



SAR EVALUATION REPORT

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

Date of Testing:
04/27/20 – 06/25/20
Test Site/Location:
PCTEST, Columbia, MD, USA
Document Serial No.:
1M2004150063-01-R1.ZNF

FCC ID: **ZNFG900UM**

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

DUT Type: Portable Handset
Application Type: Class II Permissive Change
FCC Rule Part(s): CFR §2.1093
Model: LM-G900UM
Additional Model(s): LMG900UM, G900UM, LM-G900QM, LMG900QM, G900QM, LM-G901V, LMG901V, G901V
Permissive Change(s): See FCC Change Document
Date of Original Certification 06/30/2020

Equipment Class	Band & Mode	Tx Frequency	SAR			
			1g Head (W/kg)	1g Body-Worn (W/kg)	1g Hotspot (W/kg)	10g Phablet (W/kg)
PCE	Cell. CDMA/EVDO	824.70 - 848.31 MHz	0.17	0.61	0.57	N/A
PCE	PCS CDMA/EVDO	1851.25 - 1908.75 MHz	0.13	0.85	0.94	2.71
PCE	GSM/GPRS/EDGE 850	824.20 - 848.80 MHz	0.13	0.57	0.57	N/A
PCE	GSM/GPRS/EDGE 1900	1850.20 - 1909.80 MHz	< 0.1	0.41	0.90	N/A
PCE	UMTS 850	826.40 - 846.60 MHz	0.16	0.58	0.58	N/A
PCE	UMTS 1750	1712.4 - 1752.6 MHz	0.10	0.77	0.79	2.89
PCE	UMTS 1900	1852.4 - 1907.6 MHz	0.11	0.85	0.92	2.40
PCE	LTE Band 71	665.5 - 695.5 MHz	0.12	0.36	0.36	N/A
PCE	LTE Band 12	699.7 - 715.3 MHz	0.14	0.39	0.39	N/A
PCE	LTE Band 17	706.5 - 713.5 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 13	779.5 - 784.5 MHz	0.16	0.43	0.43	N/A
PCE	LTE Band 14	799.5 - 799.5 MHz	0.13	0.43	0.43	N/A
PCE	LTE Band 5 (Cell)	824.7 - 848.3 MHz	0.18	0.61	0.61	N/A
PCE	LTE Band 66 (AWS)	1710.7 - 1779.3 MHz	0.13	0.82	0.78	2.64
PCE	LTE Band 4 (AWS)	1710.7 - 1754.3 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 2 (PCS)	1950.7 - 1909.3 MHz	< 0.1	0.12	0.29	N/A
PCE	LTE Band 25 (PCS)	1850.7 - 1914.3 MHz	0.14	0.92	0.99	2.82
PCE	LTE Band 30	2307.5 - 2312.5 MHz	0.10	0.61	0.93	N/A
PCE	LTE Band 7	2502.5 - 2567.5 MHz	0.18	0.77	0.81	3.05
PCE	LTE Band 41	2496.5 - 2607.5 MHz	< 0.1	0.41	0.53	2.37
PCE	NR Band n71	665.5 - 695.5 MHz	< 0.1	< 0.1	< 0.1	N/A
PCE	NR Band n5 (Cell)	826.5 - 846.5 MHz	0.13	0.55	0.55	N/A
PCE	NR Band n66 (AWS)	1712.5 - 1777.5 MHz	0.13	0.41	1.11	3.17
PCE	NR Band n25 (PCS)	1852.5 - 1912.5 MHz	0.22	0.62	0.95	N/A
PCE	NR Band n2 (PCS)	1852.5 - 1907.5 MHz	N/A	N/A	N/A	N/A
PCE	NR Band n41	2506.02 - 2679.99 MHz	< 0.1	0.57	0.57	N/A
DTS	2.4 GHz WLAN	2412 - 2462 MHz	0.77	0.25	0.36	N/A
NII	U-NII-1	5130 - 5240 MHz	N/A	N/A	0.39	N/A
NII	U-NII-2A	5250 - 5320 MHz	0.31	0.39	N/A	1.56
NII	U-NII-2C	5500 - 5750 MHz	0.24	0.42	N/A	0.74
NII	U-NII-3	5745 - 5825 MHz	0.14	0.26	0.26	N/A
DSS/DTSS	Bluetooth	2402 - 2480 MHz	0.13	< 0.1	< 0.1	N/A
Simultaneous SAR per KDB 690783 D01v01r03:			1.45	1.56	1.59	3.99

Note: This revised Test Report (S/N: 1M2004150063-01-R1.ZNF) supersedes and replaces the previously issued test report on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.

This wireless portable device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment/general population exposure limits specified in ANSI/IEEE C95.1-1992 and has been tested in accordance with the measurement procedures specified in Section 1.10 of this report; for North American frequency bands only.

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


Randy Ortanez
President



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1 DEVICE UNDER TEST

1.1 Device Overview

Band & Mode	Operating Modes	Tx Frequency
GSM/GPRS/EDGE 850	Voice/Data	824.20 - 848.80 MHz
GSM/GPRS/EDGE 1900	Voice/Data	1850.20 - 1909.80 MHz
UMTS 850	Voice/Data	826.40 - 846.60 MHz
UMTS 1750	Voice/Data	1712.4 - 1752.6 MHz
UMTS 1900	Voice/Data	1852.4 - 1907.6 MHz
Cell. CDMA/EVDO	Voice/Data	824.70 - 848.31 MHz
PCS CDMA/EVDO	Voice/Data	1851.25 - 1908.75 MHz
LTE Band 71	Voice/Data	665.5 - 695.5 MHz
LTE Band 12	Voice/Data	699.7 - 715.3 MHz
LTE Band 17	Voice/Data	706.5 - 713.5 MHz
LTE Band 13	Voice/Data	779.5 - 784.5 MHz
LTE Band 14	Voice/Data	790.5 - 795.5 MHz
LTE Band 5 (Cell)	Voice/Data	824.7 - 848.3 MHz
LTE Band 66 (AWS)	Voice/Data	1710.7 - 1779.3 MHz
LTE Band 4 (AWS)	Voice/Data	1710.7 - 1754.3 MHz
LTE Band 2 (PCS)	Voice/Data	1850.7 - 1909.3 MHz
LTE Band 25 (PCS)	Voice/Data	1850.7 - 1914.3 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
NR Band n71	Data	665.5 - 695.5 MHz
NR Band n5	Data	826.5 - 846.5 MHz
NR Band n66	Data	1712.5 - 1777.5 MHz
NR Band n2	Data	1852.5 - 1907.5 MHz
NR Band n25	Data	1852.5 - 1912.5 MHz
NR Band n41	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
WMC	Data	500 Hz - 4 kHz

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1.2 Time-Averaging Algorithm for RF Exposure Compliance

The equipment under test (EUT) contains:

Qualcomm® SM7250 modem supporting 2G/3G/4G/5G NR WWAN technologies

Qualcomm® SM7250 modem is enabled with Qualcomm® Smart Transmit feature. This feature performs time averaging algorithm in real time to control and manage transmitting power and ensure the time-averaged RF exposure is in compliance with FCC requirements all the time. Refer to Compliance Summary document for detailed description of Qualcomm® Smart Transmit feature (report SN could be found in Section 1.12 – Bibliography).

Note that WLAN operations are not enabled with Smart Transmit.

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

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

Exposure Scenario:	Head	Body-Worn	Phablet	Dual Screen 0° or 360°	Dual Screen 180°	Hotspot	Phablet	Maximum Tune-Up Output Power*
Averaging Volume:	1g	1g	10g	1g/10g	1g/10g	1g	10g	
Spacing:	0 mm	10 mm	2, 1, 4 mm	10 mm/ 0mm	10 mm/ 0mm	10 mm	0 mm	
DSI:		1		6	7	5	8	
Technology/Band	Antenna	P _{limit}						P _{max}
GSM/GPRS/EDGE 850 MHz	1	28.6		27.3	27.7	28.6		24.8
GSM/GPRS/EDGE 1900 MHz	2	22.9		28.5	25.8	22.9		22.6
UMTS B5	1	27.2		29.8	25.8	27.2		24.5
UMTS B4	2	24.6		23.5		21.5		24.5
UMTS B2	2	24.8		23.5		21.5		24.5
CDMA/EVDO BC0	1	26.8		26.8		26.8		24.5
CDMA/EVDO BC1	2	24.6		23.5		21.5		24.5
LTE FDD B71	1	28.6		33.2	33.8	28.6		24.5
LTE FDD B12/B17	1	28.9		32.2	32.3	28.9		24.5
LTE FDD B12 ULCA	1	28.9		32.2	32.3	28.9		17.0
LTE FDD B13	1	28.9		30.6	27.0	28.9		24.5
LTE FDD B14	1	28.6		30.6	27.0	28.6		24.5
LTE FDD B5	1	27.1		31.7	27.7	27.1		24.5
LTE FDD B5 ULCA	1	27.1		31.5	27.4	27.1		17.0
LTE FDD B66/B4	2	24.6		23.5		21.5		24.5
LTE FDD B66 ULCA	3	23.3		25.6	25.5	23.3		17.0
LTE FDD B25/B2	2	24.7		23.5		21.5		24.5
LTE FDD B2 ULCA	3	23.5		26.2	26.0	23.5		17.0
LTE FDD B30	2	27.1		23.5		22.5		22.0
LTE FDD B7	2	25.9		23.5		22.5		24.5
LTE TDD B41	2	26.7		25.9	26.5	22.0		22.5
NR FDD n71	1	31.4		35.5	31.4	31.4		23.8
NR FDD n5	1	27.1		31.9	28.6	27.1		23.8
NR FDD n66	3	23.0		23.5		23.0		24.5
NR FDD n25/ n2	3	23.5		23.5		23.5		24.5
NR TDD n41	9	16.7		19.5	19.0	16.7		17.7

*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). LTE B12/B5/B2/B66 is defined by ULCA PCC and Standalone, and LTE B12/B5/B2/B66 ULCA is defined by ULCA SCC. When they are operated by ULCA, the max power is 22.5 dBm (2 dB lower than standalone power).

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*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 + 1.0dB device design uncertainty. For interband-ULCA scenarios, LTE Band 66/2/5/12 as SCC will operate as maximum allowed output power limited at 17.7 dBm according to software implementation in this model.

The maximum time-averaged output power (dBm) for any 2G/3G/4G/5G WWAN technology, band, and DSI = minimum of " P_{limit} EFS" and "Maximum tune up output power P_{max} " +1.0/-1.0 dB device uncertainty. SAR values in this report were scaled to this maximum time-averaged output power to determine compliance per KDB Publication 447498 D01v06.

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

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

1.3 Power Reduction for SAR

This device uses an independent fixed level power reduction mechanism for WLAN operations during voice or VoIP held to ear scenarios. 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 Dual Display Cover

This device supports Dual Display (DD) Cover, which attaches to the device to provide a secondary display on the inside of the cover. The Dual Display Cover is free rotating from 0 to 360 degrees. Per FCC guidance, the use conditions of 0, 180 and 360 degrees were considered for SAR testing. SAR with the Dual Display Cover was measured for the overall worst case per each exposure condition (head, body-worn accessory, hotspot mode, etc.). Head SAR tests were performed with the accessory cover folded to 0 and 360 degrees to represent typical use conditions. Body-worn, Hotspot, and Phablet SAR tests were performed with accessory cover folded to 0, 180 and 360 degrees. When the output power for dual-display cover in a given exposure condition was higher than the power without the dual display cover, additional tests were performed at the higher output power level.

1.5 Nominal and Maximum Output Power Specifications

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

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

GSM/GPRS/EDGE 850										
Device State Index		Voice (in dBm)	Data - Burst Average GMSK (in dBm)				Data - Burst Average 8-PSK (in dBm)			
		1 TX Slot	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots
All DSI	Max allowed power	33.5	33.5	32.0	30.0	29.0	27.5	27.0	26.0	25.0
	Nominal	32.5	32.5	31.0	29.0	28.0	26.5	26.0	25.0	24.0
GSM/GPRS/EDGE 1900										
Device State Index		Voice (in dBm)	Data - Burst Average GMSK (in dBm)				Data - Burst Average 8-PSK (in dBm)			
		1 TX Slot	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots
All DSI	Max allowed power	30.5	30.5	29.0	28.0	26.0	26.5	26.0	25.0	24.0
	Nominal	29.5	29.5	28.0	27.0	25.0	25.5	25.0	24.0	23.0

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UMTS Band 5 (850 MHz)					
Device State Index		Modulated Average Output Power (in dBm)			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
All DSI	Max allowed power	25.5	25.5	25.5	25.5
	Nominal	24.5	24.5	24.5	24.5
UMTS Band 4 (1750 MHz)					
Device State Index		Modulated Average Output Power (in dBm)			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
DSI = 1 (Head, Bodyworn, or Phablet Max)	Max allowed power	25.5	25.5	25.5	25.5
	Nominal	24.5	24.5	24.5	24.5
DSI = 6 (Dual Screen 0° or 360°); DSI = 7 (Dual Screen 180°)	Max allowed power	24.5	24.5	24.5	24.5
	Nominal	23.5	23.5	23.5	23.5
DSI = 5 (Hotspot); DSI = 8 (Phablet Reduced)	Max allowed power	22.5	22.5	22.5	22.5
	Nominal	21.5	21.5	21.5	21.5
UMTS Band 2 (1900 MHz)					
Device State Index		Modulated Average Output Power (in dBm)			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
DSI = 1 (Head, Bodyworn, or Phablet Max)	Max allowed power	25.5	25.5	25.5	25.5
	Nominal	24.5	24.5	24.5	24.5
DSI = 6 (Dual Screen 0° or 360°); DSI = 7 (Dual Screen 180°)	Max allowed power	24.5	24.5	24.5	24.5
	Nominal	23.5	23.5	23.5	23.5
DSI = 5 (Hotspot); DSI = 8 (Phablet Reduced)	Max allowed power	22.5	22.5	22.5	22.5
	Nominal	21.5	21.5	21.5	21.5

CDMA BC0 (835 MHz)				
Device State Index		Modulated Average Output Power (in dBm)		
		1x-RTT	EVDO Rev 0	EVDO Rev A
All DSI	Max allowed power	25.5	25.5	25.5
	Nominal	24.5	24.5	24.5
CDMA BC1 (1900 MHz)				
Device State Index		Modulated Average Output Power (in dBm)		
		1x-RTT	EVDO Rev 0	EVDO Rev A
DSI = 1 (Head, Bodyworn, or Phablet Max)	Max allowed power	25.5	25.5	25.5
	Nominal	24.5	24.5	24.5
DSI = 6 (Dual Screen 0° or 360°); DSI = 7 (Dual Screen 180°)	Max allowed power	24.5	24.5	24.5
	Nominal	23.5	23.5	23.5
DSI = 5 (Hotspot); DSI = 8 (Phablet Reduced)	Max allowed power	22.5	22.5	22.5
	Nominal	21.5	21.5	21.5

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Mode / Band		Modulated Average Output Power (in dBm)		
		DSI = 1 (Head, Bodyworn, or Phablet Max)	DSI = 6 (Dual Screen 0° or 360°); DSI = 7 (Dual Screen 180°)	DSI = 5 (Hotspot); DSI = 8 (Phablet Reduced)
LTE FDD Band 71	Max allowed power	25.5	25.5	25.5
	Nominal	24.5	24.5	24.5
LTE FDD Band 12	Max allowed power	25.5	25.5	25.5
	Nominal	24.5	24.5	24.5
LTE FDD Band 17	Max allowed power	25.5	25.5	25.5
	Nominal	24.5	24.5	24.5
LTE FDD Band 13	Max allowed power	25.5	25.5	25.5
	Nominal	24.5	24.5	24.5
LTE FDD Band 14	Max allowed power	25.5	25.5	25.5
	Nominal	24.5	24.5	24.5
LTE FDD Band 5	Max allowed power	25.5	25.5	25.5
	Nominal	24.5	24.5	24.5
LTE FDD Band 4	Max allowed power	25.5	24.5	22.5
	Nominal	24.5	23.5	21.5
LTE FDD Band 66	Max allowed power	25.5	24.5	22.5
	Nominal	24.5	23.5	21.5
LTE FDD Band 2	Max allowed power	25.5	24.5	22.5
	Nominal	24.5	23.5	21.5
LTE FDD Band 25	Max allowed power	25.5	24.5	22.5
	Nominal	24.5	23.5	21.5
LTE FDD Band 30	Max allowed power	23.0	23.0	23.0
	Nominal	22.0	22.0	22.0
LTE FDD Band 7	Max allowed power	25.5	24.5	23.5
	Nominal	24.5	23.5	22.5
LTE TDD Band 41	Max allowed power	25.5	25.5	25.0
	Nominal	24.5	24.5	24.0

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Mode / Band		Modulated Average Output Power (in dBm)		
		$P_{\max}$	DSI = 1 (Head, Body-worn, or Phablet Max); DSI = 5 (Hotspot); DSI = 8 (Phablet Reduced)	DSI = 6 (Dual Screen 0° or 360°); DSI = 7 (Dual Screen 180°)
NR FDD Band n71	Max allowed power	24.8	24.8	24.8
	Nominal	23.8	23.8	23.8
NR FDD Band n5	Max allowed power	24.8	24.8	24.8
	Nominal	23.8	23.8	23.8
NR FDD Band n66	Max allowed power	25.5	24.0	24.5
	Nominal	24.5	23.0	23.5
NR FDD Band n2	Max allowed power	25.5	24.5	24.5
	Nominal	24.5	23.5	23.5
NR FDD Band n25	Max allowed power	25.5	24.5	24.5
	Nominal	24.5	23.5	23.5
NR TDD Band n41	Max allowed power	25.0	24.0	25.0
	Nominal	24.0	23.0	24.0

The below tables are applicable in the following condition:

- Inter-band ULCA Active for combos CA_12A-66A, CA_2A-12A, CA_2A-5A, CA_5A-66A, CA_2A-66A

Mode / Band		Modulated Average Output Power (in dBm)
		All DSI
LTE FDD Band 12 as PCC	Max allowed power	23.5
	Nominal	22.5
LTE FDD Band 5 as PCC	Max allowed power	23.5
	Nominal	22.5
LTE FDD Band 66 as PCC	Max allowed power	23.5
	Nominal	22.5
LTE FDD Band 2 as PCC	Max allowed power	23.5
	Nominal	22.5
Mode / Band		Modulated Average Output Power (in dBm)
		All DSI
LTE FDD Band 12 as SCC	Max allowed power	17.7
	Nominal	17.0
LTE FDD Band 5 as SCC	Max allowed power	17.7
	Nominal	17.0
LTE FDD Band 66 as SCC	Max allowed power	17.7
	Nominal	17.0
LTE FDD Band 2 as SCC	Max allowed power	17.7
	Nominal	17.0

Note: For LTE Band 66/2 as SCC when 2A-66A ULCA Active, LTE Band 66/2 will transmit from Antenna 3. A diagram showing the location of the device antennas can be found in Appendix E.

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1.5.2 Maximum Bluetooth and SISO/MIMO WLAN Output Power

Mode	Band	IEEE 802.11 (in dBm)													
		SISO								MIMO					
		Antenna 1/ Antenna 2													
		b		g		n		ac		g (CDD + STBC)		n (CDD+STBC, SDM)		ac (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	20.5	19.5	19.5	18.5	18.5	17.5	18.5	17.5	22.5	21.5	21.5	20.5	21.5	20.5
				ch. 1: 17.0	16.0	ch. 1: 16.0	15.0	ch. 1: 16.0	15.0	ch. 1: 20.0	19.0	ch. 1: 19.0	18.0	ch. 1: 19.0	18.0
				ch. 2: 17.0	16.0	ch. 2: 16.0	15.0	ch. 2: 16.0	15.0	ch. 2: 20.0	19.0	ch. 2: 19.0	18.0	ch. 2: 19.0	18.0
				ch. 10: 17.0	16.0	ch. 10: 16.0	15.0	ch. 10: 16.0	15.0	ch. 10: 20.0	19.0	ch. 10: 19.0	18.0	ch. 10: 19.0	18.0
				ch. 11: 17.0	16.0	ch. 11: 16.0	15.0	ch. 11: 16.0	15.0	ch. 11: 20.0	19.0	ch. 11: 19.0	18.0	ch. 11: 19.0	18.0

Mode	Band	IEEE 802.11 (in dBm)											
		SISO						MIMO					
		Antenna 1/ Antenna 2											
		a		n		ac		a (CDD + STBC)		n (CDD+STBC, SDM)		ac (CDD+STBC, SDM)	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
5 GHz WIFI (20MHz BW)	5200 MHz	17.0 ch. 40: 19.0	16.0 18.0	17.0 ch. 40: 19.0	16.0 18.0	17.0 ch. 40: 19.0	16.0 18.0	20.0 ch. 40: 22.0	19.0 21.0	20.0 ch. 40: 22.0	19.0 21.0	20.0 ch. 40: 22.0	19.0 21.0
	5300 MHz	17.0 ch. 56: 19.0	16.0 18.0	17.0 ch. 56: 19.0	16.0 18.0	17.0 ch. 56: 19.0	16.0 18.0	20.0 ch. 56: 22.0	19.0 21.0	20.0 ch. 56: 22.0	19.0 21.0	20.0 ch. 56: 22.0	19.0 21.0
	5500 MHz	17.0	16.0	17.0	16.0	17.0	16.0	20.0	19.0	20.0	19.0	20.0	19.0
	5800 MHz	19.0 ch. 149: 17.0 ch. 153: 17.0	18.0 16.0 16.0	19.0 ch. 149: 17.0 ch. 153: 17.0	18.0 16.0 16.0	19.0 ch. 149: 17.0 ch. 153: 17.0	18.0 16.0 16.0	22.0 ch. 149: 20.0 ch. 153: 20.0	21.0 19.0 19.0	22.0 ch. 149: 20.0 ch. 153: 20.0	21.0 19.0 19.0	22.0 ch. 149: 20.0 ch. 153: 20.0	21.0 19.0 19.0
5 GHz WIFI (40MHz BW)	5200 MHz			16.0	15.0	16.0	15.0			19.0	18.0	19.0	18.0
	5300 MHz			16.0 ch. 62: 15.0	15.0 14.0	16.0 ch. 62: 15.0	15.0 14.0			19.0 ch. 62: 18.0	18.0 17.0	19.0 ch. 62: 18.0	18.0 17.0
	5500 MHz			16.0 ch. 102: 14.5	15.0 13.5	16.0 ch. 102: 14.5	15.0 13.5			19.0 ch. 102: 17.5	18.0 16.5	19.0 ch. 102: 17.5	18.0 16.5
	5800 MHz			16.0	15.0	16.0	15.0			19.0	18.0	19.0	18.0
5 GHz WIFI (80MHz BW)	5200 MHz					14.0	13.0					17.0	16.0
	5300 MHz					14.0	13.0					17.0	16.0
	5500 MHz					14.0	13.0					17.0	16.0
	5800 MHz					14.0	13.0					17.0	16.0

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Mode / Band		Modulated Average (dBm)
Bluetooth	Maximum	11.0
	Nominal	10.0
Bluetooth LE	Maximum	5.0
	Nominal	4.0

1.5.3 Reduced SISO/MIMO WLAN Output Power

The below tables are applicable in the following conditions:

- Head Conditions
- Head Conditions during simultaneous conditions with 2.4 GHz WLAN and 5 GHz WLAN

Mode	Band	IEEE 802.11 (in dBm)													
		SISO								MIMO					
		Antenna 1/ Antenna 2													
		b		g		n		ac		g (CDD + STBC)		n (CDD+STBC, SDM)		ac (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	16.5	15.5	16.5	15.5	16.5	15.5	16.5	15.5	19.5	18.5	19.5	18.5	19.5	18.5
						ch. 1: 16.0	15.0	ch. 1: 16.0	15.0			ch. 1: 19.0	18.0	ch. 1: 19.0	18.0
						ch. 2: 16.0	15.0	ch. 2: 16.0	15.0			ch. 2: 19.0	18.0	ch. 2: 19.0	18.0
						ch. 10: 16.0	15.0	ch. 10: 16.0	15.0			ch. 10: 19.0	18.0	ch. 10: 19.0	18.0
						ch. 11: 16.0	15.0	ch. 11: 16.0	15.0			ch. 11: 19.0	18.0	ch. 11: 19.0	18.0

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Mode	Band	IEEE 802.11 (in dBm)											
		SISO						MIMO					
		Antenna 1/ Antenna 2											
		a		n		ac		a (CDD + STBC)		n (CDD+STBC, SDM)		ac (CDD+STBC, SDM)	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
5 GHz WIFI (20MHz BW)	5200 MHz	16.0	15.0	16.0	15.0	16.0	15.0	19.0	18.0	19.0	18.0	19.0	18.0
	5300 MHz	16.0	15.0	16.0	15.0	16.0	15.0	19.0	18.0	19.0	18.0	19.0	18.0
	5500 MHz	16.0	15.0	16.0	15.0	16.0	15.0	19.0	18.0	19.0	18.0	19.0	18.0
	5800 MHz	16.0	15.0	16.0	15.0	16.0	15.0	19.0	18.0	19.0	18.0	19.0	18.0
5 GHz WIFI (40MHz BW)	5200 MHz			16.0	15.0	16.0	15.0			19.0	18.0	19.0	18.0
	5300 MHz			16.0	15.0	16.0	15.0			19.0	18.0	19.0	18.0
				ch. 62: 15.0	14.0	ch. 62: 15.0	14.0			ch. 62: 18.0	17.0	ch. 62: 18.0	17.0
	5500 MHz			16.0	15.0	16.0	15.0			19.0	18.0	19.0	18.0
				ch. 102: 14.5	13.5	ch. 102: 14.5	13.5			ch. 102: 17.5	16.5	ch. 102: 17.5	16.5
	5800 MHz			16.0	15.0	16.0	15.0			19.0	18.0	19.0	18.0
5 GHz WIFI (80MHz BW)	5200 MHz					14.0	13.0					17.0	16.0
	5300 MHz					14.0	13.0					17.0	16.0
	5500 MHz					14.0	13.0					17.0	16.0
	5800 MHz					14.0	13.0					17.0	16.0

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1.6 DUT Antenna Locations

The overall dimensions of this device are > 9 x 5 cm. A diagram showing the location of the device antennas can be found in Appendix E. Since the diagonal dimension of this device is > 160 mm and <200 mm, it is considered a “phablet.”

Table 1-1
Device Edges/Sides for SAR Testing

Mode	Back	Front	Top	Bottom	Right	Left
GPRS 850	Yes	Yes	No	Yes	Yes	No
GPRS 1900	Yes	Yes	No	Yes	No	Yes
UMTS 850	Yes	Yes	No	Yes	Yes	No
UMTS 1750	Yes	Yes	No	Yes	No	Yes
UMTS 1900	Yes	Yes	No	Yes	No	Yes
Cell. EVDO	Yes	Yes	No	Yes	Yes	No
PCS EVDO	Yes	Yes	No	Yes	No	Yes
LTE Band 71	Yes	Yes	No	Yes	Yes	No
LTE Band 12	Yes	Yes	No	Yes	Yes	No
LTE Band 13	Yes	Yes	No	Yes	Yes	No
LTE Band 14	Yes	Yes	No	Yes	Yes	No
LTE Band 5 (Cell)	Yes	Yes	No	Yes	Yes	No
LTE Band 66 (AWS) Ant 2	Yes	Yes	No	Yes	No	Yes
LTE Band 66 (AWS) Ant 3	Yes	Yes	No	No	Yes	No
LTE Band 2 (PCS) Ant 2	Yes	Yes	No	Yes	No	Yes
LTE Band 2 (PCS) Ant 3	Yes	Yes	No	No	Yes	No
LTE Band 25 (PCS)	Yes	Yes	No	Yes	No	Yes
LTE Band 30	Yes	Yes	No	Yes	No	Yes
LTE Band 7	Yes	Yes	No	Yes	No	Yes
LTE Band 41	Yes	Yes	No	Yes	No	Yes
NR Band n71	Yes	Yes	No	Yes	Yes	No
NR Band n5	Yes	Yes	No	Yes	Yes	No
NR Band n66	Yes	Yes	No	No	Yes	No
NR Band n25	Yes	Yes	No	No	Yes	No
NR Band n41	Yes	Yes	No	No	Yes	No
2.4 GHz WLAN Ant 1	Yes	Yes	Yes	No	No	Yes
2.4 GHz WLAN Ant 2	Yes	Yes	Yes	No	No	Yes
5 GHz WLAN Ant 1	Yes	Yes	Yes	No	No	Yes
5 GHz WLAN Ant 2	Yes	Yes	Yes	No	No	Yes
5 GHz WLAN MIMO	Yes	Yes	Yes	No	No	Yes
Bluetooth	Yes	Yes	Yes	No	No	Yes

Note: Particular DUT edges were not required to be evaluated for wireless router SAR or phablet SAR if the edges were greater than 2.5 cm from the transmitting antenna according to FCC KDB Publication 941225 D06v02r01 Section III and FCC KDB Publication 648474 D04v01r03. The distances between the transmit antennas and the edges of the device are included in the filing. When wireless router mode is enabled, U-NII-2A, U-NII-2C operations are disabled.

1.7 Near Field Communications (NFC) Antenna

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

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1.8 Simultaneous Transmission Capabilities

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

This device contains multiple transmitters that may operate simultaneously, and therefore requires a simultaneous transmission analysis according to FCC KDB Publication 447498 D01v06 4.3.2 procedures.

Table 1-2
Simultaneous Transmission Scenarios

No.	Capable Transmit Configuration	Head	Body-Worn Accessory	Wireless Router	Phablet	Notes
1	1x CDMA voice + 2.4 GHz Wi-Fi	Yes	Yes	N/A	Yes	
2	1x CDMA voice + 5 GHz Wi-Fi	Yes	Yes	N/A	Yes	
3	1x CDMA voice + 2.4 GHz Bluetooth	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered
4	1x CDMA voice + 2.4 GHz Wi-Fi MIMO	Yes	Yes	N/A	Yes	
5	1x CDMA voice + 5 GHz Wi-Fi MIMO	Yes	Yes	N/A	Yes	
6	1x CDMA voice + 2.4 GHz Wi-Fi Antenna 2 + 2.4 GHz Bluetooth	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered
7	1x CDMA voice + 2.4 GHz Bluetooth + 5 GHz Wi-Fi	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered
8	1x CDMA voice + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered
9	1x CDMA voice + 2.4 GHz Wi-Fi Ant 1 + 5 GHz Wi-Fi Ant 2	Yes	Yes	N/A	Yes	
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 Wi-Fi MIMO	Yes	Yes	N/A	Yes	
14	GSM voice + 5 GHz Wi-Fi MIMO	Yes	Yes	N/A	Yes	
15	GSM voice + 2.4 GHz Wi-Fi Antenna 2 + 2.4 GHz Bluetooth	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered
16	GSM voice + 2.4 GHz Bluetooth + 5 GHz Wi-Fi	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered
17	GSM voice + 2.4 GHz Bluetooth + 5 GHz Wi-Fi MIMO	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered
18	GSM voice + 2.4 GHz Wi-Fi Ant 1 + 5 GHz Wi-Fi Ant 2	Yes	Yes	N/A	Yes	
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 Wi-Fi MIMO	Yes	Yes	Yes	Yes	
23	UMTS + 5 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
24	UMTS + 2.4 GHz Wi-Fi Antenna 2 + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
25	UMTS + 2.4 GHz Bluetooth + 5 GHz Wi-Fi	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
26	UMTS + 2.4 GHz Bluetooth + 5 GHz Wi-Fi MIMO	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
27	UMTS + 2.4 GHz Wi-Fi Ant 1 + 5 GHz Wi-Fi Ant 2	Yes	Yes	Yes	Yes	
28	LTE + 2.4 GHz Wi-Fi	Yes	Yes	Yes	Yes	
29	LTE + 5 GHz Wi-Fi	Yes	Yes	Yes	Yes	
30	LTE + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
31	LTE + 2.4 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
32	LTE + 5 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
33	LTE + 2.4 GHz Wi-Fi Antenna 2 + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
34	LTE + 2.4 GHz Bluetooth + 5 GHz Wi-Fi	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
35	LTE + 2.4 GHz Bluetooth + 5 GHz Wi-Fi MIMO	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
36	LTE + 2.4 GHz Wi-Fi Ant 1 + 5 GHz Wi-Fi Ant 2	Yes	Yes	Yes	Yes	
37	LTE + 5G NR	Yes	Yes	N/A	Yes	
38	LTE + 2.4 GHz Wi-Fi + 5G NR	Yes	Yes	Yes	Yes	
39	LTE + 5 GHz Wi-Fi + 5G NR	Yes	Yes	Yes	Yes	
40	LTE + 2.4 GHz Bluetooth + 5G NR	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
41	LTE + 2.4 GHz Wi-Fi MIMO + 5G NR	Yes	Yes	Yes	Yes	
42	LTE + 5 GHz Wi-Fi MIMO + 5G NR	Yes	Yes	Yes	Yes	
43	LTE + 2.4 GHz Wi-Fi Antenna 2 + 2.4 GHz Bluetooth + 5G NR	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
44	LTE + 2.4 GHz Bluetooth + 5 GHz Wi-Fi + 5G NR	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
45	LTE + 2.4 GHz Bluetooth + 5 GHz Wi-Fi MIMO + 5G NR	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
46	LTE + 2.4 GHz Wi-Fi Ant 1 + 5 GHz Wi-Fi Ant 2 + 5G NR	Yes	Yes	Yes	Yes	
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 Wi-Fi MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
51	CDMA/EVDO data + 5 GHz Wi-Fi MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
52	CDMA/EVDO data + 2.4 GHz Wi-Fi Antenna 2 + 2.4 GHz Bluetooth	Yes^*	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered ^ Bluetooth Tethering is considered
53	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
54	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
55	CDMA/EVDO data + 2.4 GHz Wi-Fi Ant 1 + 5 GHz Wi-Fi Ant 2	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
56	GPRS/EDGE + 2.4 GHz Wi-Fi	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
57	GPRS/EDGE + 5 GHz Wi-Fi	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
58	GPRS/EDGE + 2.4 GHz Bluetooth	Yes^*	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered ^ Bluetooth Tethering is considered
59	GPRS/EDGE + 2.4 GHz Wi-Fi MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
60	GPRS/EDGE + 5 GHz Wi-Fi MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
61	GPRS/EDGE + 2.4 GHz Wi-Fi Antenna 2 + 2.4 GHz Bluetooth	Yes^*	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered ^ Bluetooth Tethering is considered
62	GPRS/EDGE + 2.4 GHz Bluetooth + 5 GHz Wi-Fi	Yes^*	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered ^ Bluetooth Tethering is considered
63	GPRS/EDGE + 2.4 GHz Bluetooth + 5 GHz Wi-Fi MIMO	Yes^*	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered ^ Bluetooth Tethering is considered
64	GPRS/EDGE + 2.4 GHz Wi-Fi Ant 1 + 5 GHz Wi-Fi Ant 2	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered

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1. 2.4 GHz WLAN antenna 1 and 2.4 GHz Bluetooth share the same antenna path and cannot transmit simultaneously.
2. 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.
3. Per the manufacturer, WIFI Direct is expected to be used in conjunction with a held-to-ear or body-worn accessory voice call. Therefore, there are no simultaneous transmission scenarios involving WIFI direct beyond that listed in the above table.
4. 5 GHz Wireless Router is only supported for the U-NII-1 and U-NII-3 by S/W, therefore U-NII-2A, and U-NII-2C were not evaluated for wireless router conditions.
5. This device supports 2x2 MIMO Tx for WLAN 802.11a/g/n/ac. 802.11a/g/n/ac supports CDD and STBC and 802.11n/ac additionally supports SDM. Each WLAN antenna can transmit independently or together when operating with MIMO.
6. This device supports VOLTE.
7. This device supports VOWIFI.
8. This device supports Bluetooth Tethering.
9. LTE + 5G NR FR1 Scenarios are limited to LTE Anchor Bands, B2/B5/B7/B12/B13/B30/B66/B71.
10. LTE operations in the table above include intra-band and inter-band ULCA operations with 2 carriers transmitting in the uplink.

1.9 Miscellaneous SAR Test Considerations

(A) WIFI/BT

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

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

Per FCC KDB Publication 648474 D04v01r03, this device is considered a "phablet" since the diagonal dimension is greater than 160mm and less than 200mm. Phablet SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR > 1.2 W/kg. Because wireless router operations are not supported for U-NII-2A & U-NII-2C WLAN, phablet SAR tests were performed. Phablet SAR was not evaluated for 2.4 GHz WLAN, Bluetooth, U-NII-1, and U-NII-3 WLAN operations since wireless router 1g SAR was < 1.2 W/kg.

This device supports IEEE 802.11ac with the following features:

- a) Up to 80 MHz Bandwidth only for 5GHz
- 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
- g) MU-MIMO UL Operations are not supported

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(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 of the original certification report number 1M2003200048-01-R2.ZNF.

Per FCC KDB Publication 648474 D04v01r03, this device is considered a "phablet" since the diagonal dimension is greater than 160mm and less than 200mm. Therefore, phablet SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR > 1.2 W/kg. Additional SAR tests for phablet SAR were evaluated per KDB 616217 Section 6 (See Section 6.9 for more information).

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

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

This device supports uplink inter-band LTE Carrier Aggregation (CA) for LTE Bands 12, 5, 2, 66 with two component carriers in the uplink. For 2A-66A uplink conditions, the SCC operates using Antenna 3. SAR tests were performed separately for antenna 3 for LTE Band 2 and LTE B66.

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.

NR implementation of n71, n5, n66, n2, n25 and n41 is limited to EN-DC operations only, with LTE B2/B5/B7/B12/B13/B30/B66/B71 acting as the anchor bands. Per FCC Guidance, SAR tests were performed separately for NR Bands and LTE Anchor Bands. Please see Section 11 for more details.

