532
	UMTS 1900	0.173	0.344	0.025	0.517	0.198	0.542
	Cell. CDMA/EVDO	0.226	0.344	0.025	0.570	0.251	0.595
	LTE Band 71	0.116	0.344	0.025	0.460	0.141	0.485
	LTE Band 12	0.139	0.344	0.025	0.483	0.164	0.508
	LTE Band 13	0.226	0.344	0.025	0.570	0.251	0.595
	LTE Band 5 (Cell)	0.219	0.344	0.025	0.563	0.244	0.588
	LTE Band 66 (AWS)	0.129	0.344	0.025	0.473	0.154	0.498
	LTE Band 25 (PCS)	0.166	0.344	0.025	0.510	0.191	0.535
	LTE Band 30	0.120	0.344	0.025	0.464	0.145	0.489
	LTE Band 7	0.125	0.344	0.025	0.469	0.150	0.494
	LTE Band 41	0.093	0.344	0.025	0.437	0.118	0.462
	NR Band n71	0.101	0.344	0.025	0.445	0.126	0.470
	NR Band n66	0.135	0.344	0.025	0.479	0.160	0.504
	NR Band n41	0.407	0.344	0.025	0.751	0.432	**0.776**

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	1+2+3
Head SAR	GSM 850	0.141	0.170	0.006	0.311	0.147	0.317
	GSM 1900	0.083	0.170	0.006	0.253	0.089	0.259
	UMTS 850	0.188	0.170	0.006	0.358	0.194	0.364
	UMTS 1750	0.163	0.170	0.006	0.333	0.169	0.339
	UMTS 1900	0.173	0.170	0.006	0.343	0.179	0.349
	Cell. CDMA/EVDO	0.226	0.170	0.006	0.396	0.232	0.402
	LTE Band 71	0.116	0.170	0.006	0.286	0.122	0.292
	LTE Band 12	0.139	0.170	0.006	0.309	0.145	0.315
	LTE Band 13	0.226	0.170	0.006	0.396	0.232	0.402
	LTE Band 5 (Cell)	0.219	0.170	0.006	0.389	0.225	0.395
	LTE Band 66 (AWS)	0.129	0.170	0.006	0.299	0.135	0.305
	LTE Band 25 (PCS)	0.166	0.170	0.006	0.336	0.172	0.342
	LTE Band 30	0.120	0.170	0.006	0.290	0.126	0.296
	LTE Band 7	0.125	0.170	0.006	0.295	0.131	0.301
	LTE Band 41	0.093	0.170	0.006	0.263	0.099	0.269
	NR Band n71	0.101	0.170	0.006	0.271	0.107	0.277
	NR Band n66	0.135	0.170	0.006	0.305	0.141	0.311
	NR Band n41	0.407	0.170	0.006	0.577	0.413	**0.583**

Table 12-3
Simultaneous Transmission Scenario with 2.4 GHz WLAN MIMO and 5 GHz WLAN MIMO (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)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	5	1+2+3+4+5
Head SAR	GSM 850	0.141	0.344	0.025	0.170	0.006	0.686
	GSM 1900	0.083	0.344	0.025	0.170	0.006	0.628
	UMTS 850	0.188	0.344	0.025	0.170	0.006	0.733
	UMTS 1750	0.163	0.344	0.025	0.170	0.006	0.708
	UMTS 1900	0.173	0.344	0.025	0.170	0.006	0.718
	Cell. CDMA/EVDO	0.226	0.344	0.025	0.170	0.006	0.771
	LTE Band 71	0.116	0.344	0.025	0.170	0.006	0.661
	LTE Band 12	0.139	0.344	0.025	0.170	0.006	0.684
	LTE Band 13	0.226	0.344	0.025	0.170	0.006	0.771
	LTE Band 5 (Cell)	0.219	0.344	0.025	0.170	0.006	0.764
	LTE Band 66 (AWS)	0.129	0.344	0.025	0.170	0.006	0.674
	LTE Band 25 (PCS)	0.166	0.344	0.025	0.170	0.006	0.711
	LTE Band 30	0.120	0.344	0.025	0.170	0.006	0.665
	LTE Band 7	0.125	0.344	0.025	0.170	0.006	0.670
	LTE Band 41	0.093	0.344	0.025	0.170	0.006	0.638
	NR Band n71	0.101	0.344	0.025	0.170	0.006	0.646
	NR Band n66	0.135	0.344	0.025	0.170	0.006	0.680
	NR Band n41	0.407	0.344	0.025	0.170	0.006	**0.952**

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	GSM 850	0.141	0.852	0.993
	GSM 1900	0.083	0.852	0.935
	UMTS 850	0.188	0.852	1.040
	UMTS 1750	0.163	0.852	1.015
	UMTS 1900	0.173	0.852	1.025
	Cell. CDMA/EVDO	0.226	0.852	1.078
	LTE Band 71	0.116	0.852	0.968
	LTE Band 12	0.139	0.852	0.991
	LTE Band 13	0.226	0.852	1.078
	LTE Band 5 (Cell)	0.219	0.852	1.071
	LTE Band 66 (AWS)	0.129	0.852	0.981
	LTE Band 25 (PCS)	0.166	0.852	1.018
	LTE Band 30	0.120	0.852	0.972
	LTE Band 7	0.125	0.852	0.977
	LTE Band 41	0.093	0.852	0.945
	NR Band n71	0.101	0.852	0.953
	NR Band n66	0.135	0.852	0.987
	NR Band n41	0.407	0.852	**1.259**

Table 12-5
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 Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+3	1+2+4	1+2+3+4
Head SAR	GSM 850	0.141	0.852	0.170	0.006	1.163	0.999	1.169
	GSM 1900	0.083	0.852	0.170	0.006	1.105	0.941	1.111
	UMTS 850	0.188	0.852	0.170	0.006	1.210	1.046	1.216
	UMTS 1750	0.163	0.852	0.170	0.006	1.185	1.021	1.191
	UMTS 1900	0.173	0.852	0.170	0.006	1.195	1.031	1.201
	Cell. CDMA/EVDO	0.226	0.852	0.170	0.006	1.248	1.084	1.254
	LTE Band 71	0.116	0.852	0.170	0.006	1.138	0.974	1.144
	LTE Band 12	0.139	0.852	0.170	0.006	1.161	0.997	1.167
	LTE Band 13	0.226	0.852	0.170	0.006	1.248	1.084	1.254
	LTE Band 5 (Cell)	0.219	0.852	0.170	0.006	1.241	1.077	1.247
	LTE Band 66 (AWS)	0.129	0.852	0.170	0.006	1.151	0.987	1.157
	LTE Band 25 (PCS)	0.166	0.852	0.170	0.006	1.188	1.024	1.194
	LTE Band 30	0.120	0.852	0.170	0.006	1.142	0.978	1.148
	LTE Band 7	0.125	0.852	0.170	0.006	1.147	0.983	1.153
	LTE Band 41	0.093	0.852	0.170	0.006	1.115	0.951	1.121
	NR Band n71	0.101	0.852	0.170	0.006	1.123	0.959	1.129
	NR Band n66	0.135	0.852	0.170	0.006	1.157	0.993	1.163
	NR Band n41	0.407	0.852	0.170	0.006	1.429	1.265	**1.435**

12.4 Body-Worn Simultaneous Transmission Analysis

Table 12-6
Simultaneous Transmission Scenario with 2.4 GHz WLAN (Body-Worn at 1.5 cm)

Configuration	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
Back Side	GSM 850	0.326	0.090	0.131	0.416	0.457	0.547
Back Side	GSM 1900	0.341	0.090	0.131	0.431	0.472	0.562
Back Side	UMTS 850	0.445	0.090	0.131	0.535	0.576	0.666
Back Side	UMTS 1750	0.945	0.090	0.131	1.035	1.076	1.166
Back Side	UMTS 1900	0.923	0.090	0.131	1.013	1.054	1.144
Back Side	Cell. CDMA	0.516	0.090	0.131	0.606	0.647	0.737
Back Side	LTE Band 71	0.243	0.090	0.131	0.333	0.374	0.464
Back Side	LTE Band 12	0.245	0.090	0.131	0.335	0.376	0.466
Back Side	LTE Band 13	0.421	0.090	0.131	0.511	0.552	0.642
Back Side	LTE Band 5 (Cell)	0.434	0.090	0.131	0.524	0.565	0.655
Back Side	LTE Band 66	0.838	0.090	0.131	0.928	0.969	1.059
Back Side	LTE Band 25	0.737	0.090	0.131	0.827	0.868	0.958
Back Side	LTE Band 30	0.601	0.090	0.131	0.691	0.732	0.822
Back Side	LTE Band 7	0.543	0.090	0.131	0.633	0.674	0.764
Back Side	LTE Band 41	0.437	0.090	0.131	0.527	0.568	0.658
Back Side	NR Band n71	0.241	0.090	0.131	0.331	0.372	0.462
Back Side	NR Band n66	1.033	0.090	0.131	1.123	1.164	**1.254**
Back Side	NR Band n41	0.078	0.090	0.131	0.168	0.209	0.299

Table 12-7
Simultaneous Transmission Scenario with 5 GHz WLAN (Body-Worn at 1.5 cm)

Configuration	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	1+2+3
Back Side	GSM 850	0.326	0.196	0.261	0.522	0.587	0.783
Back Side	GSM 1900	0.341	0.196	0.261	0.537	0.602	0.798
Back Side	UMTS 850	0.445	0.196	0.261	0.641	0.706	0.902
Back Side	UMTS 1750	0.945	0.196	0.261	1.141	1.206	1.402
Back Side	UMTS 1900	0.923	0.196	0.261	1.119	1.184	1.380
Back Side	Cell. CDMA	0.516	0.196	0.261	0.712	0.777	0.973
Back Side	LTE Band 71	0.243	0.196	0.261	0.439	0.504	0.700
Back Side	LTE Band 12	0.245	0.196	0.261	0.441	0.506	0.702
Back Side	LTE Band 13	0.421	0.196	0.261	0.617	0.682	0.878
Back Side	LTE Band 5 (Cell)	0.434	0.196	0.261	0.630	0.695	0.891
Back Side	LTE Band 66	0.838	0.196	0.261	1.034	1.099	1.295
Back Side	LTE Band 25	0.737	0.196	0.261	0.933	0.998	1.194
Back Side	LTE Band 30	0.601	0.196	0.261	0.797	0.862	1.058
Back Side	LTE Band 7	0.543	0.196	0.261	0.739	0.804	1.000
Back Side	LTE Band 41	0.437	0.196	0.261	0.633	0.698	0.894
Back Side	NR Band n71	0.241	0.196	0.261	0.437	0.502	0.698
Back Side	NR Band n66	1.033	0.196	0.261	1.229	1.294	**1.490**
Back Side	NR Band n41	0.078	0.196	0.261	0.274	0.339	0.535