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

1.10 Guidance Applied

- IEEE 1528-2013
- FCC KDB Publication 941225 D01v03r01, D05v02r04, D05Av01r02, D06v02r01 (2G/3G/4G and Hotspot)
- FCC KDB Publication 248227 D01v02r02 (SAR Considerations for 802.11 Devices)
- FCC KDB Publication 447498 D01v06 (General SAR Guidance)
- FCC KDB Publication 865664 D01v01r04, D02v01r02 (SAR Measurements up to 6 GHz)
- FCC KDB Publication 648474 D04v01r03 (Phablet Procedures)
- FCC KDB Publication 616217 D04v01r02 (Proximity Sensor)
- October 2013 TCB Workshop Notes (GPRS Testing Considerations)
- May 2017 TCB Workshop Notes (LTE 4x4 Downlink MIMO)
- April 2018 TCB Workshop Notes (LTE Carrier Aggregation)
- April 2019 TCB Workshop Notes (Dynamic Antenna Tuning)

1.11 Device Serial Numbers

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

1.12 Bibliography

Report Type	Report Serial Number
RF Exposure Part 0 Test Report	Rev. I
RF Exposure Part 2 Test Report	. FA52603-01
RF Exposure Compliance Summary Report	1M2004150063-15.ZNF

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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 17 (706.5 - 713.5 MHz)			
	LTE Band 13 (779.5 - 784.5 MHz)			
	LTE Band 14 (790.5 - 795.5 MHz)			
	LTE Band 5 (Cell) (824.7 - 848.3 MHz)			
	LTE Band 66 (AWS) (1710.7 - 1779.3 MHz)			
	LTE Band 4 (AWS) (1710.7 - 1754.3 MHz)			
	LTE Band 2 (PCS) (1850.7 - 1909.3 MHz)			
	LTE Band 25 (PCS) (1850.7 - 1914.3 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 71: 5 MHz, 10 MHz, 15 MHz, 20 MHz			
	LTE Band 12: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz			
Channel Bandwidths	LTE Band 17: 5 MHz, 10 MHz			
	LTE Band 13: 5 MHz, 10 MHz			
	LTE Band 14: 5 MHz, 10 MHz			
	LTE Band 5 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz			
	LTE Band 66 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz			
	LTE Band 4 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz			
	LTE Band 2 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz			
	LTE Band 25 (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			
	Low Mid Mid-High High			
	Channel Numbers and Frequencies (MHz)			
	LTE Band 71: 5 MHz			
	LTE Band 71: 10 MHz			
	LTE Band 71: 15 MHz			
	LTE Band 71: 20 MHz			
	LTE Band 12: 1.4 MHz			
	LTE Band 12: 3 MHz			
	LTE Band 12: 5 MHz			
	LTE Band 12: 10 MHz			
	LTE Band 17: 5 MHz			
	LTE Band 17: 10 MHz			
	LTE Band 13: 5 MHz			
	LTE Band 13: 10 MHz			
	LTE Band 14: 5 MHz			
	LTE Band 14: 10 MHz			
	LTE Band 5 (Cell): 1.4 MHz			
	LTE Band 5 (Cell): 3 MHz			
	LTE Band 5 (Cell): 5 MHz			
	LTE Band 5 (Cell): 10 MHz			
	LTE Band 66 (AWS): 1.4 MHz			
	LTE Band 66 (AWS): 3 MHz			
	LTE Band 66 (AWS): 5 MHz			
	LTE Band 66 (AWS): 10 MHz			
	LTE Band 66 (AWS): 15 MHz			
	LTE Band 66 (AWS): 20 MHz			
	LTE Band 4 (AWS): 1.4 MHz			
	LTE Band 4 (AWS): 3 MHz			
	LTE Band 4 (AWS): 5 MHz			
	LTE Band 4 (AWS): 10 MHz			
	LTE Band 4 (AWS): 15 MHz			
	LTE Band 4 (AWS): 20 MHz			
	LTE Band 2 (PCS): 1.4 MHz			
	LTE Band 2 (PCS): 3 MHz			
	LTE Band 2 (PCS): 5 MHz			
	LTE Band 2 (PCS): 10 MHz			
	LTE Band 2 (PCS): 15 MHz			
	LTE Band 2 (PCS): 20 MHz			
	LTE Band 25 (PCS): 1.4 MHz			
	LTE Band 25 (PCS): 3 MHz			
	LTE Band 25 (PCS): 5 MHz			
	LTE Band 25 (PCS): 10 MHz			
	LTE Band 25 (PCS): 15 MHz			
	LTE Band 25 (PCS): 20 MHz			
	LTE Band 30: 5 MHz			
	LTE Band 30: 10 MHz			
	LTE Band 7: 5 MHz			
	LTE Band 7: 10 MHz			
	LTE Band 7: 15 MHz			
	LTE Band 7: 20 MHz			
	LTE Band 41: 5 MHz			
	LTE Band 41: 10 MHz			
	LTE Band 41: 15 MHz			
	LTE Band 41: 20 MHz			
UE Category	DL UE Cat 18, UL UE Cat 13			
Modulations Supported in UL	QPSK, 16QAM, 64QAM			
LTE MPR Permanently implemented per 3GPP TS 36.101 section 6.2.3-6.2.5? (manufacturer attestation to be provided)	YES			
A-MPR (Additional MPR) disabled for SAR Testing?	YES			
LTE Carrier Aggregation Possible Combinations	The technical description includes all the possible carrier aggregation combinations			
LTE Additional Information	This device does not support full CA features on 3GPP Release 15. It supports carrier aggregation, downlink MIMO, LAA features as shown in Section 9. All other uplink communications are identical to the Release 8 specifications. Uplink communications are done on the PCC unless otherwise specified. The following LTE Release 15 Features are not supported: Relay, HetNet, Enhanced eCIC, MDH, eMBMS, Cross-Carrier Scheduling, Enhanced SC-FDMA.			

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NR Information					
Form Factor	Portable Handset				
Frequency Range of each LTE transmission band	NR Band n71 (665.5 - 695.5 MHz)				
	NR Band n5 (Cell) (826.5 - 846.5 MHz)				
	NR Band n66 (AWS) (1712.5 - 1777.5 MHz)				
	NR Band n2 (PCS) (1852.5 - 1907.5 MHz)				
	NR Band n25 (PCS) (1852.5 - 1912.5 MHz)				
	NR Band n41 (2506.02 - 2679.99 MHz)				
Channel Bandwidths	NR Band n71: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	NR Band n5 (Cell): 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	NR Band n66 (AWS): 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	NR Band n2 (PCS): 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	NR Band n25 (PCS): 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	NR Band n41: 20 MHz, 40 MHz, 50MHz, 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 n5 (Cell): 5 MHz	826.5 (165300)		836.5 (167300)	846.5 (169300)	
NR Band n5 (Cell): 10 MHz	829 (165800)		836.5 (167300)	844 (168800)	
NR Band n5 (Cell): 15 MHz	831.5 (166300)		836.5 (167300)	841.5 (168300)	
NR Band n5 (Cell): 20 MHz	834 (166800)		836.5 (167300)	839 (167800)	
NR Band n66 (AWS): 5 MHz	1712.5 (342500)		1745 (349000)	1777.5 (355500)	
NR Band n66 (AWS): 10 MHz	1715 (343000)		1745 (349000)	1775 (355000)	
NR Band n66 (AWS): 15 MHz	1717.5 (343500)		1745 (349000)	1772.5 (354500)	
NR Band n66 (AWS): 20 MHz	1720 (344000)		1745 (349000)	1770 (354000)	
NR Band n2 (PCS): 5 MHz	1852.5 (370500)		1880 (376000)	1907.5 (381500)	
NR Band n2 (PCS): 10 MHz	1855 (371000)		1880 (376000)	1905 (381000)	
NR Band n2 (PCS): 15 MHz	1857.5 (371500)		1880 (376000)	1902.5 (380500)	
NR Band n2 (PCS): 20 MHz	1860 (372000)		1880 (376000)	1900 (380000)	
NR Band n25 (PCS): 5 MHz	1852.5 (370500)		1882.5 (376500)	1912.5 (382500)	
NR Band n25 (PCS): 10 MHz	1855 (371000)		1882.5 (376500)	1910 (382000)	
NR Band n25 (PCS): 15 MHz	1857.5 (371500)		1882.5 (376500)	1907.5 (381500)	
NR Band n25 (PCS): 20 MHz	1860 (372000)		1882.5 (376500)	1905 (381000)	
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/n5/n66/n2/n25 SCS	15 kHz				
NR Band n41 SCS	30 kHz				
Modulations supported in UL	DFT-s-OFDM: $\pi/2$ BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM				
A-MPR (Additional MPR) disabled for SAR Testing?	YES				
EN-DC Carrier Aggregation Possible Combinations	The technical description includes all the possible carrier aggregation combinations				
LTE Anchor Bands for NR Band n71	LTE Band 2/7/66				
LTE Anchor Bands for NR Band n5	LTE Band 2/30/66				
LTE Anchor Bands for NR Band n66	LTE Band 2/5/7/12/13/30/71				
LTE Anchor Bands for NR Band n2	LTE Band 5/12/13/30/66				
LTE Anchor Bands for NR Band n25	LTE Band 66				
LTE Anchor Bands for NR Band n41	LTE Band 2/66				

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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/m³)
- E = Total RMS electric field strength (V/m)

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

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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:

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.

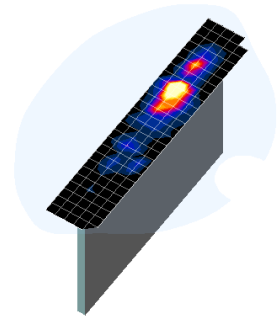


Figure 4-1
Sample SAR Area Scan

Table 4-1
Area and Zoom Scan Resolutions per FCC KDB Publication 865664 D01v01r04*

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

*Also compliant to IEEE 1528-2013 Table 6

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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].

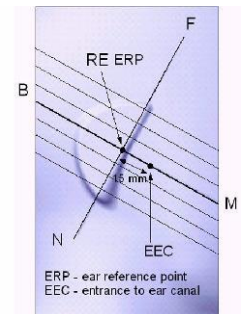


Figure 5-1
Close-Up Side view
of ERP

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 then 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

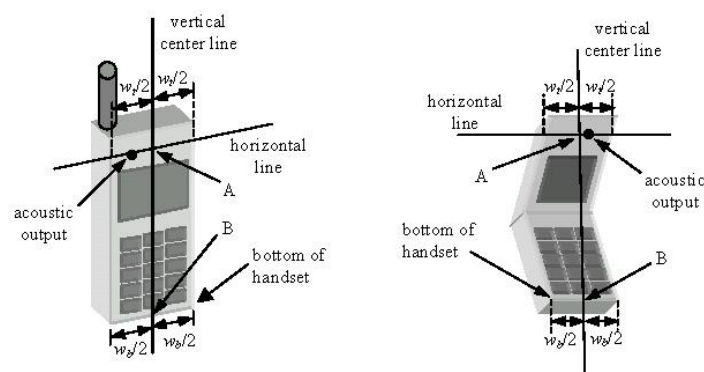


Figure 5-3
Handset Vertical Center & Horizontal Line Reference Points

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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 $\epsilon = 3$ and loss tangent $\delta = 0.02$.

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.

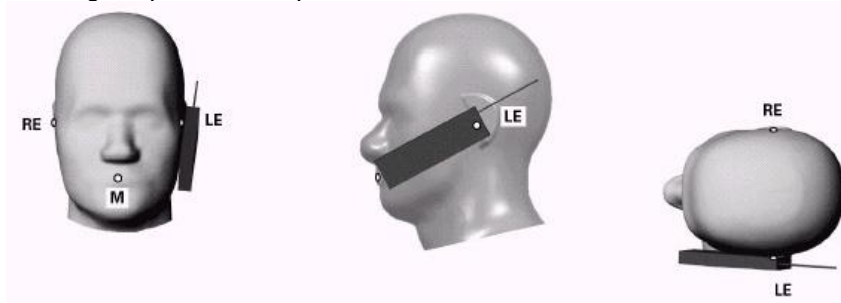


Figure 6-1 Front, Side and Top View of Cheek Position

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 with 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 / 15° 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 15 degrees.
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).

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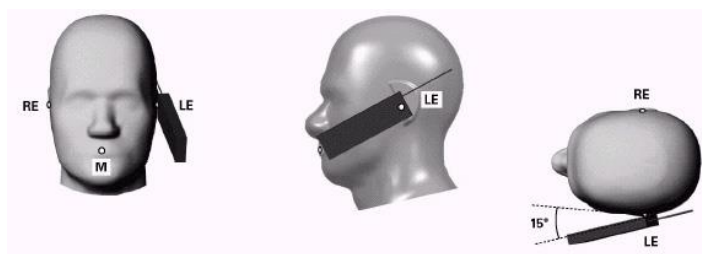


Figure 6-2 Front, Side and Top View of Ear/15° Tilt Position

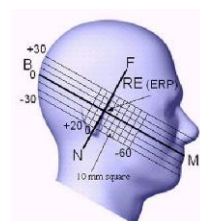


Figure 6-3 Side view w/ relevant markings

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.

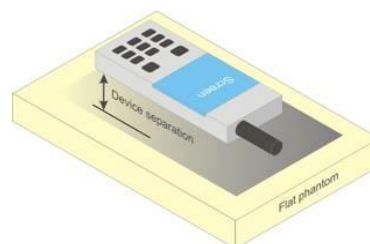


Figure 6-4 Sample Body-Worn Diagram

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

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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 ($L \times W \geq 9 \text{ cm} \times 5 \text{ cm}$) 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 $> 150 \text{ mm}$ or an overall diagonal dimension $> 160 \text{ mm}$ 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.

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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.

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

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

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8 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.

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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 SCH₀ 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
I_{or}	dBm/1.23 MHz	-104
$\frac{Pilot E_c}{I_{or}}$	dB	-7
$\frac{Traffic E_c}{I_{or}}$	dB	-7.4

Table 8-2
Parameters for Max. Power for RC3

Parameter	Units	Value
I_{or}	dBm/1.23 MHz	-86
$\frac{Pilot E_c}{I_{or}}$	dB	-7
$\frac{Traffic E_c}{I_{or}}$	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 full rate 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+SCH_n), with FCH only as the primary mode. Otherwise, SAR is required for multiple code channel configuration (FCH + SCH_n), 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.

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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. The 1x 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 "1s". 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.

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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.

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8.6.2 MPR

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

8.6.3 A-MPR

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

8.6.4 Required RB Size and RB Offsets for SAR Testing

According to FCC KDB 941225 D05v02r04:

- a. Per Section 5.2.1, SAR is required for QPSK 1 RB Allocation for the largest bandwidth
 - i. The required channel and offset combination with the highest maximum output power is required for SAR.
 - ii. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required. Otherwise, SAR is required for the remaining required test channels using the RB offset configuration with highest output power for that channel.
 - iii. When the reported SAR for a required test channel is > 1.45 W/kg, SAR is required for all RB offset configurations for that channel.
- b. Per Section 5.2.2, SAR is required for 50% RB allocation using the largest bandwidth following the same procedures outlined in Section 5.2.1.
- c. Per Section 5.2.3, QPSK SAR is not required for the 100% allocation when the highest maximum output power for the 100% allocation is less than the highest maximum output power of the 1 RB and 50% RB allocations and the reported SAR for the 1 RB and 50% RB allocations is < 0.8 W/kg.
- d. Per Section 5.2.4 and 5.3, SAR tests for higher order modulations and lower bandwidths configurations are not required when the conducted power of the required test configurations determined by Sections 5.2.1 through 5.2.3 is less than or equal to $\frac{1}{2}$ 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

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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.

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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 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. 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.

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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.

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9 RF CONDUCTED POWERS

9.1 GSM Conducted Powers

Table 9-1
Measured P_{max}

Maximum Burst-Averaged Output Power										
		Voice	GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
Band	Channel	GSM [dBm] CS (1 Slot)	GPRS [dBm] 1 Tx Slot	GPRS [dBm] 2 Tx Slot	GPRS [dBm] 3 Tx Slot	GPRS [dBm] 4 Tx Slot	EDGE [dBm] 1 Tx Slot	EDGE [dBm] 2 Tx Slot	EDGE [dBm] 3 Tx Slot	EDGE [dBm] 4 Tx Slot
GSM 850	128	33.38	33.47	31.88	30.00	28.50	27.05	26.71	25.34	24.18
	190	33.00	33.14	31.62	29.98	28.43	26.92	26.56	25.23	24.15
	251	32.97	33.04	31.42	29.59	28.04	26.68	26.32	24.90	23.82
GSM 1900	512	29.81	29.81	28.64	27.54	25.78	25.24	25.00	23.86	23.36
	661	29.90	29.89	28.86	27.70	26.00	25.55	25.30	24.12	23.60
	810	29.68	29.68	28.42	27.35	25.82	25.27	25.04	23.92	23.22

Calculated Maximum Frame-Averaged Output Power										
		Voice	GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
Band	Channel	GSM [dBm] CS (1 Slot)	GPRS [dBm] 1 Tx Slot	GPRS [dBm] 2 Tx Slot	GPRS [dBm] 3 Tx Slot	GPRS [dBm] 4 Tx Slot	EDGE [dBm] 1 Tx Slot	EDGE [dBm] 2 Tx Slot	EDGE [dBm] 3 Tx Slot	EDGE [dBm] 4 Tx Slot
GSM 850	128	24.18	24.27	25.69	25.57	25.32	17.85	20.52	20.91	21.00
	190	23.80	23.94	25.43	25.55	25.25	17.72	20.37	20.80	20.97
	251	23.77	23.84	25.23	25.16	24.86	17.48	20.13	20.47	20.64
GSM 1900	512	20.61	20.61	22.45	23.11	22.60	16.04	18.81	19.43	20.18
	661	20.70	20.69	22.67	23.27	22.82	16.35	19.11	19.69	20.42
	810	20.48	20.48	22.23	22.92	22.64	16.07	18.85	19.49	20.04

GSM 850	Frame Avg.Targets:	23.30	23.30	24.81	24.57	24.82	17.30	19.81	20.57	20.82
GSM 1900		20.30	20.30	21.81	22.57	21.82	16.30	18.81	19.57	19.82

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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.

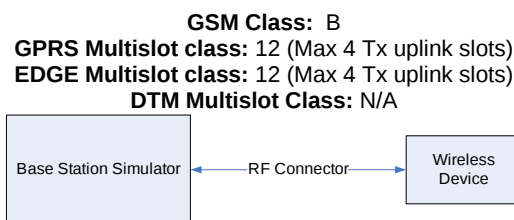


Figure 9-1
Power Measurement Setup

9.2 CDMA Conducted Powers

Table 9-2
Measured P_{max}

				Loopback			Data			
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	24.96	25.01	24.92	24.97	24.95	24.96	24.97
	384	22H	836.52	25.13	25.09	25.01	25.18	25.17	25.18	25.20
	777	22H	848.31	25.04	25.05	24.95	25.05	25.07	25.04	25.06
PCS	25	24E	1851.25	24.95	24.92	24.80	25.00	24.99	24.97	25.00
	600	24E	1880	25.10	25.11	24.85	25.10	25.07	25.11	25.12
	1175	24E	1908.75	25.05	25.07	24.92	25.08	25.07	25.06	25.07

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Table 9-3
Measured P_{limit} for DSI = 6 (Dual Display Cover 0° or 360°) or DSI = 7 (Dual Display Cover 180°)

				Loopback			Data			
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)
PCS	25	24E	1851.25	24.13	24.14	24.11	24.13	24.13	23.92	23.87
	600	24E	1880	24.19	24.22	24.15	24.21	24.20	24.08	24.15
	1175	24E	1908.75	24.19	24.19	24.17	24.20	24.19	23.92	24.02

Table 9-4
Measured P_{limit} for DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor active)

				Loopback			Data			
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)
PCS	25	24E	1851.25	21.91	21.94	21.82	21.95	21.94	22.21	22.16
	600	24E	1880	22.02	22.05	21.85	22.07	22.06	22.09	22.30
	1175	24E	1908.75	22.09	22.11	21.86	22.11	22.11	22.37	22.34

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

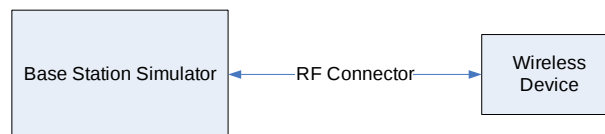


Figure 9-2
Power Measurement Setup

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9.3 UMTS Conducted Powers

Table 9-5
Measured P_{max}

3GPP Release Version	Mode	3GPP 34.121 Subtest	Cellular Band [dBm]			AWS Band [dBm]			PCS Band [dBm]			3GPP MPR [dB]
			4132	4183	4233	1312	1412	1513	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	25.01	25.04	25.10	25.02	25.10	25.05	25.02	25.09	25.05	-
99		12.2 kbps AMR	25.00	25.02	25.09	25.01	25.11	25.05	25.00	25.04	25.03	-
6	HSDPA	Subtest 1	24.91	24.89	24.88	24.82	24.95	24.94	24.91	24.89	24.80	0
6		Subtest 2	24.85	24.90	24.86	24.75	24.99	24.95	24.95	24.86	24.78	0
6		Subtest 3	24.41	24.40	24.35	24.31	24.43	24.42	24.37	24.39	24.33	0.5
6		Subtest 4	24.40	24.39	24.42	24.38	24.45	24.42	24.42	24.42	24.31	0.5
6	HSUPA	Subtest 1	24.69	24.70	24.67	24.70	24.72	24.74	24.67	24.66	24.62	0
6		Subtest 2	22.88	22.90	22.85	22.89	22.91	22.92	22.89	22.88	22.82	2
6		Subtest 3	23.90	23.91	23.84	23.87	23.90	23.88	23.94	23.90	23.82	1
6		Subtest 4	22.86	22.89	22.85	22.91	22.95	22.89	22.90	22.90	22.85	2
6		Subtest 5	24.87	24.89	24.85	24.84	24.94	24.91	24.94	24.80	24.83	0
8	DC-HSDPA	Subtest 1	25.00	25.05	25.01	24.70	25.04	25.07	25.00	25.06	25.02	0
8		Subtest 2	25.01	25.06	25.01	24.69	25.07	25.08	25.00	25.04	25.01	0
8		Subtest 3	24.50	24.55	24.50	24.18	24.56	24.57	24.48	24.54	24.55	0.5
8		Subtest 4	24.52	24.55	24.52	24.18	24.55	24.54	24.50	24.52	24.52	0.5

Table 9-6
Measured P_{limit} for DSI = 6 (Dual Display Cover 0° or 360°) or DSI = 7 (Dual Display Cover 180°)

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	24.20	24.22	24.21	24.24	24.16	24.05	-
99		12.2 kbps AMR	24.18	24.22	24.20	24.19	24.17	24.09	-
6	HSDPA	Subtest 1	24.24	24.23	24.23	24.20	24.18	24.10	0
6		Subtest 2	24.19	24.24	24.28	24.19	24.20	24.08	0
6		Subtest 3	23.73	23.75	23.75	23.65	23.69	23.62	0.5
6		Subtest 4	23.64	23.77	23.74	23.67	23.65	23.61	0.5
6	HSUPA	Subtest 1	23.55	23.56	23.53	23.46	23.44	23.41	0
6		Subtest 2	22.24	22.28	22.27	22.20	22.15	22.14	2
6		Subtest 3	23.21	23.30	23.25	23.21	23.18	23.15	1
6		Subtest 4	22.25	22.31	22.25	22.24	22.24	22.12	2
6		Subtest 5	24.26	24.25	24.23	24.18	24.17	24.12	0
8	DC-HSDPA	Subtest 1	24.33	24.36	24.38	24.28	24.28	24.25	0
8		Subtest 2	24.19	24.25	24.24	24.19	24.15	24.12	0
8		Subtest 3	23.72	23.75	23.74	23.69	23.67	23.63	0.5
8		Subtest 4	23.75	23.78	23.76	23.69	23.66	23.65	0.5

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Table 9-7
Measured P_{limit} for DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor 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	22.47	22.43	22.45	22.42	22.44	22.50	-
99		12.2 kbps AMR	22.43	22.45	22.48	22.49	22.44	22.45	-
6	HSDPA	Subtest 1	22.30	22.32	22.25	22.26	22.25	22.19	0
6		Subtest 2	22.29	22.34	22.30	22.22	22.23	22.15	0
6		Subtest 3	21.76	21.79	21.82	21.77	21.71	21.63	0.5
6		Subtest 4	21.76	21.82	21.85	21.74	21.73	21.62	0.5
6	HSUPA	Subtest 1	21.52	21.57	21.60	21.55	21.55	21.49	0
6		Subtest 2	20.25	20.30	20.26	20.23	20.23	20.18	2
6		Subtest 3	21.23	21.30	21.27	21.28	21.22	21.13	1
6		Subtest 4	20.29	20.29	20.27	20.25	20.21	20.15	2
6		Subtest 5	22.26	22.29	22.27	22.24	22.22	22.16	0
8	DC-HSDPA	Subtest 1	22.23	22.32	22.30	22.27	22.22	22.18	0
8		Subtest 2	22.22	22.30	22.29	22.26	22.18	22.16	0
8		Subtest 3	21.73	21.78	21.77	21.71	21.70	21.64	0.5
8		Subtest 4	21.78	21.79	21.78	21.76	21.70	21.68	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



Figure 9-3
Power Measurement Setup

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9.4 LTE Conducted Powers

9.4.1 LTE Band 71

Table 9-8
LTE Band 71 Measured P_{max} - 20 MHz Bandwidth

LTE Band 71 20 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			133297 (680.5 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	25.35	0	0
	1	50	25.40		0
	1	99	25.39		0
	50	0	24.47	0-1	1
	50	25	24.45		1
	50	50	24.40		1
	100	0	24.39		1
16QAM	1	0	24.50	0-1	1
	1	50	24.48		1
	1	99	24.50		1
	50	0	23.49	0-2	2
	50	25	23.50		2
	50	50	23.43		2
	100	0	23.38		2
64QAM	1	0	23.22	0-2	2
	1	50	23.12		2
	1	99	23.50		2
	50	0	22.43	0-3	3
	50	25	22.49		3
	50	50	22.40		3
	100	0	22.49		3

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.

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Table 9-9
LTE Band 71 Measured P_{max} - 15 MHz Bandwidth

LTE Band 71 15 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			133297 (680.5 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	25.02	0	0
	1	36	25.09		0
	1	74	25.04		0
	36	0	24.25	0-1	1
	36	18	24.20		1
	36	37	24.22		1
	75	0	24.14		1
16QAM	1	0	24.45	0-1	1
	1	36	24.47		1
	1	74	24.46		1
	36	0	23.22	0-2	2
	36	18	23.20		2
	36	37	23.22		2
	75	0	23.17		2
64QAM	1	0	23.09	0-2	2
	1	36	23.11		2
	1	74	23.14		2
	36	0	22.30	0-3	3
	36	18	22.25		3
	36	37	22.28		3
	75	0	22.21		3

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.

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Table 9-10
LTE Band 71 Measured P_{max} - 10 MHz Bandwidth

LTE Band 71 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			133172 (668.0 MHz)	133297 (680.5 MHz)	133422 (693.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	25.12	25.13	25.15	0	0
	1	25	25.01	25.16	25.12		0
	1	49	25.05	25.18	25.01		0
	25	0	24.21	24.17	24.20	0-1	1
	25	12	24.17	24.19	24.27		1
	25	25	24.11	24.22	24.18		1
16QAM	50	0	24.12	24.14	24.19	0-1	1
	1	0	24.16	24.50	24.50		1
	1	25	24.29	24.50	24.50		1
	1	49	24.26	23.99	24.42	0-2	1
	25	0	23.26	23.26	23.31		2
	25	12	23.23	23.27	23.37		2
64QAM	25	25	23.18	23.26	23.31	0-2	2
	50	0	23.12	23.16	23.25		2
	1	0	23.20	23.23	23.45		0-2
	1	25	22.76	23.31	23.48	2	
	1	49	22.86	23.15	22.77	2	
	25	0	21.54	22.28	22.33	0-3	3
25	12	21.98	22.29	22.39	3		
25	25	21.89	22.28	22.32	3		
	50	0	21.63	22.18	22.27		3

Table 9-11
LTE Band 71 Measured P_{max} - 5 MHz Bandwidth

LTE Band 71 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			133147 (665.5 MHz)	133297 (680.5 MHz)	133447 (695.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.77	25.08	25.06	0	0
	1	12	25.08	25.24	25.18		0
	1	24	25.03	25.24	25.13		0
	12	0	23.96	24.20	24.16	0-1	1
	12	6	24.26	24.29	24.22		1
	12	13	24.19	24.27	24.24		1
16QAM	25	0	24.25	24.19	24.18	0-1	1
	1	0	24.13	24.23	24.44		1
	1	12	24.41	24.38	24.49		1
	1	24	24.47	24.36	24.45	0-2	1
	12	0	23.01	23.18	23.33		2
	12	6	23.27	23.24	23.44		2
64QAM	12	13	23.20	23.29	23.40	0-2	2
	25	0	23.18	23.24	23.19		2
	1	0	23.17	23.43	23.18		0-2
	1	12	22.71	23.50	23.24	2	
	1	24	22.55	23.50	23.02	0-3	
	12	0	22.15	22.29	22.17		3
12	6	21.87	22.36	22.20	3		
	12	13	21.83	22.37	22.23		3
	25	0	21.50	22.25	22.21		3

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LTE Band 12

Table 9-12
LTE Band 12 Measured P_{max} - 10 MHz Bandwidth

LTE Band 12 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			23095 (707.5 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	25.26	0	0
	1	25	25.30		0
	1	49	25.31		0
	25	0	24.29	0-1	1
	25	12	24.30		1
	25	25	24.34		1
	50	0	24.32		1
16QAM	1	0	24.45	0-1	1
	1	25	24.50		1
	1	49	24.49		1
	25	0	23.29	0-2	2
	25	12	23.31		2
	25	25	23.30		2
	50	0	23.23		2
64QAM	1	0	23.43	0-2	2
	1	25	23.50		2
	1	49	23.38		2
	25	0	22.26	0-3	3
	25	12	22.37		3
	25	25	22.36		3
	50	0	22.27		3

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.

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Table 9-13
LTE Band 12 Measured P_{max} - 5 MHz Bandwidth

LTE Band 12 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			23035 (701.5 MHz)	23095 (707.5 MHz)	23155 (713.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	25.08	25.18	25.17	0	0
	1	12	25.07	25.24	25.23		0
	1	24	25.05	25.17	25.15		0
	12	0	24.26	24.20	24.25	0-1	1
	12	6	24.25	24.26	24.29		1
	12	13	24.24	24.22	24.21		1
	25	0	24.28	24.18	24.22		1
16QAM	1	0	24.43	24.31	24.33	0-1	1
	1	12	24.48	24.35	24.33		1
	1	24	24.48	24.30	24.29		1
	12	0	23.28	23.19	23.41	0-2	2
	12	6	23.29	23.22	23.48		2
	12	13	23.23	23.24	23.40		2
	25	0	23.30	23.25	23.24		2
64QAM	1	0	22.79	23.48	23.28	0-2	2
	1	12	23.14	23.50	23.24		2
	1	24	23.01	23.50	23.22		2
	12	0	21.93	22.32	22.20	0-3	3
	12	6	22.15	22.29	22.22		3
	12	13	22.32	22.31	22.20		3
	25	0	22.07	22.26	22.19		3

Table 9-14
LTE Band 12 Measured P_{max} - 3 MHz Bandwidth

LTE Band 12 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			23025 (700.5 MHz)	23095 (707.5 MHz)	23165 (714.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	25.19	25.18	25.06	0	0
	1	7	25.13	25.17	25.05		0
	1	14	25.12	25.16	25.04		0
	8	0	24.21	24.23	24.19	0-1	1
	8	4	24.20	24.30	24.20		1
	8	7	24.23	24.24	24.22		1
	15	0	24.21	24.22	24.16		1
16QAM	1	0	24.44	24.50	24.50	0-1	1
	1	7	24.35	23.99	24.46		1
	1	14	24.37	24.00	24.45		1
	8	0	23.27	23.34	23.31	0-2	2
	8	4	23.28	23.38	23.36		2
	8	7	23.27	23.39	23.32		2
	15	0	23.19	23.31	23.26		2
64QAM	1	0	22.44	23.23	23.39	0-2	2
	1	7	22.68	23.21	23.42		2
	1	14	22.71	23.24	23.31		2
	8	0	21.74	22.30	22.20	0-3	3
	8	4	21.95	22.34	22.27		3
	8	7	22.07	22.29	22.25		3
	15	0	21.97	22.20	22.24		3

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Table 9-15
LTE Band 12 Measured P_{max} -1.4 MHz Bandwidth

LTE Band 12 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			23017 (699.7 MHz)	23095 (707.5 MHz)	23173 (715.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	25.12	25.20	25.00	0	0
	1	2	25.17	25.29	25.05		0
	1	5	25.08	25.24	24.95		0
	3	0	25.07	25.04	25.06		0
	3	2	25.12	25.17	25.09		0
	3	3	25.10	25.10	25.03		0
	6	0	24.15	24.13	24.14	0-1	1
16QAM	1	0	24.30	24.45	24.41	0-1	1
	1	2	24.37	24.47	24.44		1
	1	5	24.36	24.48	24.40		1
	3	0	24.35	24.32	24.16		1
	3	2	24.36	24.43	24.18		1
	3	3	24.37	24.40	24.13		1
	6	0	23.16	23.28	23.20	0-2	2
64QAM	1	0	22.44	23.35	23.30	0-2	2
	1	2	22.59	23.48	23.36		2
	1	5	22.62	23.40	23.32		2
	3	0	22.53	23.29	23.27		2
	3	2	22.74	23.41	23.29		2
	3	3	22.78	23.36	23.25		2
	6	0	21.64	22.10	22.18	0-3	3

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LTE Band 13

Table 9-16
LTE Band 13 Measured P_{max} - 10 MHz Bandwidth

LTE Band 13 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			23230 (782.0 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	25.11	0	0
	1	25	25.33		0
	1	49	25.20		0
	25	0	24.19	0-1	1
	25	12	24.27		1
	25	25	24.33		1
	50	0	24.16		1
16QAM	1	0	24.47	0-1	1
	1	25	24.49		1
	1	49	24.49		1
	25	0	23.22	0-2	2
	25	12	23.31		2
	25	25	23.32		2
	50	0	23.21		2
64QAM	1	0	23.19	0-2	2
	1	25	23.50		2
	1	49	23.31		2
	25	0	22.22	0-3	3
	25	12	22.41		3
	25	25	22.35		3
	50	0	22.24		3

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Table 9-17
LTE Band 13 Measured P_{max} - 5 MHz Bandwidth

LTE Band 13 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			23230 (782.0 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	25.02	0	0
	1	12	25.12		0
	1	24	25.14		0
	12	0	24.11	0-1	1
	12	6	24.19		1
	12	13	24.21		1
	25	0	24.12		1
16QAM	1	0	24.18	0-1	1
	1	12	24.28		1
	1	24	24.31		1
	12	0	23.12	0-2	2
	12	6	23.17		2
	12	13	23.21		2
	25	0	23.19		2
64QAM	1	0	23.29	0-2	2
	1	12	23.34		2
	1	24	23.38		2
	12	0	22.21	0-3	3
	12	6	22.28		3
	12	13	22.29		3
	25	0	22.19		3

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.

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LTE Band 14

Table 9-18
LTE Band 14 Measured P_{max} - 10 MHz Bandwidth

LTE Band 14 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			23330 (793.0 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	25.33	0	0
	1	25	25.25		0
	1	49	25.29		0
	25	0	24.22	0-1	1
	25	12	24.26		1
	25	25	24.21		1
	50	0	24.19		1
16QAM	1	0	24.48	0-1	1
	1	25	24.50		1
	1	49	24.45		1
	25	0	23.22	0-2	2
	25	12	23.27		2
	25	25	23.30		2
	50	0	23.19		2
64QAM	1	0	23.48	0-2	2
	1	25	23.49		2
	1	49	23.50		2
	25	0	22.28	0-3	3
	25	12	22.38		3
	25	25	22.27		3
	50	0	22.26		3

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Table 9-19
LTE Band 14 Measured P_{max} - 5 MHz Bandwidth

LTE Band 14 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			23330 (793.0 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	25.05	0	0
	1	12	25.16		0
	1	24	25.17		0
	12	0	24.19	0-1	1
	12	6	24.18		1
	12	13	24.18		1
	25	0	24.18		1
16QAM	1	0	24.39	0-1	1
	1	12	24.50		1
	1	24	24.45		1
	12	0	23.20	0-2	2
	12	6	23.19		2
	12	13	23.15		2
	25	0	23.22		2
64QAM	1	0	23.16	0-2	2
	1	12	23.33		2
	1	24	23.26		2
	12	0	22.26	0-3	3
	12	6	22.29		3
	12	13	22.24		3
	25	0	22.17		3

Note: LTE Band 14 at 5 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

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LTE Band 5 (Cell)

Table 9-20
LTE Band 5 (Cell) Measured P_{max} - 10 MHz Bandwidth

LTE Band 5 (Cell) 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20525 (836.5 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	24.95	0	0
	1	25	24.89		0
	1	49	24.97		0
	25	0	23.94	0-1	1
	25	12	23.91		1
	25	25	23.98		1
	50	0	23.97		1
16QAM	1	0	24.34	0-1	1
	1	25	24.26		1
	1	49	24.36		1
	25	0	23.01	0-2	2
	25	12	23.08		2
	25	25	22.98		2
	50	0	22.94		2
64QAM	1	0	23.16	0-2	2
	1	25	23.35		2
	1	49	23.27		2
	25	0	21.98	0-3	3
	25	12	22.09		3
	25	25	22.03		3
	50	0	21.98		3

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.