Table 12-8
Simultaneous Transmission Scenario with 2.4 GHz WLAN MIMO and 5 GHz WLAN MIMO (Body-Worn at 1.5 cm)

Configuration	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)	5 GHz WLAN MIMO at 13 dBm SAR (W/kg)	Σ SAR (W/kg)			
		1	2	3	4	1+2	1+3	1+2+3	1+2+3+4
Back Side	GSM 850	0.326	0.090	0.131	0.116	0.416	0.457	0.547	0.663
Back Side	GSM 1900	0.341	0.090	0.131	0.116	0.431	0.472	0.562	0.678
Back Side	UMTS 850	0.445	0.090	0.131	0.116	0.535	0.576	0.666	0.782
Back Side	UMTS 1750	0.945	0.090	0.131	0.116	1.035	1.076	1.166	1.282
Back Side	UMTS 1900	0.923	0.090	0.131	0.116	1.013	1.054	1.144	1.260
Back Side	Cell. CDMA	0.516	0.090	0.131	0.116	0.606	0.647	0.737	0.853
Back Side	LTE Band 71	0.243	0.090	0.131	0.116	0.333	0.374	0.464	0.580
Back Side	LTE Band 12	0.245	0.090	0.131	0.116	0.335	0.376	0.466	0.582
Back Side	LTE Band 13	0.421	0.090	0.131	0.116	0.511	0.552	0.642	0.758
Back Side	LTE Band 5 (Cell)	0.434	0.090	0.131	0.116	0.524	0.565	0.655	0.771
Back Side	LTE Band 66	0.838	0.090	0.131	0.116	0.928	0.969	1.059	1.175
Back Side	LTE Band 25	0.737	0.090	0.131	0.116	0.827	0.868	0.958	1.074
Back Side	LTE Band 30	0.601	0.090	0.131	0.116	0.691	0.732	0.822	0.938
Back Side	LTE Band 7	0.543	0.090	0.131	0.116	0.633	0.674	0.764	0.880
Back Side	LTE Band 41	0.437	0.090	0.131	0.116	0.527	0.568	0.658	0.774
Back Side	NR Band n71	0.241	0.090	0.131	0.116	0.331	0.372	0.462	0.578
Back Side	NR Band n66	1.033	0.090	0.131	0.116	1.123	1.164	1.254	**1.370**
Back Side	NR Band n41	0.078	0.090	0.131	0.116	0.168	0.209	0.299	0.415

Table 12-9
Simultaneous Transmission Scenario with Bluetooth (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G/5G SAR (W/Kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Back Side	GSM 850	0.326	0.041	0.367
Back Side	GSM 1900	0.341	0.041	0.382
Back Side	UMTS 850	0.445	0.041	0.486
Back Side	UMTS 1750	0.945	0.041	0.986
Back Side	UMTS 1900	0.923	0.041	0.964
Back Side	Cell. CDMA	0.516	0.041	0.557
Back Side	LTE Band 71	0.243	0.041	0.284
Back Side	LTE Band 12	0.245	0.041	0.286
Back Side	LTE Band 13	0.421	0.041	0.462
Back Side	LTE Band 5 (Cell)	0.434	0.041	0.475
Back Side	LTE Band 66	0.838	0.041	0.879
Back Side	LTE Band 25	0.737	0.041	0.778
Back Side	LTE Band 30	0.601	0.041	0.642
Back Side	LTE Band 7	0.543	0.041	0.584
Back Side	LTE Band 41	0.437	0.041	0.478
Back Side	NR Band n71	0.241	0.041	0.282
Back Side	NR Band n66	1.033	0.041	**1.074**
Back Side	NR Band n41	0.078	0.041	0.119

Table 12-10
Simultaneous Transmission Scenario with Bluetooth and 5 GHz WLAN (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G/5G SAR (W/Kg)	Bluetooth 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	4	1+2+3	1+2+4	1+2+3+4
Back Side	GSM 850	0.326	0.041	0.196	0.261	0.545	0.628	0.824
Back Side	GSM 1900	0.341	0.041	0.196	0.261	0.560	0.643	0.839
Back Side	UMTS 850	0.445	0.041	0.196	0.261	0.664	0.747	0.943
Back Side	UMTS 1750	0.945	0.041	0.196	0.261	1.164	1.247	1.443
Back Side	UMTS 1900	0.923	0.041	0.196	0.261	1.142	1.225	1.421
Back Side	Cell. CDMA	0.516	0.041	0.196	0.261	0.735	0.818	1.014
Back Side	LTE Band 71	0.243	0.041	0.196	0.261	0.462	0.545	0.741
Back Side	LTE Band 12	0.245	0.041	0.196	0.261	0.464	0.547	0.743
Back Side	LTE Band 13	0.421	0.041	0.196	0.261	0.640	0.723	0.919
Back Side	LTE Band 5 (Cell)	0.434	0.041	0.196	0.261	0.653	0.736	0.932
Back Side	LTE Band 66	0.838	0.041	0.196	0.261	1.057	1.140	1.336
Back Side	LTE Band 25	0.737	0.041	0.196	0.261	0.956	1.039	1.235
Back Side	LTE Band 30	0.601	0.041	0.196	0.261	0.820	0.903	1.099
Back Side	LTE Band 7	0.543	0.041	0.196	0.261	0.762	0.845	1.041
Back Side	LTE Band 41	0.437	0.041	0.196	0.261	0.656	0.739	0.935
Back Side	NR Band n71	0.241	0.041	0.196	0.261	0.460	0.543	0.739
Back Side	NR Band n66	1.033	0.041	0.196	0.261	1.252	1.335	**1.531**
Back Side	NR Band n41	0.078	0.041	0.196	0.261	0.297	0.380	0.576

12.5 Hotspot SAR Simultaneous Transmission Analysis

Table 12-11
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	GPRS 850	0.633	0.502	0.346	1.135	0.979	1.481
	GPRS 1900	1.118	0.502	0.346	See Table Below	1.464	See Table Below
	UMTS 850	0.847	0.502	0.346	1.349	1.193	See Table Below
	UMTS 1750	1.151	0.502	0.346	See Table Below	1.497	See Table Below
	UMTS 1900	1.016	0.502	0.346	1.518	1.362	See Table Below
	Cell. EVDO	1.037	0.502	0.346	1.539	1.383	See Table Below
	LTE Band 71	0.399	0.502	0.346	0.901	0.745	1.247
	LTE Band 12	0.457	0.502	0.346	0.959	0.803	1.305
	LTE Band 13	0.674	0.502	0.346	1.176	1.020	1.522
	LTE Band 5 (Cell)	0.793	0.502	0.346	1.295	1.139	See Table Below
	LTE Band 66 (AWS)	1.246	0.502	0.346	See Table Below	**1.592**	See Table Below
	LTE Band 25 (PCS)	1.170	0.502	0.346	See Table Below	1.516	See Table Below
	LTE Band 30	0.892	0.502	0.346	1.394	1.238	See Table Below
	LTE Band 7	0.968	0.502	0.346	1.470	1.314	See Table Below
	LTE Band 41	0.813	0.502	0.346	1.315	1.159	See Table Below
	NR Band n71	0.399	0.502	0.346	0.901	0.745	1.247
	NR Band n66	1.126	0.502	0.346	See Table Below	1.472	See Table Below
	NR Band n41	0.309	0.502	0.346	0.811	0.655	1.157

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+2+3
Hotspot SAR	Back	0.483	0.166	0.346	0.649	0.995
	Front	0.412	0.502*	0.018	0.914	0.932
	Top	-	0.502	0.346*	0.502	0.848
	Bottom	1.118	-	-	**1.118**	**1.118**
	Right	0.087	-	-	0.087	0.087
	Left	0.064	0.502*	0.346*	0.566	0.912

Simult Tx	Configuration	UMTS 850 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+3
Hotspot SAR	Back	0.847	0.166	0.346	**1.359**
	Front	0.569	0.502*	0.018	1.089
	Top	-	0.502	0.346*	0.848
	Bottom	0.413	-	-	0.413
	Right	0.109	-	-	0.109
	Left	0.303	0.502*	0.346*	1.151

Simult Tx	Configuration	UMTS 1750 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+2+3
Hotspot SAR	Back	0.670	0.166	0.346	0.836	**1.182**
	Front	0.515	0.502*	0.018	1.017	1.035
	Top	-	0.502	0.346*	0.502	0.848
	Bottom	1.151	-	-	1.151	1.151
	Right	0.113	-	-	0.113	0.113
	Left	0.070	0.502*	0.346*	0.572	0.918

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+3
Hotspot SAR	Back	0.489	0.166	0.346	1.001
	Front	0.451	0.502*	0.018	0.971
	Top	-	0.502	0.346*	0.848
	Bottom	1.016	-	-	**1.016**
	Right	0.095	-	-	0.095
	Left	0.052	0.502*	0.346*	0.900

Simult Tx	Configuration	Cell. 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+3
Hotspot SAR	Back	1.037	0.166	0.346	**1.549**
	Front	0.793	0.502*	0.018	1.313
	Top	-	0.502	0.346*	0.848
	Bottom	0.476	-	-	0.476
	Right	0.112	-	-	0.112
	Left	0.354	0.502*	0.346*	1.202

Simult Tx	Configuration	LTE Band 5 (Cell) 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+3
Hotspot SAR	Back	0.793	0.166	0.346	**1.305**
	Front	0.507	0.502*	0.018	1.027
	Top	-	0.502	0.346*	0.848
	Bottom	0.383	-	-	0.383
	Right	0.104	-	-	0.104
	Left	0.314	0.502*	0.346*	1.162

Simult Tx	Configuration	LTE Band 66 (AWS) 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+2+3
Hotspot SAR	Back	0.617	0.166	0.346	0.783	1.129
	Front	0.560	0.502*	0.018	1.062	1.080
	Top	-	0.502	0.346*	0.502	0.848
	Bottom	1.246	-	-	**1.246**	**1.246**
	Right	0.118	-	-	0.118	0.118
	Left	0.066	0.502*	0.346*	0.568	0.914

Simult Tx	Configuration	LTE Band 25 (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+2+3
Hotspot SAR	Back	0.555	0.166	0.346	0.721	1.067
	Front	0.468	0.502*	0.018	0.970	0.988
	Top	-	0.502	0.346*	0.502	0.848
	Bottom	1.170	-	-	**1.170**	**1.170**
	Right	0.073	-	-	0.073	0.073
	Left	0.055	0.502*	0.346*	0.557	0.903

Simult Tx	Configuration	LTE Band 30 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)	Simult Tx	Configuration	LTE Band 7 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+3			1	2	3	1+2+3
Hotspot SAR	Back	0.351	0.166	0.346	0.863	Hotspot SAR	Back	0.517	0.166	0.346	**1.029**
	Front	0.347	0.502*	0.018	0.867		Front	0.369	0.502*	0.018	0.889
	Top	-	0.502	0.346*	0.848		Top	-	0.502	0.346*	0.848
	Bottom	0.892	-	-	**0.892**		Bottom	0.968	-	-	0.968
	Right	0.079	-	-	0.079		Right	0.155	-	-	0.155
	Left	-	0.502*	0.346*	0.848		Left	-	0.502*	0.346*	0.848

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)	Simult Tx	Configuration	NR Band n66 (AWS) 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+3			1	2	3	1+2	1+2+3
Hotspot SAR	Back	0.391	0.166	0.346	**0.903**	Hotspot SAR	Back	0.667	0.166	0.346	0.833	1.179
	Front	0.307	0.502*	0.018	0.827		Front	0.519	0.502*	0.018	1.021	1.039
	Top	-	0.502	0.346*	0.848		Top	-	0.502	0.346*	0.502	0.848
	Bottom	0.813	-	-	0.813		Bottom	1.126	-	-	**1.126**	**1.126**
	Right	0.152	-	-	0.152		Right	0.118	-	-	0.118	0.118
	Left	-	0.502*	0.346*	0.848		Left	0.057	0.502*	0.346*	0.559	0.905

Table 12-12

Simultaneous Transmission Scenario with 5 GHz WLAN SISO (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	GPRS 850	0.633	0.181	0.416	0.814	1.049
	GPRS 1900	1.118	0.181	0.416	1.299	1.534
	UMTS 850	0.847	0.181	0.416	1.028	1.263
	UMTS 1750	1.151	0.181	0.416	1.332	1.567
	UMTS 1900	1.016	0.181	0.416	1.197	1.432
	Cell. EVDO	1.037	0.181	0.416	1.218	1.453
	LTE Band 71	0.399	0.181	0.416	0.580	0.815
	LTE Band 12	0.457	0.181	0.416	0.638	0.873
	LTE Band 13	0.674	0.181	0.416	0.855	1.090
	LTE Band 5 (Cell)	0.793	0.181	0.416	0.974	1.209
	LTE Band 66 (AWS)	1.246	0.181	0.416	1.427	See Table Below
	LTE Band 25 (PCS)	1.170	0.181	0.416	1.351	**1.586**
	LTE Band 30	0.892	0.181	0.416	1.073	1.308
	LTE Band 7	0.968	0.181	0.416	1.149	1.384
	LTE Band 41	0.813	0.181	0.416	0.994	1.229
	NR Band n71	0.399	0.181	0.416	0.580	0.815
	NR Band n66	1.126	0.181	0.416	1.307	1.542
	NR Band n41	0.309	0.181	0.416	0.490	0.725

Simult Tx	Configuration	LTE Band 66 (AWS) 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+3
Hotspot SAR	Back	0.617	0.181	0.416	1.033
	Front	0.560	0.181*	0.416*	0.976
	Top	-	0.181*	0.416*	0.416
	Bottom	1.246	-	-	**1.246**
	Right	0.118	-	-	0.118
	Left	0.066	0.181*	0.092	0.158

Table 12-13
Simultaneous Transmission Scenario with 5 GHz WLAN MIMO (Hotspot at 1.0 cm)

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	GPRS 850	0.633	0.502	1.135
	GPRS 1900	1.118	0.502	See Table Below
	UMTS 850	0.847	0.502	1.349
	UMTS 1750	1.151	0.502	See Table Below
	UMTS 1900	1.016	0.502	1.518
	Cell. EVDO	1.037	0.502	**1.539**
	LTE Band 71	0.399	0.502	0.901
	LTE Band 12	0.457	0.502	0.959
	LTE Band 13	0.674	0.502	1.176
	LTE Band 5 (Cell)	0.793	0.502	1.295
	LTE Band 66 (AWS)	1.246	0.502	See Table Below
	LTE Band 25 (PCS)	1.170	0.502	See Table Below
	LTE Band 30	0.892	0.502	1.394
	LTE Band 7	0.968	0.502	1.470
	LTE Band 41	0.813	0.502	1.315
	NR Band n71	0.399	0.502	0.901
	NR Band n66	1.126	0.502	See Table Below
	NR Band n41	0.309	0.502	0.811

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2			1	2	1+2
Hotspot SAR	Back	0.483	0.502	0.985	Hotspot SAR	Back	0.670	0.502	**1.172**
	Front	0.412	0.502*	0.914		Front	0.515	0.502*	1.017
	Top	-	0.144	0.144		Top	-	0.144	0.144
	Bottom	1.118	-	**1.118**		Bottom	1.151	-	1.151
	Right	0.087	-	0.087		Right	0.113	-	0.113
	Left	0.064	0.502*	0.566		Left	0.070	0.502*	0.572

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2			1	2	1+2
Hotspot SAR	Back	0.617	0.502	1.119	Hotspot SAR	Back	0.555	0.502	1.057
	Front	0.560	0.502*	1.062		Front	0.468	0.502*	0.970
	Top	-	0.144	0.144		Top	-	0.144	0.144
	Bottom	1.246	-	**1.246**		Bottom	1.170	-	**1.170**
	Right	0.118	-	0.118		Right	0.073	-	0.073
	Left	0.066	0.502*	0.568		Left	0.055	0.502*	0.557

Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.667	0.502	**1.169**
	Front	0.519	0.502*	1.021
	Top	-	0.144	0.144
	Bottom	1.126	-	1.126
	Right	0.118	-	0.118
	Left	0.057	0.502*	0.559

Table 12-14
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 16 dBm SAR (W/kg)	5 GHz WLAN MIMO at 13 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	GPRS 850	0.633	0.118	0.169	0.920
	GPRS 1900	1.118	0.118	0.169	1.405
	UMTS 850	0.847	0.118	0.169	1.134
	UMTS 1750	1.151	0.118	0.169	1.438
	UMTS 1900	1.016	0.118	0.169	1.303
	Cell. EVDO	1.037	0.118	0.169	1.324
	LTE Band 71	0.399	0.118	0.169	0.686
	LTE Band 12	0.457	0.118	0.169	0.744
	LTE Band 13	0.674	0.118	0.169	0.961
	LTE Band 5 (Cell)	0.793	0.118	0.169	1.080
	LTE Band 66 (AWS)	1.246	0.118	0.169	**1.533**
	LTE Band 25 (PCS)	1.170	0.118	0.169	1.457
	LTE Band 30	0.892	0.118	0.169	1.179
	LTE Band 7	0.968	0.118	0.169	1.255
	LTE Band 41	0.813	0.118	0.169	1.100
	NR Band n71	0.399	0.118	0.169	0.686
	NR Band n66	1.126	0.118	0.169	1.413
	NR Band n41	0.309	0.118	0.169	0.596

Table 12-15
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	GPRS 850	0.633	0.237	0.870
	GPRS 1900	1.118	0.237	1.355
	UMTS 850	0.847	0.237	1.084
	UMTS 1750	1.151	0.237	1.388
	UMTS 1900	1.016	0.237	1.253
	Cell. EVDO	1.037	0.237	1.274
	LTE Band 71	0.399	0.237	0.636
	LTE Band 12	0.457	0.237	0.694
	LTE Band 13	0.674	0.237	0.911
	LTE Band 5 (Cell)	0.793	0.237	1.030
	LTE Band 66 (AWS)	1.246	0.237	**1.483**
	LTE Band 25 (PCS)	1.170	0.237	1.407
	LTE Band 30	0.892	0.237	1.129
	LTE Band 7	0.968	0.237	1.205
	LTE Band 41	0.813	0.237	1.050
	NR Band n71	0.399	0.237	0.636
	NR Band n66	1.126	0.237	1.363
	NR Band n41	0.309	0.237	0.546

Table 12-16
Simultaneous Transmission Scenario with Bluetooth and 5 GHz WLAN (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/Kg)	Bluetooth 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	4	1+2+3	1+2+4
Hotspot SAR	GPRS 850	0.633	0.237	0.181	0.416	1.051	1.286
	GPRS 1900	1.118	0.237	0.181	0.416	1.536	See Table Below
	UMTS 850	0.847	0.237	0.181	0.416	1.265	1.500
	UMTS 1750	1.151	0.237	0.181	0.416	1.569	See Table Below
	UMTS 1900	1.016	0.237	0.181	0.416	1.434	See Table Below
	Cell. EVDO	1.037	0.237	0.181	0.416	1.455	See Table Below
	LTE Band 71	0.399	0.237	0.181	0.416	0.817	1.052
	LTE Band 12	0.457	0.237	0.181	0.416	0.875	1.110
	LTE Band 13	0.674	0.237	0.181	0.416	1.092	1.327
	LTE Band 5 (Cell)	0.793	0.237	0.181	0.416	1.211	1.446
	LTE Band 66 (AWS)	1.246	0.237	0.181	0.416	See Table Below	See Table Below
	LTE Band 25 (PCS)	1.170	0.237	0.181	0.416	**1.588**	See Table Below
	LTE Band 30	0.892	0.237	0.181	0.416	1.310	1.545
	LTE Band 7	0.968	0.237	0.181	0.416	1.386	See Table Below
	LTE Band 41	0.813	0.237	0.181	0.416	1.231	1.466
	NR Band n71	0.399	0.237	0.181	0.416	0.817	1.052
	NR Band n66	1.126	0.237	0.181	0.416	1.544	See Table Below
	NR Band n41	0.309	0.237	0.181	0.416	0.727	0.962