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Table 9-21
LTE Band 5 (Cell) Measured P_{max} - 5 MHz Bandwidth

LTE Band 5 (Cell) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20425 (826.5 MHz)	20525 (836.5 MHz)	20625 (846.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.91	24.97	24.99	0	0
	1	12	24.86	25.09	25.03		0
	1	24	24.88	25.02	24.96		0
	12	0	24.04	24.02	24.03	0-1	1
	12	6	24.10	24.06	24.06		1
	12	13	24.04	24.07	24.04		1
	25	0	24.04	24.08	24.01		1
16QAM	1	0	24.34	24.11	24.20	0-1	1
	1	12	24.30	24.20	24.32		1
	1	24	24.29	24.16	24.24		1
	12	0	23.05	23.02	23.02	0-2	2
	12	6	23.11	23.07	23.05		2
	12	13	23.08	23.09	23.08		2
	25	0	23.16	23.12	23.07		2
64QAM	1	0	23.11	23.29	22.50	0-2	2
	1	12	23.12	23.40	22.77		2
	1	24	23.11	23.34	22.68		2
	12	0	22.13	22.13	21.61	0-3	3
	12	6	22.17	22.20	21.83		3
	12	13	22.19	22.21	22.07		3
	25	0	22.11	22.16	21.81		3

Table 9-22
LTE Band 5 (Cell) Measured P_{max} - 3 MHz Bandwidth

LTE Band 5 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20415 (825.5 MHz)	20525 (836.5 MHz)	20635 (847.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.98	24.91	24.91	0	0
	1	7	24.99	24.95	24.92		0
	1	14	24.96	24.94	24.93		0
	8	0	24.07	24.01	23.99	0-1	1
	8	4	24.11	24.08	24.05		1
	8	7	24.06	24.09	24.05		1
	15	0	24.08	24.13	24.00		1
16QAM	1	0	24.41	24.38	24.17	0-1	1
	1	7	24.33	24.39	24.19		1
	1	14	24.35	24.40	24.18		1
	8	0	23.19	23.15	23.03	0-2	2
	8	4	23.26	23.24	23.14		2
	8	7	23.20	23.22	23.09		2
	15	0	23.19	23.23	23.00		2
64QAM	1	0	23.09	23.26	22.71	0-2	2
	1	7	23.04	23.30	22.86		2
	1	14	23.03	23.31	22.75		2
	8	0	22.19	22.07	22.05	0-3	3
	8	4	22.20	22.14	22.18		3
	8	7	22.13	22.12	22.14		3
	15	0	22.10	22.16	22.16		3

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Table 9-23
LTE Band 5 (Cell) Measured P_{max} -1.4 MHz Bandwidth

LTE Band 5 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20407 (824.7 MHz)	20525 (836.5 MHz)	20643 (848.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	25.05	24.82	24.91	0	0
	1	2	25.08	24.96	24.95		0
	1	5	25.03	24.88	24.91		0
	3	0	24.98	24.92	24.90		0
	3	2	24.99	25.04	24.93		0
	3	3	24.93	24.96	24.89		0
	6	0	24.01	24.06	23.97	0-1	1
16QAM	1	0	24.29	24.30	24.11	0-1	1
	1	2	24.38	24.37	24.15		1
	1	5	24.32	24.35	24.08		1
	3	0	24.19	24.03	24.15		1
	3	2	24.25	24.12	24.19		1
	3	3	24.21	24.05	24.14		1
	6	0	23.17	23.08	22.98	0-2	2
64QAM	1	0	23.44	23.19	22.86	0-2	2
	1	2	23.49	23.28	22.98		2
	1	5	23.42	23.23	22.79		2
	3	0	23.20	23.11	23.05		2
	3	2	23.24	23.20	23.07		2
	3	3	23.19	23.15	23.04		2
	6	0	22.01	22.08	22.05	0-3	3

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LTE Band 66 (AWS)

Table 9-24
LTE Band 66 (AWS) Measured P_{max} - 20 MHz Bandwidth

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132072 (1720.0 MHz)	132322 (1745.0 MHz)	132572 (1770.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	25.12	25.10	25.36	0	0
	1	50	25.26	25.27	25.27		0
	1	99	25.20	25.06	25.28		0
	50	0	24.34	24.36	24.40	0-1	1
	50	25	24.39	24.35	24.38		1
	50	50	24.35	24.32	24.37		1
	100	0	24.39	24.30	24.37		1
16QAM	1	0	24.43	24.37	24.49	0-1	1
	1	50	24.49	24.50	24.47		1
	1	99	24.41	24.33	24.50		1
	50	0	23.39	23.40	23.40	0-2	2
	50	25	23.50	23.39	23.41		2
	50	50	23.35	23.32	23.40		2
	100	0	23.34	23.34	23.32		2
64QAM	1	0	23.21	23.37	23.48	0-2	2
	1	50	23.49	23.44	23.17		2
	1	99	23.27	23.31	23.33		2
	50	0	22.34	22.39	22.43	0-3	3
	50	25	22.44	22.40	22.47		3
	50	50	22.40	22.37	22.43		3
	100	0	22.36	22.32	22.37		3

Table 9-25
LTE Band 66 (AWS) Measured P_{max} - 15 MHz Bandwidth

LTE Band 66 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132047 (1717.5 MHz)	132322 (1745.0 MHz)	132597 (1772.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	25.08	25.11	25.16	0	0
	1	36	25.22	25.28	25.19		0
	1	74	25.02	25.07	25.09		0
	36	0	24.33	24.36	24.40	0-1	1
	36	18	24.44	24.36	24.48		1
	36	37	24.34	24.35	24.43		1
	75	0	24.33	24.37	24.34		1
16QAM	1	0	24.37	24.31	24.38	0-1	1
	1	36	24.48	24.38	24.40		1
	1	74	24.26	24.24	24.41		1
	36	0	23.33	23.41	23.41	0-2	2
	36	18	23.42	23.45	23.45		2
	36	37	23.33	23.43	23.40		2
	75	0	23.40	23.44	23.35		2
64QAM	1	0	23.25	23.26	23.41	0-2	2
	1	36	23.49	23.47	23.48		2
	1	74	23.35	23.25	23.29		2
	36	0	22.42	22.50	22.44	0-3	3
	36	18	22.50	22.21	22.42		3
	36	37	22.38	22.21	22.42		3
	75	0	22.41	22.49	22.38		3

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Table 9-26
LTE Band 66 (AWS) Measured P_{max} - 10 MHz Bandwidth

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132022 (1715.0 MHz)	132322 (1745.0 MHz)	132622 (1775.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	25.00	25.07	25.11	0	0
	1	25	25.23	25.29	25.35		0
	1	49	25.00	25.07	25.10		0
	25	0	24.31	24.36	24.42	0-1	1
	25	12	24.37	24.38	24.49		1
	25	25	24.27	24.34	24.43		1
16QAM	50	0	24.33	24.38	24.37	0-1	1
	1	0	24.22	24.07	24.28		1
	1	25	24.48	24.33	24.46		1
	1	49	24.27	24.05	24.28	0-2	1
	25	0	23.37	23.36	23.40		2
	25	12	23.41	23.45	23.47		2
64QAM	25	25	23.26	23.33	23.48	0-2	2
	50	0	23.33	23.42	23.41		2
	1	0	23.37	23.20	23.39	0-2	2
	1	25	23.34	23.46	23.42		2
	1	49	23.36	23.39	23.38		2
	25	0	22.42	22.46	22.36	0-3	3
25	12	22.50	22.32	22.44	3		
25	25	22.37	22.46	22.37	3		
	50	0	22.38	22.47	22.41		3

Table 9-27
LTE Band 66 (AWS) Measured P_{max} - 5 MHz Bandwidth

LTE Band 66 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131997 (1712.5 MHz)	132322 (1745.0 MHz)	132647 (1777.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	25.23	25.25	25.32	0	0
	1	12	25.16	25.24	25.38		0
	1	24	25.05	25.19	25.25		0
	12	0	24.44	24.37	24.23	0-1	1
	12	6	24.39	24.40	24.28		1
	12	13	24.29	24.38	24.49		1
16QAM	25	0	24.35	24.39	24.33	0-1	1
	1	0	24.31	24.18	24.34		1
	1	12	24.31	24.25	24.28		1
	1	24	24.23	24.17	24.26	0-2	1
	12	0	23.45	23.50	23.32		2
	12	6	23.40	23.50	23.33		2
64QAM	12	13	23.37	23.47	23.43	0-2	2
	25	0	23.29	23.45	23.43		2
	1	0	23.33	23.43	23.41		0-2
	1	12	23.39	23.48	23.46	2	
	1	24	23.37	23.42	23.44	2	
	64QAM	12	0	22.24	22.50	22.13	0-3
12		6	22.34	22.47	22.17	3	
12		13	22.28	22.42	22.03	3	
25		0	22.25	22.45	22.10		3

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Table 9-28
LTE Band 66 (AWS) Measured P_{max} - 3 MHz Bandwidth

LTE Band 66 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131987 (1711.5 MHz)	132322 (1745.0 MHz)	132657 (1778.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	25.30	25.31	25.43	0	0
	1	7	25.17	25.26	25.36		0
	1	14	25.22	25.30	25.31		0
	8	0	24.41	24.41	24.37	0-1	1
	8	4	24.37	24.47	24.33		1
	8	7	24.37	24.36	24.48		1
15	0	24.40	24.47	24.48		1	
16QAM	1	0	24.41	24.48	24.36	0-1	1
	1	7	24.33	24.46	24.33		1
	1	14	24.29	24.50	24.29		1
	8	0	23.36	23.42	23.23	0-2	2
	8	4	23.23	23.47	23.30		2
	8	7	23.45	23.48	23.25		2
15	0	23.22	23.43	23.45		2	
64QAM	1	0	23.46	23.44	23.31	0-2	2
	1	7	23.42	23.41	23.35		2
	1	14	23.31	23.49	23.35		2
	8	0	22.41	22.14	21.98	0-3	3
	8	4	22.44	22.24	21.94		3
	8	7	22.48	22.12	22.47		3
	15	0	22.48	22.50	22.39		3

Table 9-29
LTE Band 66 (AWS) Measured P_{max} -1.4 MHz Bandwidth

LTE Band 66 (AWS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131979 (1710.7 MHz)	132322 (1745.0 MHz)	132665 (1779.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	25.21	25.33	25.33	0	0
	1	2	25.27	25.40	25.33		0
	1	5	25.15	25.28	25.25		0
	3	0	25.24	25.33	25.39		0
	3	2	25.27	25.29	25.35		0
	3	3	25.25	25.26	25.31		0
	6	0	24.32	24.36	24.46	0-1	1
16QAM	1	0	24.20	24.23	24.16	0-1	1
	1	2	24.25	24.22	24.22		1
	1	5	24.19	24.12	24.13		1
	3	0	23.99	24.12	24.30		1
	3	2	23.92	24.11	24.30		1
	3	3	23.94	24.05	24.27	1	
64QAM	6	0	23.36	23.47	23.32	0-2	2
	1	0	23.32	23.38	23.35	0-2	2
	1	2	23.36	23.43	23.38		2
	1	5	23.32	23.36	23.32		2
	3	0	23.41	23.46	23.20		2
	3	2	23.33	23.47	23.20		2
	3	3	23.44	23.42	23.15	2	
	6	0	22.31	22.32	22.36	0-3	3

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Table 9-30
LTE Band 66 (AWS) Measured P_{limit} for DSI = 6 (Dual Display Cover 0° or 360°) or DSI = 7 (Dual Display Cover 180°) -20 MHz Bandwidth

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132072 (1720.0 MHz)	132322 (1745.0 MHz)	132572 (1770.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.55	23.61	23.99	0	0
	1	50	23.55	23.82	23.83		0
	1	99	23.57	23.60	23.88		0
	50	0	23.76	23.87	23.93	0-1	0
	50	25	23.90	23.93	23.94		0
	50	50	23.79	23.87	23.92		0
	100	0	23.84	23.81	23.89		0
16QAM	1	0	24.18	24.16	24.40	0-1	0
	1	50	24.33	24.40	24.33		0
	1	99	24.13	24.23	24.25		0
	50	0	23.14	23.22	23.21	0-2	1
	50	25	23.26	23.26	23.18		1
	50	50	23.10	23.22	23.23		1
	100	0	23.21	23.18	23.20		1
64QAM	1	0	22.80	23.24	23.49	0-2	1
	1	50	23.45	23.42	23.44		1
	1	99	23.29	23.30	23.04		1
	50	0	22.20	22.28	22.28	0-3	2
	50	25	22.30	22.29	22.30		2
	50	50	22.21	22.29	22.25		2
	100	0	22.18	22.22	22.24		2

Table 9-31
LTE Band 66 (AWS) Measured P_{limit} for DSI = 6 (Dual Display Cover 0° or 360°) or DSI = 7 (Dual Display Cover 180°) -15 MHz Bandwidth

LTE Band 66 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132047 (1717.5 MHz)	132322 (1745.0 MHz)	132597 (1772.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.59	23.55	23.65	0	0
	1	36	23.68	23.67	23.72		0
	1	74	23.44	23.45	23.55		0
	36	0	23.61	23.74	23.80	0-1	0
	36	18	23.73	23.76	23.91		0
	36	37	23.63	23.76	23.78		0
16QAM	75	0	23.64	23.63	23.74	0-1	0
	1	0	23.60	24.02	23.74		0
	1	36	23.75	24.19	23.83		0
	1	74	23.56	23.93	23.69	0-2	0
	36	0	23.07	23.25	23.30		1
	36	18	23.20	23.24	23.38		1
64QAM	36	37	23.08	23.27	23.26	0-2	1
	75	0	23.10	23.20	23.22		1
	1	0	22.84	22.70	22.88	0-2	1
	1	36	23.07	22.76	22.74		1
	1	74	22.84	22.87	22.78		1
	36	0	22.01	21.95	22.00	0-3	2
	36	18	21.90	21.95	22.09		2
	36	37	21.79	21.94	22.01		2
	75	0	21.87	21.88	21.86		2

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Table 9-32
LTE Band 66 (AWS) Measured P_{limit} for DSI = 6 (Dual Display Cover 0° or 360°) or DSI = 7 (Dual Display Cover 180°) -10 MHz Bandwidth

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132022 (1715.0 MHz)	132322 (1745.0 MHz)	132622 (1775.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.63	23.77	23.77	0	0
	1	25	23.82	24.04	23.99		0
	1	49	23.60	23.82	23.83		0
	25	0	24.02	24.11	24.15	0-1	0
	25	12	24.12	24.14	24.22		0
	25	25	23.97	24.10	24.16		0
	50	0	24.06	24.05	24.12		0
16QAM	1	0	23.62	24.22	23.69	0-1	0
	1	25	23.79	24.48	24.01		0
	1	49	23.55	24.31	23.71		0
	25	0	23.06	23.09	23.22	0-2	1
	25	12	23.13	23.18	23.25		1
	25	25	23.07	23.10	23.20		1
	50	0	23.02	23.06	23.07		1
64QAM	1	0	22.92	22.58	22.93	0-2	1
	1	25	23.07	22.94	23.29		1
	1	49	22.87	22.71	22.98		1
	25	0	22.06	22.07	22.13	0-3	2
	25	12	22.10	22.17	22.22		2
	25	25	21.97	22.12	22.17		2
	50	0	21.92	22.00	22.04		2

Table 9-33
LTE Band 66 (AWS) Measured P_{limit} for DSI = 6 (Dual Display Cover 0° or 360°) or DSI = 7 (Dual Display Cover 180°) -5 MHz Bandwidth

LTE Band 66 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131997 (1712.5 MHz)	132322 (1745.0 MHz)	132647 (1777.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.69	23.88	23.97	0	0
	1	12	23.66	23.97	23.96		0
	1	24	23.62	23.88	23.88		0
	12	0	23.93	24.03	24.09	0-1	0
	12	6	23.93	24.00	24.10		0
	12	13	23.80	23.92	24.03		0
	25	0	23.90	23.98	24.09		0
16QAM	1	0	23.98	24.20	24.14	0-1	0
	1	12	23.92	24.10	24.08		0
	1	24	23.87	23.99	24.05		0
	12	0	23.17	23.28	23.38	0-2	1
	12	6	23.17	23.31	23.37		1
	12	13	23.08	23.29	23.28		1
	25	0	23.09	23.25	23.27		1
64QAM	1	0	23.26	23.35	23.08	0-2	1
	1	12	23.24	23.41	23.01		1
	1	24	23.16	23.30	23.04		1
	12	0	21.97	22.24	22.41	0-3	2
	12	6	22.08	22.22	22.38		2
	12	13	22.08	22.19	22.31		2
	25	0	21.95	22.16	22.29		2

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Table 9-34
LTE Band 66 (AWS) Measured P_{limit} for DSI = 6 (Dual Display Cover 0° or 360°) or DSI = 7 (Dual Display Cover 180°) -3 MHz Bandwidth

LTE Band 66 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131987 (1711.5 MHz)	132322 (1745.0 MHz)	132657 (1778.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.87	23.90	23.94	0	0
	1	7	23.80	23.90	23.88		0
	1	14	23.74	23.86	23.87		0
	8	0	23.95	23.97	24.11	0-1	0
	8	4	23.99	24.05	24.07		0
	8	7	23.91	24.02	24.01		0
	15	0	23.94	24.04	24.06		0
16QAM	1	0	23.95	24.35	23.94	0-1	0
	1	7	23.88	24.37	23.81		0
	1	14	23.82	24.31	23.77		0
	8	0	23.24	23.34	23.28	0-2	1
	8	4	23.23	23.42	23.31		1
	8	7	23.18	23.33	23.24		1
	15	0	23.27	23.28	23.31		1
64QAM	1	0	23.43	23.03	23.48	0-2	1
	1	7	23.37	23.06	23.37		1
	1	14	23.29	22.99	23.31		1
	8	0	21.99	22.17	22.20	0-3	2
	8	4	21.99	22.28	22.23		2
	8	7	22.03	22.15	22.18		2
	15	0	22.03	22.24	22.20		2

Table 9-35
LTE Band 66 (AWS) Measured P_{limit} for DSI = 6 (Dual Display Cover 0° or 360°) or DSI = 7 (Dual Display Cover 180°) -1.4 MHz Bandwidth

LTE Band 66 (AWS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131979 (1710.7 MHz)	132322 (1745.0 MHz)	132665 (1779.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.89	23.70	23.81	0	0
	1	2	23.87	23.84	23.82		0
	1	5	23.81	23.77	23.71		0
	3	0	23.77	23.75	23.89		0
	3	2	23.74	23.79	23.89		0
	3	3	23.68	23.74	23.83		0
	6	0	23.83	23.87	23.90	0-1	0
16QAM	1	0	23.76	24.35	23.83	0-1	0
	1	2	23.85	24.45	23.87		0
	1	5	23.71	24.36	23.84		0
	3	0	24.09	24.24	24.15		0
	3	2	24.18	24.39	24.24		0
	3	3	24.11	24.33	24.16		0
64QAM	6	0	23.17	23.27	23.31	0-2	1
	1	0	22.88	22.65	22.87	0-2	1
	1	2	22.93	22.63	22.89		1
	1	5	22.74	22.71	22.84		1
	3	0	22.96	22.76	22.79		1
	3	2	22.97	22.87	22.83		1
	3	3	22.87	22.78	22.77		1
	6	0	21.66	21.84	22.00	0-3	2

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Table 9-36
LTE Band 66 (AWS) Measured P_{limit} for DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor active) -20 MHz Bandwidth

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132072 (1720.0 MHz)	132322 (1745.0 MHz)	132572 (1770.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	21.46	21.45	21.84	0	0
	1	50	21.54	21.67	21.62		0
	1	99	21.43	21.39	21.66		0
	50	0	21.64	21.72	21.76	0-1	0
	50	25	21.72	21.74	21.69		0
	50	50	21.70	21.73	21.73		0
	100	0	21.72	21.70	21.74		0
16QAM	1	0	21.47	21.63	22.11	0-1	0
	1	50	21.91	21.39	21.96		0
	1	99	21.75	21.76	21.99		0
	50	0	21.82	21.75	21.73	0-2	0
	50	25	21.81	21.75	21.83		0
	50	50	21.69	21.76	21.74		0
	100	0	21.55	21.68	21.65		0
64QAM	1	0	21.43	21.51	21.95	0-2	0
	1	50	21.85	21.88	21.83		0
	1	99	21.61	21.72	21.95		0
	50	0	21.71	21.74	21.71	0-3	0
	50	25	21.84	21.77	21.79		0
	50	50	21.68	21.74	21.73		0
	100	0	21.74	21.62	21.72		0

Table 9-37
LTE Band 66 (AWS) Measured P_{limit} for DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor active) -15 MHz Bandwidth

LTE Band 66 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132047 (1717.5 MHz)	132322 (1745.0 MHz)	132597 (1772.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	21.42	21.41	21.46	0	0
	1	36	21.44	21.48	21.42		0
	1	74	21.30	21.32	21.34		0
	36	0	21.50	21.55	21.59	0-1	0
	36	18	21.57	21.56	21.58		0
	36	37	21.51	21.56	21.58		0
	75	0	21.53	21.50	21.52		0
16QAM	1	0	21.92	22.14	22.05	0-1	0
	1	36	21.98	22.24	22.07		0
	1	74	21.83	22.07	21.86		0
	36	0	21.62	21.65	21.65	0-2	0
	36	18	21.64	21.61	21.66		0
	36	37	21.61	21.60	21.64		0
	75	0	21.59	21.55	21.56		0
64QAM	1	0	21.44	21.85	22.08	0-2	0
	1	36	21.49	21.96	22.10		0
	1	74	21.40	21.87	21.96		0
	36	0	21.63	21.68	21.67	0-3	0
	36	18	21.71	21.66	21.62		0
	36	37	21.65	21.65	21.63		0
	75	0	21.60	21.55	21.61		0

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Table 9-38
LTE Band 66 (AWS) Measured P_{limit} for DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor active) -10 MHz Bandwidth

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132022 (1715.0 MHz)	132322 (1745.0 MHz)	132622 (1775.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	21.23	21.16	21.31	0	0
	1	25	21.41	21.39	21.52		0
	1	49	21.20	21.19	21.30		0
	25	0	21.47	21.43	21.51	0-1	0
	25	12	21.53	21.48	21.55		0
	25	25	21.40	21.42	21.53		0
	50	0	21.44	21.38	21.48		0
16QAM	1	0	22.02	21.50	21.87	0-1	0
	1	25	22.20	21.80	22.17		0
	1	49	21.90	21.77	21.85		0
	25	0	21.53	21.46	21.48	0-2	0
	25	12	21.59	21.54	21.56		0
	25	25	21.46	21.47	21.49		0
	50	0	21.44	21.45	21.45		0
64QAM	1	0	21.78	21.67	21.34	0-2	0
	1	25	21.96	21.66	21.64		0
	1	49	21.76	21.70	21.37		0
	25	0	21.53	21.45	21.61	0-3	0
	25	12	21.58	21.52	21.67		0
	25	25	21.46	21.48	21.59		0
	50	0	21.52	21.46	21.54		0

Table 9-39
LTE Band 66 (AWS) Measured P_{limit} for DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor active) -5 MHz Bandwidth

LTE Band 66 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131997 (1712.5 MHz)	132322 (1745.0 MHz)	132647 (1777.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	21.43	21.42	21.53	0	0
	1	12	21.37	21.41	21.57		0
	1	24	21.31	21.40	21.49		0
	12	0	21.62	21.59	21.66	0-1	0
	12	6	21.60	21.56	21.64		0
	12	13	21.49	21.55	21.55		0
	25	0	21.56	21.53	21.60		0
16QAM	1	0	21.85	21.78	21.98	0-1	0
	1	12	21.84	21.81	22.05		0
	1	24	21.77	21.76	21.99		0
	12	0	21.69	21.69	21.77	0-2	0
	12	6	21.70	21.63	21.73		0
	12	13	21.57	21.65	21.70		0
	25	0	21.54	21.59	21.69		0
64QAM	1	0	21.63	21.96	21.91	0-2	0
	1	12	21.59	21.99	21.94		0
	1	24	21.51	21.98	21.84		0
	12	0	21.54	21.67	21.72	0-3	0
	12	6	21.53	21.70	21.76		0
	12	13	21.42	21.65	21.61		0
	25	0	21.56	21.58	21.64		0

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Table 9-40
LTE Band 66 (AWS) Measured P_{limit} for DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor active) -3 MHz Bandwidth

LTE Band 66 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131987 (1711.5 MHz)	132322 (1745.0 MHz)	132657 (1778.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	21.55	21.62	21.66	0	0
	1	7	21.46	21.58	21.53		0
	1	14	21.43	21.57	21.51		0
	8	0	21.65	21.59	21.67	0-1	0
	8	4	21.58	21.64	21.66		0
	8	7	21.54	21.60	21.59		0
	15	0	21.59	21.58	21.66		0
16QAM	1	0	21.84	21.74	21.97	0-1	0
	1	7	21.76	21.56	21.71		0
	1	14	21.71	21.57	21.70		0
	8	0	21.66	21.55	21.68	0-2	0
	8	4	21.68	21.59	21.70		0
	8	7	21.60	21.54	21.65		0
	15	0	21.66	21.69	21.72		0
64QAM	1	0	22.03	21.64	22.05	0-2	0
	1	7	21.90	21.60	22.00		0
	1	14	21.91	21.58	21.97		0
	8	0	21.68	21.67	21.72	0-3	0
	8	4	21.62	21.69	21.66		0
	8	7	21.57	21.65	21.63		0
	15	0	21.71	21.73	21.64		0

Table 9-41
LTE Band 66 (AWS) Measured P_{limit} for DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor active) -1.4 MHz Bandwidth

LTE Band 66 (AWS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131979 (1710.7 MHz)	132322 (1745.0 MHz)	132665 (1779.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	21.50	21.50	21.53	0	0
	1	2	21.56	21.54	21.57		0
	1	5	21.47	21.47	21.51		0
	3	0	21.46	21.50	21.53		0
	3	2	21.47	21.53	21.52		0
	3	3	21.44	21.47	21.48		0
	6	0	21.58	21.58	21.58	0-1	0
16QAM	1	0	21.87	21.81	22.07	0-1	0
	1	2	21.94	21.85	22.14		0
	1	5	21.80	21.74	21.91		0
	3	0	21.68	21.69	21.65		0
	3	2	21.66	21.66	21.67		0
	3	3	21.61	21.64	21.62		0
	6	0	21.59	21.69	21.59	0-2	0
64QAM	1	0	22.07	21.94	21.60	0-2	0
	1	2	22.10	21.98	21.62		0
	1	5	22.04	21.91	21.53		0
	3	0	21.63	21.62	21.68		0
	3	2	21.64	21.62	21.69		0
	3	3	21.61	21.60	21.65		0
	6	0	21.50	21.61	21.71	0-3	0

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Table 9-42
LTE Band 66 Ant 3 (AWS) Measured P_{max} - 20 MHz Bandwidth

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132072 (1720.0 MHz)	132322 (1745.0 MHz)	132572 (1770.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	17.16	16.80	17.13	0	0
	1	50	17.10	17.09	16.98		0
	1	99	16.95	16.89	17.15		0
	50	0	17.10	17.19	17.12	0-1	0
	50	25	17.27	17.25	17.24		0
	50	50	17.16	17.21	17.20		0
	100	0	17.15	17.09	17.14		0
16QAM	1	0	16.80	16.88	17.18	0-1	0
	1	50	17.07	17.14	17.10		0
	1	99	16.79	16.90	17.01		0
	50	0	17.14	17.19	17.14	0-2	0
	50	25	17.23	17.24	17.21		0
	50	50	17.09	17.20	17.24		0
	100	0	17.21	17.15	17.11		0
64QAM	1	0	16.43	16.74	17.15	0-2	0
	1	50	17.14	17.17	17.22		0
	1	99	16.76	16.81	16.73		0
	50	0	17.12	17.20	17.16	0-3	0
	50	25	17.27	17.28	17.24		0
	50	50	17.17	17.23	17.22		0
	100	0	17.21	17.19	17.16		0

Table 9-43
LTE Band 66 Ant 3 (AWS) Measured P_{max} - 15 MHz Bandwidth

LTE Band 66 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132047 (1717.5 MHz)	132322 (1745.0 MHz)	132597 (1772.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	17.09	17.00	16.95	0	0
	1	36	17.10	17.13	16.98		0
	1	74	16.86	16.92	17.09		0
	36	0	17.17	17.21	17.18	0-1	0
	36	18	17.25	17.24	17.33		0
	36	37	17.18	17.27	17.27		0
	75	0	17.19	17.18	17.22		0
16QAM	1	0	17.32	17.01	16.86	0-1	0
	1	36	17.16	17.23	17.07		0
	1	74	16.91	16.96	17.60		0
	36	0	17.18	17.27	17.25	0-2	0
	36	18	17.29	17.24	17.35		0
	36	37	17.24	17.28	17.26		0
	75	0	17.20	17.18	17.26		0
64QAM	1	0	16.73	16.97	17.31	0-2	0
	1	36	17.15	17.24	17.27		0
	1	74	16.97	17.01	16.88		0
	36	0	17.23	17.28	17.30	0-3	0
	36	18	17.25	17.25	17.34		0
	36	37	17.26	17.27	17.33		0
	75	0	17.23	17.18	17.23		0

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Table 9-44
LTE Band 66 Ant 3 (AWS) Measured P_{max} - 10 MHz Bandwidth

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132022 (1715.0 MHz)	132322 (1745.0 MHz)	132622 (1775.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	16.84	16.75	16.63	0	0
	1	25	16.91	16.99	16.88		0
	1	49	16.74	16.80	16.84		0
	25	0	16.95	16.94	16.96	0-1	0
	25	12	17.04	17.06	17.07		0
	25	25	16.94	17.03	17.00		0
	50	0	16.99	16.92	16.94		0
16QAM	1	0	16.58	16.80	17.05	0-1	0
	1	25	17.23	17.16	17.26		0
	1	49	16.84	16.88	16.94		0
	25	0	17.09	16.99	17.07	0-2	0
	25	12	17.07	17.01	17.08		0
	25	25	17.06	17.08	17.07		0
	50	0	16.94	16.92	16.95		0
64QAM	1	0	16.83	16.84	16.89	0-2	0
	1	25	17.00	17.07	17.12		0
	1	49	16.95	16.89	16.90		0
	25	0	17.04	16.94	16.99	0-3	0
	25	12	17.10	17.08	17.05		0
	25	25	16.99	17.06	17.06		0
	50	0	16.98	16.97	16.97		0

Table 9-45
LTE Band 66 Ant 3 (AWS) Measured P_{max} - 5 MHz Bandwidth

LTE Band 66 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131997 (1712.5 MHz)	132322 (1745.0 MHz)	132647 (1777.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	16.89	16.92	16.94	0	0
	1	12	16.94	16.97	16.99		0
	1	24	16.89	16.84	16.87		0
	12	0	17.01	17.04	17.08	0-1	0
	12	6	17.04	17.05	17.10		0
	12	13	16.90	17.08	17.01		0
	25	0	17.03	17.02	17.07		0
16QAM	1	0	17.26	17.11	17.57	0-1	0
	1	12	17.18	17.17	17.15		0
	1	24	17.17	17.10	17.03		0
	12	0	17.21	17.13	17.14	0-2	0
	12	6	17.17	17.15	17.25		0
	12	13	17.06	17.08	17.13		0
	25	0	16.98	17.02	17.06		0
64QAM	1	0	16.94	16.99	17.05	0-2	0
	1	12	16.99	17.01	16.99		0
	1	24	16.85	16.94	16.88		0
	12	0	17.08	17.09	17.09	0-3	0
	12	6	17.07	17.01	17.15		0
	12	13	17.02	17.13	17.01		0
	25	0	17.07	17.04	17.08		0

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Table 9-46
LTE Band 66 Ant 3 (AWS) Measured P_{max} - 3 MHz Bandwidth

LTE Band 66 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131987 (1711.5 MHz)	132322 (1745.0 MHz)	132657 (1778.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	16.99	16.85	17.04	0	0
	1	7	16.97	16.96	16.97		0
	1	14	16.87	16.94	16.86		0
	8	0	17.05	17.06	17.17	0-1	0
	8	4	17.07	17.14	17.14		0
	8	7	17.02	17.03	17.06		0
	15	0	17.04	17.06	17.08		0
16QAM	1	0	17.32	17.25	17.33	0-1	0
	1	7	17.24	17.18	17.20		0
	1	14	17.15	17.11	17.19		0
	8	0	16.96	17.02	17.04	0-2	0
	8	4	16.98	17.03	16.99		0
	8	7	16.94	17.00	17.01		0
	15	0	17.09	17.07	17.16		0
64QAM	1	0	16.97	16.93	17.04	0-2	0
	1	7	16.96	17.02	16.93		0
	1	14	17.00	16.95	16.99		0
	8	0	17.07	16.99	17.02	0-3	0
	8	4	17.04	17.05	17.02		0
	8	7	16.95	17.00	17.01		0
	15	0	17.07	17.06	17.16		0

Table 9-47
LTE Band 66 Ant 3 (AWS) Measured P_{max} -1.4 MHz Bandwidth

LTE Band 66 (AWS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131979 (1710.7 MHz)	132322 (1745.0 MHz)	132665 (1779.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	16.86	16.90	16.93	0	0
	1	2	16.97	17.01	16.95		0
	1	5	16.88	16.81	16.92		0
	3	0	16.89	17.00	16.96		0
	3	2	16.93	16.97	16.96		0
	3	3	16.98	17.06	16.99		0
	6	0	16.95	17.08	17.01	0-1	0
16QAM	1	0	17.21	17.16	17.27	0-1	0
	1	2	17.21	17.12	17.22		0
	1	5	17.16	17.10	17.10		0
	3	0	17.04	17.10	16.97		0
	3	2	17.05	17.07	17.04		0
	3	3	16.90	16.93	16.95		0
	6	0	17.09	17.10	17.04	0-2	0
64QAM	1	0	16.91	17.00	16.96	0-2	0
	1	2	17.00	17.14	17.11		0
	1	5	16.89	16.91	16.86		0
	3	0	17.04	17.15	17.08		0
	3	2	17.03	17.11	17.11		0
	3	3	16.99	17.05	17.10		0
	6	0	17.06	17.09	17.04	0-3	0

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LTE Band 2 (PCS)

Table 9-48
LTE Band 2 (PCS) Ant 3 Measured P_{max} - 20 MHz Bandwidth

LTE Band 2 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			18700 (1860.0 MHz)	18900 (1880.0 MHz)	19100 (1900.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	17.47	17.13	16.87	0	0
	1	50	17.31	17.03	16.88		0
	1	99	17.25	16.91	17.13		0
	50	0	17.36	17.27	17.06	0-1	0
	50	25	17.53	17.33	17.19		0
	50	50	17.52	17.26	17.13		0
	100	0	17.46	17.19	17.09		0
16QAM	1	0	17.54	17.18	16.98	0-1	0
	1	50	17.35	17.33	16.86		0
	1	99	17.26	17.02	17.42		0
	50	0	17.35	17.22	17.06	0-2	0
	50	25	17.59	17.31	17.20		0
	50	50	17.52	17.24	17.17		0
	100	0	17.49	17.26	17.13		0
64QAM	1	0	17.38	17.39	17.04	0-2	0
	1	50	17.52	17.34	17.13		0
	1	99	17.40	17.15	16.97		0
	50	0	17.41	17.32	17.08	0-3	0
	50	25	17.60	17.42	17.23		0
	50	50	17.55	17.33	17.22		0
	100	0	17.43	17.25	17.08		0

Table 9-49
LTE Band 2 (PCS) Ant 3 Measured P_{max} - 15 MHz Bandwidth

LTE Band 2 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			18675 (1857.5 MHz)	18900 (1880.0 MHz)	19125 (1902.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	17.24	17.21	17.08	0	0
	1	36	17.44	17.12	17.06		0
	1	74	17.38	17.01	17.15		0
	36	0	17.43	16.96	17.08	0-1	0
	36	18	17.54	16.99	17.16		0
	36	37	17.49	16.97	17.26		0
	75	0	17.43	16.95	17.12		0
16QAM	1	0	17.60	17.23	17.25	0-1	0
	1	36	17.68	17.24	17.38		0
	1	74	17.56	17.13	17.51		0
	36	0	17.47	16.94	17.09	0-2	0
	36	18	17.52	16.96	17.22		0
	36	37	17.48	16.91	17.23		0
	75	0	17.55	16.96	17.18		0
64QAM	1	0	17.20	17.07	17.11	0-2	0
	1	36	17.47	17.08	17.12		0
	1	74	17.40	17.25	17.03		0
	36	0	17.45	17.18	17.01	0-3	0
	36	18	17.51	17.21	17.11		0
	36	37	17.48	17.20	17.23		0
	75	0	17.54	17.27	17.16		0

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Table 9-50
LTE Band 2 (PCS) Ant 3 Measured P_{max} - 10 MHz Bandwidth

LTE Band 2 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			18650 (1855.0 MHz)	18900 (1880.0 MHz)	19150 (1905.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	16.97	16.94	16.63	0	0
	1	25	17.30	17.16	16.71		0
	1	49	17.01	16.91	16.72		0
	25	0	17.28	17.09	16.62	0-1	0
	25	12	17.44	17.15	16.77		0
	25	25	17.28	17.00	16.68		0
	50	0	17.28	17.03	16.62		0
16QAM	1	0	17.13	17.04	16.53	0-1	0
	1	25	17.55	17.40	16.70		0
	1	49	17.20	17.07	16.77		0
	25	0	17.28	17.09	16.65	0-2	0
	25	12	17.37	17.14	16.77		0
	25	25	17.34	17.02	16.70		0
	50	0	17.25	16.96	16.67		0
64QAM	1	0	17.18	16.92	16.66	0-2	0
	1	25	17.48	17.29	16.62		0
	1	49	17.29	16.90	16.71		0
	25	0	17.33	17.12	16.72	0-3	0
	25	12	17.44	17.26	16.92		0
	25	25	17.28	17.03	16.81		0
	50	0	17.30	17.03	16.72		0

Table 9-51
LTE Band 2 (PCS) Ant 3 Measured P_{max} - 5 MHz Bandwidth

LTE Band 2 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			18625 (1852.5 MHz)	18900 (1880.0 MHz)	19175 (1907.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	16.91	16.77	16.53	0	0
	1	12	17.02	16.88	16.66		0
	1	24	16.88	16.64	16.65		0
	12	0	17.14	16.90	16.78	0-1	0
	12	6	17.13	16.88	16.84		0
	12	13	17.07	16.75	16.70		0
	25	0	17.06	16.83	16.75		0
16QAM	1	0	17.03	16.75	16.68	0-1	0
	1	12	17.04	16.88	16.79		0
	1	24	17.00	16.76	16.76		0
	12	0	17.14	16.95	16.84	0-2	0
	12	6	17.23	17.02	16.90		0
	12	13	17.17	16.91	16.87		0
	25	0	17.04	16.83	16.74		0
64QAM	1	0	16.96	16.75	16.65	0-2	0
	1	12	16.99	16.89	16.72		0
	1	24	16.94	16.62	16.69		0
	12	0	17.13	16.90	16.76	0-3	0
	12	6	17.18	16.86	16.85		0
	12	13	17.02	16.84	16.82		0
	25	0	17.20	16.96	16.90		0

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Table 9-52
LTE Band 2 (PCS) Ant 3 Measured P_{max} - 3 MHz Bandwidth

LTE Band 2 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			18615 (1851.5 MHz)	18900 (1880.0 MHz)	19185 (1908.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	16.97	16.77	16.69	0	0
	1	7	17.01	16.84	16.72		0
	1	14	17.00	16.75	16.78		0
	8	0	17.12	16.91	16.81	0-1	0
	8	4	17.18	16.96	16.85		0
	8	7	16.99	16.80	16.86		0
16QAM	15	0	17.13	16.91	16.85		0
	1	0	17.12	16.85	16.80	0-1	0
	1	7	17.04	16.92	16.82		0
	1	14	17.05	16.80	16.86		0
	8	0	17.10	16.89	16.84	0-2	0
	8	4	17.06	16.97	16.85		0
8	7	17.08	16.79	16.80	0		
64QAM	15	0	17.09	16.94	16.89		0
	1	0	17.07	16.85	16.72	0-2	0
	1	7	16.99	16.86	16.73		0
	1	14	17.07	16.67	16.70		0
	8	0	17.12	16.90	16.88	0-3	0
	8	4	17.13	16.92	16.87		0
8	7	17.02	16.83	16.81	0		
	15	0	17.14	16.92	16.90		0

Table 9-53
LTE Band 2 (PCS) Ant 3 Measured P_{max} - 1.4 MHz Bandwidth

LTE Band 2 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			18607 (1850.7 MHz)	18900 (1880.0 MHz)	19193 (1909.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	17.01	16.83	16.66	0	0
	1	2	16.99	16.84	16.72		0
	1	5	16.92	16.81	16.67		0
	3	0	17.05	16.84	16.74		0
	3	2	17.02	16.88	16.73		0
	3	3	17.05	16.87	16.69		0
	6	0	16.98	16.86	16.78	0-1	0
16QAM	1	0	17.08	16.90	16.80	0-1	0
	1	2	17.12	16.92	16.87		0
	1	5	17.03	16.79	16.73		0
	3	0	17.30	17.13	16.99		0
	3	2	17.35	17.14	17.12		0
	3	3	17.22	17.06	17.00		0
	6	0	17.01	16.89	16.74	0-2	0
64QAM	1	0	17.00	16.78	16.68	0-2	0
	1	2	17.01	16.80	16.76		0
	1	5	16.97	16.71	16.65		0
	3	0	17.04	16.87	16.81		0
	3	2	17.09	16.92	16.86		0
	3	3	17.04	16.84	16.79		0
	6	0	17.03	16.86	16.74	0-3	0

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LTE Band 25 (PCS)

Table 9-54
LTE Band 25 (PCS) Measured P_{max} - 20 MHz Bandwidth

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26140 (1860.0 MHz)	26365 (1882.5 MHz)	26590 (1905.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.63	24.86	24.83	0	0
	1	50	24.61	24.88	24.85		0
	1	99	24.64	24.91	24.86		0
	50	0	23.82	23.89	23.91	0-1	1
	50	25	23.92	23.90	23.98		1
	50	50	23.92	23.99	23.94		1
16QAM	100	0	23.80	23.83	23.85	0-1	1
	1	0	24.31	24.43	24.30		1
	1	50	24.33	24.41	24.27		1
	1	99	24.34	24.47	24.29	0-2	1
	50	0	22.87	22.92	22.89		2
	50	25	22.97	22.91	22.97		2
64QAM	50	50	22.95	23.01	22.93	0-2	2
	100	0	22.84	22.85	22.87		2
	1	0	23.32	23.20	23.10		0-2
	1	50	23.48	23.25	23.11	2	
	1	99	23.47	23.26	23.19	2	
	50	0	21.91	22.02	21.95	0-3	3
50	25	21.95	22.01	22.01	3		
50	50	21.92	22.04	21.99	3		
	100	0	21.84	21.88	21.90		3

Table 9-55
LTE Band 25 (PCS) Measured P_{max} - 15 MHz Bandwidth

LTE Band 25 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26115 (1857.5 MHz)	26365 (1882.5 MHz)	26615 (1907.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.62	24.69	24.55	0	0
	1	36	24.71	24.77	24.58		0
	1	74	24.68	24.68	24.51		0
	36	0	23.70	23.71	23.75	0-1	1
	36	18	23.89	23.82	23.85		1
	36	37	23.87	23.87	23.92		1
	75	0	23.78	23.71	23.76		1
16QAM	1	0	24.19	24.21	24.27	0-1	1
	1	36	24.44	24.22	24.31		1
	1	74	24.30	24.18	24.22		1
	36	0	22.70	22.76	22.77	0-2	2
	36	18	22.84	22.89	22.89		2
	36	37	22.81	22.91	22.93		2
	75	0	22.81	22.77	22.78		2
64QAM	1	0	23.09	23.36	23.21	0-2	2
	1	36	23.41	23.39	23.31		2
	1	74	23.27	23.34	23.19		2
	36	0	21.75	21.85	21.77	0-3	3
	36	18	21.95	21.98	21.88		3
	36	37	21.89	22.01	21.94		3
	75	0	21.81	21.82	21.79		3