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	Bluetooth 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	4	1+2+4
Hotspot SAR	Back	0.483	0.067	0.181	0.416	0.966
	Front	0.412	0.063	0.181*	0.416*	0.891
	Top	-	0.237	0.181*	0.416*	0.653
	Bottom	1.118	-	-	-	**1.118**
	Right	0.087	-	-	-	0.087
	Left	0.064	0.016	0.181*	0.092	0.172

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	Bluetooth 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	4	1+2+4
Hotspot SAR	Back	0.670	0.067	0.181	0.416	**1.153**
	Front	0.515	0.063	0.181*	0.416*	0.994
	Top	-	0.237	0.181*	0.416*	0.653
	Bottom	1.151	-	-	-	1.151
	Right	0.113	-	-	-	0.113
	Left	0.070	0.016	0.181*	0.092	0.178

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	Bluetooth 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	4	1+2+4
Hotspot SAR	Back	0.489	0.067	0.181	0.416	0.972
	Front	0.451	0.063	0.181*	0.416*	0.930
	Top	-	0.237	0.181*	0.416*	0.653
	Bottom	1.016	-	-	-	**1.016**
	Right	0.095	-	-	-	0.095
	Left	0.052	0.016	0.181*	0.092	0.160

Simult Tx	Configuration	Cell. EVDO SAR (W/Kg)	Bluetooth 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	4	1+2+4
Hotspot SAR	Back	1.037	0.067	0.181	0.416	**1.520**
	Front	0.793	0.063	0.181*	0.416*	1.272
	Top	-	0.237	0.181*	0.416*	0.653
	Bottom	0.476	-	-	-	0.476
	Right	0.112	-	-	-	0.112
	Left	0.354	0.016	0.181*	0.092	0.462

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	Bluetooth 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	4	1+2+3	1+2+4
Hotspot SAR	Back	0.617	0.067	0.181	0.416	0.865	1.100
	Front	0.560	0.063	0.181*	0.416*	0.804	1.039
	Top	-	0.237	0.181*	0.416*	0.418	0.653
	Bottom	1.246	-	-	-	**1.246**	**1.246**
	Right	0.118	-	-	-	0.118	0.118
	Left	0.066	0.016	0.181*	0.092	0.263	0.174

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	Bluetooth 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	4	1+2+4
Hotspot SAR	Back	0.555	0.067	0.181	0.416	1.038
	Front	0.468	0.063	0.181*	0.416*	0.947
	Top	-	0.237	0.181*	0.416*	0.653
	Bottom	1.170	-	-	-	**1.170**
	Right	0.073	-	-	-	0.073
	Left	0.055	0.016	0.181*	0.092	0.163

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	Bluetooth 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	4	1+2+4
Hotspot SAR	Back	0.517	0.067	0.181	0.416	**1.000**
	Front	0.369	0.063	0.181*	0.416*	0.848
	Top	-	0.237	0.181*	0.416*	0.653
	Bottom	0.968	-	-	-	0.968
	Right	0.155	-	-	-	0.155
	Left	-	0.016	0.181*	0.092	0.108

Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	Bluetooth 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	4	1+2+4
Hotspot SAR	Back	0.667	0.067	0.181	0.416	1.150
	Front	0.519	0.063	0.181*	0.416*	0.998
	Top	-	0.237	0.181*	0.416*	0.653
	Bottom	1.126	-	-	-	**1.126**
	Right	0.118	-	-	-	0.118
	Left	0.057	0.016	0.181*	0.092	0.165

Table 12-17
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	GPRS 850	0.633	0.237	0.502	1.372
	GPRS 1900	1.118	0.237	0.502	See Table Below
	UMTS 850	0.847	0.237	0.502	**1.586**
	UMTS 1750	1.151	0.237	0.502	See Table Below
	UMTS 1900	1.016	0.237	0.502	See Table Below
	Cell. EVDO	1.037	0.237	0.502	See Table Below
	LTE Band 71	0.399	0.237	0.502	1.138
	LTE Band 12	0.457	0.237	0.502	1.196
	LTE Band 13	0.674	0.237	0.502	1.413
	LTE Band 5 (Cell)	0.793	0.237	0.502	1.532
	LTE Band 66 (AWS)	1.246	0.237	0.502	See Table Below
	LTE Band 25 (PCS)	1.170	0.237	0.502	See Table Below
	LTE Band 30	0.892	0.237	0.502	See Table Below
	LTE Band 7	0.968	0.237	0.502	See Table Below
	LTE Band 41	0.813	0.237	0.502	1.552
	NR Band n71	0.399	0.237	0.502	1.138
	NR Band n66	1.126	0.237	0.502	See Table Below
	NR Band n41	0.309	0.237	0.502	1.048

Simult Tx	Configuration	GPRS 1900 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	Back	0.483	0.067	0.502	1.052
	Front	0.412	0.063	0.502*	0.977
	Top	-	0.237	0.144	0.381
	Bottom	1.118	-	-	**1.118**
	Right	0.087	-	-	0.087
	Left	0.064	0.016	0.502*	0.582

Simult Tx	Configuration	UMTS 1750 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	Back	0.670	0.067	0.502	**1.239**
	Front	0.515	0.063	0.502*	1.080
	Top	-	0.237	0.144	0.381
	Bottom	1.151	-	-	1.151
	Right	0.113	-	-	0.113
	Left	0.070	0.016	0.502*	0.588

Simult Tx	Configuration	UMTS 1900 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	Back	0.489	0.067	0.502	**1.058**
	Front	0.451	0.063	0.502*	1.016
	Top	-	0.237	0.144	0.381
	Bottom	1.016	-	-	1.016
	Right	0.095	-	-	0.095
	Left	0.052	0.016	0.502*	0.570

Simult Tx	Configuration	Cell. EVDO SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR		
		1	2	3	1+2+3	1+2	1+3	2+3
Hotspot SAR	Back	1.037	0.067	0.502	See Note 1	0.01	0.01	0.01
	Front	0.793	0.063	0.502*	**1.358**	N/A	N/A	N/A
	Top	-	0.237	0.144	0.381	N/A	N/A	N/A
	Bottom	0.476	-	-	0.476	N/A	N/A	N/A
	Right	0.112	-	-	0.112	N/A	N/A	N/A
	Left	0.354	0.016	0.502*	0.872	N/A	N/A	N/A

Simult Tx	Configuration	LTE Band 66 (AWS) 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	Back	0.617	0.067	0.502	1.186
	Front	0.560	0.063	0.502*	1.125
	Top	-	0.237	0.144	0.381
	Bottom	1.246	-	-	**1.246**
	Right	0.118	-	-	0.118
	Left	0.066	0.016	0.502*	0.584

Simult Tx	Configuration	LTE Band 25 (PCS) 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	Back	0.555	0.067	0.502	1.124
	Front	0.468	0.063	0.502*	1.033
	Top	-	0.237	0.144	0.381
	Bottom	1.170	-	-	**1.170**
	Right	0.073	-	-	0.073
	Left	0.055	0.016	0.502*	0.573

Simult Tx	Configuration	LTE Band 30 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	Back	0.351	0.067	0.502	**0.920**
	Front	0.347	0.063	0.502*	0.912
	Top	-	0.237	0.144	0.381
	Bottom	0.892	-	-	0.892
	Right	0.079	-	-	0.079
	Left	-	0.016	0.502*	0.518

Simult Tx	Configuration	LTE Band 7 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	Back	0.517	0.067	0.502	**1.086**
	Front	0.369	0.063	0.502*	0.934
	Top	-	0.237	0.144	0.381
	Bottom	0.968	-	-	0.968
	Right	0.155	-	-	0.155
	Left	-	0.016	0.502*	0.518

Simult Tx	Configuration	NR Band n66 (AWS) 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	Back	0.667	0.067	0.502	**1.236**
	Front	0.519	0.063	0.502*	1.084
	Top	-	0.237	0.502*	0.739
	Bottom	1.126	-	-	1.126
	Right	0.118	-	-	0.118
	Left	0.057	0.016	0.502*	0.575

12.6 Phablet Simultaneous Transmission Analysis

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.

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.

Table 12-18
Simultaneous Transmission Scenario with 5 GHz WLAN SISO (Phablet)

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		Simult Tx	Configuration	UMTS 1750 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			1	2	3	1+2	1+3
Phablet SAR	Back	1.751	0.813	0.940	2.564	**2.691**	Phablet SAR	Back	1.868	0.813	0.940	2.681	**2.808**
	Front	1.578	0.813*	0.940*	2.391	2.518		Front	1.776	0.813*	0.940*	2.589	2.716
	Top	-	0.813*	0.940*	0.813	0.940		Top	-	0.813*	0.940*	0.813	0.940
	Bottom	2.353	-	-	2.353	2.353		Bottom	2.376	-	-	2.376	2.376
	Right	0.366	-	-	0.366	0.366		Right	0.606	-	-	0.606	0.606
	Left	0.227	0.813*	0.108	1.040	0.335		Left	0.364	0.813*	0.108	1.177	0.472

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		Simult Tx	Configuration	LTE Band 66 (AWS) 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			1	2	3	1+2	1+3
Phablet SAR	Back	1.355	0.813	0.940	2.168	2.295	Phablet SAR	Back	1.767	0.813	0.940	2.580	**2.707**
	Front	1.460	0.813*	0.940*	2.273	**2.400**		Front	1.672	0.813*	0.940*	2.485	2.612
	Top	-	0.813*	0.940*	0.813	0.940		Top	-	0.813*	0.940*	0.813	0.940
	Bottom	2.174	-	-	2.174	2.174		Bottom	2.644	-	-	2.644	2.644
	Right	0.721	-	-	0.721	0.721		Right	0.623	-	-	0.623	0.623
	Left	0.461	0.813*	0.108	1.274	0.569		Left	0.330	0.813*	0.108	1.143	0.438

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		Simult Tx	Configuration	LTE Band 30 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			1	2	3	1+2	1+3
Phablet SAR	Back	1.283	0.813	0.940	2.096	**2.223**	Phablet SAR	Back	1.637	0.813	0.940	2.450	**2.577**
	Front	1.262	0.813*	0.940*	2.075	2.202		Front	1.249	0.813*	0.940*	2.062	2.189
	Top	-	0.813*	0.940*	0.813	0.940		Top	-	0.813*	0.940*	0.813	0.940
	Bottom	1.726	-	-	1.726	1.726		Bottom	1.425	-	-	1.425	1.425
	Right	0.591	-	-	0.591	0.591		Right	0.662	-	-	0.662	0.662
	Left	0.311	0.813*	0.108	1.124	0.419		Left	-	0.813*	0.108	0.813	0.108

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		Simult Tx	Configuration	LTE Band 41 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			1	2	3	1+2	1+3
Phablet SAR	Back	1.821	0.813	0.940	2.634	**2.761**	Phablet SAR	Back	1.879	0.813	0.940	2.692	**2.819**
	Front	1.762	0.813*	0.940*	2.575	2.702		Front	1.458	0.813*	0.940*	2.271	2.398
	Top	-	0.813*	0.940*	0.813	0.940		Top	-	0.813*	0.940*	0.813	0.940
	Bottom	2.358	-	-	2.358	2.358		Bottom	2.756	-	-	2.756	2.756
	Right	0.976	-	-	0.976	0.976		Right	0.774	-	-	0.774	0.774
	Left	-	0.813*	0.108	0.813	0.108		Left	-	0.813*	0.108	0.813	0.108

Simult Tx	Configuration	NR Band n66 (AWS) 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	Back	1.660	0.813	0.940	2.473	2.600
	Front	1.558	0.813*	0.940*	2.371	2.498
	Top	-	0.813*	0.940*	0.813	0.940
	Bottom	2.748	-	-	**2.748**	**2.748**
	Right	0.608	-	-	0.608	0.608
	Left	0.342	0.813*	0.108	1.155	0.450

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

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2			1	2	1+2			1	2	1+2
Phablet SAR	Back	1.751	2.002	**3.753**	Phablet SAR	Back	1.868	2.002	**3.870**	Phablet SAR	Back	1.355	2.002	3.357
	Front	1.578	2.002*	3.580		Front	1.776	2.002*	3.778		Front	1.460	2.002*	**3.462**
	Top	-	2.002*	2.002		Top	-	2.002*	2.002		Top	-	2.002*	2.002
	Bottom	2.353	-	2.353		Bottom	2.376	-	2.376		Bottom	2.174	-	2.174
	Right	0.366	-	0.366		Right	0.606	-	0.606		Right	0.721	-	0.721
	Left	0.227	0.664	0.891		Left	0.364	0.664	1.028		Left	0.461	0.664	1.125
Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2			1	2	1+2			1	2	1+2
Phablet SAR	Back	1.767	2.002	**3.769**	Phablet SAR	Back	1.283	2.002	**3.285**	Phablet SAR	Back	1.637	2.002	**3.639**
	Front	1.672	2.002*	3.674		Front	1.262	2.002*	3.264		Front	1.249	2.002*	3.251
	Top	-	2.002*	2.002		Top	-	2.002*	2.002		Top	-	2.002*	2.002
	Bottom	2.644	-	2.644		Bottom	1.726	-	1.726		Bottom	1.425	-	1.425
	Right	0.623	-	0.623		Right	0.591	-	0.591		Right	0.662	-	0.662
	Left	0.330	0.664	0.994		Left	0.311	0.664	0.975		Left	-	0.664	0.664
Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2			1	2	1+2			1	2	1+2
Phablet SAR	Back	1.821	2.002	**3.823**	Phablet SAR	Back	1.879	2.002	**3.881**	Phablet SAR	Back	1.660	2.002	**3.662**
	Front	1.762	2.002*	3.764		Front	1.458	2.002*	3.460		Front	1.558	2.002*	3.560
	Top	-	2.002*	2.002		Top	-	2.002*	2.002		Top	-	2.002*	2.002
	Bottom	2.358	-	2.358		Bottom	2.756	-	2.756		Bottom	2.748	-	2.748
	Right	0.976	-	0.976		Right	0.774	-	0.774		Right	0.608	-	0.608
	Left	-	0.664	0.664		Left	-	0.664	0.664		Left	0.342	0.664	1.006

12.7 SPLSR Evaluation and Analysis

Per FCC KDB Publication 447498 D01v06, when the sum of the standalone transmitters is more than 1.6 W/kg for 1g and 4 W/kg for 10g, the SAR sum to peak locations can be analyzed to determine SAR distribution overlaps. When the SAR peak to location ratio (shown below) for each pair of antennas is ≤ 0.04 for 1g and ≤ 0.10 for 10g, simultaneous SAR evaluation is not required. The distance between the transmitters was calculated using the following formula.

$$\text{Distance}_{Tx1-Tx2} = R_i = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2} \text{ (Hotspot)}$$

$$\text{SPLS Ratio} = \frac{(SAR_1 + SAR_2)^{1.5}}{R_i}$$

12.7.1 Hotspot Back Side SPLSR Evaluation and Analysis

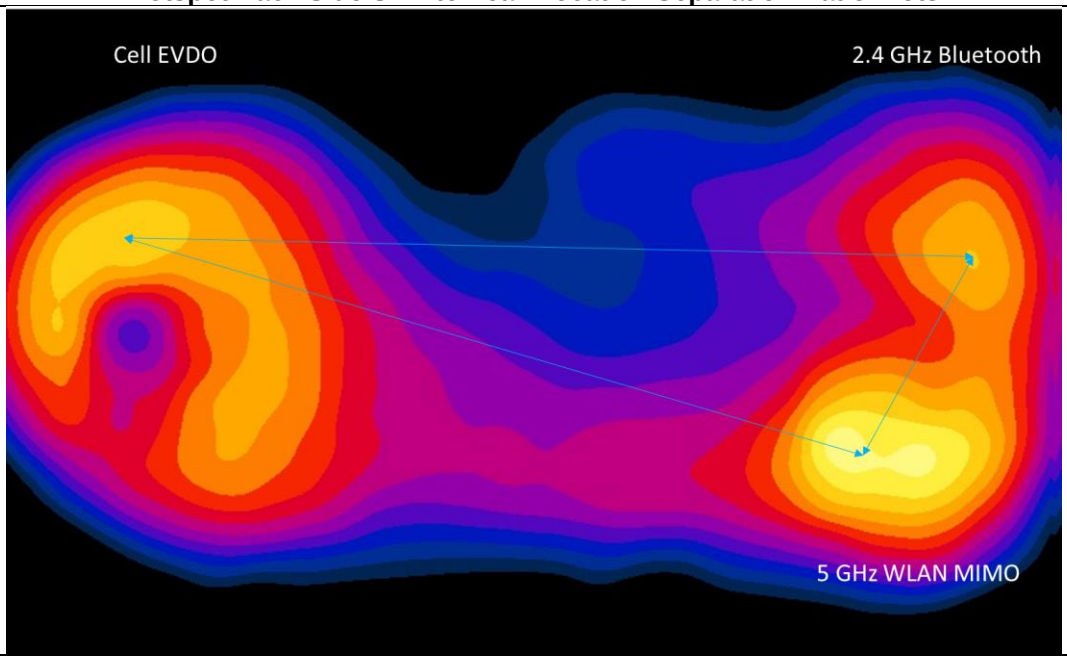
Table 12-20
Peak SAR Locations for Hotspot Back Side

Mode/Band	x (mm)	y (mm)
5 GHz WLAN MIMO	-4.00	58.00
2.4 GHz Bluetooth	-40.60	81.60
CDMA EVDO BC0	-40.00	-84.00

Table 12-21
Hotspot Back Side SAR to Peak Location Separation Ratio Calculations

Antenna Pair		Standalone SAR (W/kg)		Standalone SAR Sum (W/kg)	Peak SAR Separation Distance (mm)	SPLS Ratio	Plot Number
Ant "a"	Ant "b"	a	b	a+b	D_{a-b}	$(a+b)^{1.5}/D_{a-b}$	
5 GHz WLAN MIMO	2.4 GHz Bluetooth	0.502	0.067	0.569	43.52	0.01	1
5 GHz WLAN MIMO	CDMA EVDO BC0	0.502	1.037	1.539	146.49	0.01	
2.4 GHz Bluetooth	CDMA EVDO BC0	0.067	1.037	1.104	170.63	0.01	

Table 12-22
Hotspot Back Side SAR to Peak Location Separation Ratio Plots



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12.8 Simultaneous Transmission Conclusion

The above numerical summed SAR results and SPLSR analysis are sufficient to determine that simultaneous transmission cases will not exceed the SAR limit and therefore no measured volumetric simultaneous SAR summation is required per FCC KDB Publication 447498 D01v06 and IEEE 1528- 2013 Section 6.3.4.1.

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
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)	
835	824.70	1013	Cell. CDMA	EVDO Rev. 0	back	10 mm	0.833	0.789	1.06	N/A	N/A	N/A	N/A
1750	1770.00	354000	NR Band n66 (AWS), 20 MHz Bandwidth	DFT-S-OFDM QPSK, 1 RB, 1 RB Offset	bottom	10 mm	1.120	1.080	1.04	N/A	N/A	N/A	N/A
1900	1905.00	26590	LTE Band 25 (PCS), 20 MHz Bandwidth	QPSK, 50 RB, 50 RB Offset	bottom	10 mm	1.140	0.997	1.14	N/A	N/A	N/A	N/A
2450	2510.00	20850	LTE Band 7, 20 MHz Bandwidth	QPSK, 1 RB, 0 RB Offset	bottom	10 mm	0.807	0.734	1.10	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 13-2
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	1720.00	344000	NR Band n66 (AWS), 20 MHz Bandwidth	DFT-S-OFDM QPSK, 50 RB, 28 RB Offset	bottom	0 mm	2.710	2.690	1.01	N/A	N/A	N/A	N/A
1900	1852.40	9262	UMTS 1900	RMC	bottom	0 mm	2.070	2.070	1.00	N/A	N/A	N/A	N/A
2450	2510.00	20850	LTE Band 7, 20 MHz Bandwidth	QPSK, 50 RB, 25 RB Offset	bottom	0 mm	2.040	1.920	1.06	N/A	N/A	N/A	N/A
2600	2680.00	41490	LTE Band 41, 20 MHz Bandwidth	QPSK, 50 RB, 25 RB Offset	bottom	0 mm	2.390	2.250	1.06	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 ADDITIONAL TESTING PER FCC GUIDANCE

14.1 Tuner Testing

Per April 2019 TCB Workshop Notes, the following test procedures were followed to demonstrate that the SAR results in Section 11 represented the appropriate SAR test conditions. For bands with dynamic tuning implemented, SAR was measured according to the required FCC SAR test procedures with the dynamic tuner active to allow the device to automatically tune to the antenna state for the respective RF exposure test configurations. Per FCC Guidance, during NR testing the device was configured with the tuner state selected by the device in LTE mode with auto-tune active at the same frequency. Additional single point SAR time-sweep measurements were evaluated for other tuner states to determine that the other tuner configurations would result in equivalent or lower SAR values. The additional tuner hardware has no influence on the antenna characteristics, other than impedance matching.