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Table 9-56
LTE Band 25 (PCS) Measured P_{max} - 10 MHz Bandwidth

LTE Band 25 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26090 (1855.0 MHz)	26365 (1882.5 MHz)	26640 (1910.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.49	24.50	24.67	0	0
	1	25	24.73	24.70	24.71		0
	1	49	24.50	24.51	24.69		0
	25	0	23.82	23.78	23.71	0-1	1
	25	12	23.92	23.87	23.83		1
	25	25	23.85	23.87	23.83		1
16QAM	50	0	23.85	23.80	23.79		1
	1	0	24.26	23.98	24.35	0-1	1
	1	25	24.48	24.27	24.41		1
	1	49	24.25	24.03	24.42		1
	25	0	22.87	22.80	22.72	0-2	2
	25	12	22.96	22.89	22.81		2
25	25	22.87	22.90	22.85	2		
64QAM	50	0	22.87	22.83	22.78		2
	1	0	23.30	23.09	23.17	0-2	2
	1	25	23.44	23.41	23.16		2
	1	49	23.24	23.17	23.27		2
	25	0	21.93	21.91	21.85	0-3	3
	25	12	21.96	21.98	22.02		3
25	25	21.93	22.00	21.98	3		
	50	0	21.93	21.88	21.77		3

Table 9-57
LTE Band 25 (PCS) Measured P_{max} - 5 MHz Bandwidth

LTE Band 25 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26065 (1852.5 MHz)	26365 (1882.5 MHz)	26665 (1912.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.66	24.62	24.66	0	0
	1	12	24.69	24.70	24.60		0
	1	24	24.70	24.71	24.70		0
	12	0	23.84	23.81	23.84	0-1	1
	12	6	23.93	23.89	23.91		1
	12	13	23.92	23.95	23.86		1
	25	0	23.91	23.83	23.89		1
16QAM	1	0	24.18	24.10	24.34	0-1	1
	1	12	24.18	24.18	24.25		1
	1	24	24.22	24.25	24.32		1
	12	0	22.99	22.79	22.89	0-2	2
	12	6	22.98	22.83	22.94		2
	12	13	22.98	22.90	22.93		2
	25	0	22.94	22.83	22.77		2
64QAM	1	0	23.43	23.29	23.17	0-2	2
	1	12	23.44	23.36	23.10		2
	1	24	23.46	23.42	23.12		2
	12	0	21.93	21.88	21.79	0-3	3
	12	6	22.02	21.92	21.84		3
	12	13	21.99	21.93	21.82		3
	25	0	21.94	21.94	21.86		3

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Table 9-58
LTE Band 25 (PCS) Measured P_{max} - 3 MHz Bandwidth

LTE Band 25 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26055 (1851.5 MHz)	26365 (1882.5 MHz)	26675 (1913.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.71	24.64	24.67	0	0
	1	7	24.66	24.74	24.73		0
	1	14	24.73	24.77	24.73		0
	8	0	23.88	23.84	23.81	0-1	1
	8	4	23.92	23.91	23.87		1
	8	7	23.92	23.91	23.84		1
15	0	23.93	23.89	23.86	1		
16QAM	1	0	24.35	24.43	24.47	0-1	1
	1	7	24.30	24.46	24.43		1
	1	14	24.35	24.36	24.32		1
	8	0	22.96	22.88	22.91	0-2	2
	8	4	23.01	22.98	22.91		2
	8	7	23.01	22.99	22.92		2
15	0	23.00	22.88	22.94	2		
64QAM	1	0	23.16	23.41	23.45	0-2	2
	1	7	23.20	23.41	23.39		2
	1	14	23.22	23.45	23.32		2
	8	0	22.03	22.07	22.09	0-3	3
	8	4	22.08	22.21	22.17		3
	8	7	22.08	22.15	22.10		3
15	0	22.05	21.85	21.89			

Table 9-59
LTE Band 25 (PCS) Measured P_{max} - 1.4 MHz Bandwidth

LTE Band 25 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26047 (1850.7 MHz)	26365 (1882.5 MHz)	26683 (1914.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.78	24.64	24.65	0	0
	1	2	24.84	24.72	24.67		0
	1	5	24.75	24.71	24.68		0
	3	0	24.74	24.74	24.68		0
	3	2	24.74	24.79	24.66		0
	3	3	24.70	24.77	24.63		0
	6	0	23.82	23.81	23.80	0-1	1
16QAM	1	0	24.20	24.17	24.23	0-1	1
	1	2	24.26	24.23	24.31		1
	1	5	24.21	24.17	24.28		1
	3	0	24.07	23.68	23.99		1
	3	2	24.17	23.72	24.02		1
	3	3	24.13	23.73	24.01		1
	6	0	22.94	22.74	22.81	0-2	2
64QAM	1	0	23.30	23.34	23.12	0-2	2
	1	2	23.37	23.42	23.17		2
	1	5	23.35	23.36	23.16		2
	3	0	22.82	23.06	22.91		2
	3	2	22.89	23.11	22.96		2
	3	3	22.84	23.06	22.95		2
	6	0	21.97	22.11	21.98	0-3	3

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Table 9-60
LTE Band 25 (PCS) Measured P_{limit} for DSI = 6 (Dual Display Cover 0° or 360°) or DSI = 7 (Dual Display Cover 180°) -20 MHz Bandwidth

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26140 (1860.0 MHz)	26365 (1882.5 MHz)	26590 (1905.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.84	23.66	23.67	0	0
	1	50	23.86	23.67	23.63		0
	1	99	23.84	23.69	23.65		0
	50	0	23.75	23.73	23.76	0-1	0
	50	25	23.85	23.76	23.75		0
	50	50	23.81	23.78	23.83		0
	100	0	23.72	23.64	23.70	0	
16QAM	1	0	24.19	24.32	24.22	0-1	0
	1	50	24.18	24.34	24.24		0
	1	99	24.20	24.30	24.23		0
	50	0	22.85	22.81	22.80	0-2	1
	50	25	22.82	22.78	22.81		1
	50	50	22.76	22.85	22.86		1
	100	0	22.78	22.73	22.74	1	
64QAM	1	0	22.95	23.08	23.38	0-2	1
	1	50	22.96	23.12	23.42		1
	1	99	23.05	23.14	23.40		1
	50	0	21.85	21.86	21.83	0-3	2
	50	25	21.90	21.83	21.84		2
	50	50	21.91	21.87	21.87		2
	100	0	21.79	21.72	21.85	2	

Table 9-61
LTE Band 25 (PCS) Measured P_{limit} for DSI = 6 (Dual Display Cover 0° or 360°) or DSI = 7 (Dual Display Cover 180°) -15 MHz Bandwidth

LTE Band 25 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26115 (1857.5 MHz)	26365 (1882.5 MHz)	26615 (1907.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.82	23.88	24.03	0	0
	1	36	24.13	23.93	24.07		0
	1	74	23.95	23.96	23.99		0
	36	0	23.91	23.95	23.92	0-1	0
	36	18	24.14	24.07	24.07		0
	36	37	24.10	24.09	24.03		0
	75	0	24.07	23.94	24.01		0
16QAM	1	0	23.99	23.96	24.03	0-1	0
	1	36	24.18	24.09	24.09		0
	1	74	23.86	24.01	24.07		0
	36	0	22.63	22.68	22.61	0-2	1
	36	18	22.83	22.79	22.79		1
	36	37	22.76	22.82	22.76		1
	75	0	22.74	22.69	22.70		1
64QAM	1	0	23.12	22.92	23.35	0-2	1
	1	36	23.49	23.03	23.47		1
	1	74	23.30	22.94	23.38		1
	36	0	21.65	21.73	21.68	0-3	2
	36	18	21.86	21.82	21.89		2
	36	37	21.81	21.88	21.80		2
	75	0	21.82	21.60	21.84		2

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Table 9-62
LTE Band 25 (PCS) Measured P_{limit} for DSI = 6 (Dual Display Cover 0° or 360°) or DSI = 7 (Dual Display Cover 180°) -10 MHz Bandwidth

LTE Band 25 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26090 (1855.0 MHz)	26365 (1882.5 MHz)	26640 (1910.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.57	23.62	23.80	0	0
	1	25	23.74	23.85	23.75		0
	1	49	23.53	23.64	23.80		0
	25	0	23.92	23.84	23.74	0-1	0
	25	12	24.05	23.94	23.88		0
	25	25	23.96	23.92	23.86		0
	50	0	23.95	23.86	23.78		0
16QAM	1	0	23.48	24.01	23.74	0-1	0
	1	25	23.65	24.32	23.87		0
	1	49	23.42	24.07	23.93		0
	25	0	22.93	22.79	22.74	0-2	1
	25	12	23.05	22.92	22.85		1
	25	25	22.94	22.86	22.81		1
	50	0	22.88	22.77	22.68		1
64QAM	1	0	22.76	22.57	23.03	0-2	1
	1	25	22.98	22.69	22.98		1
	1	49	22.73	22.59	23.01		1
	25	0	21.88	21.76	21.68	0-3	2
	25	12	21.95	21.91	21.72		2
	25	25	21.89	21.88	21.75		2
	50	0	21.79	21.71	21.63		2

Table 9-63
LTE Band 25 (PCS) Measured P_{limit} for DSI = 6 (Dual Display Cover 0° or 360°) or DSI = 7 (Dual Display Cover 180°) -5 MHz Bandwidth

LTE Band 25 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26065 (1852.5 MHz)	26365 (1882.5 MHz)	26665 (1912.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.73	23.83	23.83	0	0
	1	12	23.75	23.91	23.78		0
	1	24	23.77	23.98	23.86		0
	12	0	23.90	23.87	23.85	0-1	0
	12	6	23.97	23.95	23.95		0
	12	13	23.99	23.97	23.92		0
	25	0	23.99	23.92	23.87		0
16QAM	1	0	23.93	24.01	23.88	0-1	0
	1	12	23.97	23.97	23.93		0
	1	24	24.03	23.71	23.95		0
	12	0	22.87	22.81	22.77	0-2	1
	12	6	22.84	22.82	22.82		1
	12	13	22.87	22.90	22.81		1
	25	0	22.83	22.85	22.73		1
64QAM	1	0	22.93	22.89	23.17	0-2	1
	1	12	22.93	22.99	23.12		1
	1	24	23.00	22.97	23.16		1
	12	0	21.83	21.72	21.78	0-3	2
	12	6	21.89	21.74	21.87		2
	12	13	21.84	21.80	21.81		2
	25	0	21.80	21.76	21.77		2

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Table 9-64
LTE Band 25 (PCS) Measured P_{limit} for DSI = 6 (Dual Display Cover 0° or 360°) or DSI = 7 (Dual Display Cover 180°) -3 MHz Bandwidth

LTE Band 25 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26055 (1851.5 MHz)	26365 (1882.5 MHz)	26675 (1913.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.84	23.72	23.66	0	0
	1	7	23.82	23.81	23.68		0
	1	14	23.84	23.86	23.74		0
	8	0	23.96	23.88	23.83	0-1	0
	8	4	24.03	23.94	23.85		0
	8	7	24.00	23.97	23.83		0
	15	0	23.94	23.84	23.87		0
16QAM	1	0	23.95	24.22	23.66	0-1	0
	1	7	23.91	24.28	23.59		0
	1	14	23.94	24.34	23.62		0
	8	0	22.85	22.83	22.68	0-2	1
	8	4	22.91	22.88	22.71		1
	8	7	22.88	22.86	22.72		1
	15	0	22.91	22.77	22.68		1
64QAM	1	0	22.99	22.58	22.85	0-2	1
	1	7	23.01	22.59	22.81		1
	1	14	23.04	22.63	22.85		1
	8	0	21.85	21.80	21.70	0-3	2
	8	4	21.88	21.87	21.80		2
	8	7	21.85	21.88	21.75		2
	15	0	21.86	21.77	21.80		2

Table 9-65
LTE Band 25 (PCS) Measured P_{limit} for DSI = 6 (Dual Display Cover 0° or 360°) or DSI = 7 (Dual Display Cover 180°) -1.4 MHz Bandwidth

LTE Band 25 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26047 (1850.7 MHz)	26365 (1882.5 MHz)	26683 (1914.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.56	23.72	23.69	0	0
	1	2	23.63	23.77	23.76		0
	1	5	23.55	23.78	23.70		0
	3	0	23.65	23.68	23.55		0
	3	2	23.68	23.69	23.63		0
	3	3	23.62	23.68	23.55		0
	6	0	23.75	23.79	23.81	0-1	0
16QAM	1	0	23.44	23.57	23.63	0-1	0
	1	2	23.50	23.58	23.51		0
	1	5	23.56	23.55	23.55		0
	3	0	23.82	23.80	23.77		0
	3	2	23.92	23.93	23.83		0
	3	3	23.86	23.90	23.84		0
	6	0	22.75	22.98	22.87	0-2	1
64QAM	1	0	22.91	22.98	22.96	0-2	1
	1	2	22.98	23.12	23.07		1
	1	5	22.99	23.01	22.94		1
	3	0	22.85	23.11	23.01		1
	3	2	22.95	23.12	23.06		1
	3	3	22.89	23.11	23.03		1
	6	0	21.89	21.67	21.62	0-3	2

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Table 9-66
LTE Band 25 (PCS) Measured P_{limit} for DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor active) - 20 MHz Bandwidth

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26140 (1860.0 MHz)	26365 (1882.5 MHz)	26590 (1905.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	21.89	21.78	21.79	0	0
	1	50	21.76	21.69	21.75		0
	1	99	21.72	21.73	21.70		0
	50	0	21.77	21.83	21.78	0-1	0
	50	25	21.98	21.79	21.76		0
	50	50	21.88	21.91	21.83		0
	100	0	21.81	21.71	21.80	0	
16QAM	1	0	22.12	22.22	22.10	0-1	0
	1	50	22.07	22.38	22.15		0
	1	99	22.15	22.14	21.99		0
	50	0	21.82	21.87	21.86	0-2	0
	50	25	21.90	21.83	21.77		0
	50	50	22.00	21.89	21.80		0
	100	0	21.80	21.74	21.68	0	
64QAM	1	0	22.06	22.03	21.93	0-2	0
	1	50	22.10	22.10	21.61		0
	1	99	22.05	22.04	21.99		0
	50	0	21.72	22.20	21.73	0-3	0
	50	25	21.83	22.23	21.72		0
	50	50	21.76	22.24	21.77		0
	100	0	21.70	21.67	21.61	0	

Table 9-67
LTE Band 25 (PCS) Measured P_{limit} for DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor active) - 15 MHz Bandwidth

LTE Band 25 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26115 (1857.5 MHz)	26365 (1882.5 MHz)	26615 (1907.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	21.52	21.75	21.90	0	0
	1	36	21.74	21.76	21.87		0
	1	74	21.65	21.77	21.88		0
	36	0	21.80	21.80	21.79	0-1	0
	36	18	22.01	21.89	21.96		0
	36	37	21.96	21.95	21.93		0
	75	0	21.90	21.82	21.89		0
16QAM	1	0	22.12	22.36	22.12	0-1	0
	1	36	22.39	22.38	22.26		0
	1	74	22.38	22.37	22.03		0
	36	0	21.87	21.83	21.80	0-2	0
	36	18	22.03	21.95	21.97		0
	36	37	22.00	22.02	21.95		0
	75	0	21.92	21.85	21.95		0
64QAM	1	0	21.91	22.25	22.11	0-2	0
	1	36	22.22	22.28	22.18		0
	1	74	22.12	22.24	22.12		0
	36	0	21.74	21.74	21.83	0-3	0
	36	18	21.92	21.84	21.99		0
	36	37	21.93	21.88	21.96		0
	75	0	21.86	21.76	21.90		0

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Table 9-68
LTE Band 25 (PCS) Measured P_{limit} for DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor active) - 10 MHz Bandwidth

LTE Band 25 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26090 (1855.0 MHz)	26365 (1882.5 MHz)	26640 (1910.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	21.72	21.60	21.89	0	0
	1	25	21.89	21.82	21.90		0
	1	49	21.70	21.64	21.92		0
	25	0	21.97	21.83	21.82	0-1	0
	25	12	22.02	21.92	21.90		0
	25	25	21.98	21.95	21.93		0
	50	0	21.94	21.83	21.81		0
16QAM	1	0	22.18	22.13	22.19	0-1	0
	1	25	22.23	22.39	22.16		0
	1	49	22.19	22.14	22.13		0
	25	0	21.94	21.83	21.88	0-2	0
	25	12	22.02	21.92	21.94		0
	25	25	21.95	21.93	21.99		0
	50	0	21.99	21.87	21.82		0
64QAM	1	0	21.88	21.81	22.16	0-2	0
	1	25	22.17	22.14	22.09		0
	1	49	21.93	21.84	22.13		0
	25	0	21.90	21.79	21.77	0-3	0
	25	12	22.03	21.91	21.90		0
	25	25	21.93	21.92	21.89		0
	50	0	21.88	21.78	21.79		0

Table 9-69
LTE Band 25 (PCS) Measured P_{limit} for DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor active) - 5 MHz Bandwidth

LTE Band 25 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26065 (1852.5 MHz)	26365 (1882.5 MHz)	26665 (1912.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	21.82	21.73	21.84	0	0
	1	12	21.84	21.79	21.82		0
	1	24	21.92	21.87	21.80		0
	12	0	21.97	21.90	21.93	0-1	0
	12	6	22.06	21.91	21.98		0
	12	13	22.00	21.98	21.97		0
	25	0	22.03	21.95	21.92		0
16QAM	1	0	22.31	22.33	22.26	0-1	0
	1	12	22.22	22.39	22.16		0
	1	24	22.35	22.34	22.25		0
	12	0	22.00	21.88	21.87	0-2	0
	12	6	22.01	21.95	21.97		0
	12	13	22.00	21.98	21.92		0
	25	0	21.99	21.92	21.91		0
64QAM	1	0	22.21	22.24	22.16	0-2	0
	1	12	22.19	22.32	22.38		0
	1	24	22.20	22.36	22.17		0
	12	0	21.94	21.66	21.85	0-3	0
	12	6	21.99	21.70	21.91		0
	12	13	22.01	21.78	21.89		0
	25	0	21.98	21.79	21.86		0

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Table 9-70
LTE Band 25 (PCS) Measured P_{limit} for DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor active) - 3 MHz Bandwidth

LTE Band 25 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26055 (1851.5 MHz)	26365 (1882.5 MHz)	26675 (1913.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	21.90	21.83	21.84	0	0
	1	7	21.93	21.87	21.88		0
	1	14	21.98	21.96	21.93		0
	8	0	21.93	21.90	21.90	0-1	0
	8	4	21.97	22.00	21.97		0
	8	7	21.96	21.99	21.94		0
	15	0	22.02	21.90	21.90		0
16QAM	1	0	22.15	22.17	22.29	0-1	0
	1	7	22.13	22.22	22.39		0
	1	14	22.22	22.30	22.24		0
	8	0	21.99	22.02	21.95	0-2	0
	8	4	22.02	22.07	22.04		0
	8	7	22.00	22.06	21.99		0
	15	0	21.89	21.88	21.87		0
64QAM	1	0	22.18	22.39	22.20	0-2	0
	1	7	22.13	22.18	22.15		0
	1	14	22.25	22.30	22.23		0
	8	0	21.83	21.98	22.00	0-3	0
	8	4	21.86	22.05	21.99		0
	8	7	21.85	22.03	22.02		0
	15	0	22.00	21.75	21.74		0

Table 9-71
LTE Band 25 (PCS) Measured P_{limit} for DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor active) - 1.4 MHz Bandwidth

LTE Band 25 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26047 (1850.7 MHz)	26365 (1882.5 MHz)	26683 (1914.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	21.89	21.84	21.72	0	0
	1	2	21.93	21.88	21.76		0
	1	5	21.92	21.86	21.71		0
	3	0	21.85	21.83	21.75		0
	3	2	21.93	21.89	21.77		0
	3	3	21.88	21.86	21.76		0
	6	0	21.96	21.88	21.81	0-1	0
16QAM	1	0	22.08	22.10	22.18	0-1	0
	1	2	22.15	22.16	22.30		0
	1	5	22.08	22.08	22.27		0
	3	0	22.00	21.96	21.84		0
	3	2	22.06	21.99	21.92		0
	3	3	21.97	21.94	21.87		0
	6	0	21.99	21.95	21.85	0-2	0
64QAM	1	0	22.11	22.08	21.96	0-2	0
	1	2	22.16	22.14	21.98		0
	1	5	22.09	22.07	21.99		0
	3	0	22.06	22.00	21.73		0
	3	2	22.11	22.06	21.76		0
	3	3	22.10	22.01	21.71		0
	6	0	22.00	21.97	21.76	0-3	0

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LTE Band 30

Table 9-72
LTE Band 30 Measured P_{max} - 10 MHz Bandwidth

LTE Band 30 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			27710 (2310.0 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	22.42	0	0
	1	25	22.35		0
	1	49	22.41		0
	25	0	21.46	0-1	1
	25	12	21.56		1
	25	25	21.50		1
	50	0	21.45		1
16QAM	1	0	21.62	0-1	1
	1	25	21.54		1
	1	49	21.57		1
	25	0	20.57	0-2	2
	25	12	20.61		2
	25	25	20.60		2
	50	0	20.47		2
64QAM	1	0	20.72	0-2	2
	1	25	20.83		2
	1	49	20.77		2
	25	0	19.55	0-3	3
	25	12	19.64		3
	25	25	19.61		3
	50	0	19.47		3

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Table 9-73
LTE Band 30 Measured P_{max} - 5 MHz Bandwidth

LTE Band 30 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			27710 (2310.0 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	22.02	0	0
	1	12	22.15		0
	1	24	22.10		0
	12	0	21.45	0-1	1
	12	6	21.47		1
	12	13	21.51		1
	25	0	21.45		1
16QAM	1	0	21.64	0-1	1
	1	12	21.83		1
	1	24	21.70		1
	12	0	20.53	0-2	2
	12	6	20.58		2
	12	13	20.53		2
	25	0	20.42		2
64QAM	1	0	20.47	0-2	2
	1	12	20.56		2
	1	24	20.51		2
	12	0	19.33	0-3	3
	12	6	19.39		3
	12	13	19.42		3
	25	0	19.46		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.

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LTE Band 7

Table 9-74
LTE Band 7 Measured P_{max} - 20 MHz Bandwidth

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20850 (2510.0 MHz)	21100 (2535.0 MHz)	21350 (2560.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.51	24.67	24.73	0	0
	1	50	24.43	24.69	24.71		0
	1	99	24.50	24.68	24.74		0
	50	0	23.71	23.70	23.77	0-1	1
	50	25	23.76	23.72	23.83		1
	50	50	23.78	23.79	23.78		1
	100	0	23.72	23.64	23.67		1
16QAM	1	0	24.21	24.25	24.16	0-1	1
	1	50	24.26	24.22	24.15		1
	1	99	24.20	24.36	24.15		1
	50	0	22.71	22.75	22.71	0-2	2
	50	25	22.73	22.76	22.78		2
	50	50	22.81	22.79	22.79		2
	100	0	22.71	22.69	22.69		2
64QAM	1	0	23.30	22.99	22.56	0-2	2
	1	50	23.02	23.00	22.97		2
	1	99	23.25	22.69	22.82		2
	50	0	21.73	21.81	21.80	0-3	3
	50	25	21.51	21.79	21.90		3
	50	50	21.50	21.86	21.81		3
	100	0	21.72	21.69	21.69		3

Table 9-75
LTE Band 7 Measured P_{max} - 15 MHz Bandwidth

LTE Band 7 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20825 (2507.5 MHz)	21100 (2535.0 MHz)	21375 (2562.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.59	24.54	24.53	0	0
	1	36	24.62	24.59	24.59		0
	1	74	24.53	24.57	24.51		0
	36	0	23.75	23.72	23.75	0-1	1
	36	18	23.84	23.76	23.85		1
	36	37	23.78	23.77	23.85		1
	75	0	23.76	23.65	23.69		1
16QAM	1	0	24.35	24.00	24.24	0-1	1
	1	36	24.38	24.07	24.27		1
	1	74	24.35	24.03	24.25		1
	36	0	22.72	22.76	22.78	0-2	2
	36	18	22.80	22.77	22.91		2
	36	37	22.78	22.82	22.81		2
	75	0	22.76	22.69	22.76		2
64QAM	1	0	23.25	23.04	23.18	0-2	2
	1	36	23.33	23.18	23.27		2
	1	74	22.94	23.16	23.15		2
	36	0	21.81	21.77	21.75	0-3	3
	36	18	21.90	21.83	21.90		3
	36	37	21.83	21.87	21.87		3
	75	0	21.76	21.74	21.74		3

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Table 9-76
LTE Band 7 Measured P_{max} - 10 MHz Bandwidth

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20800 (2505.0 MHz)	21100 (2535.0 MHz)	21400 (2565.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.75	24.76	24.76	0	0
	1	25	24.66	24.70	24.72		0
	1	49	24.74	24.77	24.79		0
	25	0	23.80	23.79	23.77	0-1	1
	25	12	23.80	23.80	23.83		1
	25	25	23.82	23.84	23.89		1
16QAM	50	0	23.77	23.70	23.74	0-1	1
	1	0	24.48	24.25	24.45		1
	1	25	24.48	24.23	24.40		1
	1	49	24.45	24.27	24.44	0-2	1
	25	0	22.86	22.81	22.80		2
	25	12	22.82	22.80	22.82		2
64QAM	25	25	22.83	22.92	22.86	0-2	2
	50	0	22.75	22.74	22.78		2
	1	0	23.50	23.32	23.16	0-2	2
	1	25	23.44	23.39	23.22		2
	1	49	23.45	23.40	23.24		2
	25	0	21.88	21.95	21.94	0-3	3
25	12	21.87	21.99	21.97	3		
25	25	21.91	22.02	22.02	3		
	50	0	21.79	21.80	21.77		3

Table 9-77
LTE Band 7 Measured P_{max} - 5 MHz Bandwidth

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20775 (2502.5 MHz)	21100 (2535.0 MHz)	21425 (2567.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.67	24.66	24.72	0	0
	1	12	24.61	24.72	24.68		0
	1	24	24.67	24.73	24.71		0
	12	0	23.81	23.78	23.87	0-1	1
	12	6	23.82	23.86	23.90		1
	12	13	23.77	23.83	23.84		1
16QAM	25	0	23.83	23.78	23.82	1	
	1	0	24.32	24.20	24.29	0-1	1
	1	12	24.26	24.21	24.22		1
	1	24	24.33	24.23	24.27		1
	12	0	22.83	22.83	22.85	0-2	2
	12	6	22.83	22.90	22.83		2
12	13	22.80	22.91	22.77	2		
64QAM	25	0	22.75	22.82	22.85	2	
	1	0	23.12	23.41	23.43	0-2	2
	1	12	23.10	23.46	23.37		2
	1	24	23.10	23.46	23.41		2
	12	0	21.74	21.86	21.86	0-3	3
	12	6	21.77	21.89	21.90		3
	12	13	21.72	21.86	21.87		3
25	0	21.76	21.82	21.93	3		

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Table 9-78
LTE Band 7 Measured P_{limit} for DSI = 6 (Dual Display Cover 0° or 360°) or DSI = 7 (Dual Display Cover 180°)
-20 MHz Bandwidth

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20850 (2510.0 MHz)	21100 (2535.0 MHz)	21350 (2560.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.73	23.68	23.63	0	0
	1	50	23.66	23.69	23.67		0
	1	99	23.52	23.71	23.66		0
	50	0	23.61	23.68	23.58	0-1	0
	50	25	23.69	23.59	23.68		0
	50	50	23.63	23.65	23.67		0
16QAM	100	0	23.64	23.60	23.54	0-1	0
	1	0	23.89	23.70	23.86		0
	1	50	23.70	23.79	23.78		0
	1	99	23.76	23.97	23.81	0-2	0
	50	0	22.61	22.56	22.70		1
	50	25	22.73	22.62	22.76		1
64QAM	50	50	22.65	22.62	22.61	0-2	1
	100	0	22.53	22.58	22.70		1
	1	0	22.81	23.06	22.73		0-2
	1	50	22.51	22.81	22.71	1	
	1	99	22.34	22.69	22.96	1	
	50	0	21.65	21.63	21.68	0-3	2
50	25	21.57	21.62	21.80	2		
50	50	21.57	21.61	21.62	2		
	100	0	21.68	21.50	21.56		2

Table 9-79
LTE Band 7 Measured P_{limit} for DSI = 6 (Dual Display Cover 0° or 360°) or DSI = 7 (Dual Display Cover 180°)
-15 MHz Bandwidth

LTE Band 7 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20825 (2507.5 MHz)	21100 (2535.0 MHz)	21375 (2562.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.65	23.55	23.71	0	0
	1	36	23.67	23.59	23.79		0
	1	74	23.62	23.53	23.68		0
	36	0	23.77	23.69	23.71	0-1	0
	36	18	23.81	23.69	23.75		0
	36	37	23.78	23.75	23.77		0
	75	0	23.74	23.59	23.69		0
16QAM	1	0	24.09	23.60	23.73	0-1	0
	1	36	24.14	23.69	23.79		0
	1	74	24.07	23.62	23.71		0
	36	0	22.62	22.51	22.48	0-2	1
	36	18	22.67	22.56	22.54		1
	36	37	22.59	22.56	22.57		1
	75	0	22.54	22.60	22.63		1
64QAM	1	0	22.73	22.79	23.13	0-2	1
	1	36	22.60	22.90	23.41		1
	1	74	22.85	22.67	23.15		1
	36	0	21.70	21.56	21.58	0-3	2
	36	18	21.74	21.62	21.60		2
	36	37	21.31	21.61	21.64		2
	75	0	21.60	21.43	21.55		2

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Table 9-80
LTE Band 7 Measured P_{limit} for DSI = 6 (Dual Display Cover 0° or 360°) or DSI = 7 (Dual Display Cover 180°)
-10 MHz Bandwidth

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20800 (2505.0 MHz)	21100 (2535.0 MHz)	21400 (2565.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.68	23.65	23.70	0	0
	1	25	23.70	23.65	23.63		0
	1	49	23.68	23.66	23.67		0
	25	0	23.85	23.76	23.71	0-1	0
	25	12	23.87	23.72	23.78		0
	25	25	23.81	23.77	23.81		0
	50	0	23.77	23.66	23.68		0
16QAM	1	0	24.15	23.79	23.56	0-1	0
	1	25	24.12	23.79	23.55		0
	1	49	24.15	23.75	23.58		0
	25	0	22.67	22.61	22.63	0-2	1
	25	12	22.61	22.59	22.70		1
	25	25	22.63	22.67	22.76		1
	50	0	22.54	22.46	22.55		1
64QAM	1	0	22.81	22.72	22.59	0-2	1
	1	25	22.79	22.81	22.71		1
	1	49	23.00	22.73	22.32		1
	25	0	21.68	21.55	21.67	0-3	2
	25	12	21.74	21.60	21.72		2
	25	25	21.72	21.63	21.80		2
	50	0	21.59	21.51	21.54		2

Table 9-81
LTE Band 7 Measured P_{limit} for DSI = 6 (Dual Display Cover 0° or 360°) or DSI = 7 (Dual Display Cover 180°)
-5 MHz Bandwidth

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20775 (2502.5 MHz)	21100 (2535.0 MHz)	21425 (2567.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.97	24.08	24.10	0	0
	1	12	23.98	24.11	24.12		0
	1	24	23.95	24.14	24.07		0
	12	0	24.11	24.06	24.17	0-1	0
	12	6	24.15	24.11	24.20		0
	12	13	24.07	24.15	24.15		0
	25	0	24.10	24.06	24.15		0
16QAM	1	0	24.19	24.02	23.89	0-1	0
	1	12	24.17	23.99	24.10		0
	1	24	24.16	23.97	24.22		0
	12	0	22.59	22.60	22.74	0-2	1
	12	6	22.65	22.64	22.76		1
	12	13	22.61	22.68	22.70		1
	25	0	22.58	22.60	22.61		1
64QAM	1	0	22.72	22.76	23.07	0-2	1
	1	12	22.75	22.79	22.89		1
	1	24	22.76	22.78	22.63		1
	12	0	21.56	21.49	21.75	0-3	2
	12	6	21.64	21.54	21.72		2
	12	13	21.59	21.55	21.54		2
	25	0	21.57	21.52	21.66		2

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Table 9-82
LTE Band 7 Measured P_{limit} for DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor active) - 20 MHz Bandwidth

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20850 (2510.0 MHz)	21100 (2535.0 MHz)	21350 (2560.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.16	22.61	23.24	0	0
	1	50	23.18	22.59	23.18		0
	1	99	23.22	22.60	23.17		0
	50	0	23.16	22.64	23.23	0-1	0
	50	25	23.24	22.67	23.32		0
	50	50	23.23	22.73	23.24		0
	100	0	23.17	22.58	23.21		0
16QAM	1	0	23.44	22.88	23.45	0-1	0
	1	50	23.42	22.94	23.40		0
	1	99	23.45	22.94	23.40		0
	50	0	22.88	22.60	22.92	0-2	0
	50	25	22.97	22.62	23.01		0
	50	50	22.92	22.61	22.98		0
	100	0	22.90	22.54	22.86		0
64QAM	1	0	23.09	23.50	22.82	0-2	0
	1	50	22.89	23.50	23.26		0
	1	99	23.02	22.93	22.98		0
	50	0	21.89	21.96	22.01	0-3	1
	50	25	21.63	21.97	22.05		1
	50	50	21.46	21.93	22.04		1
	100	0	21.89	21.61	21.83		1

Table 9-83
LTE Band 7 Measured P_{limit} for DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor active) - 15 MHz Bandwidth

LTE Band 7 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20825 (2507.5 MHz)	21100 (2535.0 MHz)	21375 (2562.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	22.73	22.60	22.90	0	0
	1	36	22.72	22.59	22.87		0
	1	74	22.69	22.61	22.83		0
	36	0	22.88	22.73	22.81	0-1	0
	36	18	22.87	22.73	22.84		0
	36	37	22.83	22.80	22.86		0
	75	0	22.82	22.66	22.79		0
16QAM	1	0	23.00	23.22	23.21	0-1	0
	1	36	22.98	23.21	23.16		0
	1	74	22.95	23.21	23.14		0
	36	0	22.78	22.67	22.75	0-2	0
	36	18	22.77	22.71	22.76		0
	36	37	22.73	22.72	22.83		0
	75	0	22.75	22.64	22.70		0
64QAM	1	0	22.62	22.63	23.26	0-2	0
	1	36	22.63	22.66	23.24		0
	1	74	22.23	22.67	23.23		0
	36	0	21.90	21.74	21.77	0-3	1
	36	18	21.91	21.72	21.81		1
	36	37	21.88	21.78	21.82		1
	75	0	21.80	21.69	21.75		1

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Table 9-84
LTE Band 7 Measured P_{limit} for DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor active) - 10 MHz Bandwidth

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20800 (2505.0 MHz)	21100 (2535.0 MHz)	21400 (2565.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	22.92	22.86	22.83	0	0
	1	25	22.70	22.83	22.77		0
	1	49	22.77	22.77	22.78		0
	25	0	22.91	22.84	22.87	0-1	0
	25	12	22.90	22.84	22.90		0
	25	25	22.88	22.89	22.93		0
	50	0	22.83	22.81	22.80		0
16QAM	1	0	23.02	23.35	22.84	0-1	0
	1	25	23.03	23.30	23.22		0
	1	49	22.98	23.32	22.88		0
	25	0	22.83	22.79	22.81	0-2	0
	25	12	22.86	22.81	22.80		0
	25	25	22.81	22.88	22.86		0
	50	0	22.73	22.69	22.71		0
64QAM	1	0	22.81	22.86	22.88	0-2	0
	1	25	22.70	22.79	22.91		0
	1	49	22.59	22.88	22.96		0
	25	0	21.92	21.82	21.83	0-3	1
	25	12	21.90	21.80	21.87		1
	25	25	21.84	21.83	21.88		1
	50	0	21.81	21.69	21.76		1

Table 9-85
LTE Band 7 Measured P_{limit} for DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor active) - 5 MHz Bandwidth

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20775 (2502.5 MHz)	21100 (2535.0 MHz)	21425 (2567.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	22.83	22.93	23.00	0	0
	1	12	22.80	22.93	22.95		0
	1	24	22.80	22.94	22.95		0
	12	0	22.91	22.91	22.97	0-1	0
	12	6	22.96	22.91	23.05		0
	12	13	22.85	22.92	22.95		0
	25	0	22.93	22.91	22.97		0
16QAM	1	0	23.22	23.01	23.35	0-1	0
	1	12	23.14	23.02	23.32		0
	1	24	23.24	23.06	23.31		0
	12	0	22.82	22.75	23.03	0-2	0
	12	6	22.87	22.83	23.08		0
	12	13	22.79	22.80	23.06		0
	25	0	22.88	22.80	22.87		0
64QAM	1	0	22.95	23.14	23.02	0-2	0
	1	12	22.91	23.16	23.01		0
	1	24	22.97	23.17	22.98		0
	12	0	21.91	21.86	21.89	0-3	1
	12	6	21.95	21.92	21.89		1
	12	13	21.90	21.91	21.84		1
	25	0	21.83	21.83	21.88		1

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LTE Band 41

Table 9-86
LTE Band 41 Measured P_{max} – 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	24.75	24.80	24.56	24.74	24.80	0	0
	1	50	24.79	24.78	25.01	24.96	25.24		0
	1	99	24.74	24.87	24.75	24.57	25.19		0
	50	0	23.82	23.84	23.94	24.01	24.06	0-1	1
	50	25	23.88	23.94	24.03	24.12	24.31		1
	50	50	23.89	23.91	24.05	24.00	24.30		1
	100	0	23.87	23.82	23.94	24.02	24.13		1
16QAM	1	0	23.85	23.65	23.47	23.77	23.61	0-1	1
	1	50	23.80	23.65	23.82	24.04	24.03		1
	1	99	23.84	23.61	23.58	23.61	23.96		1
	50	0	22.84	22.78	22.88	22.99	23.02	0-2	2
	50	25	22.93	22.88	23.01	23.12	23.26		2
	50	50	22.91	22.86	23.00	22.96	23.25		2
	100	0	22.80	22.81	22.95	23.04	23.12		2
64QAM	1	0	22.48	22.82	22.60	22.48	22.82	0-2	2
	1	50	22.62	22.89	23.05	22.83	23.23		2
	1	99	22.60	22.92	22.87	22.42	23.18		2
	50	0	21.88	21.88	21.92	22.01	22.12	0-3	3
	50	25	21.99	21.92	22.02	22.19	22.36		3
	50	50	21.94	21.94	22.04	22.04	22.31		3
	100	0	21.88	21.81	21.93	22.05	22.15		3

Table 9-87
LTE Band 41 Measured P_{max} – 15 MHz Bandwidth

LTE Band 41 15 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	24.91	24.63	24.84	24.89	24.91	0	0
	1	36	24.97	24.90	25.14	25.04	25.25		0
	1	74	24.88	24.66	24.89	24.86	25.15		0
	36	0	23.91	23.86	23.98	24.01	24.05	0-1	1
	36	18	24.03	24.03	24.06	24.10	24.20		1
	36	37	23.98	23.94	24.10	24.06	24.25		1
16QAM	75	0	23.93	23.91	23.97	24.05	24.14	0-1	1
	1	0	23.81	23.80	23.74	24.05	23.80		1
	1	36	23.86	24.06	24.12	24.22	24.08		1
	1	74	23.83	23.78	23.80	24.06	24.03	0-2	1
	36	0	22.97	22.92	23.02	23.00	23.08		2
	36	18	23.08	23.07	23.14	23.03	23.25		2
64QAM	36	37	23.05	22.97	23.16	23.01	23.30	0-2	2
	75	0	22.95	22.90	22.96	23.03	23.14		2
	1	0	22.64	22.85	22.60	22.83	22.64		0-2
	1	36	22.76	23.12	22.91	22.97	23.01	2	
	1	74	22.71	22.87	22.73	22.67	22.93	0-3	
	36	0	21.90	21.91	21.97	22.03	22.02		3
36	18	22.02	22.08	22.10	22.08	22.19	3		
36	37	22.01	21.99	22.11	22.04	22.26	3		
75	0	21.94	21.95	21.99	22.07	22.20	3		