To evaluate all the tuner states, the 60 tuner states were divided among the aggregate band, mode and exposure combinations. Single point time-sweep measurements were performed at the peak SAR location determined by the zoom scan of the configuration with the highest reported SAR for each combination. The tuner state was able to be established remotely so that the device was not moved for the entire series of single point SAR for the tuner states in each combination. The SAR probe remained stationary at the same position throughout the entire series of single point measurements for each combination. When the single point SAR or 1g SAR was > 1.2 W/kg for a particular band/mode/exposure condition, point SAR measurements were made for all 60 states.

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

Table 14-1
UMTS/CDMA Supplemental Head SAR Data

Supplemental Head SAR Data							
UMTS B5		UMTS B4		UMTS B2		CDMA BC0	
RMC		RMC		RMC		EVDO	
Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Left Cheek
Frequency (MHz)	836.6	Frequency (MHz)	1732.4	Frequency (MHz)	1880.0	Frequency (MHz)	836.52
Channel	4183	Channel	1412	Channel	9400	Channel	384
Measured 1g SAR (W/kg)	0.165	Measured 1g SAR (W/kg)	0.136	Measured 1g SAR (W/kg)	0.141	Measured 1g SAR (W/kg)	0.180
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 27)	0.214	Auto-tune (State 9)	0.203	Auto-tune (State 1)	0.190	Auto-tune (State 27)	0.230
Default (State 0)	0.228	Default (State 0)	0.182	Default (State 0)	0.176	Default (State 0)	0.227
State 1	0.201	State 9	0.197	State 1	0.181	State 16	0.146
State 6	0.122	State 10	0.198	State 14	0.086	State 27	0.232
State 8	0.076	State 19	0.101	State 35	0.137	State 42	0.198
State 11	0.026	State 24	0.088	State 40	0.101	State 47	0.081
State 17	0.119	State 29	0.171	State 45	0.088	State 52	0.226
State 27	0.240	State 33	0.188	State 49	0.055	State 58	0.205

Table 14-2
LTE Supplemental Head SAR Data

Supplemental Head SAR Data					
LTE B71		LTE B12		LTE B13	
QPSK, 20 MHz Bandwidth, 1 RB, 0 RB Offset		QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offset		QPSK, 10 MHz Bandwidth, 1 RB, 49 RB Offset	
Test Position	Left Cheek	Test Position	Left Cheek	Test Position	Left Cheek
Frequency (MHz)	680.5	Frequency (MHz)	707.5	Frequency (MHz)	782.0
Channel	133297	Channel	23095	Channel	23230
Measured 1g SAR (W/kg)	0.100	Measured 1g SAR (W/kg)	0.116	Measured 1g SAR (W/kg)	0.190
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 39)	0.130	Auto-tune (State 2)	0.157	Auto-tune (State 54)	0.242
Default (State 26)	0.126	Default (State 0)	0.117	Default (State 0)	0.241
State 0	0.132	State 2	0.151	State 3	0.226
State 15	0.097	State 7	0.103	State 5	0.202
State 20	0.053	State 10	0.030	State 12	0.018
State 26	0.126	State 13	0.124	State 15	0.200
State 31	0.103	State 17	0.152	State 21	0.068
State 37	0.017			State 54	0.235
State 39	0.131				
State 41	0.115				

Supplemental Head SAR Data					
LTE B5		LTE B66/4		LTE B25/2	
QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offset		QPSK, 20 MHz Bandwidth, 1 RB, 0 RB Offset		QPSK, 20 MHz Bandwidth, 1 RB, 99 RB Offset	
Test Position	Left Cheek	Test Position	Right Cheek	Test Position	Right Cheek
Frequency (MHz)	836.5	Frequency (MHz)	1770.0	Frequency (MHz)	1882.5
Channel	20525	Channel	132572	Channel	26365
Measured 1g SAR (W/kg)	0.197	Measured 1g SAR (W/kg)	0.108	Measured 1g SAR (W/kg)	0.139
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 0)	0.260	Auto-tune (State 7)	0.173	Auto-tune (State 1)	0.204
Default (State 0)	0.235	Default (State 0)	0.165	Default (State 0)	0.212
State 0	0.235	State 7	0.173	State 1	0.209
State 18	0.136	State 21	0.078	State 12	0.086
State 28	0.219	State 36	0.162	State 19	0.086
State 32	0.162	State 41	0.107	State 25	0.026
State 38	0.016	State 55	0.159	State 30	0.208
State 43	0.195	State 59	0.110	State 47	0.087

Table 14-3
NR Supplemental Head SAR Data

Supplemental Head SAR Data			
NR Band n71		NR Band n66	
DFT-s-OFDM QPSK, 20 MHz Bandwidth, 1 RB, 1 RB Offset		DFT-s-OFDM QPSK, 20 MHz Bandwidth, 50 RB, 28 RB Offset	
Test Position	Left Cheek	Test Position	Right Cheek
Frequency (MHz)	680.5	Frequency (MHz)	1770.0
Channel	136100	Channel	354000
Measured 1g SAR (W/kg)	0.085	Measured 1g SAR (W/kg)	0.120
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 39)	0.110	Auto-tune (State 7)	0.186
Default (State 26)	0.117	Default (State 0)	0.160
State 2	0.067	State 7	0.186
State 9	0.014	State 25	0.047
State 15	0.047	State 31	0.170
State 21	0.015	State 37	0.145
State 26	0.117	State 42	0.110
State 39	0.110	State 48	0.090
State 45	0.043		

Table 14-4
UMTS/CDMA Supplemental Body SAR Data

Supplemental Body SAR Data							
UMTS B5		UMTS B4		UMTS B2		CDMA BC0	
RMC		RMC		RMC		EVDO	
Test Position	Back	Test Position	Bottom	Test Position	Bottom	Test Position	Back
Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm
Frequency (MHz)	836.6	Frequency (MHz)	1752.6	Frequency (MHz)	1907.6	Frequency (MHz)	824.7
Channel	4183	Channel	1513	Channel	9538	Channel	1013
Measured 1g SAR (W/kg)	0.744	Measured 1g SAR (W/kg)	1.000	Measured 1g SAR (W/kg)	0.995	Measured 1g SAR (W/kg)	0.833
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 27)	1.168	Auto-tune (State 9)	1.581	Auto-tune (State 1)	1.638	Auto-tune (State 0)	1.159
Default (State 0)	1.197	Default (State 0)	1.252	Default (State 0)	1.661	Default (State 0)	1.096
State 27	1.163	State 0	1.252	State 0	1.661	State 0	1.096
State 40	1.117	State 1	1.317	State 1	1.664	State 4	0.946
State 45	0.840	State 2	1.339	State 2	1.661	State 9	0.364
State 52	1.199	State 3	1.348	State 3	1.652	State 17	0.770
State 57	1.120	State 4	1.378	State 4	1.635	State 23	0.205
State 59	1.108	State 5	1.383	State 5	1.643	State 34	0.511
		State 6	1.441	State 6	1.601	State 58	1.036
		State 7	1.485	State 7	1.575		
		State 8	1.529	State 8	1.518		
		State 9	1.596	State 9	1.411		
		State 10	1.568	State 10	1.315		
		State 11	1.517	State 11	1.159		
		State 12	1.272	State 12	0.928		
		State 13	0.728	State 13	0.816		
		State 14	0.813	State 14	0.820		
		State 15	0.823	State 15	0.815		
		State 16	0.833	State 16	0.810		
		State 17	0.858	State 17	0.796		
		State 18	0.871	State 18	0.801		
		State 19	0.925	State 19	0.764		
		State 20	0.966	State 20	0.735		
		State 21	1.003	State 21	0.685		
		State 22	1.005	State 22	0.608		
		State 23	0.953	State 23	0.539		
		State 24	0.825	State 24	0.447		
		State 25	0.586	State 25	0.329		
		State 26	1.119	State 26	1.662		
		State 27	1.185	State 27	1.665		
		State 28	1.201	State 28	1.660		
		State 29	1.213	State 29	1.661		
		State 30	1.234	State 30	1.655		
		State 31	1.258	State 31	1.659		
		State 32	1.324	State 32	1.639		
		State 33	1.380	State 33	1.614		
		State 34	1.451	State 34	1.576		
		State 35	1.531	State 35	1.494		
		State 36	1.571	State 36	1.403		
		State 37	1.557	State 37	1.264		
		State 38	1.377	State 38	1.032		
		State 39	0.924	State 39	0.998		
		State 40	1.000	State 40	0.998		
		State 41	1.014	State 41	0.992		
		State 42	1.022	State 42	0.984		
		State 43	1.047	State 43	0.974		
		State 44	1.059	State 44	0.970		
		State 45	1.111	State 45	0.933		
		State 46	1.150	State 46	0.897		
		State 47	1.182	State 47	0.847		
		State 48	1.184	State 48	0.757		
		State 49	1.128	State 49	0.678		
		State 50	0.997	State 50	0.570		
		State 51	0.738	State 51	0.426		
		State 52	1.273	State 52	1.657		
		State 53	1.128	State 53	1.652		
		State 54	1.273	State 54	1.651		
		State 55	1.129	State 55	1.647		
		State 56	0.723	State 56	0.807		
		State 57	0.929	State 57	0.988		
		State 58	0.723	State 58	0.808		
		State 59	0.929	State 59	0.990		