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Table 9-88
LTE Band 41 Measured P_{max} – 10 MHz Bandwidth

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	25.04	24.92	24.99	24.84	24.98	0	0
	1	25	25.00	25.14	25.20	25.12	25.28		0
	1	49	25.00	25.07	24.94	24.88	25.04		0
	25	0	23.96	23.99	24.11	24.07	24.11	0-1	1
	25	12	24.06	24.08	24.15	24.14	24.30		1
	25	25	24.03	24.02	24.12	24.11	24.18		1
	50	0	23.97	24.05	24.07	24.11	24.22		1
16QAM	1	0	23.90	24.14	23.81	24.06	23.89	0-1	1
	1	25	23.85	24.15	24.07	24.31	24.10		1
	1	49	23.88	24.06	23.84	24.12	23.83		1
	25	0	22.89	22.96	23.01	23.12	23.08	0-2	2
	25	12	23.00	23.16	23.11	23.11	23.24		2
	25	25	22.96	23.05	23.07	23.13	23.11		2
	50	0	22.92	23.03	23.03	23.10	23.15		2
64QAM	1	0	22.81	23.32	22.77	22.78	22.77	0-2	2
	1	25	22.86	23.45	23.08	23.10	23.11		2
	1	49	22.87	23.16	22.80	22.84	22.88		2
	25	0	22.01	21.95	22.08	22.06	22.17	0-3	3
	25	12	22.08	22.06	22.17	22.12	22.32		3
	25	25	22.04	21.95	22.13	22.12	22.21		3
	50	0	21.99	22.01	22.08	22.14	22.24		3

Table 9-89
LTE Band 41 Measured P_{max} – 5 MHz Bandwidth

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	24.97	25.03	25.14	25.05	25.20	0	0
	1	12	25.02	25.06	25.18	25.13	25.25		0
	1	24	25.01	25.08	25.15	25.09	25.28		0
	12	0	24.01	24.14	24.14	24.13	24.18	0-1	1
	12	6	24.03	24.08	24.15	24.27	24.31		1
	12	13	24.00	24.10	24.18	24.18	24.28		1
	25	0	23.98	24.13	24.12	24.23	24.28		1
16QAM	1	0	24.08	24.42	24.26	24.09	24.31	0-1	1
	1	12	24.10	24.44	24.26	24.16	24.37		1
	1	24	24.11	24.45	24.29	24.16	24.37		1
	12	0	23.03	23.06	23.16	23.24	23.21	0-2	2
	12	6	23.04	23.07	23.18	23.34	23.28		2
	12	13	23.03	23.09	23.16	23.30	23.22		2
	25	0	23.00	23.08	23.11	23.24	23.22		2
64QAM	1	0	22.83	22.88	23.05	23.22	23.09	0-2	2
	1	12	22.89	22.93	23.09	23.32	23.16		2
	1	24	22.90	22.91	23.06	23.26	23.09		2
	12	0	22.04	22.12	22.19	22.18	22.21	0-3	3
	12	6	22.06	22.16	22.14	22.21	22.30		3
	12	13	22.06	22.17	22.20	22.23	22.28		3
	25	0	21.98	22.11	22.14	22.22	22.25		3

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Table 9-90

LTE Band 41 Measured P_{limit} for DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor active) - 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	24.77	24.76	24.57	24.69	24.73	0	0
	1	50	24.78	24.80	24.91	24.87	24.94		0
	1	99	24.81	24.82	24.66	24.58	24.88		0
	50	0	24.23	24.23	24.21	24.29	24.28	0-1	0.5
	50	25	24.32	24.26	24.35	24.39	24.50		0.5
	50	50	24.38	24.38	24.31	24.26	24.47		0.5
	100	0	24.28	24.30	24.22	24.31	24.38		0.5
16QAM	1	0	24.13	24.02	23.96	24.13	24.17	0-1	0.5
	1	50	24.11	24.00	24.31	24.45	24.46		0.5
	1	99	24.12	24.04	24.04	24.01	24.48		0.5
	50	0	23.11	23.15	23.20	23.21	23.30	0-2	1.5
	50	25	23.21	23.25	23.32	23.44	23.50		1.5
	50	50	23.22	23.20	23.33	23.31	23.49		1.5
	100	0	23.17	23.13	23.25	23.30	23.39		1.5
64QAM	1	0	22.78	23.21	22.62	22.96	22.89	0-2	1.5
	1	50	22.83	23.27	23.08	23.27	23.39		1.5
	1	99	22.92	23.28	22.81	22.87	23.30		1.5
	50	0	22.14	22.18	22.23	22.28	22.37	0-3	2.5
	50	25	22.25	22.25	22.38	22.42	22.50		2.5
	50	50	22.22	22.23	22.36	22.30	22.48		2.5
	100	0	22.10	22.19	22.32	22.32	22.42		2.5

Table 9-91

LTE Band 41 Measured P_{limit} for DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor active) - 15 MHz Bandwidth

LTE Band 41 15 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	24.51	24.22	24.35	24.48	24.37	0	0
	1	36	24.48	24.36	24.53	24.55	24.64		0
	1	74	24.44	24.13	24.39	24.32	24.63		0
	36	0	24.13	23.97	24.04	24.10	24.09	0-1	0.5
	36	18	24.21	24.06	24.09	24.19	24.21		0.5
	36	37	24.18	24.00	24.15	24.11	24.47		0.5
	75	0	24.12	23.97	24.02	24.10	24.14		0.5
16QAM	1	0	24.23	23.94	23.94	24.11	24.05	0-1	0.5
	1	36	24.21	24.08	24.18	24.21	24.31		0.5
	1	74	24.16	23.87	24.06	23.97	24.31		0.5
	36	0	23.22	23.06	23.01	23.10	23.10	0-2	1.5
	36	18	23.30	23.15	23.09	23.20	23.20		1.5
	36	37	23.29	23.08	23.12	23.10	23.27		1.5
	75	0	23.13	23.00	23.05	23.15	23.16		1.5
64QAM	1	0	23.35	23.11	22.84	22.94	22.86	0-2	1.5
	1	36	23.37	23.26	23.04	23.06	23.11		1.5
	1	74	23.36	23.04	22.95	22.85	23.15		1.5
	36	0	22.16	22.02	22.07	22.12	22.14	0-3	2.5
	36	18	22.24	22.13	22.11	22.21	22.24		2.5
	36	37	22.23	22.02	22.13	22.13	22.31		2.5
	75	0	22.17	22.01	22.06	22.16	22.13		2.5

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Table 9-92

LTE Band 41 Measured P_{limit} for DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor active) - 10 MHz Bandwidth

LTE Band 41									
10 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	24.60	24.38	24.30	24.39	24.44	0	0
	1	25	24.59	24.57	24.53	24.63	24.69		0
	1	49	24.54	24.40	24.28	24.63	24.37		0
	25	0	24.17	24.09	24.08	24.13	24.18	0-1	0.5
	25	12	24.29	24.23	24.15	24.27	24.20		0.5
	25	25	24.20	24.14	24.13	24.19	24.17		0.5
	50	0	24.16	24.11	24.07	24.17	24.19		0.5
16QAM	1	0	24.28	23.85	24.08	23.89	23.99	0-1	0.5
	1	25	24.22	24.04	24.31	24.14	24.15		0.5
	1	49	24.24	23.91	24.08	23.95	23.86		0.5
	25	0	23.17	23.09	23.08	23.13	23.15	0-2	1.5
	25	12	23.27	23.25	23.16	23.27	23.23		1.5
	25	25	23.22	23.11	23.12	23.16	23.21		1.5
64QAM	50	0	23.13	23.16	23.03	23.20	23.22		1.5
	1	0	23.16	22.97	23.01	23.01	23.06	0-2	1.5
	1	25	23.21	23.26	23.30	23.31	23.34		1.5
	1	49	23.17	23.00	23.03	23.14	23.05		0-3
	25	0	22.16	22.03	22.10	22.03	22.08	2.5	
	25	12	22.24	22.15	22.18	22.20	22.11	2.5	
	25	25	22.19	22.02	22.10	22.11	22.09	2.5	
	50	0	22.16	22.14	22.07	22.23	22.19		2.5

Table 9-93

LTE Band 41 Measured P_{limit} for DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor active) - 5 MHz Bandwidth

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	24.54	24.49	24.50	24.55	24.55	0	0
	1	12	24.50	24.48	24.53	24.52	24.61		0
	1	24	24.59	24.47	24.51	24.55	24.62		0
	12	0	24.23	24.22	24.15	24.23	24.24	0-1	0.5
	12	6	24.24	24.20	24.21	24.28	24.29		0.5
	12	13	24.23	24.15	24.16	24.25	24.27		0.5
	25	0	24.22	24.21	24.13	24.25	24.22		0.5
16QAM	1	0	24.20	24.15	24.14	24.28	24.26	0-1	0.5
	1	12	24.14	24.12	24.18	24.16	24.26		0.5
	1	24	24.27	24.15	24.20	24.20	24.29		0.5
	12	0	23.36	23.29	23.23	23.35	23.33	0-2	1.5
	12	6	23.38	23.31	23.29	23.40	23.44		1.5
	12	13	23.35	23.29	23.29	23.37	23.39		1.5
	25	0	23.20	23.22	23.13	23.26	23.23		1.5
64QAM	1	0	23.40	23.33	23.37	23.46	23.44	0-2	1.5
	1	12	23.41	23.37	23.40	23.42	23.48		1.5
	1	24	23.39	23.36	23.34	23.42	23.46		1.5
	12	0	22.24	22.26	22.16	22.26	22.28	0-3	2.5
	12	6	22.25	22.22	22.21	22.30	22.33		2.5
	12	13	22.24	22.19	22.20	22.25	22.27		2.5
	25	0	22.23	22.18	22.11	22.23	22.22		2.5

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9.4.12 LTE Uplink Carrier Aggregation Conducted Powers

Table 9-94
LTE Band 5 Uplink Carrier Aggregation Measured P_{max}

PCC										SCC										Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC UL Channel	PCC UL Frequency [MHz]	PCC DL Channel	PCC DL Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC UL Channel	SCC UL Frequency [MHz]	SCC DL Channel	SCC DL Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	LTE Tx Power with UL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)	
CA_5B	LTE B5	10	20525	836.5	2525	881.5	QPSK	1	49	LTE B5	5	20597	843.7	2597	888.7	QPSK	1	0	25.14	24.97	

Notes:

1. This device supports uplink carrier aggregation for LTE CA_5B with a maximum of two component carriers. For intraband contiguous carrier aggregation scenarios, 3GPP 36.101 Table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when non-contiguous RB allocation is implemented. The conducted powers and MPR settings in this device are permanently implemented per the above 3GPP requirements.
2. Per FCC Guidance, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.



Figure 9-4
Power Measurement Setup

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9.5 NR Conducted Powers

9.5.1 NR Band n71

Table 9-95
NR Band n71 Measured P_{max} - 20 MHz Bandwidth

NR Band n71 20 MHz Bandwidth					
Modulation	RB Size	RB Offset	Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			136100 (680.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.08	0	0
	1	53	24.06		0
	1	104	23.91		0
	50	0	24.03	0-0.5	0
	50	28	24.00	0	0
	50	56	23.91	0-0.5	0
	100	0	24.00		0
DFT-s-OFDM QPSK	1	1	24.04	0	0
	1	53	24.02		0
	1	104	23.93		0
	50	0	23.04	0-1	1
	50	28	24.06	0	0
	50	56	22.93	0-1	1
	100	0	23.03		1
DFT-s-OFDM 16QAM	1	1	22.70	0-1	1
CP-OFDM QPSK	1	1	22.13	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.

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Table 9-96
NR Band n71 Measured P_{max} - 15 MHz Bandwidth

NR Band n71 15 MHz Bandwidth					
Modulation	RB Size	RB Offset	Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			136100 (680.5 MHz)		
			Conducted Power [dBm]		
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.08	0	0
	1	40	24.01		0
	1	77	24.03		0
	36	0	24.05	0-0.5	0
	36	22	24.01	0	0
	36	43	23.97	0-0.5	0
	75	0	24.02		0
DFT-s-OFDM QPSK	1	1	24.16	0	0
	1	40	24.07		0
	1	77	23.96		0
	36	0	23.03	0-1	1
	36	22	23.96	0	0
	36	43	22.93	0-1	1
	75	0	23.00		1
DFT-s-OFDM 16QAM	1	1	22.86	0-1	1
CP-OFDM QPSK	1	1	22.20	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.

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Table 9-97
NR Band n71 Measured P_{max} - 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 $\pi/2$ BPSK	1	1	23.91	24.08	24.05	0	0
	1	26	23.99	24.09	24.04		0
	1	50	24.09	24.04	23.95		0
	25	0	23.99	24.01	24.01	0-0.5	0
	25	14	24.03	24.04	24.02	0	0
	25	27	23.98	23.95	23.98	0-0.5	0
	50	0	24.02	24.02	23.99		0
DFT-s-OFDM QPSK	1	1	24.03	24.06	24.01	0	0
	1	26	24.02	24.08	24.03		0
	1	50	23.98	24.01	23.97		0
	25	0	22.97	22.94	22.98	0-1	1
	25	14	24.06	24.06	23.99	0	0
	25	27	22.93	22.96	22.98	0-1	1
	50	0	23.03	23.07	23.02		1
DFT-s-OFDM 16QAM	1	1	22.75	22.72	22.67	0-1	1
CP-OFDM QPSK	1	1	22.06	22.03	22.00	0-1.5	1.5

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Table 9-98
NR Band n71 Measured P_{max} - 5 MHz Bandwidth
NR Band n71
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 $\pi/2$ BPSK	1	1	23.93	24.05	24.08	0	0
	1	13	23.94	24.10	23.99		0
	1	23	23.74	24.07	23.89		0
	12	0	24.04	24.06	24.00	0-0.5	0
	12	7	23.97	24.07	23.96	0	0
	12	13	23.95	23.96	23.88	0-0.5	0
	25	0	23.98	24.04	23.94		0
DFT-s-OFDM QPSK	1	1	24.02	24.08	24.05	0	0
	1	13	24.03	24.05	24.01		0
	1	23	24.00	23.96	23.88		0
	12	0	23.05	23.03	23.00	0-1	1
	12	7	23.99	24.02	23.95	0	0
	12	13	22.98	22.89	22.83	0-1	1
	25	0	22.97	23.03	22.97		1
DFT-s-OFDM 16QAM	1	1	22.72	22.79	22.84	0-1	1
CP-OFDM QPSK	1	1	22.16	22.10	22.13	0-1.5	1.5

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9.5.2

NR Band n5

Table 9-99
NR Band n5 Measured P_{max} for all DSI - 20 MHz Bandwidth

NR Band n5 20 MHz Bandwidth					
Modulation	RB Size	RB Offset	Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			167300 (836.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.12	0	0
	1	53	24.01		0
	1	104	23.94		0
	50	0	23.37	0-0.5	0
	50	28	23.84	0	0
	50	56	23.23	0-0.5	0
	100	0	23.26		0
DFT-s-OFDM QPSK	1	1	24.11	0	0
	1	53	24.00		0
	1	104	23.65		0
	50	0	22.99	0-1	1
	50	28	23.83	0	0
	50	56	22.77	0-1	1
	100	0	22.89		1
DFT-s-OFDM 16QAM	1	1	22.94	0-1	1
CP-OFDM QPSK	1	1	21.93	0-1.5	1.5

Note: NR Band n5 (Cell) at 20 MHz bandwidth does not support non-overlapping channels. Per FCC Guidance, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

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Table 9-100
NR Band n5 Measured P_{max} for all DSI - 15 MHz Bandwidth
NR Band n5
15 MHz Bandwidth

NR Band n5 15 MHz Bandwidth					
Modulation	RB Size	RB Offset	Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			167300 (836.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.26	0	0
	1	40	24.05		0
	1	77	23.94		0
	36	0	23.57	0-0.5	0
	36	22	24.01	0	0
	36	43	23.43	0-0.5	0
	75	0	23.50		0
DFT-s-OFDM QPSK	1	1	24.30	0	0
	1	40	24.09		0
	1	77	23.97		0
	36	0	23.08	0-1	1
	36	22	23.97	0	0
	36	43	22.92	0-1	1
	75	0	22.98		1
DFT-s-OFDM 16QAM	1	1	23.43	0-1	1
CP-OFDM QPSK	1	1	22.47	0-1.5	1.5

Note: NR Band n5 (Cell) at 15 MHz bandwidth does not support non-overlapping channels. Per FCC Guidance, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

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Table 9-101
NR Band n5 Measured P_{max} for all DSI - 10 MHz Bandwidth
NR Band n5
10 MHz Bandwidth

NR Band n5 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			167300 (836.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.02	0	0
	1	26	24.05		0
	1	50	23.95		0
	25	0	23.39	0-0.5	0
	25	14	24.02	0	0
	25	27	23.30	0-0.5	0
	50	0	23.38		0
DFT-s-OFDM QPSK	1	1	24.09	0	0
	1	26	24.03		0
	1	50	23.96		0
	25	0	22.99	0-1	1
	25	14	23.97	0	0
	25	27	22.94	0-1	1
	50	0	23.03		1
DFT-s-OFDM 16QAM	1	1	23.29	0-1	1
CP-OFDM QPSK	1	1	22.43	0-1.5	1.5

Note: NR Band n5 (Cell) at 10 MHz bandwidth does not support non-overlapping channels. Per FCC Guidance, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

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Table 9-102
NR Band n5 Measured P_{max} for all DSI - 5 MHz Bandwidth

NR Band n5 5 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	165300 (826.5 MHz)	167300 (836.5 MHz)	169300 (846.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.25	24.02	23.95	0	0
	1	13	24.16	24.09	23.85		0
	1	23	24.13	23.98	23.73		0
	12	0	23.62	23.50	23.31	0-0.5	0
	12	7	24.13	24.03	23.82	0	0
	12	13	23.53	23.40	23.29	0-0.5	0
	25	0	23.59	23.40	23.23		0
DFT-s-OFDM QPSK	1	1	24.26	24.12	23.98	0	0
	1	13	24.22	24.15	23.86		0
	1	23	24.09	24.03	23.72		0
	12	0	23.25	23.09	22.90	0-1	1
	12	7	24.05	24.04	23.79	0	0
	12	13	23.08	22.96	22.67	0-1	1
	25	0	23.08	22.97	22.78		1
DFT-s-OFDM 16QAM	1	1	23.48	23.32	23.20	0-1	1
CP-OFDM QPSK	1	1	22.64	22.39	22.31	0-1.5	1.5

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9.5.3

NR Band n66 (AWS)

Table 9-103
NR Band n66 (AWS) Measured P_{max} - 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 $\pi/2$ BPSK	1	1	24.75	24.61	24.53	0	0.0
	1	53	24.72	24.52	24.62		0.0
	1	104	24.67	24.60	24.55		0.0
	50	0	24.15	23.97	23.97	0-0.5	0.0
	50	28	24.60	24.44	24.62	0	0.0
	50	56	24.11	23.94	24.13	0-0.5	0.0
	100	0	24.08	23.91	24.01		0.0
DFT-s-OFDM QPSK	1	1	24.67	24.46	24.51	0	0.0
	1	53	24.72	24.47	24.67		0.0
	1	104	24.58	24.42	24.56		0.0
	50	0	23.73	23.53	23.58	0-1	1.0
	50	28	24.61	24.45	24.58	0	0.0
	50	56	23.74	23.58	23.69	0-1	1.0
	100	0	23.69	23.51	23.68		1.0
DFT-s-OFDM 16QAM	1	1	23.82	23.61	23.65	0-1	1.0
CP-OFDM QPSK	1	1	23.19	23.06	23.15	0-1.5	1.5

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Table 9-104
NR Band n66 (AWS) Measured P_{max} - 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 $\pi/2$ BPSK	1	1	24.61	24.58	24.55	0	0.0
	1	40	24.62	24.52	24.53		0.0
	1	77	24.63	24.60	24.62		0.0
	36	0	24.13	24.02	23.98	0-0.5	0.0
	36	22	24.61	24.55	24.47	0	0.0
	36	43	24.10	24.04	24.04	0-0.5	0.0
	75	0	24.15	24.09	24.01		0.0
DFT-s-OFDM QPSK	1	1	24.55	24.60	24.56	0	0.0
	1	40	24.63	24.51	24.49		0.0
	1	77	24.69	24.56	24.63		0.0
	36	0	23.73	23.64	23.57	0-1	1.0
	36	22	24.59	24.52	24.45	0	0.0
	36	43	23.74	23.66	23.59	0-1	1.0
	75	0	23.72	23.68	23.62		1.0
DFT-s-OFDM 16QAM	1	1	23.56	23.63	23.47	0-1	1.0
CP-OFDM QPSK	1	1	23.14	23.12	22.98	0-1.5	1.5

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Table 9-105
NR Band n66 (AWS) Measured P_{max} - 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 $\pi/2$ BPSK	1	1	24.70	24.61	24.66	0	0.0
	1	26	24.81	24.87	24.87		0.0
	1	50	24.56	24.58	24.56		0.0
	25	0	24.02	24.07	24.03	0-0.5	0.0
	25	14	24.55	24.59	24.57	0	0.0
	25	27	24.06	24.08	24.06	0-0.5	0.0
	50	0	24.03	24.05	24.10		0.0
DFT-s-OFDM QPSK	1	1	24.60	24.61	24.54	0	0.0
	1	26	24.68	24.65	24.68		0.0
	1	50	24.54	24.60	24.54		0.0
	25	0	23.66	23.69	23.60	0-1	1.0
	25	14	24.57	24.55	24.59	0	0.0
	25	27	23.63	23.64	23.68	0-1	1.0
	50	0	23.65	23.70	23.67		1.0
DFT-s-OFDM 16QAM	1	1	23.56	23.59	23.55	0-1	1.0
CP-OFDM QPSK	1	1	23.23	23.24	23.30	0-1.5	1.5

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Table 9-106
NR Band n66 (AWS) Measured P_{max} - 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 $\pi/2$ BPSK	1	1	24.47	24.52	24.50	0	0.0
	1	13	24.59	24.56	24.55		0.0
	1	23	24.60	24.53	24.60		0.0
	12	0	24.02	23.97	24.01	0-0.5	0.0
	12	7	24.55	24.54	24.49	0	0.0
	12	13	24.00	24.00	24.00	0-0.5	0.0
	25	0	23.99	24.06	24.02		0.0
DFT-s-OFDM QPSK	1	1	24.52	24.46	24.51	0	0.0
	1	13	24.49	24.50	24.53		0.0
	1	23	24.55	24.51	24.52		0.0
	12	0	23.63	23.62	23.61	0-1	1.0
	12	7	24.57	24.55	24.55	0	0.0
	12	13	23.64	23.61	23.63	0-1	1.0
	25	0	23.59	23.65	23.63		1.0
DFT-s-OFDM 16QAM	1	1	23.51	23.59	23.53	0-1	1.0
CP-OFDM QPSK	1	1	23.20	23.15	23.42	0-1.5	1.5

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Table 9-107
NR Band n66 (AWS) Measured P_{limit} for DSI = 6 (Dual Display Cover 0° or 360°) or DSI = 7 (Dual Display Cover 180°)- 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 $\pi/2$ BPSK	1	1	23.28	23.49	23.57	0	0.0
	1	53	23.19	23.35	23.45		0.0
	1	104	23.71	23.41	23.63		0.0
	50	0	23.69	23.32	23.58	0-0.5	0.0
	50	28	23.82	23.40	23.73	0	0.0
	50	56	23.60	23.28	23.53	0-0.5	0.0
	100	0	23.63	23.22	23.55		0.0
DFT-s-OFDM QPSK	1	1	23.66	23.40	23.72	0	0.0
	1	53	23.66	23.20	23.59		0.0
	1	104	23.90	23.60	23.82		0.0
	50	0	23.60	23.23	23.52	0-1	0.0
	50	28	23.68	23.28	23.59	0	0.0
	50	56	23.61	23.19	23.53	0-1	0.0
	100	0	23.59	23.16	23.49		0.0
DFT-s-OFDM 16QAM	1	1	23.50	23.17	23.54	0-1	0.0
CP-OFDM QPSK	1	1	23.02	22.62	22.89	0-1.5	0.5

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Table 9-108
NR Band n66 (AWS) Measured P_{limit} for DSI = 6 (Dual Display Cover 0° or 360°) or DSI = 7 (Dual Display Cover 180°) - 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 $\pi/2$ BPSK	1	1	23.66	23.69	23.61	0	0.0
	1	40	23.67	23.58	23.50		0.0
	1	77	23.80	23.69	23.70		0.0
	36	0	23.56	23.59	23.51	0-0.5	0.0
	36	22	23.65	23.60	23.54	0	0.0
	36	43	23.70	23.61	23.51	0-0.5	0.0
	75	0	23.62	23.58	23.55		0.0
DFT-s-OFDM QPSK	1	1	23.73	23.72	23.71	0	0.0
	1	40	23.61	23.61	23.57		0.0
	1	77	23.82	23.80	23.70		0.0
	36	0	23.55	23.62	23.50	0-1	0.0
	36	22	23.50	23.63	23.51	0	0.0
	36	43	23.60	23.60	23.48	0-1	0.0
	75	0	23.54	23.59	23.50		0.0
DFT-s-OFDM 16QAM	1	1	23.51	23.54	23.49	0-1	0.0
CP-OFDM QPSK	1	1	22.97	22.94	22.88	0-1.5	0.5

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Table 9-109
NR Band n66 (AWS) Measured P_{limit} for DSI = 6 (Dual Display Cover 0° or 360°) or DSI = 7 (Dual Display Cover 180°) - 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 $\pi/2$ BPSK	1	1	23.62	23.66	23.68	0	0.0
	1	26	23.63	23.65	23.65		0.0
	1	50	23.76	23.70	23.64		0.0
	25	0	23.62	23.61	23.52	0-0.5	0.0
	25	14	23.75	23.83	23.74	0	0.0
	25	27	23.60	23.60	23.61	0-0.5	0.0
	50	0	23.65	23.63	23.53		0.0
DFT-s-OFDM QPSK	1	1	23.60	23.63	23.64	0	0.0
	1	26	23.67	23.67	23.70		0.0
	1	50	23.68	23.70	23.69		0.0
	25	0	23.55	23.61	23.51	0-1	0.0
	25	14	23.68	23.70	23.65	0	0.0
	25	27	23.59	23.58	23.52	0-1	0.0
	50	0	23.60	23.60	23.53		0.0
DFT-s-OFDM 16QAM	1	1	23.44	23.46	23.44	0-1	0.0
CP-OFDM QPSK	1	1	22.80	22.90	22.86	0-1.5	0.5

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Table 9-110
NR Band n66 (AWS) Measured P_{limit} for DSI = 6 (Dual Display Cover 0° or 360°) or DSI = 7 (Dual Display Cover 180°)- 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 $\pi/2$ BPSK	1	1	23.60	23.61	23.60	0	0.0
	1	13	23.70	23.70	23.69		0.0
	1	23	23.64	23.72	23.67		0.0
	12	0	23.59	23.60	23.58	0-0.5	0.0
	12	7	23.77	23.79	23.80	0	0.0
	12	13	23.62	23.62	23.64	0-0.5	0.0
	25	0	23.55	23.60	23.61		0.0
DFT-s-OFDM QPSK	1	1	23.57	23.69	23.66	0	0.0
	1	13	23.62	23.73	23.70		0.0
	1	23	23.64	23.59	23.61		0.0
	12	0	23.50	23.53	23.58	0-1	0.0
	12	7	23.65	23.61	23.62	0	0.0
	12	13	23.54	23.53	23.51	0-1	0.0
	25	0	23.52	23.53	23.46		0.0
DFT-s-OFDM 16QAM	1	1	23.33	23.44	23.52	0-1	0.0
CP-OFDM QPSK	1	1	22.82	22.87	22.96	0-1.5	0.5

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Table 9-111

NR Band n66 (AWS) Measured P_{limit} for DSI = 1 (Head, Body worn, and Phablet Max), DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor 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 $\pi/2$ BPSK	1	1	23.53	23.32	23.29	0	0.0
	1	53	23.44	23.26	23.27		0.0
	1	104	23.43	23.23	23.31		0.0
	50	0	23.36	23.24	23.26	0-0.5	0.0
	50	28	23.31	23.17	23.25	0	0.0
	50	56	23.29	23.22	23.27	0-0.5	0.0
	100	0	23.30	23.20	23.27		0.0
DFT-s-OFDM QPSK	1	1	23.46	23.24	23.21	0	0.0
	1	53	23.40	23.29	23.25		0.0
	1	104	23.32	23.28	23.20		0.0
	50	0	23.37	23.27	23.25	0-1	0.0
	50	28	23.32	23.34	23.29	0	0.0
	50	56	23.22	23.28	23.24	0-1	0.0
	100	0	23.36	23.21	23.24		0.0
DFT-s-OFDM 16QAM	1	1	23.41	23.31	23.24	0-1	0.0
CP-OFDM QPSK	1	1	23.17	23.05	23.12	0-1.5	0.0

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Table 9-112

NR Band n66 (AWS) Measured P_{limit} for DSI = 1 (Head, Body worn, and Phablet Max), DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor 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 $\pi/2$ BPSK	1	1	23.21	23.28	23.10	0	0.0
	1	40	23.05	23.18	23.12		0.0
	1	77	23.13	23.34	23.25		0.0
	36	0	23.22	23.22	23.15	0-0.5	0.0
	36	22	23.16	23.19	23.12	0	0.0
	36	43	23.21	23.18	23.15	0-0.5	0.0
	75	0	23.24	23.20	23.13		0.0
DFT-s-OFDM QPSK	1	1	23.21	23.24	23.21	0	0.0
	1	40	23.32	23.21	23.11		0.0
	1	77	23.34	23.16	23.35		0.0
	36	0	23.19	23.23	23.14	0-1	0.0
	36	22	23.22	23.17	23.08	0	0.0
	36	43	23.17	23.16	23.12	0-1	0.0
	75	0	23.20	23.19	23.10		0.0
DFT-s-OFDM 16QAM	1	1	23.21	23.14	23.07	0-1	0.0
CP-OFDM QPSK	1	1	23.17	23.16	22.97	0-1.5	0.0

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Table 9-113

NR Band n66 (AWS) Measured P_{limit} for DSI = 1 (Head, Body worn, and Phablet Max), DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor 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 $\pi/2$ BPSK	1	1	23.20	23.09	23.12	0	0.0
	1	26	23.37	23.35	23.40		0.0
	1	50	23.22	23.15	23.16		0.0
	25	0	23.10	23.13	23.14	0-0.5	0.0
	25	14	23.14	23.17	23.19	0	0.0
	25	27	23.16	23.14	23.19	0-0.5	0.0
	50	0	23.11	23.11	23.17		0.0
DFT-s-OFDM QPSK	1	1	23.14	23.18	23.16	0	0.0
	1	26	23.20	23.15	23.21		0.0
	1	50	23.17	23.09	23.04		0.0
	25	0	23.11	23.15	23.18	0-1	0.0
	25	14	23.14	23.16	23.22	0	0.0
	25	27	23.10	23.08	23.11	0-1	0.0
	50	0	23.18	23.13	23.17		0.0
DFT-s-OFDM 16QAM	1	1	23.15	23.17	23.21	0-1	0.0
CP-OFDM QPSK	1	1	23.08	23.03	23.23	0-1.5	0.0

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Table 9-114

NR Band n66 (AWS) Measured P_{limit} for DSI = 1 (Head, Body worn, and Phablet Max), DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor 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 $\pi/2$ BPSK	1	1	23.13	23.19	23.13	0	0.0
	1	13	23.15	23.15	23.17		0.0
	1	23	23.11	23.15	23.09		0.0
	12	0	23.09	23.08	23.12	0-0.5	0.0
	12	7	23.14	23.17	23.16	0	0.0
	12	13	23.06	23.13	23.04	0-0.5	0.0
	25	0	23.14	23.12	23.08		0.0
DFT-s-OFDM QPSK	1	1	23.13	23.07	23.10	0	0.0
	1	13	23.10	23.06	23.11		0.0
	1	23	23.03	23.11	23.06		0.0
	12	0	23.12	23.12	23.08	0-1	0.0
	12	7	23.21	23.10	23.15	0	0.0
	12	13	23.13	23.08	23.15	0-1	0.0
	25	0	23.11	23.13	23.12		0.0
DFT-s-OFDM 16QAM	1	1	23.04	23.14	23.15	0-1	0.0
CP-OFDM QPSK	1	1	23.10	23.22	23.29	0-1.5	0.0

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NR Band n25 (PCS)

Table 9-115
NR Band n25 (PCS) Measured P_{max} - 20 MHz Bandwidth

NR Band n25 20 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	372000 (1860 MHz)	376500 (1882.5 MHz)	381000 (1905 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.79	24.87	24.62	0	0.0
	1	53	24.82	24.80	24.73		0.0
	1	104	24.75	24.76	24.83		0.0
	50	0	24.30	24.23	24.08	0-0.5	0.0
	50	28	24.83	24.71	24.69	0	0.0
	50	56	24.31	24.19	24.25	0-0.5	0.0
	100	0	24.33	24.16	24.11		0.0
DFT-s-OFDM QPSK	1	1	24.75	24.74	24.69	0	0.0
	1	53	24.62	24.61	24.54		0.0
	1	104	24.73	24.52	24.74		0.0
	50	0	23.86	23.82	23.64	0-1	1.0
	50	28	24.81	24.64	24.62	0	0.0
	50	56	23.94	23.76	23.84	0-1	1.0
	100	0	23.96	23.79	23.73		1.0
DFT-s-OFDM 16QAM	1	1	23.81	23.88	23.73	0-1	1.0
CP-OFDM QPSK	1	1	23.24	23.23	23.22	0-1.5	1.5

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Table 9-116
NR Band n25 (PCS) Measured P_{max} - 15 MHz Bandwidth

NR Band n25 15 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	371500 (1857.5 MHz)	376500 (1882.5 MHz)	381500 (1907.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.97	25.02	24.65	0	0.0
	1	40	25.02	24.95	24.76		0.0
	1	77	25.08	24.84	24.85		0.0
	36	0	24.45	24.45	24.21	0-0.5	0.0
	36	22	24.88	24.81	24.74	0	0.0
	36	43	24.54	24.38	24.30	0-0.5	0.0
	75	0	24.44	24.43	24.25		0.0
DFT-s-OFDM QPSK	1	1	25.04	24.99	24.68	0	0.0
	1	40	25.10	24.85	24.87		0.0
	1	77	25.08	24.84	24.94		0.0
	36	0	24.05	23.94	23.90	0-1	1.0
	36	22	24.88	24.81	24.71	0	0.0
	36	43	24.06	23.85	23.89	0-1	1.0
	75	0	24.03	23.92	23.87		1.0
DFT-s-OFDM 16QAM	1	1	24.39	24.34	23.99	0-1	1.0
CP-OFDM QPSK	1	1	23.37	23.28	23.14	0-1.5	1.5

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Table 9-117
NR Band n25 (PCS) Measured P_{max} - 10 MHz Bandwidth
NR Band n25
10 MHz Bandwidth

NR Band n25 10 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	371000 (1855 MHz)	376500 (1882.5 MHz)	382000 (1910 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.84	24.97	24.56	0	0.0
	1	26	25.38	25.05	24.74		0.0
	1	50	24.94	24.86	24.82		0.0
	25	0	24.41	24.33	24.10	0-0.5	0.0
	25	14	24.92	24.80	24.69	0	0.0
	25	27	24.43	24.32	24.20	0-0.5	0.0
	50	0	24.41	24.27	24.20		0.0
DFT-s-OFDM QPSK	1	1	24.85	24.89	24.48	0	0.0
	1	26	24.95	24.99	24.71		0.0
	1	50	24.86	24.78	24.73		0.0
	25	0	23.98	23.89	23.71	0-1	1.0
	25	14	24.96	24.83	24.63	0	0.0
	25	27	24.01	23.87	23.79	0-1	1.0
	50	0	23.95	23.90	23.74		1.0
DFT-s-OFDM 16QAM	1	1	24.02	24.27	23.57	0-1	1.0
CP-OFDM QPSK	1	1	23.18	23.17	23.05	0-1.5	1.5

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Table 9-118
NR Band n25 (PCS) Measured P_{max} - 5 MHz Bandwidth
NR Band n25
5 MHz Bandwidth

			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	370500 (1852.5 MHz)	376500 (1882.5 MHz)	382500 (1912.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.91	24.76	24.59	0	0.0
	1	13	24.96	24.88	24.71		0.0
	1	23	24.95	24.77	24.73		0.0
	12	0	24.35	24.24	24.07	0-0.5	0.0
	12	7	24.95	24.78	24.79	0	0.0
	12	13	24.37	24.34	24.27	0-0.5	0.0
	25	0	24.38	24.25	24.14		0.0
DFT-s-OFDM QPSK	1	1	24.79	24.78	24.61	0	0.0
	1	13	24.86	24.71	24.65		0.0
	1	23	24.96	24.74	24.68		0.0
	12	0	23.92	23.81	23.75	0-1	1.0
	12	7	24.94	24.98	24.76	0	0.0
	12	13	24.00	23.90	23.77	0-1	1.0
	25	0	23.95	23.92	23.76		1.0
DFT-s-OFDM 16QAM	1	1	23.95	23.85	23.77	0-1	1.0
CP-OFDM QPSK	1	1	23.22	23.14	22.94	0-1.5	1.5

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Table 9-119

NR Band n25 (PCS) Measured P_{limit} for DSI = 1 (Head, Body worn, and Phablet Max), DSI = 6 (Dual Display Cover 0° or 360°), DSI = 7 (Dual Display Cover 180°) and/or DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor active) - 20 MHz Bandwidth

NR Band n25 20 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	372000 (1860 MHz)	376500 (1882.5 MHz)	381000 (1905 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	23.85	23.86	23.61	0	0.0
	1	53	23.80	23.77	23.71		0.0
	1	104	23.91	23.74	23.84		0.0
	50	0	23.86	23.78	23.51	0-0.5	0.0
	50	28	23.98	23.81	23.61	0	0.0
	50	56	23.91	23.73	23.67	0-0.5	0.0
	100	0	23.90	23.76	23.59		0.0
DFT-s-OFDM QPSK	1	1	23.86	23.80	23.53	0	0.0
	1	53	23.73	23.74	23.54		0.0
	1	104	23.88	23.63	23.73		0.0
	50	0	23.86	23.77	23.48	0-1	0.0
	50	28	23.94	23.73	23.57	0	0.0
	50	56	23.92	23.72	23.68	0-1	0.0
	100	0	23.93	23.68	23.65		0.0
DFT-s-OFDM 16QAM	1	1	23.84	23.81	23.45	0-1	0.0
CP-OFDM QPSK	1	1	23.26	23.16	22.98	0-1.5	0.5

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Table 9-120

NR Band n25 (PCS) Measured P_{limit} for DSI = 1 (Head, Body worn, and Phablet Max), DSI = 6 (Dual Display Cover 0° or 360°), DSI = 7 (Dual Display Cover 180°) and/or DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor active) - 15 MHz Bandwidth

NR Band n25 15 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	371500 (1857.5 MHz)	376500 (1882.5 MHz)	381500 (1907.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.05	24.15	23.78	0	0.0
	1	40	24.07	24.01	23.88		0.0
	1	77	24.14	23.97	24.02		0.0
	36	0	24.01	23.94	23.78	0-0.5	0.0
	36	22	23.95	23.92	23.81	0	0.0
	36	43	24.07	23.90	23.93	0-0.5	0.0
	75	0	23.95	23.89	23.85		0.0
DFT-s-OFDM QPSK	1	1	24.06	24.05	23.86	0	0.0
	1	40	24.03	23.95	23.91		0.0
	1	77	24.14	23.95	24.03		0.0
	36	0	24.03	23.95	23.79	0-1	0.0
	36	22	24.01	23.89	23.75	0	0.0
	36	43	24.08	23.87	23.90	0-1	0.0
	75	0	24.03	23.92	23.87		0.0
DFT-s-OFDM 16QAM	1	1	24.26	24.31	24.09	0-1	0.0
CP-OFDM QPSK	1	1	23.33	23.35	23.12	0-1.5	0.5

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Table 9-121

NR Band n25 (PCS) Measured P_{limit} for DSI = 1 (Head, Body worn, and Phablet Max), DSI = 6 (Dual Display Cover 0° or 360°), DSI = 7 (Dual Display Cover 180°) and/or DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor active) - 10 MHz Bandwidth

NR Band n25 10 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	371000 (1855 MHz)	376500 (1882.5 MHz)	382000 (1910 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	23.99	23.97	23.70	0	0.0
	1	26	24.43	24.15	23.86		0.0
	1	50	24.06	23.96	23.84		0.0
	25	0	23.99	23.88	23.72	0-0.5	0.0
	25	14	24.04	23.89	23.75	0	0.0
	25	27	24.00	23.91	23.83	0-0.5	0.0
	50	0	24.02	23.92	23.75		0.0
DFT-s-OFDM QPSK	1	1	24.02	24.02	23.63	0	0.0
	1	26	24.06	24.05	23.72		0.0
	1	50	23.97	23.94	23.85		0.0
	25	0	23.94	23.88	23.69	0-1	0.0
	25	14	24.03	23.92	23.78	0	0.0
	25	27	24.05	23.85	23.82	0-1	0.0
	50	0	23.97	23.90	23.76		0.0
DFT-s-OFDM 16QAM	1	1	23.97	24.35	23.61	0-1	0.0
CP-OFDM QPSK	1	1	23.34	23.26	22.93	0-1.5	0.5

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Table 9-122

NR Band n25 (PCS) Measured P_{limit} for DSI = 1 (Head, Body worn, and Phablet Max), DSI = 6 (Dual Display Cover 0° or 360°), DSI = 7 (Dual Display Cover 180°) and/or DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor active) - 5 MHz Bandwidth

NR Band n25 5 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	370500 (1852.5 MHz)	376500 (1882.5 MHz)	382500 (1912.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.01	23.94	23.75	0	0.0
	1	13	24.03	23.99	23.97		0.0
	1	23	24.08	24.01	23.88		0.0
	12	0	23.86	23.85	23.75	0-0.5	0.0
	12	7	23.97	23.91	23.88	0	0.0
	12	13	24.03	23.92	23.82	0-0.5	0.0
	25	0	24.03	23.90	23.75		0.0
DFT-s-OFDM QPSK	1	1	23.89	23.76	23.72	0	0.0
	1	13	24.02	23.78	23.82		0.0
	1	23	23.98	23.84	23.89		0.0
	12	0	23.92	23.82	23.72	0-1	0.0
	12	7	24.05	23.93	23.78	0	0.0
	12	13	23.97	23.93	23.86	0-1	0.0
	25	0	23.91	23.83	23.72		0.0
DFT-s-OFDM 16QAM	1	1	23.95	23.90	23.57	0-1	0.0
CP-OFDM QPSK	1	1	23.24	23.20	22.96	0-1.5	0.5

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NR Band n41

Table 9-123
NR Band n41 Measured P_{max} - 100 MHz Bandwidth

NR Band n41 100 MHz Bandwidth					
Modulation	RB Size	RB Offset	Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			518598 (2592.99 MHz) Conducted Power [dBm]		
DFT-s-OFDM $\pi/2$ BPSK	1	1	24.27	0	0.0
	1	137	24.44		0.0
	1	271	24.30		0.0
	135	0	23.99	0-0.5	0.0
	135	69	24.26	0	0.0
	135	138	24.00	0-0.5	0.0
	270	0	23.95		0.0
DFT-s-OFDM QPSK	1	1	24.41	0	0.0
	1	137	24.31		0.0
	1	271	24.40		0.0
	135	0	23.46	0-1	1.0
	135	69	24.37	0	0.0
	135	138	23.47	0-1	1.0
	270	0	23.50		1.0
DFT-s-OFDM 16QAM	1	1	23.53	0-1	1.0
CP-OFDM QPSK	1	1	23.01	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.

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Table 9-124
NR Band n41 Measured P_{max} - 90 MHz Bandwidth
NR Band n41
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 $\pi/2$ BPSK	1	1	24.44	24.07	0	0.0
	1	123	24.25	24.04		0.0
	1	243	24.36	24.04		0.0
	120	0	23.77	23.56	0-0.5	0.0
	120	63	24.16	23.67	0	0.0
	120	125	23.64	23.51	0-0.5	0.0
	243	0	23.69	23.52		0.0
DFT-s-OFDM QPSK	1	1	24.57	23.83	0	0.0
	1	123	24.32	24.03		0.0
	1	243	24.45	23.78		0.0
	120	0	23.20	22.94	0-1	1.0
	120	63	24.08	23.78	0	0.0
	120	125	23.01	22.92	0-1	1.0
	243	0	23.09	22.92		1.0
DFT-s-OFDM 16QAM	1	1	23.29	23.27	0-1	1.0
CP-OFDM QPSK	1	1	23.02	22.99	0-1.5	1.5

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Table 9-125
NR Band n41 Measured P_{max} - 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 $\pi/2$ BPSK	1	1	24.12	24.18	0	0.0
	1	109	24.22	24.21		0.0
	1	215	23.87	23.93		0.0
	108	0	23.54	23.78	0-0.5	0.0
	108	55	24.03	24.03	0	0.0
	108	109	23.58	23.75	0-0.5	0.0
	216	0	23.70	23.93		0.0
DFT-s-OFDM QPSK	1	1	24.25	24.41	0	0.0
	1	109	24.14	24.39		0.0
	1	215	24.23	24.37		0.0
	108	0	22.94	23.19	0-1	1.0
	108	55	23.97	24.02	0	0.0
	108	109	22.99	23.21	0-1	1.0
	216	0	22.92	23.17		1.0
DFT-s-OFDM 16QAM	1	1	23.44	23.45	0-1	1.0
CP-OFDM QPSK	1	1	22.72	23.11	0-1.5	1.5

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Table 9-126
NR Band n41 Measured P_{max} - 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 $\pi/2$ BPSK	1	1	24.28	24.47	24.29	0	0.0
	1	81	24.15	24.33	24.18		0.0
	1	160	23.96	24.06	23.87		0.0
	81	0	23.37	23.81	23.60	0-0.5	0.0
	81	41	23.75	23.98	23.83	0	0.0
	81	81	23.45	23.77	23.58	0-0.5	0.0
	162	0	23.38	23.79	23.62		0.0
DFT-s-OFDM QPSK	1	1	24.12	24.34	24.23	0	0.0
	1	81	24.10	24.46	24.36		0.0
	1	160	24.20	24.37	24.27		0.0
	81	0	22.69	23.25	23.10	0-1	1.0
	81	41	23.77	24.04	23.92	0	0.0
	81	81	22.76	23.17	23.08	0-1	1.0
	162	0	22.69	23.16	23.06		1.0
DFT-s-OFDM 16QAM	1	1	22.94	23.43	23.33	0-1	1.0
CP-OFDM QPSK	1	1	22.24	22.69	22.65	0-1.5	1.5

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Table 9-127
NR Band n41 Measured P_{max} - 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 $\pi/2$ BPSK	1	1	24.49	24.52	23.88	0	0.0
	1	67	24.45	24.37	24.03		0.0
	1	131	24.63	24.58	24.17		0.0
	64	0	23.65	23.82	23.74	0-0.5	0.0
	64	35	23.98	24.05	24.01	0	0.0
	64	69	23.78	23.91	23.82	0-0.5	0.0
	128	0	23.78	23.82	23.66		0.0
DFT-s-OFDM QPSK	1	1	24.15	24.02	24.46	0	0.0
	1	67	24.32	24.44	24.42		0.0
	1	131	24.41	24.52	24.42		0.0
	64	0	22.84	23.22	23.13	0-1	1.0
	64	35	23.95	24.04	23.90	0	0.0
	64	69	22.97	23.36	23.15	0-1	1.0
	128	0	22.80	23.15	23.09		1.0
DFT-s-OFDM 16QAM	1	1	23.03	23.39	23.55	0-1	1.0
CP-OFDM QPSK	1	1	22.87	23.07	23.06	0-1.5	1.5

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Table 9-128
NR Band n41 Measured P_{max} - 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 $\pi/2$ BPSK	1	1	24.07	24.01	24.15	24.11	0	0.0
	1	53	24.85	24.72	24.80	24.72		0.0
	1	104	24.99	24.88	24.99	24.91		0.0
	50	0	24.20	24.19	24.41	24.35	0-0.5	0.0
	50	28	24.48	24.42	24.49	24.44	0	0.0
	50	56	24.04	24.03	24.30	24.25	0-0.5	0.0
	100	0	24.05	24.02	24.14	24.17		0.0
DFT-s-OFDM QPSK	1	1	24.69	24.64	24.82	24.70	0	0.0
	1	53	24.83	24.83	24.91	24.90		0.0
	1	104	24.92	24.90	24.96	24.88		0.0
	50	0	23.36	23.42	23.65	23.60	0-1	1.0
	50	28	24.51	24.50	24.54	24.55	0	0.0
	50	56	23.39	23.36	23.67	23.59	0-1	1.0
	100	0	23.39	23.36	23.62	23.63		1.0
DFT-s-OFDM 16QAM	1	1	23.87	23.97	23.56	23.59	0-1	1.0
CP-OFDM QPSK	1	1	23.02	23.01	23.20	23.35	0-1.5	1.5

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Table 9-129
NR Band n41 Measured P_{max} - 20 MHz Bandwidth

NR Band n41									
20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Channel					MPR Allowed per 3GPP [dB]	MPR [dB]
			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 $\pi/2$ BPSK	1	1	24.64	24.73	24.83	24.79	24.73	0	0.0
	1	26	24.20	24.34	24.36	24.28	24.31		0.0
	1	49	24.58	24.75	24.72	24.75	24.71		0.0
	25	0	23.67	23.92	24.11	24.06	23.93	0-0.5	0.0
	25	13	24.10	24.22	24.21	24.13	24.07	0	0.0
	25	26	23.75	23.81	24.02	23.92	23.87	0-0.5	0.0
	50	0	23.84	23.96	24.11	23.99	23.93		0.0
DFT-s-OFDM QPSK	1	1	24.51	24.59	24.63	24.57	24.50	0	0.0
	1	26	24.16	24.23	24.34	24.35	24.16		0.0
	1	49	24.67	24.61	24.81	24.77	24.75		0.0
	25	0	22.95	23.09	23.35	23.23	23.19	0-1	1.0
	25	13	23.88	24.00	24.06	24.05	23.94	0	0.0
	25	26	23.08	23.13	23.47	23.36	23.29	0-1	1.0
	50	0	22.91	23.02	23.31	23.26	23.18		1.0
DFT-s-OFDM 16QAM	1	1	23.63	23.75	23.92	23.89	23.74	0-1	1.0
CP-OFDM QPSK	1	1	23.08	23.21	23.39	23.32	23.33	0-1.5	1.5

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Table 9-130

NR Band n41 Measured P_{limit} for DSI = 1 (Head, Body worn, and Phablet Max), DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor active) - 100 MHz Bandwidth

NR Band n41 100 MHz Bandwidth					
Modulation	RB Size	RB Offset	Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			518598 (2592.99 MHz) Conducted Power [dBm]		
DFT-s-OFDM $\pi/2$ BPSK	1	1	23.39	0	0.0
	1	137	23.37		0.0
	1	271	23.41		0.0
	135	0	23.38	0-0.5	0.0
	135	69	23.42	0	0.0
	135	138	23.34	0-0.5	0.0
	270	0	23.31		0.0
DFT-s-OFDM QPSK	1	1	23.33	0	0.0
	1	137	23.44		0.0
	1	271	23.47		0.0
	135	0	23.27	0-1	0.0
	135	69	23.21	0	0.0
	135	138	23.28	0-1	0.0
	270	0	23.25		0.0
DFT-s-OFDM 16QAM	1	1	23.66	0-1	0.0
CP-OFDM QPSK	1	1	23.01	0-1.5	0.5

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.

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Table 9-131

NR Band n41 Measured P_{limit} for DSI = 1 (Head, Body worn, and Phablet Max), DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor 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 $\pi/2$ BPSK	1	1	23.58	23.22	0	0.0
	1	123	23.36	23.28		0.0
	1	243	23.49	23.15		0.0
	120	0	23.22	23.24	0-0.5	0.0
	120	63	23.31	23.12	0	0.0
	120	125	23.16	23.23	0-0.5	0.0
	243	0	23.21	23.18		0.0
DFT-s-OFDM QPSK	1	1	23.49	23.32	0	0.0
	1	123	23.39	23.05		0.0
	1	243	23.44	23.17		0.0
	120	0	23.15	23.24	0-1	0.0
	120	63	23.34	23.15	0	0.0
	120	125	23.26	23.23	0-1	0.0
	243	0	23.07	23.20		0.0
DFT-s-OFDM 16QAM	1	1	23.48	23.35	0-1	0.0
CP-OFDM QPSK	1	1	23.23	22.93	0-1.5	0.5

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Table 9-132

NR Band n41 Measured P_{limit} for DSI = 1 (Head, Body worn, and Phablet Max), DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor 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 $\pi/2$ BPSK	1	1	23.48	23.29	0	0.0
	1	109	23.43	23.37		0.0
	1	215	23.50	23.31		0.0
	108	0	23.25	23.34	0-0.5	0.0
	108	55	23.19	23.22	0	0.0
	108	109	23.33	23.30	0-0.5	0.0
	216	0	23.30	23.25		0.0
DFT-s-OFDM QPSK	1	1	23.17	23.42	0	0.0
	1	109	23.06	23.50		0.0
	1	215	23.44	23.47		0.0
	108	0	23.14	23.18	0-1	0.0
	108	55	23.23	23.27	0	0.0
	108	109	23.18	23.21	0-1	0.0
	216	0	23.26	23.24		0.0
DFT-s-OFDM 16QAM	1	1	23.42	23.66	0-1	0.0
CP-OFDM QPSK	1	1	22.78	23.27	0-1.5	0.5

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Table 9-133

NR Band n41 Measured P_{limit} for DSI = 1 (Head, Body worn, and Phablet Max), DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor 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 $\pi/2$ BPSK	1	1	23.31	23.22	23.05	0	0.0
	1	81	23.22	23.48	23.11		0.0
	1	160	23.33	23.37	23.27		0.0
	81	0	23.43	23.32	23.13	0-0.5	0.0
	81	41	23.28	23.49	23.26	0	0.0
	81	81	23.35	23.54	23.29	0-0.5	0.0
	162	0	23.32	23.51	23.24		0.0
DFT-s-OFDM QPSK	1	1	23.57	23.62	23.19	0	0.0
	1	81	23.43	23.77	23.37		0.0
	1	160	23.47	23.46	23.42		0.0
	81	0	23.33	23.29	23.22	0-1	0.0
	81	41	23.35	23.48	23.17	0	0.0
	81	81	23.24	23.41	23.31	0-1	0.0
	162	0	23.22	23.38	23.18		0.0
DFT-s-OFDM 16QAM	1	1	23.63	23.79	23.70	0-1	0.0
CP-OFDM QPSK	1	1	22.98	22.97	23.04	0-1.5	0.5

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Table 9-134

NR Band n41 Measured P_{limit} for DSI = 1 (Head, Body worn, and Phablet Max), DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor 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 $\pi/2$ BPSK	1	1	23.61	23.68	23.21	0	0.0
	1	67	23.58	23.63	23.13		0.0
	1	131	23.63	23.81	23.36		0.0
	64	0	23.32	23.49	23.18	0-0.5	0.0
	64	35	23.28	23.54	23.14	0	0.0
	64	69	23.31	23.46	23.32	0-0.5	0.0
	128	0	23.22	23.38	23.09		0.0
DFT-s-OFDM QPSK	1	1	23.26	23.24	23.26	0	0.0
	1	67	23.23	23.36	23.12		0.0
	1	131	23.17	23.47	23.31		0.0
	64	0	23.20	23.33	23.11	0-1	0.0
	64	35	23.26	23.44	23.24	0	0.0
	64	69	23.22	23.48	23.25	0-1	0.0
	128	0	23.15	23.26	23.28		0.0
DFT-s-OFDM 16QAM	1	1	23.33	23.21	23.66	0-1	0.0
CP-OFDM QPSK	1	1	22.61	23.05	23.50	0-1.5	0.5

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Table 9-135

NR Band n41 Measured P_{limit} for DSI = 1 (Head, Body worn, and Phablet Max), DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor 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 $\pi/2$ BPSK	1	1	23.71	23.80	23.75	23.77	0	0.0
	1	53	23.57	23.68	23.81	23.56		0.0
	1	104	23.66	23.72	23.59	23.63		0.0
	50	0	23.62	23.61	23.68	23.58	0-0.5	0.0
	50	28	23.69	23.70	23.73	23.61	0	0.0
	50	56	23.65	23.79	23.62	23.66	0-0.5	0.0
	100	0	23.66	23.65	23.71	23.55		0.0
DFT-s-OFDM QPSK	1	1	23.30	23.77	23.77	23.52	0	0.0
	1	53	23.37	23.63	23.61	23.60		0.0
	1	104	23.48	23.82	23.54	23.80		0.0
	50	0	23.56	23.67	23.56	23.69	0-1	0.0
	50	28	23.62	23.59	23.63	23.57	0	0.0
	50	56	23.47	23.68	23.72	23.63	0-1	0.0
	100	0	23.54	23.64	23.65	23.67		0.0
DFT-s-OFDM 16QAM	1	1	23.23	23.86	23.38	23.49	0-1	0.0
CP-OFDM QPSK	1	1	22.93	23.05	23.43	23.13	0-1.5	0.5

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Table 9-136

NR Band n41 Measured P_{limit} for DSI = 1 (Head, Body worn, and Phablet Max), DSI = 5 (Hotspot mode) and/or DSI = 8 (Phablet with grip sensor 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 $\pi/2$ BPSK	1	1	23.60	23.43	23.17	23.39	23.46	0	0.0
	1	26	23.47	23.48	23.29	23.31	23.54		0.0
	1	49	23.41	23.62	23.70	23.23	23.67		0.0
	25	0	23.62	23.57	23.27	23.41	23.35	0-0.5	0.0
	25	13	23.56	23.46	23.21	23.42	23.51	0	0.0
	25	26	23.62	23.61	22.95	23.51	23.62	0-0.5	0.0
	50	0	23.45	23.50	23.05	23.29	23.46		0.0
DFT-s-OFDM QPSK	1	1	23.55	23.44	23.47	23.38	23.51	0	0.0
	1	26	23.48	23.63	23.29	23.64	23.67		0.0
	1	49	23.53	23.50	23.24	23.56	23.47		0.0
	25	0	23.59	23.46	23.21	23.42	23.53	0-1	0.0
	25	13	23.57	23.48	23.31	23.37	23.39	0	0.0
	25	26	23.42	23.37	23.18	23.33	23.49	0-1	0.0
	50	0	23.39	23.33	23.08	23.46	23.51		0.0
DFT-s-OFDM 16QAM	1	1	23.48	23.29	23.79	23.42	23.56	0-1	0.0
CP-OFDM QPSK	1	1	22.91	22.81	22.83	23.03	23.09	0-1.5	0.5

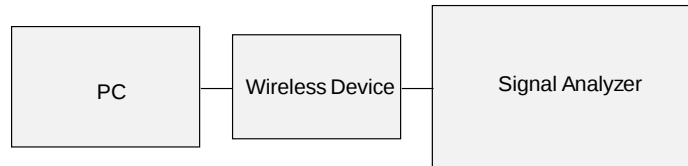


Figure 9-5
Power Measurement Setup

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9.6 WLAN Conducted Powers

Table 9-137
2.4 GHz WLAN Maximum Average RF Power – Ant 1

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ac
		Average	Average	Average	Average
2412	1	20.14	16.32	15.10	15.03
2422	3		19.00	17.62	17.65
2437	6	19.99	19.08	17.51	17.52
2452	9		19.07	17.79	17.79
2462	11	19.99	16.35	15.26	15.15

Table 9-138
2.4 GHz WLAN Maximum Average RF Power – Ant 2

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ac
		Average	Average	Average	Average
2412	1	19.82	16.50	15.16	15.15
2422	3		19.04	17.96	17.94
2437	6	20.09	19.10	18.07	17.99
2452	9		19.12	18.04	17.94
2462	11	20.10	16.42	15.15	15.06

Table 9-139
2.4 GHz WLAN Reduced Average RF Power– Ant 1

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ac
		Average	Average	Average	Average
2412	1	15.75	15.77	15.10	15.03
2422	3			15.77	15.83
2437	6	15.72	15.86	15.98	15.71
2452	9			16.17	15.91
2462	11	15.78	15.83	15.26	15.15

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Table 9-140
2.4 GHz WLAN Reduced Average RF Power – Ant 2

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ac
		Average	Average	Average	Average
2412	1	15.63	16.01	15.16	15.15
2422	3			16.00	15.95
2437	6	16.12	16.24	16.04	16.04
2452	9			16.13	15.89
2462	11	15.61	15.88	15.15	15.06

Table 9-141
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
		Average	Average	Average
5180	36	16.88	16.93	16.46
5200	40	18.92	18.88	18.59
5220	44	16.90	16.91	16.58
5240	48	16.82	16.89	16.51
5260	52	16.87	16.89	16.51
5280	56	18.87	18.76	18.46
5300	60	16.85	16.83	16.47
5320	64	16.85	16.87	16.59
5500	100	16.86	16.88	16.70
5600	120	16.92	16.93	16.68
5620	124	16.91	16.89	16.61
5720	144	16.96	16.98	16.70
5745	149	16.89	16.87	16.58
5785	157	18.86	18.89	18.58
5825	165	18.82	18.88	18.50

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Table 9-142
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
		Average	Average	Average
5180	36	16.89	16.79	16.81
5200	40	18.98	18.91	18.91
5220	44	16.86	16.64	16.66
5240	48	16.87	16.74	16.70
5260	52	16.73	16.63	16.61
5280	56	18.85	18.61	18.70
5300	60	16.71	16.64	16.58
5320	64	16.82	16.73	16.70
5500	100	16.77	16.59	16.64
5600	120	16.78	16.66	16.61
5620	124	16.77	16.53	16.56
5720	144	16.71	16.56	16.52
5745	149	16.89	16.68	16.67
5785	157	18.93	18.93	18.96
5825	165	18.92	18.78	18.72

Table 9-143
5 GHz WLAN Maximum Average RF Power – MIMO

5GHz (20MHz) 802.11n Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
5180	36	16.93	16.79	19.87
5200	40	18.88	18.91	21.91
5220	44	16.91	16.64	19.79
5240	48	16.89	16.74	19.83
5260	52	16.89	16.63	19.77
5280	56	18.76	18.61	21.70
5300	60	16.83	16.64	19.75
5320	64	16.87	16.73	19.81
5500	100	16.88	16.59	19.75
5600	120	16.93	16.66	19.81
5620	124	16.89	16.53	19.72
5720	144	16.98	16.56	19.79
5745	149	16.87	16.68	19.79
5785	157	18.89	18.93	21.92
5825	165	18.88	18.78	21.84

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Table 9-144
5 GHz WLAN Reduced Average RF Power– Ant 1

5GHz (40MHz) Conducted Power [dBm]			
Freq [MHz]	Channel	IEEE Transmission Mode	
		802.11n	802.11ac
		Average	Average
5190	38	15.93	15.99
5230	46	15.78	15.85
5270	54	15.87	15.91
5310	62	14.30	14.33
5510	102	13.82	13.81
5550	110	15.69	15.67
5590	118	15.73	15.68
5630	126	15.85	15.82
5710	142	15.90	15.83
5755	151	15.78	15.69
5795	159	15.89	15.83

Table 9-145
5 GHz WLAN Reduced Average RF Power– Ant 2

5GHz (40MHz) Conducted Power [dBm]			
Freq [MHz]	Channel	IEEE Transmission Mode	
		802.11n	802.11ac
		Average	Average
5190	38	15.74	15.79
5230	46	15.85	15.86
5270	54	15.79	15.80
5310	62	14.51	14.50
5510	102	14.02	14.01
5550	110	15.68	15.67
5590	118	15.69	15.71
5630	126	15.78	15.81
5710	142	15.89	15.99
5755	151	15.94	15.93
5795	159	15.96	15.96

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

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

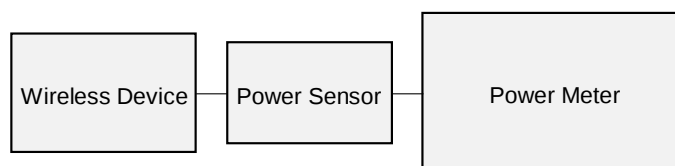


Figure 9-6
Power Measurement Setup

9.7 Bluetooth Conducted Powers

Table 9-146
Bluetooth Average RF Power

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
			[dBm]	[mW]
2402	1.0	0	10.20	10.461
2441	1.0	39	10.16	10.386
2480	1.0	78	9.94	9.851
2402	2.0	0	9.55	9.008
2441	2.0	39	9.55	9.017
2480	2.0	78	9.35	8.613
2402	3.0	0	9.61	9.150
2441	3.0	39	9.60	9.118
2480	3.0	78	9.35	8.618

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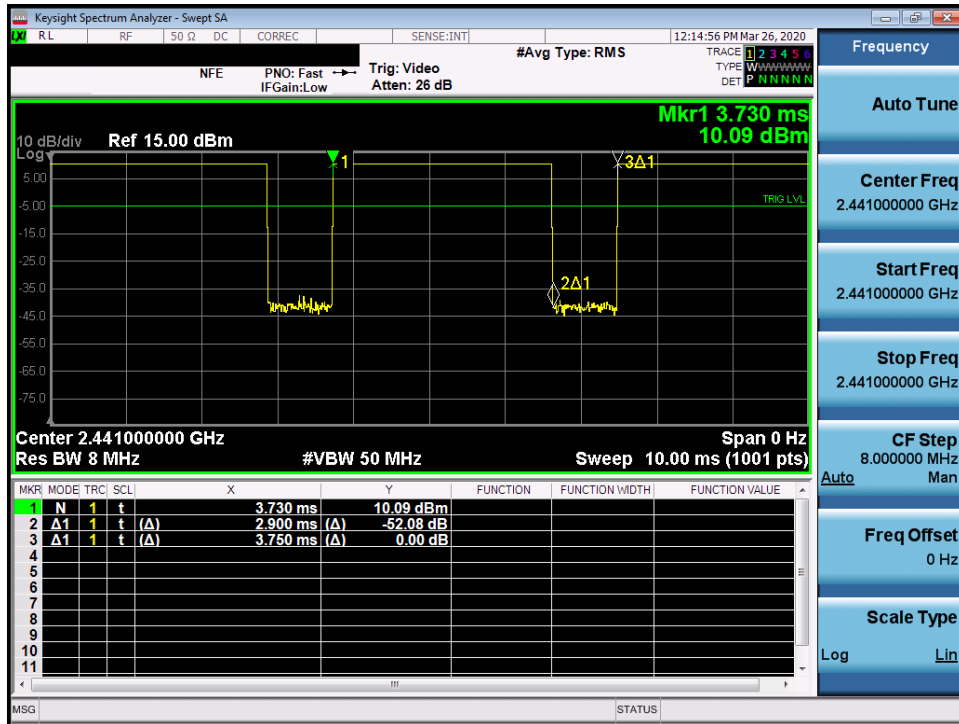


Figure 9-7
Bluetooth Transmission Plot

Equation 9-1
Bluetooth Duty Cycle Calculation

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

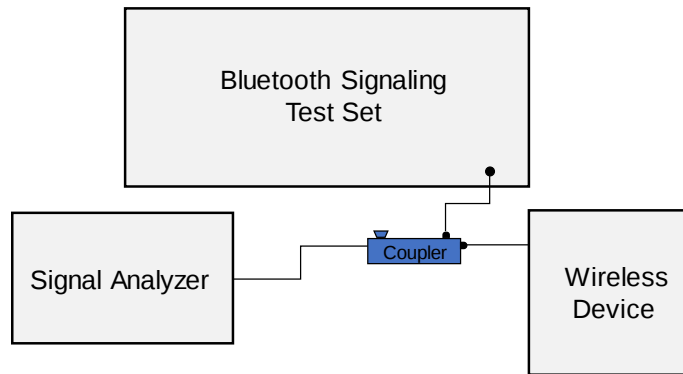


Figure 9-8
Power Measurement Setup

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10 SYSTEM VERIFICATION

10.1 Tissue Verification

Table 10-1
Measured Tissue Properties - Head

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
5/17/2020	750 Head	24.0	680	0.884	42.699	0.888	42.305	-0.45%	0.93%
			695	0.889	42.652	0.889	42.227	0.00%	1.01%
			750	0.908	42.487	0.894	41.942	1.57%	1.30%
			770	0.914	42.424	0.895	41.838	2.12%	1.40%
			785	0.920	42.372	0.896	41.760	2.68%	1.47%
5/20/2020	750 Head	21.7	700	0.857	41.715	0.889	42.201	-3.60%	-1.15%
			710	0.861	41.681	0.890	42.149	-3.26%	-1.11%
			750	0.875	41.554	0.894	41.942	-2.13%	-0.93%
			770	0.881	41.495	0.895	41.838	-1.56%	-0.82%
			785	0.886	41.447	0.896	41.760	-1.12%	-0.75%
6/15/2020	750 Head	21.3	800	0.891	41.399	0.897	41.682	-0.67%	-0.68%
			680	0.863	43.213	0.888	42.305	-2.82%	2.15%
			695	0.868	43.169	0.889	42.227	-2.36%	2.23%
5/20/2020	835 Head	21.2	750	0.888	43.036	0.894	41.942	-0.67%	2.61%
			820	0.896	40.883	0.899	41.578	-0.33%	-1.67%
			835	0.902	40.830	0.900	41.500	0.22%	-1.61%
5/28/2020	835 Head	21.7	850	0.908	40.777	0.916	41.500	-0.87%	-1.74%
			820	0.910	40.616	0.899	41.578	1.22%	-2.31%
			835	0.915	40.568	0.900	41.500	1.67%	-2.25%
06/01/2020	835 Head	21.1	850	0.921	40.525	0.916	41.500	0.55%	-2.35%
			820	0.899	41.168	0.899	41.578	0.00%	-0.99%
			835	0.904	41.119	0.900	41.500	0.44%	-0.92%
5/13/2020	1750 Head	21.0	850	0.909	41.078	0.916	41.500	-0.76%	-1.02%
			1710	1.312	40.663	1.348	40.142	-2.67%	1.30%
			1720	1.318	40.656	1.354	40.126	-2.66%	1.32%
			1745	1.335	40.627	1.368	40.087	-2.41%	1.35%
			1750	1.338	40.620	1.371	40.079	-2.41%	1.35%
6/10/2020	1750 Head	21.7	1770	1.351	40.589	1.383	40.047	-2.31%	1.35%
			1790	1.362	40.552	1.394	40.016	-2.30%	1.34%
			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%
05/18/2020	1900 Head	21.9	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%
			1850	1.409	40.313	1.400	40.000	0.64%	0.78%
			1860	1.415	40.297	1.400	40.000	1.07%	0.74%
6/12/2020	1900 Head	21.8	1880	1.426	40.270	1.400	40.000	1.86%	0.68%
			1900	1.437	40.242	1.400	40.000	2.64%	0.60%
			1905	1.440	40.235	1.400	40.000	2.86%	0.59%
			1910	1.443	40.226	1.400	40.000	3.07%	0.56%
			1850	1.397	39.547	1.400	40.000	-0.21%	-1.13%
	1900 Head	21.8	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%

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Table 10-2
Measured Tissue Properties – Head Continued

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
5/6/2020	2450 Head	22.2	2400	1.777	38.710	1.756	39.289	1.20%	-1.47%
			2450	1.818	38.641	1.800	39.200	1.00%	-1.43%
			2480	1.843	38.593	1.833	39.162	0.55%	-1.45%
			2500	1.860	38.562	1.855	39.136	0.27%	-1.47%
			2510	1.868	38.546	1.866	39.123	0.11%	-1.47%
			2535	1.889	38.507	1.893	39.092	-0.21%	-1.50%
			2550	1.902	38.485	1.909	39.073	-0.37%	-1.50%
			2560	1.911	38.470	1.920	39.060	-0.47%	-1.51%
			2600	1.946	38.407	1.964	39.009	-0.92%	-1.54%
			2650	1.988	38.323	2.018	38.945	-1.49%	-1.60%
			2680	2.012	38.267	2.051	38.907	-1.90%	-1.64%
			2700	2.029	38.231	2.073	38.882	-2.12%	-1.67%
05/10/2020	2450 Head	23.8	2300	1.683	39.462	1.670	39.500	0.78%	-0.10%
			2310	1.690	39.446	1.679	39.480	0.66%	-0.09%
			2320	1.696	39.431	1.687	39.460	0.53%	-0.07%
			2400	1.751	39.345	1.756	39.289	-0.28%	0.14%
			2450	1.787	39.278	1.800	39.200	-0.72%	0.20%
			2480	1.807	39.245	1.833	39.162	-1.42%	0.21%
06/10/2020	2450 Head	21.5	2500	1.821	39.218	1.855	39.136	-1.83%	0.21%
			2560	1.863	40.024	1.920	39.060	-2.97%	2.47%
			2600	1.892	39.969	1.964	39.009	-3.67%	2.46%
			2650	1.932	39.874	2.018	38.945	-4.26%	2.39%
			2680	1.959	39.828	2.051	38.907	-4.49%	2.37%
6/19/2020	2450 Head	22.4	2700	1.975	39.800	2.073	38.882	-4.73%	2.36%
			2400	1.754	40.161	1.756	39.289	-0.11%	2.22%
			2450	1.791	40.085	1.800	39.200	-0.50%	2.26%
			2480	1.815	40.027	1.833	39.162	-0.98%	2.21%
05/07/2020	5200-5800 Head	22.0	2500	1.831	39.999	1.855	39.136	-1.29%	2.21%
			5180	4.570	35.278	4.635	36.009	-1.40%	-2.03%
			5190	4.579	35.269	4.645	35.998	-1.42%	-2.03%
			5200	4.587	35.250	4.655	35.986	-1.46%	-2.05%
			5210	4.595	35.224	4.666	35.975	-1.52%	-2.09%
			5220	4.604	35.196	4.676	35.963	-1.54%	-2.13%
			5240	4.627	35.150	4.696	35.940	-1.47%	-2.20%
			5250	4.644	35.124	4.706	35.929	-1.32%	-2.24%
			5260	4.657	35.104	4.717	35.917	-1.27%	-2.26%
			5270	4.670	35.085	4.727	35.906	-1.21%	-2.29%
			5280	4.678	35.070	4.737	35.894	-1.25%	-2.30%
			5290	4.689	35.062	4.748	35.883	-1.24%	-2.29%
			5300	4.702	35.059	4.758	35.871	-1.18%	-2.26%
			5310	4.712	35.043	4.768	35.860	-1.17%	-2.28%
			5320	4.720	35.023	4.778	35.849	-1.21%	-2.30%
			5500	4.919	34.690	4.963	35.643	-0.89%	-2.67%
			5510	4.932	34.673	4.973	35.632	-0.82%	-2.69%
			5520	4.945	34.663	4.983	35.620	-0.76%	-2.69%
			5530	4.957	34.654	4.994	35.609	-0.74%	-2.68%
			5540	4.966	34.634	5.004	35.597	-0.76%	-2.71%
			5550	4.975	34.609	5.014	35.586	-0.78%	-2.75%
			5560	4.983	34.589	5.024	35.574	-0.82%	-2.77%
			5580	5.005	34.555	5.045	35.551	-0.79%	-2.80%
			5600	5.030	34.514	5.065	35.529	-0.69%	-2.86%
			5610	5.043	34.495	5.076	35.518	-0.65%	-2.88%
			5620	5.058	34.483	5.086	35.506	-0.55%	-2.88%
			5640	5.087	34.455	5.106	35.483	-0.37%	-2.90%
			5660	5.104	34.411	5.127	35.460	-0.45%	-2.96%
			5670	5.112	34.401	5.137	35.449	-0.49%	-2.96%
			5680	5.125	34.388	5.147	35.437	-0.43%	-2.96%
			5690	5.138	34.365	5.158	35.426	-0.39%	-2.99%
			5700	5.149	34.337	5.168	35.414	-0.37%	-3.04%
			5710	5.160	34.314	5.178	35.403	-0.35%	-3.08%
			5720	5.172	34.299	5.188	35.391	-0.31%	-3.09%
			5745	5.201	34.265	5.214	35.363	-0.25%	-3.10%
			5750	5.207	34.257	5.219	35.357	-0.23%	-3.11%
			5755	5.213	34.249	5.224	35.351	-0.21%	-3.12%
			5765	5.224	34.234	5.234	35.340	-0.19%	-3.13%
			5775	5.234	34.220	5.245	35.329	-0.21%	-3.14%
			5785	5.245	34.196	5.255	35.317	-0.19%	-3.17%
			5795	5.255	34.175	5.265	35.305	-0.19%	-3.20%
			5800	5.260	34.165	5.270	35.300	-0.19%	-3.22%
			5805	5.266	34.160	5.275	35.294	-0.17%	-3.21%
			5825	5.290	34.128	5.296	35.271	-0.11%	-3.24%

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Table 10-3
Measured Tissue Properties – Body