Table 14-5
LTE Supplemental Body SAR Data

Supplemental Body SAR Data							
LTE B71		LTE B12		LTE B13		LTE B5	
QPSK, 20 MHz Bandwidth, 1 RB, 0 RB Offset		QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offset		QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offset		QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offset	
Test Position	Back	Test Position	Back	Test Position	Back	Test Position	Back
Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm
Frequency (MHz)	680.5	Frequency (MHz)	707.5	Frequency (MHz)	782.0	Frequency (MHz)	836.5
Channel	133297	Channel	23095	Channel	23230	Channel	20525
Measured 1g SAR (W/kg)	0.344	Measured 1g SAR (W/kg)	0.382	Measured 1g SAR (W/kg)	0.567	Measured 1g SAR (W/kg)	0.712
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 39)	0.575	Auto-tune (State 2)	0.637	Auto-tune (State 54)	0.915	Auto-tune (State 27)	1.091
Default (State 26)	0.549	Default (State 0)	0.560	Default (State 0)	0.940	Default (State 0)	1.120
State 0	0.595	State 2	0.644	State 34	0.352	State 10	0.302
State 32	0.388	State 38	0.043	State 40	0.914	State 18	0.730
State 38	0.043	State 42	0.582	State 43	0.837	State 22	0.274
State 39	0.563	State 48	0.210	State 50	0.101	State 27	1.058
State 41	0.522	State 54	0.558	State 54	0.940	State 29	1.039
State 44	0.454	State 58	0.572	State 57	0.859	State 47	0.535

Supplemental Body SAR Data			
LTE B66/4		LTE B25/2	
QPSK, 20 MHz Bandwidth, 1 RB, 50 RB Offset		QPSK, 20 MHz Bandwidth, 50 RB, 50 RB Offset	
Test Position	Bottom	Test Position	Bottom
Spacing	10 mm	Spacing	10 mm
Frequency (MHz)	1745.0	Frequency (MHz)	1905.0
Channel	132322	Channel	26590
Measured 1g SAR (W/kg)	0.963	Measured 1g SAR (W/kg)	1.140
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 9)	1.516	Auto-tune (State 1)	1.677
Default (State 0)	1.153	Default (State 0)	1.699
State 0	1.153	State 0	1.699
State 1	1.226	State 1	1.691
State 2	1.239	State 2	1.686
State 3	1.252	State 3	1.679
State 4	1.279	State 4	1.666
State 5	1.289	State 5	1.668
State 6	1.354	State 6	1.622
State 7	1.403	State 7	1.589
State 8	1.463	State 8	1.527
State 9	1.521	State 9	1.419
State 10	1.523	State 10	1.316
State 11	1.453	State 11	1.162
State 12	1.197	State 12	0.931
State 13	0.671	State 13	0.827
State 14	0.759	State 14	0.834
State 15	0.775	State 15	0.829
State 16	0.789	State 16	0.823
State 17	0.817	State 17	0.809
State 18	0.836	State 18	0.813
State 19	0.907	State 19	0.776
State 20	0.960	State 20	0.748
State 21	1.007	State 21	0.698
State 22	1.031	State 22	0.613
State 23	0.989	State 23	0.546
State 24	0.847	State 24	0.454
State 25	0.584	State 25	0.336
State 26	1.005	State 26	1.694
State 27	1.067	State 27	1.697
State 28	1.085	State 28	1.696
State 29	1.099	State 29	1.694
State 30	1.128	State 30	1.691
State 31	1.135	State 31	1.689
State 32	1.209	State 32	1.662
State 33	1.267	State 33	1.639
State 34	1.335	State 34	1.597
State 35	1.425	State 35	1.505
State 36	1.473	State 36	1.414
State 37	1.473	State 37	1.269
State 38	1.305	State 38	1.020
State 39	0.851	State 39	1.010
State 40	0.931	State 40	1.006
State 41	0.947	State 41	0.998
State 42	0.960	State 42	0.990
State 43	0.992	State 43	0.973
State 44	1.003	State 44	0.975
State 45	1.083	State 45	0.933
State 46	1.124	State 46	0.899
State 47	1.180	State 47	0.843
State 48	1.200	State 48	0.751
State 49	1.160	State 49	0.671
State 50	1.013	State 50	0.566
State 51	1.018	State 51	0.423
State 52	1.160	State 52	1.681
State 53	1.026	State 53	1.692
State 54	1.149	State 54	1.681
State 55	1.018	State 55	1.690
State 56	0.685	State 56	0.822
State 57	0.869	State 57	1.003
State 58	0.682	State 58	0.821
State 59	0.852	State 59	1.004

Table 14-6
NR Supplemental Body SAR Data

Supplemental Body SAR Data			
NR Band n71		NR Band n66	
DFT-s-OFDM QPSK, 20 MHz Bandwidth, 50 RB, 28 RB Offset		DFT-s-OFDM QPSK, 20 MHz Bandwidth, 1 RB, 1 RB Offset	
Test Position	Back	Test Position	Bottom
Spacing	10 mm	Spacing	10 mm
Frequency (MHz)	680.5	Frequency (MHz)	1770.0
Channel	136100	Channel	354000
Measured 1g SAR (W/kg)	0.333	Measured 1g SAR (W/kg)	1.120
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 39)	0.564	Auto-tune (State 9)	1.732
Default (State 26)	0.602	Default (State 0)	1.390
State 0	0.509	State 0	1.390
State 26	0.602	State 1	1.485
State 33	0.159	State 2	1.493
State 39	0.564	State 3	1.500
State 41	0.388	State 4	1.525
State 51	0.022	State 5	1.536
State 52	0.514	State 6	1.592
State 54	0.511	State 7	1.635
		State 8	1.695
		State 9	1.732
		State 10	1.712
		State 11	1.632
		State 12	1.380
		State 13	0.775
		State 14	0.865
		State 15	0.878
		State 16	0.889
		State 17	0.911
		State 18	0.925
		State 19	0.985
		State 20	1.018
		State 21	1.056
		State 22	1.058
		State 23	1.027
		State 24	0.902
		State 25	0.655
		State 26	1.292
		State 27	1.347
		State 28	1.359
		State 29	1.379
		State 30	1.406
		State 31	1.412
		State 32	1.484
		State 33	1.539
		State 34	1.602
		State 35	1.664
		State 36	1.682
		State 37	1.670
		State 38	1.473
		State 39	0.983
		State 40	1.059
		State 41	1.071
		State 42	1.079
		State 43	1.099
		State 44	1.106
		State 45	1.164
		State 46	1.207
		State 47	1.232
		State 48	1.243
		State 49	1.188
		State 50	1.068
		State 51	0.809
		State 52	1.387
		State 53	1.259
		State 54	1.389
		State 55	1.260
		State 56	0.774
		State 57	0.985
		State 58	0.770
		State 59	0.976