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
04/29/2020	750 Body	20.4	680	0.934	54.108	0.958	55.804	-2.51%	-3.04%
			695	0.940	54.067	0.959	55.745	-1.98%	-3.01%
			700	0.942	54.056	0.959	55.726	-1.77%	-3.00%
			710	0.945	54.029	0.960	55.687	-1.56%	-2.98%
			725	0.951	53.989	0.961	55.629	-1.04%	-2.95%
			750	0.960	53.912	0.964	55.531	-0.41%	-2.92%
			770	0.969	53.854	0.965	55.453	0.41%	-2.88%
			785	0.975	53.816	0.966	55.395	0.93%	-2.85%
06/22/2020	750 Body	23.5	800	0.980	53.777	0.967	55.336	1.34%	-2.82%
			680	0.926	56.823	0.958	55.804	-3.34%	1.83%
			695	0.930	56.794	0.959	55.745	-3.02%	1.88%
			750	0.951	56.673	0.964	55.531	-1.35%	2.06%
5/26/2020	835 Body	21.8	820	0.939	53.742	0.969	55.258	-3.10%	-2.74%
			835	0.954	53.587	0.970	55.200	-1.65%	-2.92%
			850	0.969	53.442	0.988	55.154	-1.92%	-3.10%
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%
4/29/2020	1750 Body	22.2	1710	1.487	52.019	1.463	53.537	1.64%	-2.84%
			1720	1.498	51.988	1.469	53.511	1.97%	-2.85%
			1745	1.526	51.885	1.485	53.445	2.76%	-2.92%
			1750	1.532	51.860	1.488	53.432	2.96%	-2.94%
			1770	1.554	51.756	1.501	53.379	3.53%	-3.04%
			1790	1.575	51.661	1.514	53.326	4.03%	-3.12%
5/27/2020	1750 Body	21.6	1710	1.465	51.310	1.463	53.537	0.14%	-4.16%
			1720	1.476	51.271	1.469	53.511	0.48%	-4.19%
			1745	1.504	51.189	1.485	53.445	1.28%	-4.22%
			1750	1.510	51.172	1.488	53.432	1.48%	-4.23%
			1770	1.532	51.104	1.501	53.379	2.07%	-4.26%
			1790	1.554	51.019	1.514	53.326	2.64%	-4.33%
6/15/2020	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%
06/17/2020	1750 Body	21.1	1710	1.472	52.149	1.463	53.537	0.62%	-2.59%
			1720	1.483	52.123	1.469	53.511	0.95%	-2.59%
			1745	1.512	52.047	1.485	53.445	1.82%	-2.62%
			1750	1.518	52.031	1.488	53.432	2.02%	-2.62%
			1770	1.542	51.963	1.501	53.379	2.73%	-2.65%
			1790	1.566	51.891	1.514	53.326	3.43%	-2.69%
06/21/2020	1750 Body	21.8	1710	1.468	52.235	1.463	53.537	0.34%	-2.43%
			1720	1.479	52.195	1.469	53.511	0.68%	-2.46%
			1745	1.507	52.105	1.485	53.445	1.48%	-2.51%
			1750	1.512	52.086	1.488	53.432	1.61%	-2.52%
			1770	1.533	52.007	1.501	53.379	2.13%	-2.57%
			1790	1.554	51.932	1.514	53.326	2.64%	-2.61%
6/10/2020	1900 Body	23.0	1850	1.524	52.433	1.520	53.300	0.26%	-1.63%
			1860	1.536	52.397	1.520	53.300	1.05%	-1.69%
			1880	1.559	52.326	1.520	53.300	2.57%	-1.83%
			1900	1.582	52.251	1.520	53.300	4.08%	-1.97%
			1905	1.587	52.232	1.520	53.300	4.41%	-2.00%
			1910	1.593	52.212	1.520	53.300	4.80%	-2.04%
6/15/2020	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%
06/18/2020	1900 Body	23.0	1850	1.525	51.880	1.520	53.300	0.33%	-2.66%
			1860	1.537	51.844	1.520	53.300	1.12%	-2.73%
			1880	1.560	51.770	1.520	53.300	2.63%	-2.87%
			1900	1.582	51.697	1.520	53.300	4.08%	-3.01%
			1905	1.588	51.678	1.520	53.300	4.47%	-3.04%
			1910	1.593	51.659	1.520	53.300	4.80%	-3.08%

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Table 10-4
Measured Tissue Properties – Body Continued

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
05/06/2020	2450 Body	21.9	2300	1.867	52.082	1.809	52.900	3.21%	-1.55%
			2310	1.879	52.053	1.816	52.887	3.47%	-1.58%
			2320	1.891	52.024	1.826	52.873	3.56%	-1.61%
05/11/2020	2450 Body	23.0	2400	1.952	52.462	1.902	52.767	2.63%	-0.58%
			2450	2.012	52.315	1.950	52.700	3.18%	-0.73%
			2480	2.046	52.225	1.993	52.662	2.66%	-0.83%
			2500	2.069	52.161	2.021	52.636	2.38%	-0.90%
			2510	2.081	52.130	2.035	52.623	2.26%	-0.94%
			2535	2.112	52.051	2.071	52.592	1.98%	-1.03%
			2550	2.130	52.010	2.092	52.573	1.82%	-1.07%
			2560	2.142	51.986	2.106	52.560	1.71%	-1.09%
			2600	2.187	51.879	2.163	52.509	1.11%	-1.20%
			2650	2.247	51.712	2.234	52.445	0.58%	-1.40%
			2680	2.283	51.630	2.277	52.407	0.26%	-1.48%
			2700	2.306	51.575	2.305	52.382	0.04%	-1.54%
5/13/2020	2450 Body	21.4	2400	1.987	51.744	1.902	52.767	4.47%	-1.94%
			2450	2.047	51.610	1.950	52.700	4.97%	-2.07%
			2480	2.081	51.517	1.993	52.662	4.42%	-2.17%
			2500	2.105	51.453	2.021	52.636	4.16%	-2.25%
5/18/2020	2450 Body	23.2	2400	1.954	52.787	1.902	52.767	2.73%	0.04%
			2450	2.011	52.642	1.950	52.700	3.13%	-0.11%
			2480	2.045	52.558	1.993	52.662	2.61%	-0.20%
			2500	2.069	52.497	2.021	52.636	2.38%	-0.26%
			2510	2.082	52.465	2.035	52.623	2.31%	-0.30%
			2535	2.112	52.391	2.071	52.592	1.98%	-0.38%
			2550	2.130	52.357	2.092	52.573	1.82%	-0.41%
			2560	2.141	52.333	2.106	52.560	1.66%	-0.43%
			2600	2.189	52.221	2.163	52.509	1.20%	-0.55%
			2650	2.249	52.056	2.234	52.445	0.67%	-0.74%
			2680	2.287	51.976	2.277	52.407	0.44%	-0.82%
			2700	2.312	51.919	2.305	52.382	0.30%	-0.88%
05/27/2020	2450 Body	21.8	2400	1.986	50.938	1.902	52.767	4.42%	-3.47%
			2450	2.045	50.783	1.950	52.700	4.87%	-3.64%
			2480	2.079	50.688	1.993	52.662	4.32%	-3.75%
			2500	2.103	50.620	2.021	52.636	4.06%	-3.83%
			2510	2.115	50.588	2.035	52.623	3.93%	-3.87%
			2535	2.144	50.510	2.071	52.592	3.52%	-3.96%
			2550	2.162	50.468	2.092	52.573	3.35%	-4.00%
			2560	2.174	50.443	2.106	52.560	3.23%	-4.03%
			2600	2.220	50.325	2.163	52.509	2.64%	-4.16%
			2650	2.280	50.155	2.234	52.445	2.06%	-4.37%
			2680	2.317	50.069	2.277	52.407	1.76%	-4.46%
			2700	2.341	50.014	2.305	52.382	1.56%	-4.52%
06/14/2020	2450 Body	21.1	2300	1.853	51.414	1.809	52.900	2.43%	-2.81%
			2310	1.865	51.388	1.816	52.887	2.70%	-2.83%
			2320	1.876	51.366	1.826	52.873	2.74%	-2.85%
			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%
06/25/2020	2450 Body	23.4	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%

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Table 10-5
Measured Tissue Properties – Body Continued

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
04/27/2020	5200-5800 Body	22.9	5180	5.409	47.572	5.276	49.041	2.52%	-3.00%
			5200	5.432	47.523	5.299	49.014	2.51%	-3.04%
			5220	5.446	47.498	5.323	48.987	2.31%	-3.04%
			5240	5.484	47.464	5.346	48.960	2.58%	-3.06%
			5260	5.512	47.424	5.369	48.933	2.66%	-3.08%
			5280	5.545	47.425	5.393	48.906	2.82%	-3.03%
			5300	5.573	47.357	5.416	48.879	2.90%	-3.11%
			5320	5.585	47.327	5.439	48.851	2.68%	-3.12%
			5500	5.842	47.018	5.650	48.607	3.40%	-3.27%
			5520	5.864	47.011	5.673	48.580	3.37%	-3.23%
			5540	5.889	46.981	5.696	48.553	3.39%	-3.24%
			5560	5.907	46.958	5.720	48.526	3.27%	-3.23%
			5580	5.954	46.916	5.743	48.499	3.67%	-3.26%
			5600	5.978	46.859	5.766	48.471	3.68%	-3.33%
			5620	6.008	46.849	5.790	48.444	3.77%	-3.29%
			5640	6.034	46.800	5.813	48.417	3.80%	-3.34%
			5660	6.054	46.783	5.837	48.390	3.72%	-3.32%
			5680	6.091	46.749	5.860	48.363	3.94%	-3.34%
			5700	6.125	46.692	5.883	48.336	4.11%	-3.40%
			5745	6.180	46.625	5.936	48.275	4.11%	-3.42%
			5765	6.203	46.629	5.959	48.248	4.09%	-3.36%
			5785	6.244	46.576	5.982	48.220	4.38%	-3.41%
			5800	6.266	46.548	6.000	48.200	4.43%	-3.43%
			5805	6.274	46.545	6.006	48.193	4.46%	-3.42%
			5825	6.310	46.480	6.029	48.166	4.66%	-3.50%
05/04/2020	5200-5800 Body	22.9	5180	5.344	46.822	5.276	49.041	1.29%	-4.52%
			5190	5.358	46.800	5.288	49.028	1.32%	-4.54%
			5200	5.368	46.775	5.299	49.014	1.30%	-4.57%
			5210	5.375	46.768	5.311	49.001	1.21%	-4.56%
			5220	5.385	46.775	5.323	48.987	1.16%	-4.52%
			5240	5.414	46.765	5.346	48.960	1.27%	-4.48%
			5250	5.428	46.735	5.358	48.947	1.31%	-4.52%
			5260	5.440	46.718	5.369	48.933	1.32%	-4.53%
			5270	5.456	46.707	5.381	48.919	1.39%	-4.52%
			5280	5.476	46.686	5.393	48.906	1.54%	-4.54%
			5290	5.492	46.649	5.404	48.892	1.63%	-4.59%
			5300	5.505	46.612	5.416	48.879	1.64%	-4.64%
			5310	5.511	46.594	5.428	48.865	1.53%	-4.65%
			5320	5.517	46.590	5.439	48.851	1.43%	-4.63%
			5500	5.754	46.312	5.650	48.607	1.84%	-4.72%
			5510	5.766	46.281	5.661	48.594	1.85%	-4.76%
			5520	5.779	46.269	5.673	48.580	1.87%	-4.76%
			5530	5.794	46.258	5.685	48.566	1.92%	-4.75%
			5540	5.805	46.240	5.696	48.553	1.91%	-4.76%
			5550	5.812	46.223	5.708	48.539	1.82%	-4.77%
			5560	5.824	46.219	5.720	48.526	1.82%	-4.75%
			5580	5.868	46.210	5.743	48.499	2.18%	-4.72%
			5600	5.890	46.147	5.766	48.471	2.15%	-4.79%
			5610	5.901	46.132	5.778	48.458	2.13%	-4.80%
			5620	5.917	46.123	5.790	48.444	2.19%	-4.79%
			5640	5.944	46.072	5.813	48.417	2.25%	-4.84%
			5660	5.967	46.070	5.837	48.390	2.23%	-4.79%
			5670	5.986	46.062	5.848	48.376	2.36%	-4.78%
			5680	6.003	46.041	5.860	48.363	2.44%	-4.80%
			5690	6.017	46.019	5.872	48.349	2.47%	-4.82%
			5700	6.029	46.006	5.883	48.336	2.48%	-4.82%
			5710	6.042	45.996	5.895	48.322	2.49%	-4.81%
			5720	6.058	45.981	5.907	48.309	2.56%	-4.82%
			5745	6.086	45.899	5.936	48.275	2.53%	-4.92%
			5750	6.089	45.895	5.942	48.268	2.47%	-4.92%
			5755	6.094	45.893	5.947	48.261	2.47%	-4.91%
			5765	6.110	45.902	5.959	48.248	2.53%	-4.86%
			5775	6.130	45.903	5.971	48.234	2.66%	-4.83%
			5785	6.147	45.883	5.982	48.220	2.76%	-4.85%
			5795	6.161	45.861	5.994	48.207	2.79%	-4.87%
			5800	6.169	45.853	6.000	48.200	2.82%	-4.87%
			5805	6.178	45.850	6.006	48.193	2.86%	-4.86%
			5825	6.209	45.808	6.029	48.166	2.99%	-4.90%

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

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10.2 Test System Verification

Prior to SAR assessment, the system is verified to $\pm 10\%$ 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 10-6
System Verification Results – 1g

System Verification TARGET & MEASURED												
SAR System #	Tissue Frequency (MHz)	Tissue Type	Date	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Source SN	Probe SN	Measured SAR _{1g} (W/kg)	1 W Target SAR _{1g} (W/kg)	1 W Normalized SAR _{1g} (W/kg)	Deviation _{1g} (%)
E	750	HEAD	05/17/2020	22.3	22.0	0.200	1003	3589	1.830	8.780	9.150	4.21%
E	750	HEAD	05/20/2020	22.5	21.7	0.200	1003	3589	1.670	8.780	8.350	-4.90%
E	750	HEAD	06/15/2020	22.5	21.5	0.200	1054	3589	1.770	8.630	8.850	2.55%
P	835	HEAD	05/20/2020	21.9	21.8	0.200	4d132	7551	1.930	9.650	9.650	0.00%
P	835	HEAD	05/28/2020	22.6	21.7	0.200	4d132	7551	1.930	9.650	9.650	0.00%
P	835	HEAD	06/01/2020	22.2	21.1	0.200	4d132	7551	1.840	9.650	9.200	-4.66%
L	1750	HEAD	05/13/2020	23.9	20.5	0.100	1150	7410	3.610	36.500	36.100	-1.10%
P	1750	HEAD	06/10/2020	23.5	21.7	0.100	1150	7551	3.780	36.500	37.800	3.56%
L	1900	HEAD	05/18/2020	22.7	21.9	0.100	5d148	7410	4.260	39.100	42.600	8.95%
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	05/10/2020	23.2	22.8	0.100	1073	3589	4.810	49.200	48.100	-2.24%
E	2450	HEAD	05/06/2020	22.9	21.2	0.100	719	3589	5.210	53.100	52.100	-1.88%
E	2450	HEAD	05/10/2020	23.2	22.8	0.100	719	3589	5.330	53.100	53.300	0.38%
L	2450	HEAD	06/19/2020	24.9	22.5	0.100	981	7410	5.330	52.300	53.300	1.91%
E	2600	HEAD	05/06/2020	22.9	21.2	0.100	1064	3589	5.710	58.100	57.100	-1.72%
E	2600	HEAD	06/10/2020	21.1	21.5	0.100	1064	3589	5.680	58.100	56.800	-2.24%
H	5250	HEAD	05/07/2020	22.7	22.0	0.050	1057	7357	3.690	79.200	73.800	-6.82%
H	5600	HEAD	05/07/2020	22.7	22.0	0.050	1057	7357	3.840	84.100	76.800	-8.68%
H	5750	HEAD	05/07/2020	22.7	22.0	0.050	1057	7357	3.780	80.500	75.600	-6.09%
L	750	BODY	04/29/2020	23.0	20.3	0.200	1161	7410	1.810	8.430	9.050	7.35%
E	750	BODY	06/22/2020	23.2	22.0	0.200	1003	3589	1.820	8.610	9.100	5.69%
D	835	BODY	05/26/2020	22.3	21.8	0.200	4d047	7488	1.890	9.470	9.450	-0.21%
P	835	BODY	06/15/2020	23.1	21.7	0.200	4d132	7551	1.940	9.960	9.700	-2.61%
I	1750	BODY	04/29/2020	23.1	22.2	0.100	1150	7527	3.820	36.600	38.200	4.37%
I	1750	BODY	05/27/2020	21.9	21.6	0.100	1008	7527	3.920	37.400	39.200	4.81%
L	1750	BODY	06/15/2020	23.1	21.2	0.100	1150	7410	3.800	36.600	38.000	3.83%
I	1750	BODY	06/17/2020	20.5	21.1	0.100	1150	7570	3.790	36.600	37.900	3.55%
H	1900	BODY	06/10/2020	22.4	21.8	0.100	5d080	7357	4.180	39.200	41.800	6.63%
J	1900	BODY	06/15/2020	22.1	23.2	0.100	5d080	7571	4.260	39.200	42.600	8.67%
J	1900	BODY	06/18/2020	22.7	23.0	0.100	5d149	7571	4.300	39.400	43.000	9.14%
K	2300	BODY	05/06/2020	24.4	21.9	0.100	1073	7547	5.080	47.700	50.800	6.50%
K	2300	BODY	06/14/2020	21.1	23.1	0.100	1073	7547	5.050	47.700	50.500	5.87%
K	2450	BODY	05/11/2020	22.5	22.0	0.100	719	7547	5.150	50.800	51.500	1.38%
K	2450	BODY	05/13/2020	24.0	21.4	0.100	797	7547	5.000	51.100	50.000	-2.15%
K	2450	BODY	05/18/2020	22.2	22.0	0.100	719	7547	5.250	50.800	52.500	3.35%
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	05/11/2020	22.5	22.0	0.100	1064	7547	5.460	55.600	54.600	-1.80%
K	2600	BODY	05/18/2020	22.2	22.0	0.100	1064	7547	5.500	55.600	55.000	-1.08%
K	2600	BODY	06/25/2020	22.0	21.7	0.100	1064	7547	5.490	55.600	54.900	-1.26%
G	5250	BODY	04/27/2020	23.0	22.9	0.050	1057	7409	3.800	75.900	76.000	0.13%
G	5600	BODY	04/27/2020	23.0	22.9	0.050	1057	7409	4.090	79.900	81.800	2.38%
G	5750	BODY	04/27/2020	23.0	22.9	0.050	1057	7409	3.820	76.700	76.400	-0.39%

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Table 10-7
System Verification Results – Body 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} (%)
L	1750	BODY	06/15/2020	23.1	21.2	0.100	1150	7410	2.010	19.400	20.100	3.61%
I	1750	BODY	06/21/2020	21.8	21.7	0.100	1150	7570	2.000	19.400	20.000	3.09%
H	1900	BODY	06/10/2020	22.4	21.8	0.100	5d080	7357	2.170	20.600	21.700	5.34%
J	1900	BODY	06/15/2020	22.1	23.2	0.100	5d080	7571	2.200	20.600	22.000	6.80%
K	2450	BODY	05/27/2020	22.9	21.8	0.100	719	7547	2.410	24.000	24.100	0.42%
K	2600	BODY	05/27/2020	22.9	21.8	0.100	1064	7547	2.390	25.000	23.900	-4.40%
G	5250	BODY	05/04/2020	21.3	22.9	0.050	1057	7409	1.120	21.100	22.400	6.16%
G	5600	BODY	05/04/2020	21.3	22.9	0.050	1057	7409	1.140	22.300	22.800	2.24%
G	5750	BODY	05/04/2020	21.3	22.9	0.050	1057	7409	1.020	21.200	20.400	-3.77%

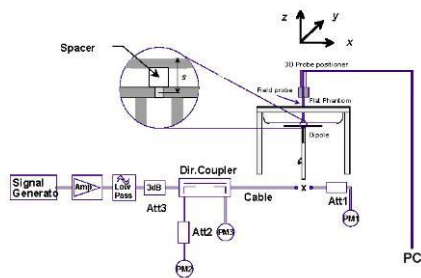


Figure 10-1
System Verification Setup Diagram



Figure 10-2
System Verification Setup Photo

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11 SAR DATA SUMMARY

11.1 Standalone Head SAR Data

Table 11-1
Cell. CDMA Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Ant 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	25.5	25.09	-0.06	Right	Cheek	8	05290	1:1	0.127	1.099	0.140	
836.52	384	Cell. CDMA	RC3 / SO55	25.5	25.09	0.20	Right	Tilt	8	05290	1:1	0.070	1.099	0.077	
836.52	384	Cell. CDMA	RC3 / SO55	25.5	25.09	0.13	Left	Cheek	8	05290	1:1	0.152	1.099	0.167	A1
836.52	384	Cell. CDMA	RC3 / SO55	25.5	25.09	0.04	Left	Tilt	8	05290	1:1	0.072	1.099	0.079	
836.52	384	Cell. CDMA	EVDO Rev. A	25.5	25.20	0.18	Right	Cheek	8	05290	1:1	0.128	1.072	0.137	
836.52	384	Cell. CDMA	EVDO Rev. A	25.5	25.20	0.17	Right	Tilt	8	05290	1:1	0.066	1.072	0.071	
836.52	384	Cell. CDMA	EVDO Rev. A	25.5	25.20	0.13	Left	Cheek	8	05290	1:1	0.151	1.072	0.162	
836.52	384	Cell. CDMA	EVDO Rev. A	25.5	25.20	-0.02	Left	Tilt	8	05290	1:1	0.077	1.072	0.083	
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
PCS CDMA Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1880.00	600	PCS CDMA	RC3 / SO55	25.5	25.11	-0.12	Right	Cheek	05290	1:1	0.101	1.094	0.110	
1880.00	600	PCS CDMA	RC3 / SO55	25.5	25.11	0.12	Right	Tilt	05290	1:1	0.046	1.094	0.050	
1880.00	600	PCS CDMA	RC3 / SO55	25.5	25.11	0.15	Left	Cheek	05290	1:1	0.067	1.094	0.073	
1880.00	600	PCS CDMA	RC3 / SO55	25.5	25.11	0.18	Left	Tilt	05290	1:1	0.063	1.094	0.069	
1880.00	600	PCS CDMA	EVDO Rev. A	25.5	25.12	0.20	Right	Cheek	05290	1:1	0.119	1.091	0.130	A2
1880.00	600	PCS CDMA	EVDO Rev. A	25.5	25.12	0.12	Right	Tilt	05290	1:1	0.055	1.091	0.060	
1880.00	600	PCS CDMA	EVDO Rev. A	25.5	25.12	-0.12	Left	Cheek	05290	1:1	0.113	1.091	0.123	
1880.00	600	PCS CDMA	EVDO Rev. A	25.5	25.12	-0.10	Left	Tilt	05290	1:1	0.071	1.091	0.077	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

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Table 11-3
GSM 850 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	# of Time Slots	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
836.60	190	GSM 850	GSM	33.5	33.00	0.08	Right	Cheek	05290	1	1:8.3	0.069	1.122	0.077	
836.60	190	GSM 850	GSM	33.5	33.00	-0.09	Right	Tilt	05290	1	1:8.3	0.046	1.122	0.052	
836.60	190	GSM 850	GSM	33.5	33.00	0.15	Left	Cheek	05290	1	1:8.3	0.092	1.122	0.103	
836.60	190	GSM 850	GSM	33.5	33.00	0.07	Left	Tilt	05290	1	1:8.3	0.043	1.122	0.048	
836.60	190	GSM 850	GPRS	29.0	28.43	0.01	Right	Cheek	05290	4	1:2.076	0.107	1.140	0.122	
836.60	190	GSM 850	GPRS	29.0	28.43	-0.15	Right	Tilt	05290	4	1:2.076	0.060	1.140	0.068	
836.60	190	GSM 850	GPRS	29.0	28.43	-0.11	Left	Cheek	05290	4	1:2.076	0.110	1.140	0.125	A3
836.60	190	GSM 850	GPRS	29.0	28.43	0.05	Left	Tilt	05290	4	1:2.076	0.064	1.140	0.073	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-4
GSM 1900 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	# of Time Slots	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1880.00	661	GSM 1900	GSM	30.5	29.90	0.13	Right	Cheek	05282	1	1:8.3	0.033	1.148	0.038	
1880.00	661	GSM 1900	GSM	30.5	29.90	0.18	Right	Tilt	05282	1	1:8.3	0.011	1.148	0.013	
1880.00	661	GSM 1900	GSM	30.5	29.90	0.12	Left	Cheek	05282	1	1:8.3	0.026	1.148	0.030	
1880.00	661	GSM 1900	GSM	30.5	29.90	0.15	Left	Tilt	05282	1	1:8.3	0.022	1.148	0.025	
1880.00	661	GSM 1900	GPRS	28.0	27.70	0.15	Right	Cheek	05282	3	1:2.76	0.052	1.072	0.056	A4
1880.00	661	GSM 1900	GPRS	28.0	27.70	0.12	Right	Tilt	05282	3	1:2.76	0.022	1.072	0.024	
1880.00	661	GSM 1900	GPRS	28.0	27.70	0.13	Left	Cheek	05282	3	1:2.76	0.040	1.072	0.043	
1880.00	661	GSM 1900	GPRS	28.0	27.70	0.11	Left	Tilt	05282	3	1:2.76	0.030	1.072	0.032	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram								

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Table 11-5
UMTS 850 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Ant 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	25.04	0.11	Right	Cheek	8	05290	1:1	0.121	1.112	0.135	
836.60	4183	UMTS 850	RMC	25.5	25.04	0.00	Right	Tilt	8	05290	1:1	0.067	1.112	0.075	
836.60	4183	UMTS 850	RMC	25.5	25.04	0.02	Left	Cheek	8	05290	1:1	0.139	1.112	0.155	A5
836.60	4183	UMTS 850	RMC	25.5	25.04	0.13	Left	Tilt	8	05290	1:1	0.066	1.112	0.073	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-6
UMTS 1750 Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1732.40	1412	UMTS 1750	RMC	25.5	25.10	0.11	Right	Cheek	05266	1:1	0.088	1.096	0.096	A6
1732.40	1412	UMTS 1750	RMC	25.5	25.10	0.12	Right	Tilt	05266	1:1	0.041	1.096	0.045	
1732.40	1412	UMTS 1750	RMC	25.5	25.10	0.10	Left	Cheek	05266	1:1	0.070	1.096	0.077	
1732.40	1412	UMTS 1750	RMC	25.5	25.10	0.11	Left	Tilt	05266	1:1	0.057	1.096	0.062	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-7
UMTS 1900 Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1880.00	9400	UMTS 1900	RMC	25.5	25.09	0.19	Right	Cheek	05282	1:1	0.102	1.099	0.112	A7
1880.00	9400	UMTS 1900	RMC	25.5	25.09	0.14	Right	Tilt	05282	1:1	0.044	1.099	0.048	
1880.00	9400	UMTS 1900	RMC	25.5	25.09	-0.12	Left	Cheek	05282	1:1	0.087	1.099	0.096	
1880.00	9400	UMTS 1900	RMC	25.5	25.09	0.01	Left	Tilt	05282	1:1	0.060	1.099	0.066	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

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Table 11-8
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	Ant 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	25.5	25.40	0.06	0	Right	Cheek	27	QPSK	1	50	05266	1:1	0.114	1.023	0.117	
680.50	133297	Mid	LTE Band 71	20	24.5	24.47	0.07	1	Right	Cheek	27	QPSK	50	0	05266	1:1	0.080	1.007	0.081	
680.50	133297	Mid	LTE Band 71	20	25.5	25.40	0.02	0	Right	Tilt	27	QPSK	1	50	05266	1:1	0.040	1.023	0.041	
680.50	133297	Mid	LTE Band 71	20	24.5	24.47	0.12	1	Right	Tilt	27	QPSK	50	0	05266	1:1	0.029	1.007	0.029	
680.50	133297	Mid	LTE Band 71	20	25.5	25.40	0.04	0	Left	Cheek	27	QPSK	1	50	05266	1:1	0.121	1.023	0.124	A8
680.50	133297	Mid	LTE Band 71	20	24.5	24.47	0.11	1	Left	Cheek	27	QPSK	50	0	05266	1:1	0.083	1.007	0.084	
680.50	133297	Mid	LTE Band 71	20	25.5	25.40	0.18	0	Left	Tilt	27	QPSK	1	50	05266	1:1	0.047	1.023	0.048	
680.50	133297	Mid	LTE Band 71	20	24.5	24.47	0.16	1	Left	Tilt	27	QPSK	50	0	05266	1:1	0.033	1.007	0.033	
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 12 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Ant 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	25.5	25.31	0.15	0	Right	Cheek	20	QPSK	1	49	05274	1:1	0.056	1.045	0.059	
707.50	23095	Mid	LTE Band 12	10	24.5	24.34	0.11	1	Right	Cheek	20	QPSK	25	25	05274	1:1	0.045	1.038	0.047	
707.50	23095	Mid	LTE Band 12	10	25.5	25.31	0.19	0	Right	Tilt	20	QPSK	1	49	05274	1:1	0.030	1.045	0.031	
707.50	23095	Mid	LTE Band 12	10	24.5	24.34	0.16	1	Right	Tilt	20	QPSK	25	25	05274	1:1	0.022	1.038	0.023	
707.50	23095	Mid	LTE Band 12	10	25.5	25.31	0.10	0	Left	Cheek	20	QPSK	1	49	05274	1:1	0.131	1.045	0.137	A9
707.50	23095	Mid	LTE Band 12	10	24.5	24.34	0.08	1	Left	Cheek	20	QPSK	25	25	05274	1:1	0.108	1.038	0.112	
707.50	23095	Mid	LTE Band 12	10	25.5	25.31	0.17	0	Left	Tilt	20	QPSK	1	49	05274	1:1	0.020	1.045	0.021	
707.50	23095	Mid	LTE Band 12	10	24.5	24.34	0.19	1	Left	Tilt	20	QPSK	25	25	05274	1:1	0.016	1.038	0.017	
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 13 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Ant State	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
																	(W/kg)		(W/kg)	
782.00	23230	Mid	LTE Band 13	10	25.5	25.33	0.13	0	Right	Cheek	10	QPSK	1	25	05274	1:1	0.077	1.040	0.080	
782.00	23230	Mid	LTE Band 13	10	24.5	24.33	0.09	1	Right	Cheek	10	QPSK	25	25	05274	1:1	0.072	1.040	0.075	
782.00	23230	Mid	LTE Band 13	10	25.5	25.33	0.13	0	Right	Tilt	10	QPSK	1	25	05274	1:1	0.046	1.040	0.048	
782.00	23230	Mid	LTE Band 13	10	24.5	24.33	0.13	1	Right	Tilt	10	QPSK	25	25	05274	1:1	0.040	1.040	0.042	
782.00	23230	Mid	LTE Band 13	10	25.5	25.33	0.15	0	Left	Cheek	10	QPSK	1	25	05274	1:1	0.158	1.040	0.164	A10
782.00	23230	Mid	LTE Band 13	10	24.5	24.33	0.15	1	Left	Cheek	10	QPSK	25	25	05274	1:1	0.115	1.040	0.120	
782.00	23230	Mid	LTE Band 13	10	25.5	25.33	0.17	0	Left	Tilt	10	QPSK	1	25	05274	1:1	0.059	1.040	0.061	
782.00	23230	Mid	LTE Band 13	10	24.5	24.33	0.16	1	Left	Tilt	10	QPSK	25	25	05274	1:1	0.055	1.040	0.057	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram											

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Table 11-11
LTE Band 14 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Ant State	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
																	(W/kg)		(W/kg)	
793.00	23330	Mid	LTE Band 14	10	25.5	25.33	0.17	0	Right	Cheek	16	QPSK	1	0	05266	1:1	0.091	1.040	0.095	
793.00	23330	Mid	LTE Band 14	10	24.5	24.26	0.09	1	Right	Cheek	16	QPSK	25	12	05266	1:1	0.065	1.057	0.069	
793.00	23330	Mid	LTE Band 14	10	25.5	25.33	-0.16	0	Right	Tilt	16	QPSK	1	0	05266	1:1	0.049	1.040	0.051	
793.00	23330	Mid	LTE Band 14	10	24.5	24.26	-0.15	1	Right	Tilt	16	QPSK	25	12	05266	1:1	0.035	1.057	0.037	
793.00	23330	Mid	LTE Band 14	10	25.5	25.33	0.13	0	Left	Cheek	16	QPSK	1	0	05266	1:1	0.123	1.040	0.128	A11
793.00	23330	Mid	LTE Band 14	10	24.5	24.26	0.00	1	Left	Cheek	16	QPSK	25	12	05266	1:1	0.098	1.057	0.104	
793.00	23330	Mid	LTE Band 14	10	25.5	25.33	0.04	0	Left	Tilt	16	QPSK	1	0	05266	1:1	0.041	1.040	0.043	
793.00	23330	Mid	LTE Band 14	10	24.5	24.26	0.16	1	Left	Tilt	16	QPSK	25	12	05266	1:1	0.036	1.057	0.038	
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 5 (Cell) Head SAR

MEASUREMENT RESULTS																						
1 CC Uplink 2 CC Uplink	Component Carrier	FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Ant 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)		
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	24.97	0.12	0	Right	Cheek	8	QPSK	1	49	05290	1:1	0.119	1.130	0.134	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	23.98	0.00	1	Right	Cheek	8	QPSK	25	25	05290	1:1	0.103	1.127	0.116	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	24.97	-0.01	0	Right	Tilt	8	QPSK	1	49	05290	1:1	0.070	1.130	0.079	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	23.98	0.13	1	Right	Tilt	8	QPSK	25	25	05290	1:1	0.055	1.127	0.062	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	24.97	-0.14	0	Left	Cheek	8	QPSK	1	49	05290	1:1	0.153	1.130	0.173	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	23.98	0.11	1	Left	Cheek	8	QPSK	25	25	05290	1:1	0.125	1.127	0.141	
2 CC Uplink	PCC	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.14	0.03	0	Left	Cheek	8	QPSK	1	49	05290	1:1	0.166	1.086	0.180	A12
	SCC	843.70	20597		LTE Band 5 (Cell)	5									1	0						
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	24.97	-0.06	0	Left	Tilt	8	QPSK	1	49	05290	1:1	0.067	1.130	0.076	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	23.98	0.07	1	Left	Tilt	8	QPSK	25	25	05290	1:1	0.055	1.127	0.062	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak												Head 1.6 W/kg (mW/g) averaged over 1 gram										
Uncontrolled Exposure/General Population																						

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Table 11-13
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	Ant	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
1770.00	132572	High	LTE Band 66 (AWS)	20	25.5	25.36	0.13	0	Right	Cheek	Ant 2	QPSK	1	0	05266	1:1	0.126	1.033	0.130	A13
1770.00	132572	High	LTE Band 66 (AWS)	20	24.5	24.40	0.15	1	Right	Cheek	Ant 2	QPSK	50	0	05266	1:1	0.096	1.023	0.098	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.5	25.36	0.17	0	Right	Tilt	Ant 2	QPSK	1	0	05266	1:1	0.050	1.033	0.052	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.5	24.40	0.14	1	Right	Tilt	Ant 2	QPSK	50	0	05266	1:1	0.036	1.023	0.037	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.5	25.36	-0.02	0	Left	Cheek	Ant 2	QPSK	1	0	05266	1:1	0.075	1.033	0.077	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.5	24.40	0.16	1	Left	Cheek	Ant 2	QPSK	50	0	05266	1:1	0.065	1.023	0.066	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.5	25.36	0.13	0	Left	Tilt	Ant 2	QPSK	1	0	05266	1:1	0.083	1.033	0.086	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.5	24.40	0.13	1	Left	Tilt	Ant 2	QPSK	50	0	05266	1:1	0.063	1.023	0.064	
1720.00	132072	Low	LTE Band 66 (AWS)	20	17.7	17.16	0.13	0	Right	Cheek	Ant 3	QPSK	1	0	05274	1:1	0.021	1.132	0.024	
1720.00	132072	Low	LTE Band 66 (AWS)	20	17.7	17.27	0.16	0	Right	Cheek	Ant 3	QPSK	50	25	05274	1:1	0.024	1.104	0.026	
1720.00	132072	Low	LTE Band 66 (AWS)	20	17.7	17.16	-0.19	0	Right	Tilt	Ant 3	QPSK	1	0	05274	1:1	0.005	1.132	0.006	
1720.00	132072	Low	LTE Band 66 (AWS)	20	17.7	17.27	0.04	0	Right	Tilt	Ant 3	QPSK	50	25	05274	1:1	0.007	1.104	0.008	
1720.00	132072	Low	LTE Band 66 (AWS)	20	17.7	17.16	0.15	0	Left	Cheek	Ant 3	QPSK	1	0	05274	1:1	0.010	1.132	0.011	
1720.00	132072	Low	LTE Band 66 (AWS)	20	17.7	17.27	0.13	0	Left	Cheek	Ant 3	QPSK	50	25	05274	1:1	0.013	1.104	0.014	
1720.00	132072	Low	LTE Band 66 (AWS)	20	17.7	17.16	0.13	0	Left	Tilt	Ant 3	QPSK	1	0	05274	1:1	0.006	1.132	0.007	
1720.00	132072	Low	LTE Band 66 (AWS)	20	17.7	17.27	0.03	0	Left	Tilt	Ant 3	QPSK	50	25	05274	1:1	0.008	1.104	0.009	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram											

Table 11-14
LTE Band 2 (PCS) Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Ant	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
																	MHz		Ch.	
1860.00	18700	Low	LTE Band 2 (PCS)	20	17.7	17.47	0.12	0	Right	Cheek	Ant 3	QPSK	1	0	05274	1:1	0.039	1.054	0.041	
1860.00	18700	Low	LTE Band 2 (PCS)	20	17.7	17.53	0.08	0	Right	Cheek	Ant 3	QPSK	50	25	05274	1:1	0.042	1.040	0.044	A14
1860.00	18700	Low	LTE Band 2 (PCS)	20	17.7	17.47	0.20	0	Right	Tilt	Ant 3	QPSK	1	0	05274	1:1	0.008	1.054	0.008	
1860.00	18700	Low	LTE Band 2 (PCS)	20	17.7	17.53	0.14	0	Right	Tilt	Ant 3	QPSK	50	25	05274	1:1	0.008	1.040	0.008	
1860.00	18700	Low	LTE Band 2 (PCS)	20	17.7	17.47	-0.14	0	Left	Cheek	Ant 3	QPSK	1	0	05274	1:1	0.022	1.054	0.023	
1860.00	18700	Low	LTE Band 2 (PCS)	20	17.7	17.53	0.09	0	Left	Cheek	Ant 3	QPSK	50	25	05274	1:1	0.022	1.040	0.023	
1860.00	18700	Low	LTE Band 2 (PCS)	20	17.7	17.47	0.21	0	Left	Tilt	Ant 3	QPSK	1	0	05274	1:1	0.013	1.054	0.014	
1860.00	18700	Low	LTE Band 2 (PCS)	20	17.7	17.53	0.13	0	Left	Tilt	Ant 3	QPSK	50	25	05274	1:1	0.013	1.040	0.014	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram										

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Table 11-15
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	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	25.5	24.91	0.12	0	Right	Cheek	QPSK	1	99	05282	1:1	0.123	1.146	0.141	A15
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.5	23.99	0.14	1	Right	Cheek	QPSK	50	50	05282	1:1	0.085	1.125	0.096	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.5	24.91	0.08	0	Right	Tilt	QPSK	1	99	05282	1:1	0.043	1.146	0.049	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.5	23.99	0.21	1	Right	Tilt	QPSK	50	50	05282	1:1	0.035	1.125	0.039	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.5	24.91	0.13	0	Left	Cheek	QPSK	1	99	05282	1:1	0.088	1.146	0.101	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.5	23.99	0.09	1	Left	Cheek	QPSK	50	50	05282	1:1	0.071	1.125	0.080	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.5	24.91	0.09	0	Left	Tilt	QPSK	1	99	05282	1:1	0.075	1.146	0.086	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.5	23.99	0.07	1	Left	Tilt	QPSK	50	50	05282	1:1	0.062	1.125	0.070	
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
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	23.0	22.42	0.00	0	Right	Cheek	QPSK	1	0	05258	1:1	0.067	1.143	0.077	
2310.00	27710	Mid	LTE Band 30	10	22.0	21.56	-0.01	1	Right	Cheek	QPSK	25	12	05258	1:1	0.061	1.107	0.068	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.42	0.15	0	Right	Tilt	QPSK	1	0	05258	1:1	0.025	1.143	0.029	
2310.00	27710	Mid	LTE Band 30	10	22.0	21.56	0.02	1	Right	Tilt	QPSK	25	12	05258	1:1	0.019	1.107	0.021	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.42	0.09	0	Left	Cheek	QPSK	1	0	05258	1:1	0.089	1.143	0.102	A16
2310.00	27710	Mid	LTE Band 30	10	22.0	21.56	0.13	1	Left	Cheek	QPSK	25	12	05258	1:1	0.053	1.107	0.059	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.42	-0.07	0	Left	Tilt	QPSK	1	0	05258	1:1	0.046	1.143	0.053	
2310.00	27710	Mid	LTE Band 30	10	22.0	21.56	0.16	1	Left	Tilt	QPSK	25	12	05258	1:1	0.027	1.107	0.030	
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
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)		
2560.00	21350	High	LTE Band 7	20	25.5	24.74	0.12	0	Right	Cheek	QPSK	1	99	05282	1:1	0.116	1.191	0.138	
2560.00	21350	High	LTE Band 7	20	24.5	23.83	0.13	1	Right	Cheek	QPSK	50	25	05282	1:1	0.090	1.167	0.105	
2560.00	21350	High	LTE Band 7	20	25.5	24.74	0.14	0	Right	Tilt	QPSK	1	99	05282	1:1	0.056	1.191	0.067	
2560.00	21350	High	LTE Band 7	20	24.5	23.83	-0.02	1	Right	Tilt	QPSK	50	25	05282	1:1	0.044	1.167	0.051	
2560.00	21350	High	LTE Band 7	20	25.5	24.74	0.21	0	Left	Cheek	QPSK	1	99	05282	1:1	0.148	1.191	0.176	A17
2560.00	21350	High	LTE Band 7	20	24.5	23.83	0.13	1	Left	Cheek	QPSK	50	25	05282	1:1	0.102	1.167	0.119	
2560.00	21350	High	LTE Band 7	20	25.5	24.74	0.13	0	Left	Tilt	QPSK	1	99	05282	1:1	0.051	1.191	0.061	
2560.00	21350	High	LTE Band 7	20	24.5	23.83	0.19	1	Left	Tilt	QPSK	50	25	05282	1:1	0.034	1.167	0.040	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram									