15 EQUIPMENT LIST

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	E4404B	Spectrum Analyzer (9KHZ-6.7GHZ)	1/16/2020	Triennial	1/16/2023	US41441489
Agilent	8753ES	S-Parameter Network Analyzer	12/31/2019	Annual	12/31/2020	US39170122
Agilent	8753ES	S-Parameter Network Analyzer	8/26/2019	Annual	8/26/2020	MY40000670
Agilent	8753ES	S-Parameter Vector Network Analyzer	9/19/2019	Annual	9/19/2020	MY40003841
Agilent	E4432B	ESG-D Series Signal Generator	7/14/2019	Annual	7/14/2020	US40053896
Agilent	E4438C	ESG Vector Signal Generator	3/8/2019	Biennial	3/8/2021	MY42082385
Agilent	E4438C	ESG Vector Signal Generator	3/11/2019	Biennial	3/11/2021	MY45090700
Agilent	E4438C	ESG Vector Signal Generator	12/13/2019	Annual	12/13/2020	MY42082659
Agilent	E5515C	8960 Series 10 Wireless Communications Test Set	2/10/2020	Annual	2/10/2021	GB42230325
Agilent	E5515C	Wireless Communications Test Set	1/14/2020	Triennial	1/14/2023	GB43304447
Agilent	E5515C	Wireless Communications Test Set	6/26/2019	Annual	6/26/2020	MY50267125
Agilent	E5515C	Wireless Communications Test Set	2/26/2020	Annual	2/26/2021	GB44400860
Agilent	E5515C	Wireless Communications Test Set	9/25/2019	Annual	9/25/2020	GB43304278
Agilent	N5182A	MXG Vector Signal Generator	5/13/2020	Annual	5/13/2021	MY47420603
Agilent	N5182A	MXG Vector Signal Generator	2/19/2020	Annual	2/19/2021	MY47420651
Agilent	N9030A	PXA Signal Analyzer (44GHz)	6/12/2019	Annual	6/12/2020	MY52350166
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433972
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433974
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433976
Anritsu	MA24106A	USB Power Sensor	2/27/2020	Annual	2/27/2021	1244524
Anritsu	MA24106A	USB Power Sensor	10/10/2019	Annual	10/10/2020	1344545
Anritsu	MA24106A	USB Power Sensor	10/10/2019	Annual	10/10/2020	1344559
Anritsu	MA2411B	Pulse Power Sensor	1/21/2020	Annual	1/21/2021	1207470
Anritsu	MA2411B	Pulse Power Sensor	12/4/2019	Annual	12/4/2020	1126066
Anritsu	ML2495A	Power Meter	12/17/2019	Annual	12/17/2020	941001
Anritsu	ML2496A	Power Meter	3/23/2020	Annual	3/23/2021	1351001
Anritsu	MT8821C	Radio Communication Analyzer	3/10/2020	Annual	3/10/2021	6200901190
Anritsu	MT8821C	Radio Communication Analyzer	10/2/2019	Annual	10/2/2020	6201664756
Anritsu	MT8821C	Radio Communication Analyzer	2/22/2020	Annual	2/22/2021	6261895213
Anritsu	MT8821C	Radio Communication Analyzer	11/22/2019	Annual	11/22/2020	6262044715
Anritsu	MT8862A	Wireless Connectivity Test Set	8/8/2019	Annual	8/8/2020	6261782395
COMTech	AR85729-5	Solid State Amplifier	CBT	N/A	CBT	M15SA00-009
COMTECH	AR85729-5/5759B	Solid State Amplifier	CBT	N/A	CBT	M3W1A00-1002
Control Company	4040	Therm./Clock/Humidity Monitor	6/29/2019	Biennial	6/29/2021	192291455
Control Company	4040	Therm./Clock/Humidity Monitor	6/29/2019	Biennial	6/29/2021	192291460
Control Company	4040	Therm./Clock/Humidity Monitor	6/29/2019	Biennial	6/29/2021	192291463
Control Company	4352	Long Stem Thermometer	1/24/2020	Biennial	1/24/2022	200043588
Control Company	4352	Long Stem Thermometer	1/24/2020	Biennial	1/24/2022	200043655
Control Company	4352	Long Stem Thermometer	1/24/2020	Biennial	1/24/2022	200043647
Control Company	4352	Ultra Long Stem Thermometer	11/29/2018	Biennial	11/29/2020	181766816
Control Company	4352	Ultra Long Stem Thermometer	11/29/2018	Biennial	11/29/2020	181766817
Keysight	772D	Dual Directional Coupler	CBT	N/A	CBT	MY52180215
Keysight Technologies	85033E	Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm)	7/2/2019	Annual	7/2/2020	MY53401181
MCL	BW-N6W5+	6dB Attenuator	CBT	N/A	CBT	1139
MiniCircuits	SLP-2400+	Low Pass Filter	CBT	N/A	CBT	R8979500903
MiniCircuits	VLF-6000+	Low Pass Filter	CBT	N/A	CBT	N/A
MiniCircuits	VLF-6000+	Low Pass Filter	CBT	N/A	CBT	N/A
Mini-Circuits	BW-N20W5	Power Attenuator	CBT	N/A	CBT	1226
Mini-Circuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-1200+	Low Pass Filter DC to 1000 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT	N/A	CBT	N/A
Narda	BW-S3W2	Attenuator (3dB)	CBT	N/A	CBT	120
Pasternack	PE2208-6	Bidirectional Coupler	CBT	N/A	CBT	N/A
Pasternack	PE2209-10	Bidirectional Coupler	CBT	N/A	CBT	N/A
Seekonk	NC-100	Torque Wrench	7/18/2019	Annual	7/18/2020	N/A
Rohde & Schwarz	CMW500	Radio Communication Tester	3/27/2020	Annual	3/27/2021	128633
Rohde & Schwarz	CMW500	Radio Communication Tester	8/14/2019	Annual	8/14/2020	140144
Rohde & Schwarz	CMW500	Radio Communication Tester	10/4/2019	Annual	10/4/2020	166462
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	2/4/2020	Annual	2/4/2021	162125
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	11/14/2019	Annual	11/14/2020	164948
Rohde & Schwarz	ZNLE6	Vector Network Analyzer	10/11/2019	Annual	10/11/2020	101307
Rohde& Schwarz	CMW500	Wideband Radio Communication Tester	7/12/2019	Annual	7/12/2020	145645
Rohde& Schwarz	CMW500	Wideband Radio Communication Tester	7/24/2019	Annual	7/24/2020	151849
SPEAG	D750V3	750 MHz Dipole	3/11/2020	Annual	3/11/2021	1054
SPEAG	D835V2	835 MHz SAR Dipole	1/13/2020	Annual	1/13/2021	4d132
SPEAG	D1750V2	1750 MHz SAR Dipole	10/22/2018	Biennial	10/22/2020	1150
SPEAG	D1900V2	1900 MHz SAR Dipole	10/23/2018	Biennial	10/23/2020	5d149
SPEAG	D1900V2	1900 MHz SAR Dipole	2/21/2019	Biennial	2/21/2021	5d148
SPEAG	D1900V2	1900 MHz SAR Dipole	10/23/2018	Biennial	10/23/2020	5d080
SPEAG	D2300V2	2300 MHz SAR Dipole	8/13/2018	Biennial	8/13/2020	1073
SPEAG	D2450V2	2450 MHz SAR Dipole	8/14/2019	Annual	8/14/2020	719
SPEAG	D2600V2	2600 MHz SAR Dipole	6/14/2019	Annual	6/14/2021	1064
SPEAG	D5GHzV2	5 GHz SAR Dipole	1/16/2018	Triennial	1/16/2021	1057
SPEAG	D750V3	750 MHz SAR Dipole	3/16/2020	Annual	3/16/2021	1003
SPEAG	D835V2	835 MHz SAR Dipole	3/13/2019	Biennial	3/13/2021	4d047
SPEAG	D1765V2	1765 MHz SAR Dipole	5/23/2018	Triennial	5/23/2021	1008
SPEAG	D5GHzV2	5 GHz SAR Dipole	9/17/2019	Annual	9/17/2020	1191
SPEAG	D5GHzV2	5 GHz SAR Dipole	8/10/2018	Biennial	8/10/2020	1237
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/11/2019	Annual	7/11/2020	1322
SPEAG	DAE4	Dasy Data Acquisition Electronics	9/17/2019	Annual	9/17/2020	1333
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/13/2020	Annual	1/13/2021	1558
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/15/2020	Annual	4/15/2021	1407
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/12/2020	Annual	3/12/2021	1368
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	5/20/2020	Annual	5/20/2021	728
SPEAG	DAK-3.5	Dielectric Assessment Kit	10/22/2019	Annual	10/22/2020	1091
SPEAG	EX3DV4	SAR Probe	7/16/2019	Annual	7/16/2020	7410
SPEAG	EX3DV4	SAR Probe	9/19/2019	Annual	9/19/2020	7551
SPEAG	EX3DV4	SAR Probe	1/21/2020	Annual	1/21/2021	3589
SPEAG	EX3DV4	SAR Probe	4/21/2020	Annual	4/21/2021	7357
SPEAG	EX3DV4	SAR Probe	3/17/2020	Annual	3/17/2021	7527
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	5/18/2020	Annual	5/18/2021	7538

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.

16 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	

17 CONCLUSION

17.1 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]

18 REFERENCES

[1] Federal Communications Commission, ET Docket 93-62, Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation, Aug. 1996.

[2] ANSI/IEEE C95.1-2005, American National Standard safety levels with respect to human exposure to radio frequency electromagnetic fields, 3kHz to 300GHz, New York: IEEE, 2006.

[3] ANSI/IEEE C95.1-1992, American National Standard safety levels with respect to human exposure to radio frequency electromagnetic fields, 3kHz to 300GHz, New York: IEEE, Sept. 1992.

[4] ANSI/IEEE C95.3-2002, IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave, New York: IEEE, December 2002.

[5] IEEE Standards Coordinating Committee 39 –Standards Coordinating Committee 34 – IEEE Std. 1528-2013, IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques.

[6] NCRP, National Council on Radiation Protection and Measurements, Biological Effects and Exposure Criteria for RadioFrequency Electromagnetic Fields, NCRP Report No. 86, 1986. Reprinted Feb. 1995.

[7] T. Schmid, O. Egger, N. Kuster, Automated E-field scanning system for dosimetric assessments, IEEE Transaction on Microwave Theory and Techniques, vol. 44, Jan. 1996, pp. 105-113.

[8] K. Pokovic, T. Schmid, N. Kuster, Robust setup for precise calibration of E-field probes in tissue simulating liquids at mobile communications frequencies, ICECOM97, Oct. 1997, pp. 1 -124.

[9] K. Pokovic, T. Schmid, and N. Kuster, E-field Probe with improved isotropy in brain simulating liquids, Proceedings of the ELMAR, Zadar, Croatia, June 23-25, 1996, pp. 172-175.

[10] Schmid & Partner Engineering AG, Application Note: Data Storage and Evaluation, June 1998, p2.

[11] V. Hombach, K. Meier, M. Burkhardt, E. Kuhn, N. Kuster, The Dependence of EM Energy Absorption upon Human Modeling at 900 MHz, IEEE Transaction on Microwave Theory and Techniques, vol. 44 no. 10, Oct. 1996, pp. 1865-1873.

[12] N. Kuster and Q. Balzano, Energy absorption mechanism by biological bodies in the near field of dipole antennas above 300MHz, IEEE Transaction on Vehicular Technology, vol. 41, no. 1, Feb. 1992, pp. 17-23.

[13] G. Hartsgrove, A. Kraszewski, A. Surowiec, Simulated Biological Materials for Electromagnetic Radiation Absorption Studies, University of Ottawa, Bioelectromagnetics, Canada: 1987, pp. 29-36.

[14] Q. Balzano, O. Garay, T. Manning Jr., Electromagnetic Energy Exposure of Simulated Users of Portable Cellular Telephones, IEEE Transactions on Vehicular Technology, vol. 44, no.3, Aug. 1995.

[15] W. Gander, Computermathematick, Birkhaeuser, Basel, 1992.

[16] W.H. Press, S.A. Teukolsky, W.T. Vetterling, and B.P. Flannery, Numerical Recipes in C, The Art of Scientific Computing, Second edition, Cambridge University Press, 1992.

[17] N. Kuster, R. Kastle, T. Schmid, Dosimetric evaluation of mobile communications equipment with known precision, IEEE Transaction on Communications, vol. E80-B, no. 5, May 1997, pp. 645-652.

[18] CENELEC CLC/SC111B, European Prestandard (prENV 50166-2), Human Exposure to Electromagnetic Fields High-frequency: 10kHz-300GHz, Jan. 1995.

[19] Prof. Dr. Niels Kuster, ETH, Eidgenössische Technische Hoschschule Zürich, Dosimetric Evaluation of the Cellular Phone.

[20] IEC 62209-1, Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Part 1: Devices used next to the ear (Frequency range of 300 MHz to 6 GHz), July 2016.

[21] Innovation, Science, Economic Development Canada RSS-102 Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands) Issue 5, March 2015.

[22] Health Canada Safety Code 6 Limits of Human Exposure to Radio Frequency Electromagnetic Fields in the Frequency Range from 3 kHz – 300 GHz, 2015

[23] FCC SAR Test Procedures for 2G-3G Devices, Mobile Hotspot and UMPC Devices KDB Publications 941225, D01-D07

[24] SAR Measurement Guidance for IEEE 802.11 Transmitters, KDB Publication 248227 D01

[25] FCC SAR Considerations for Handsets with Multiple Transmitters and Antennas, KDB Publications 648474 D03-D04

[26] FCC SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers, FCC KDB Publication 616217 D04

[27] FCC SAR Measurement and Reporting Requirements for 100MHz – 6 GHz, KDB Publications 865664 D01-D02

[28] FCC General RF Exposure Guidance and SAR Procedures for Dongles, KDB Publication 447498, D01-D02

[29] Anexo à Resolução No. 533, de 10 de Septembro de 2009.

[30] IEC 62209-2, Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Human models, instrumentation, and procedures - Part 2: Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz), Mar. 2010.