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Table 11-18
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 #
																(W/kg)		(W/kg)	
2680.00	41490	High	LTE Band 41	20	25.5	25.24	0.14	0	Right	Cheek	QPSK	1	50	05282	1:1.58	0.061	1.062	0.065	
2680.00	41490	High	LTE Band 41	20	24.5	24.31	0.14	1	Right	Cheek	QPSK	50	25	05282	1:1.58	0.045	1.045	0.047	
2680.00	41490	High	LTE Band 41	20	25.5	25.24	0.15	0	Right	Tilt	QPSK	1	50	05282	1:1.58	0.039	1.062	0.041	
2680.00	41490	High	LTE Band 41	20	24.5	24.31	0.12	1	Right	Tilt	QPSK	50	25	05282	1:1.58	0.033	1.045	0.034	
2680.00	41490	High	LTE Band 41	20	25.5	25.24	0.20	0	Left	Cheek	QPSK	1	50	05282	1:1.58	0.069	1.062	0.073	A18
2680.00	41490	High	LTE Band 41	20	24.5	24.31	0.16	1	Left	Cheek	QPSK	50	25	05282	1:1.58	0.054	1.045	0.056	
2680.00	41490	High	LTE Band 41	20	25.5	25.24	0.15	0	Left	Tilt	QPSK	1	50	05282	1:1.58	0.027	1.062	0.029	
2680.00	41490	High	LTE Band 41	20	24.5	24.31	0.16	1	Left	Tilt	QPSK	50	25	05282	1:1.58	0.022	1.045	0.023	
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 11-19
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	Waveform	Modulation	RB Size	RB Offset	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	24.8	24.04	0.18	0	Right	Cheek	DFT-S-OFDM	QPSK	1	1	05191	1:1	0.005	1.191	0.006	
680.50	136100	Mid	NR Band n71	20	24.8	24.06	0.15	0	Right	Cheek	DFT-S-OFDM	QPSK	50	28	05191	1:1	0.006	1.186	0.007	
680.50	136100	Mid	NR Band n71	20	24.8	24.04	0.17	0	Right	Tilt	DFT-S-OFDM	QPSK	1	1	05191	1:1	0.003	1.191	0.004	
680.50	136100	Mid	NR Band n71	20	24.8	24.06	0.13	0	Right	Tilt	DFT-S-OFDM	QPSK	50	28	05191	1:1	0.003	1.186	0.004	
680.50	136100	Mid	NR Band n71	20	24.8	24.04	0.15	0	Left	Cheek	DFT-S-OFDM	QPSK	1	1	05191	1:1	0.004	1.191	0.005	
680.50	136100	Mid	NR Band n71	20	24.8	24.06	0.17	0	Left	Cheek	DFT-S-OFDM	QPSK	50	28	05191	1:1	0.006	1.186	0.007	A19
680.50	136100	Mid	NR Band n71	20	23.3	22.13	0.18	1.5	Left	Cheek	CP-OFDM	QPSK	1	1	05191	1:1	0.003	1.309	0.004	
680.50	136100	Mid	NR Band n71	20	24.8	24.04	0.18	0	Left	Tilt	DFT-S-OFDM	QPSK	1	1	05191	1:1	0.002	1.191	0.002	
680.50	136100	Mid	NR Band n71	20	24.8	24.06	0.17	0	Left	Tilt	DFT-S-OFDM	QPSK	50	28	05191	1:1	0.002	1.186	0.002	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram										

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Table 11-20
NR Band n5 (Cell) Head SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Ant State	Waveform	Modulation	RB Size	RB Offset	Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.																(W/kg)		(W/kg)		
836.50	167300	Mid	NR Band n5 (Cell)	20	24.8	24.11	0.04	0	Right	Cheek	8	DFT-S-OFDM	QPSK	1	1	05209	1.1	0.094	1.172	0.110	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.8	23.83	0.01	0	Right	Cheek	8	DFT-S-OFDM	QPSK	50	28	05209	1.1	0.089	1.250	0.111	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.8	24.11	-0.02	0	Right	Tilt	8	DFT-S-OFDM	QPSK	1	1	05209	1.1	0.055	1.172	0.064	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.8	23.83	0.13	0	Right	Tilt	8	DFT-S-OFDM	QPSK	50	28	05209	1.1	0.048	1.250	0.060	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.8	24.11	-0.01	0	Left	Cheek	8	DFT-S-OFDM	QPSK	1	1	05209	1.1	0.112	1.172	0.131	A20
836.50	167300	Mid	NR Band n5 (Cell)	20	24.8	23.83	0.10	0	Left	Cheek	8	DFT-S-OFDM	QPSK	50	28	05209	1.1	0.106	1.250	0.133	
836.50	167300	Mid	NR Band n5 (Cell)	20	23.3	21.93	0.13	1.5	Left	Cheek	8	CP-OFDM	QPSK	1	1	05209	1.1	0.079	1.371	0.108	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.8	24.11	0.05	0	Left	Tilt	8	DFT-S-OFDM	QPSK	1	1	05209	1.1	0.053	1.172	0.062	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.8	23.83	0.13	0	Left	Tilt	8	DFT-S-OFDM	QPSK	50	28	05209	1.1	0.046	1.250	0.058	
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 11-21
NR Band n66 (AWS) Head SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Dual Display Accessory Configuration	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Waveform	Modulation	RB Size	RB Offset	Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.	(W/kg)																(W/kg)			
1720.00	344000	Low	NR Band n66 (AWS)	20	#3	24.5	23.90	-0.07	0	Right	Cheek	DFT-S-OFDM	QPSK	1	104	05209	1:1	0.116	1.148	0.133	A21
1720.00	344000	Low	NR Band n66 (AWS)	20	#3	24.5	23.90	0.14	0	Right	Tilt	DFT-S-OFDM	QPSK	1	104	05209	1:1	0.032	1.148	0.037	
1720.00	344000	Low	NR Band n66 (AWS)	20	#3	24.5	23.90	-0.17	0	Left	Cheek	DFT-S-OFDM	QPSK	1	104	05209	1:1	0.063	1.148	0.072	
1720.00	344000	Low	NR Band n66 (AWS)	20	#3	24.5	23.90	0.14	0	Left	Tilt	DFT-S-OFDM	QPSK	1	104	05209	1:1	0.045	1.148	0.052	
1720.00	344000	Low	NR Band n66 (AWS)	20	-	24.0	23.46	0.08	0	Right	Cheek	DFT-S-OFDM	QPSK	1	1	05209	1:1	0.101	1.132	0.114	
1720.00	344000	Low	NR Band n66 (AWS)	20	-	24.0	23.37	-0.01	0	Right	Cheek	DFT-S-OFDM	QPSK	50	0	05209	1:1	0.097	1.156	0.112	
1720.00	344000	Low	NR Band n66 (AWS)	20	-	24.0	23.17	0.16	0	Right	Cheek	CP-OFDM	QPSK	1	1	05209	1:1	0.092	1.211	0.111	
1720.00	344000	Low	NR Band n66 (AWS)	20	-	24.0	23.46	0.01	0	Right	Tilt	DFT-S-OFDM	QPSK	1	1	05209	1:1	0.029	1.132	0.033	
1720.00	344000	Low	NR Band n66 (AWS)	20	-	24.0	23.37	0.16	0	Right	Tilt	DFT-S-OFDM	QPSK	50	0	05209	1:1	0.030	1.156	0.035	
1720.00	344000	Low	NR Band n66 (AWS)	20	-	24.0	23.46	0.05	0	Left	Cheek	DFT-S-OFDM	QPSK	1	1	05209	1:1	0.045	1.132	0.051	
1720.00	344000	Low	NR Band n66 (AWS)	20	-	24.0	23.37	0.04	0	Left	Cheek	DFT-S-OFDM	QPSK	50	0	05209	1:1	0.047	1.156	0.054	
1720.00	344000	Low	NR Band n66 (AWS)	20	-	24.0	23.46	0.15	0	Left	Tilt	DFT-S-OFDM	QPSK	1	1	05209	1:1	0.033	1.132	0.037	
1720.00	344000	Low	NR Band n66 (AWS)	20	-	24.0	23.37	0.06	0	Left	Tilt	DFT-S-OFDM	QPSK	50	0	05209	1:1	0.034	1.156	0.039	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT											Head										
Spatial Peak											1.6 W/kg (mW/g)										
Uncontrolled Exposure/General Population											averaged over 1 gram										

Note: Light orange entries represent additional Head SAR Position (DD #3: 360 degrees)

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Table 11-22
NR Band n25 (PCS) Head SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Waveform	Modulation	RB Size	RB Offset	Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
1860.00	372000	Low	NR Band n25 (PCS)	20	24.5	23.88	0.10	0	Right	Cheek	DFT-S-OFDM	QPSK	1	104	05209	1:1	0.192	1.153	0.221	
1860.00	372000	Low	NR Band n25 (PCS)	20	24.5	23.94	0.12	0	Right	Cheek	DFT-S-OFDM	QPSK	50	28	05209	1:1	0.196	1.138	0.223	A22
1860.00	372000	Low	NR Band n25 (PCS)	20	24.0	23.26	-0.01	0.5	Right	Cheek	CP-OFDM	QPSK	1	1	05209	1:1	0.161	1.186	0.191	
1860.00	372000	Low	NR Band n25 (PCS)	20	24.5	23.88	0.12	0	Right	Tilt	DFT-S-OFDM	QPSK	1	104	05209	1:1	0.070	1.153	0.081	
1860.00	372000	Low	NR Band n25 (PCS)	20	24.5	23.94	0.21	0	Right	Tilt	DFT-S-OFDM	QPSK	50	28	05209	1:1	0.069	1.138	0.079	
1860.00	372000	Low	NR Band n25 (PCS)	20	24.5	23.88	0.08	0	Left	Cheek	DFT-S-OFDM	QPSK	1	104	05209	1:1	0.129	1.153	0.149	
1860.00	372000	Low	NR Band n25 (PCS)	20	24.5	23.94	0.16	0	Left	Cheek	DFT-S-OFDM	QPSK	50	28	05209	1:1	0.140	1.138	0.159	
1860.00	372000	Low	NR Band n25 (PCS)	20	24.5	23.88	0.16	0	Left	Tilt	DFT-S-OFDM	QPSK	1	104	05209	1:1	0.081	1.153	0.093	
1860.00	372000	Low	NR Band n25 (PCS)	20	24.5	23.94	0.12	0	Left	Tilt	DFT-S-OFDM	QPSK	50	28	05209	1:1	0.087	1.138	0.099	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT									Head											
Spatial Peak									1.6 W/kg (mW/g)											
Uncontrolled Exposure/General Population									averaged over 1 gram											

Note: Light orange entries represent additional Head SAR Position (DD #3: 360 degrees)

Table 11-23
NR Band n41 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Dual Display Accessory Configuration	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Waveform	Modulation	RB Size	RB Offset	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	#3	25.0	24.41	-0.13	0	Right	Cheek	DFT-S-OFDM	QPSK	1	1	05209	1:4	0.034	1.146	0.039	A23
2592.99	518598	Mid	NR Band n41	#3	25.0	24.41	-0.13	0	Right	Tilt	DFT-S-OFDM	QPSK	1	1	05209	1:4	0.054	1.146	0.062	
2592.99	518598	Mid	NR Band n41	#3	25.0	24.41	0.16	0	Left	Cheek	DFT-S-OFDM	QPSK	1	1	05209	1:4	0.036	1.146	0.041	
2592.99	518598	Mid	NR Band n41	#3	25.0	24.41	0.18	0	Left	Tilt	DFT-S-OFDM	QPSK	1	1	05209	1:4	0.039	1.146	0.045	
2592.99	518598	Mid	NR Band n41	-	24.0	23.47	0.14	0	Right	Cheek	DFT-S-OFDM	QPSK	1	271	05191	1:4	0.023	1.130	0.026	
2592.99	518598	Mid	NR Band n41	-	24.0	23.28	0.13	0	Right	Cheek	DFT-S-OFDM	QPSK	135	138	05191	1:4	0.023	1.180	0.027	
2592.99	518598	Mid	NR Band n41	-	24.0	23.47	0.02	0	Right	Tilt	DFT-S-OFDM	QPSK	1	271	05191	1:4	0.004	1.130	0.005	
2592.99	518598	Mid	NR Band n41	-	24.0	23.28	0.00	0	Right	Tilt	DFT-S-OFDM	QPSK	135	138	05191	1:4	0.003	1.180	0.004	
2592.99	518598	Mid	NR Band n41	-	24.0	23.47	-0.19	0	Left	Cheek	DFT-S-OFDM	QPSK	1	271	05191	1:4	0.025	1.130	0.028	
2592.99	518598	Mid	NR Band n41	-	24.0	23.28	0.15	0	Left	Cheek	DFT-S-OFDM	QPSK	135	138	05191	1:4	0.026	1.180	0.031	
2592.99	518598	Mid	NR Band n41	-	23.5	23.01	0.13	0.5	Left	Cheek	CP-OFDM	QPSK	1	1	05191	1:4	0.024	1.119	0.027	
2592.99	518598	Mid	NR Band n41	-	24.0	23.47	0.19	0	Left	Tilt	DFT-S-OFDM	QPSK	1	271	05191	1:4	0.005	1.130	0.006	
2592.99	518598	Mid	NR Band n41	-	24.0	23.28	0.12	0	Left	Tilt	DFT-S-OFDM	QPSK	135	138	05191	1:4	0.005	1.180	0.006	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT										Head										
Spatial Peak										1.6 W/kg (mW/g)										
Uncontrolled Exposure/General Population										averaged over 1 gram										

Note: Light orange entries represent additional Head SAR Position (DD #3: 360 degrees)

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**Table 11-24
DTS Head SAR**

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Dual Display Accessory Configuration	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (lg)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (lg)	Plot #
MHz	Ch.														W/kg	(W/kg)		(W/kg)	(W/kg)	
2462	11	802.11b	DSSS	22	16.5	15.78	0.10	Right	Cheek	1	-	05381	1	99.3	0.497	0.383	1.180	1.007	0.455	
2462	11	802.11b	DSSS	22	16.5	15.78	0.13	Right	Tilt	1	-	05381	1	99.3	0.465	0.209	1.180	1.007	0.248	
2462	11	802.11b	DSSS	22	16.5	15.78	0.16	Left	Cheek	1	-	05381	1	99.3	0.127	-	1.180	1.007	-	
2462	11	802.11b	DSSS	22	16.5	15.78	0.14	Left	Tilt	1	-	05381	1	99.3	0.140	-	1.180	1.007	-	
2412	1	802.11b	DSSS	22	16.5	15.63	0.12	Right	Cheek	2	-	05381	1	99.3	0.580	0.406	1.222	1.007	0.500	
2437	6	802.11b	DSSS	22	16.5	16.12	0.13	Right	Cheek	2	-	05381	1	99.3	0.991	0.653	1.091	1.007	0.717	
2437	6	802.11b	DSSS	22	16.5	16.12	0.10	Right	Cheek	2	#1	05381	1	99.3	0.219	0.158	1.091	1.007	0.174	
2437	6	802.11b	DSSS	22	16.5	16.12	0.12	Right	Cheek	2	#3	05381	1	99.3	1.037	0.701	1.091	1.007	0.770	A24
2462	11	802.11b	DSSS	22	16.5	15.61	0.06	Right	Cheek	2	-	05381	1	99.3	0.747	0.492	1.227	1.007	0.608	
2437	6	802.11b	DSSS	22	16.5	16.12	0.20	Right	Tilt	2	-	05381	1	99.3	0.952	0.578	1.091	1.007	0.635	
2437	6	802.11b	DSSS	22	16.5	16.12	0.20	Left	Cheek	2	-	05381	1	99.3	0.538	0.315	1.091	1.007	0.346	
2437	6	802.11b	DSSS	22	16.5	16.12	-0.15	Left	Tilt	2	-	05381	1	99.3	0.462	-	1.091	1.007	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram											

Note: 1) Green entries represent additional Head SAR Position (DD #1: 0 degrees) 2) Light orange entries represent additional Head SAR Position (DD #3: 360 degrees)

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**Table 11-25
NII Head SAR**

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5270	54	802.11n	OFDM	40	16.0	15.87	0.15	Right	Cheek	1	05381	13.5	97.4	0.446	0.195	1.030	1.027	0.206	
5270	54	802.11n	OFDM	40	16.0	15.87	0.13	Right	Tilt	1	05381	13.5	97.4	0.288	-	1.030	1.027	-	
5270	54	802.11n	OFDM	40	16.0	15.87	0.16	Left	Cheek	1	05381	13.5	97.4	0.190	-	1.030	1.027	-	
5270	54	802.11n	OFDM	40	16.0	15.87	0.14	Left	Tilt	1	05381	13.5	97.4	0.204	-	1.030	1.027	-	
5270	54	802.11n	OFDM	40	16.0	15.79	0.14	Right	Cheek	2	05381	13.5	97.3	0.526	0.284	1.050	1.028	0.307	A25
5270	54	802.11n	OFDM	40	16.0	15.79	0.16	Right	Tilt	2	05381	13.5	97.3	0.405	-	1.050	1.028	-	
5270	54	802.11n	OFDM	40	16.0	15.79	0.12	Left	Cheek	2	05381	13.5	97.3	0.118	-	1.050	1.028	-	
5270	54	802.11n	OFDM	40	16.0	15.79	0.19	Left	Tilt	2	05381	13.5	97.3	0.137	-	1.050	1.028	-	
5710	142	802.11n	OFDM	40	16.0	15.90	0.19	Right	Cheek	1	05381	13.5	97.4	0.073	-	1.023	1.027	-	
5710	142	802.11n	OFDM	40	16.0	15.90	0.12	Right	Tilt	1	05381	13.5	97.4	0.086	0.048	1.023	1.027	0.050	
5710	142	802.11n	OFDM	40	16.0	15.90	0.19	Left	Cheek	1	05381	13.5	97.4	0.041	-	1.023	1.027	-	
5710	142	802.11n	OFDM	40	16.0	15.90	0.19	Left	Tilt	1	05381	13.5	97.4	0.045	-	1.023	1.027	-	
5710	142	802.11n	OFDM	40	16.0	15.89	0.12	Right	Cheek	2	05381	13.5	97.3	0.555	0.230	1.026	1.028	0.243	
5710	142	802.11n	OFDM	40	16.0	15.89	0.11	Right	Tilt	2	05381	13.5	97.3	0.267	-	1.026	1.028	-	
5710	142	802.11n	OFDM	40	16.0	15.89	0.17	Left	Cheek	2	05381	13.5	97.3	0.162	-	1.026	1.028	-	
5710	142	802.11n	OFDM	40	16.0	15.89	0.19	Left	Tilt	2	05381	13.5	97.3	0.138	-	1.026	1.028	-	
5795	159	802.11n	OFDM	40	16.0	15.89	0.19	Right	Cheek	1	05381	13.5	97.4	0.059	0.029	1.026	1.027	0.031	
5795	159	802.11n	OFDM	40	16.0	15.89	0.19	Right	Tilt	1	05381	13.5	97.4	0.053	-	1.026	1.027	-	
5795	159	802.11n	OFDM	40	16.0	15.89	0.19	Left	Cheek	1	05381	13.5	97.4	0.034	-	1.026	1.027	-	
5795	159	802.11n	OFDM	40	16.0	15.89	0.19	Left	Tilt	1	05381	13.5	97.4	0.029	-	1.026	1.027	-	
5795	159	802.11n	OFDM	40	16.0	15.96	0.12	Right	Cheek	2	05381	13.5	97.3	0.312	0.139	1.009	1.028	0.144	
5795	159	802.11n	OFDM	40	16.0	15.96	0.13	Right	Tilt	2	05381	13.5	97.3	0.247	-	1.009	1.028	-	
5795	159	802.11n	OFDM	40	16.0	15.96	-0.13	Left	Cheek	2	05381	13.5	97.3	0.205	-	1.009	1.028	-	
5795	159	802.11n	OFDM	40	16.0	15.96	0.14	Left	Tilt	2	05381	13.5	97.3	0.197	-	1.009	1.028	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT																			
Spatial Peak									Head										
Uncontrolled Exposure/General Population									1.6 W/kg (mW/g) averaged over 1 gram										

**Table 11-26
DSS Head SAR**

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	SAR (1g)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)			(W/kg)	
2402.00	0	Bluetooth	FHSS	11.0	10.20	-0.14	Right	Cheek	05381	1	77.3	0.084	1.202	1.294	0.131	A26
2402.00	0	Bluetooth	FHSS	11.0	10.20	0.13	Right	Tilt	05381	1	77.3	0.037	1.202	1.294	0.058	
2402.00	0	Bluetooth	FHSS	11.0	10.20	0.14	Left	Cheek	05381	1	77.3	0.010	1.202	1.294	0.016	
2402.00	0	Bluetooth	FHSS	11.0	10.20	0.16	Left	Tilt	05381	1	77.3	0.010	1.202	1.294	0.016	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram								

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11.2 Standalone Body-Worn SAR Data

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

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Ant State	Device Serial Number	# of Time Slots	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.												(W/kg)		(W/kg)	
824.70	1013	Cell. CDMA	TDSO / SO32	25.5	24.95	-0.01	10 mm	8	05258	N/A	1:1	back	0.520	1.135	0.590	
836.52	384	Cell. CDMA	TDSO / SO32	25.5	25.17	-0.04	10 mm	8	05258	N/A	1:1	back	0.567	1.079	0.612	A27
848.31	777	Cell. CDMA	TDSO / SO32	25.5	25.07	0.00	10 mm	8	05258	N/A	1:1	back	0.551	1.104	0.608	
1851.25	25	PCS CDMA	TDSO / SO32	25.5	24.99	-0.03	10 mm	N/A	05258	N/A	1:1	back	0.726	1.125	0.817	
1880.00	600	PCS CDMA	TDSO / SO32	25.5	25.07	-0.03	10 mm	N/A	05258	N/A	1:1	back	0.750	1.104	0.828	
1908.75	1175	PCS CDMA	TDSO / SO32	25.5	25.07	-0.04	10 mm	N/A	05258	N/A	1:1	back	0.768	1.104	0.848	A29
836.60	190	GSM 850	GSM	33.5	33.00	0.03	10 mm	N/A	05266	1	1:8.3	back	0.317	1.122	0.356	
836.60	190	GSM 850	GPRS	29.0	28.43	-0.11	10 mm	N/A	05266	4	1:2.076	back	0.500	1.140	0.570	A31
1880.00	661	GSM 1900	GSM	30.5	29.90	-0.18	10 mm	N/A	05290	1	1:8.3	back	0.258	1.148	0.296	
1880.00	661	GSM 1900	GPRS	28.0	27.70	-0.15	10 mm	N/A	05290	3	1:2.76	back	0.384	1.072	0.412	A32
836.60	4183	UMTS 850	RMC	25.5	25.04	-0.01	10 mm	8	05266	N/A	1:1	back	0.520	1.112	0.578	A34
1712.40	1312	UMTS 1750	RMC	25.5	25.02	-0.04	10 mm	N/A	05282	N/A	1:1	back	0.610	1.117	0.681	
1732.40	1412	UMTS 1750	RMC	25.5	25.10	-0.06	10 mm	N/A	05282	N/A	1:1	back	0.681	1.096	0.746	
1752.60	1513	UMTS 1750	RMC	25.5	25.05	-0.04	10 mm	N/A	05282	N/A	1:1	back	0.697	1.109	0.773	A35
1852.40	9262	UMTS 1900	RMC	25.5	25.02	0.00	10 mm	N/A	05258	N/A	1:1	back	0.715	1.117	0.799	
1880.00	9400	UMTS 1900	RMC	25.5	25.09	0.00	10 mm	N/A	05258	N/A	1:1	back	0.776	1.099	0.853	A37
1907.60	9538	UMTS 1900	RMC	25.5	25.05	0.06	10 mm	N/A	05258	N/A	1:1	back	0.754	1.109	0.836	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram									

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Table 11-28
LTE Body-Worn SAR

MEASUREMENT RESULTS																						
FREQUENCY			Mode	Bandwidth [MHz]	Dual Display Accessory Configuration	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant State	Ant	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (lg)	Scaling Factor	Reported SAR (lg)	Plot #
MHz	Ch.	(W/kg)																	(W/kg)			
680.50	133297	Mid	LTE Band 71	20	-	25.5	25.40	-0.03	0	30	Ant 1	05266	QPSK	1	50	10 mm	back	1:1	0.356	1.023	0.364	A39
680.50	133297	Mid	LTE Band 71	20	-	24.5	24.47	-0.04	1	30	Ant 1	05266	QPSK	50	0	10 mm	back	1:1	0.281	1.007	0.283	
707.50	23095	Mid	LTE Band 12	10	-	25.5	25.31	-0.01	0	19	Ant 1	05266	QPSK	1	49	10 mm	back	1:1	0.376	1.045	0.393	A40
707.50	23095	Mid	LTE Band 12	10	-	24.5	24.34	-0.14	1	19	Ant 1	05266	QPSK	25	25	10 mm	back	1:1	0.305	1.038	0.317	
782.00	23230	Mid	LTE Band 13	10	-	25.5	25.33	0.11	0	14	Ant 1	05266	QPSK	1	25	10 mm	back	1:1	0.411	1.040	0.427	A41
782.00	23230	Mid	LTE Band 13	10	-	24.5	24.33	-0.01	1	14	Ant 1	05266	QPSK	25	25	10 mm	back	1:1	0.333	1.040	0.346	
793.00	23330	Mid	LTE Band 14	10	-	25.5	25.33	0.02	0	13	Ant 1	05266	QPSK	1	0	10 mm	back	1:1	0.411	1.040	0.427	A42
793.00	23330	Mid	LTE Band 14	10	-	24.5	24.26	0.01	1	13	Ant 1	05266	QPSK	25	12	10 mm	back	1:1	0.321	1.057	0.339	
1720.00	132072	Low	LTE Band 66 (AWS)	20	-	25.5	25.26	-0.02	0	N/A	Ant 2	05282	QPSK	1	50	10 mm	back	1:1	0.658	1.057	0.696	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	-	25.5	25.27	-0.05	0	N/A	Ant 2	05282	QPSK	1	50	10 mm	back	1:1	0.729	1.054	0.768	
1770.00	132572	High	LTE Band 66 (AWS)	20	-	25.5	25.36	-0.15	0	N/A	Ant 2	05282	QPSK	1	0	10 mm	back	1:1	0.794	1.033	0.820	A44
1770.00	132572	High	LTE Band 66 (AWS)	20	-	24.5	24.40	0.06	1	N/A	Ant 2	05282	QPSK	50	0	10 mm	back	1:1	0.646	1.023	0.661	
1720.00	132072	Low	LTE Band 66 (AWS)	20	-	24.5	24.39	-0.05	1	N/A	Ant 2	05282	QPSK	100	0	10 mm	back	1:1	0.540	1.026	0.554	
1720.00	132072	Low	LTE Band 66 (AWS)	20	-	17.7	17.16	-0.04	0	N/A	Ant 3	05258	QPSK	1	0	10 mm	back	1:1	0.061	1.132	0.069	
1720.00	132072	Low	LTE Band 66 (AWS)	20	-	17.7	17.27	0.06	0	N/A	Ant 3	05258	QPSK	50	25	10 mm	back	1:1	0.071	1.104	0.078	
1860.00	18700	Low	LTE Band 2 (PCS)	20	-	17.7	17.47	-0.06	0	N/A	Ant 3	05258	QPSK	1	0	10 mm	back	1:1	0.115	1.054	0.121	
1860.00	18700	Low	LTE Band 2 (PCS)	20	-	17.7	17.53	-0.10	0	N/A	Ant 3	05258	QPSK	50	25	10 mm	back	1:1	0.118	1.040	0.123	A46
1860.00	26140	Low	LTE Band 25 (PCS)	20	-	25.5	24.64	0.01	0	N/A	Ant 2	05258	QPSK	1	99	10 mm	back	1:1	0.704	1.219	0.858	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	-	25.5	24.91	0.02	0	N/A	Ant 2	05258	QPSK	1	99	10 mm	back	1:1	0.769	1.146	0.881	
1905.00	26590	High	LTE Band 25 (PCS)	20	-	25.5	24.86	0.01	0	N/A	Ant 2	05258	QPSK	1	99	10 mm	back	1:1	0.794	1.159	0.920	A48
1860.00	26140	Low	LTE Band 25 (PCS)	20	#1	24.5	23.86	0.10	0	N/A	Ant 2	05282	QPSK	1	50	10 mm	back	1:1	0.716	1.159	0.830	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	#1	24.5	23.69	0.14	0	N/A	Ant 2	05282	QPSK	1	99	10 mm	back	1:1	0.710	1.205	0.856	
1905.00	26590	High	LTE Band 25 (PCS)	20	#1	24.5	23.67	0.16	0	N/A	Ant 2	05282	QPSK	1	0	10 mm	back	1:1	0.720	1.211	0.872	
1905.00	26590	High	LTE Band 25 (PCS)	20	#2	24.5	23.67	-0.01	0	N/A	Ant 2	05282	QPSK	1	0	10 mm	back	1:1	0.643	1.211	0.779	
1905.00	26590	High	LTE Band 25 (PCS)	20	#3	24.5	23.67	-0.12	0	N/A	Ant 2	05282	QPSK	1	0	10 mm	back	1:1	0.207	1.211	0.251	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	-	24.5	23.99	-0.01	1	N/A	Ant 2	05258	QPSK	50	50	10 mm	back	1:1	0.632	1.125	0.711	
1905.00	26590	High	LTE Band 25 (PCS)	20	-	24.5	23.85	0.05	1	N/A	Ant 2	05258	QPSK	100	0	10 mm	back	1:1	0.652	1.161	0.757	
2310.00	27710	Mid	LTE Band 30	10	-	23.0	22.42	-0.05	0	N/A	Ant 2	05258	QPSK	1	0	10 mm	back	1:1	0.533	1.143	0.609	A50
2310.00	27710	Mid	LTE Band 30	10	-	22.0	21.56	-0.01	1	N/A	Ant 2	05258	QPSK	25	12	10 mm	back	1:1	0.417	1.107	0.462	
2510.00	20850	Low	LTE Band 7	20	-	25.5	24.51	-0.03	0	N/A	Ant 2	05258	QPSK	1	0	10 mm	back	1:1	0.600	1.256	0.754	
2535.00	21100	Mid	LTE Band 7	20	-	25.5	24.69	0.00	0	N/A	Ant 2	05258	QPSK	1	50	10 mm	back	1:1	0.610	1.205	0.735	
2560.00	21350	High	LTE Band 7	20	-	25.5	24.74	-0.05	0	N/A	Ant 2	05258	QPSK	1	99	10 mm	back	1:1	0.647	1.191	0.771	A52
2560.00	21350	High	LTE Band 7	20	-	24.5	23.83	-0.04	1	N/A	Ant 2	05258	QPSK	50	25	10 mm	back	1:1	0.531	1.167	0.620	
2680.00	41490	High	LTE Band 41	20	-	25.5	25.24	-0.15	0	N/A	Ant 2	05258	QPSK	1	50	10 mm	back	1:1.58	0.381	1.062	0.405	A54
2680.00	41490	High	LTE Band 41	20	-	24.5	24.31	-0.03	1	N/A	Ant 2	05258	QPSK	50	25	10 mm	back	1:1.58	0.307	1.045	0.321	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak												Body 1.6 W/kg (mW/g) averaged over 1 gram										
Uncontrolled Exposure/General Population																						

Note: 1) Green entries represent additional Body Worn SAR Position (DD #1: 0 degrees) 2) Purple entries represent additional Body Worn SAR Position (DD #2: 180 degrees) 3) Light orange entries represent additional Body Worn SAR Position (DD #3: 360 degrees)

Table 11-29
LTE Band 5 Body-Worn SAR

MEASUREMENT RESULTS																						
1 CC Uplink 2 CC Uplink	Component Carrier	FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant State	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (lg)	Scaling Factor	Reported SAR (lg)	Plot #	
		MHz	Ch.															(W/kg)		(W/kg)		
1 CC Uplink	N/A	836.50	20525	Md	LTE Band 5 (Cell)	10	25.5	24.97	-0.08	0	8	05266	QPSK	1	49	10 mm	back	1:1	0.542	1.130	0.612	
1 CC Uplink	N/A	836.50	20525	Md	LTE Band 5 (Cell)	10	24.5	23.98	-0.02	1	8	05266	QPSK	25	25	10 mm	back	1:1	0.441	1.127	0.497	
2 CC Uplink	PCC	836.50	20525	Md	LTE Band 5 (Cell)	10	25.5	25.14	-0.06	0	8	05266	QPSK	1	49	10 mm	back	1:1	0.560	1.086	0.608	A43
	SCC	843.70	20597	Md	LTE Band 5 (Cell)	5								1	0							
ANSI / IEEE C95.1 1992 - SAFETY LIMIT												Body										
Spatial Peak												1.6 W/kg (mW/g)										
Uncontrolled Exposure/General Population												averaged over 1 gram										

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Table 11-30
NR Body-Worn SAR

MEASUREMENT RESULTS																						
FREQUENCY		Mode	Bandwidth [MHz]	Dual Display Accessory Configuration	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant State	Serial Number	Waveform	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	-	24.8	24.04	-0.06	0	N/A	05209	DFT-S-OFDM	QPSK	1	1	10 mm	back	1:1	0.033	1.191	0.039	
680.50	136100	Mid	NR Band n71	20	-	24.8	24.06	0.09	0	N/A	05209	DFT-S-OFDM	QPSK	50	28	10 mm	back	1:1	0.042	1.186	0.050	A56
680.50	136100	Mid	NR Band n71	20	-	23.3	22.13	0.13	1.5	N/A	05209	CP-OFDM	QPSK	1	1	10 mm	back	1:1	0.020	1.309	0.026	
836.50	167300	Mid	NR Band n5 (Cell)	20	-	24.8	24.11	-0.11	0	8	05191	DFT-S-OFDM	QPSK	1	1	10 mm	back	1:1	0.438	1.172	0.513	
836.50	167300	Mid	NR Band n5 (Cell)	20	-	24.8	23.83	-0.03	0	8	05191	DFT-S-OFDM	QPSK	50	28	10 mm	back	1:1	0.440	1.250	0.550	A57
836.50	167300	Mid	NR Band n5 (Cell)	20	-	23.3	21.93	-0.03	1.5	8	05191	CP-OFDM	QPSK	1	1	10 mm	back	1:1	0.292	1.371	0.400	
1720.00	344000	Low	NR Band n66 (AWS)	20	#1	24.5	23.90	0.00	0	N/A	05209	DFT-S-OFDM	QPSK	1	104	10 mm	back	1:1	0.354	1.148	0.406	A58
1720.00	344000	Low	NR Band n66 (AWS)	20	-	24.0	23.46	0.12	0	N/A	05209	DFT-S-OFDM	QPSK	1	1	10 mm	back	1:1	0.335	1.132	0.379	
1720.00	344000	Low	NR Band n66 (AWS)	20	-	24.0	23.37	-0.07	0	N/A	05209	DFT-S-OFDM	QPSK	50	0	10 mm	back	1:1	0.322	1.156	0.372	
1720.00	344000	Low	NR Band n66 (AWS)	20	-	24.0	23.17	0.02	0	N/A	05209	CP-OFDM	QPSK	1	1	10 mm	back	1:1	0.278	1.211	0.337	
1860.00	372000	Low	NR Band n25 (PCS)	20	-	24.5	23.88	-0.14	0	N/A	05209	DFT-S-OFDM	QPSK	1	104	10 mm	back	1:1	0.538	1.153	0.620	A60
1882.50	376500	Mid	NR Band n25 (PCS)	20	-	24.5	23.80	-0.17	0	N/A	05209	DFT-S-OFDM	QPSK	1	1	10 mm	back	1:1	0.527	1.175	0.619	
1905.00	381000	High	NR Band n25 (PCS)	20	-	24.5	23.73	-0.15	0	N/A	05209	DFT-S-OFDM	QPSK	1	104	10 mm	back	1:1	0.480	1.194	0.573	
1860.00	372000	Low	NR Band n25 (PCS)	20	-	24.5	23.94	-0.19	0	N/A	05209	DFT-S-OFDM	QPSK	50	28	10 mm	back	1:1	0.507	1.138	0.577	
1860.00	372000	Low	NR Band n25 (PCS)	20	-	24.0	23.26	-0.13	0.5	N/A	05209	CP-OFDM	QPSK	1	1	10 mm	back	1:1	0.422	1.186	0.500	
2592.99	518598	Mid	NR Band n41	100	#1	25.0	24.41	0.03	0	N/A	05191	DFT-S-OFDM	QPSK	1	1	10 mm	back	1:4	0.354	1.146	0.406	
2592.99	518598	Mid	NR Band n41	100	-	24.0	23.47	-0.14	0	N/A	05191	DFT-S-OFDM	QPSK	1	271	10 mm	back	1:4	0.473	1.130	0.534	
2592.99	518598	Mid	NR Band n41	100	-	24.0	23.28	-0.03	0	N/A	05191	DFT-S-OFDM	QPSK	135	138	10 mm	back	1:4	0.484	1.180	0.571	A62
2592.99	518598	Mid	NR Band n41	100	-	23.5	23.01	-0.15	0.5	N/A	05191	CP-OFDM	QPSK	1	1	10 mm	back	1:4	0.309	1.119	0.346	
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: 1) Green entries represent additional Body Worn SAR Position (DD #1: 0 degrees)

Table 11-31
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) (W/kg)	Plot #
MHz	Ch.													W/kg	(W/kg)				
2412	1	802.11b	DSSS	22	20.5	20.14	-0.03	10 mm	1	05381	1	back	99.3	0.229	0.149	1.086	1.007	0.163	
2462	11	802.11b	DSSS	22	20.5	20.10	0.17	10 mm	2	05381	1	back	99.3	0.359	0.222	1.096	1.007	0.245	A63
ANSI / IEEE C95.1 1992 - SAFETY LIMIT										Body									
Spatial Peak										1.6 W/kg (mW/g)									
Uncontrolled Exposure/General Population										averaged over 1 gram									

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Table 11-32
NII Body-Worn SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)		(W/kg)		
5280	56	802.11a	OFDM	20	19.0	18.87	0.08	10 mm	1	05381	6	back	98.3	0.958	0.473	1.030	1.017	0.495	A65
5280	56	802.11a	OFDM	20	19.0	18.85	0.09	10 mm	2	05381	6	back	96.4	0.194	0.094	1.035	1.037	0.101	
5720	144	802.11a	OFDM	20	17.0	16.96	0.10	10 mm	1	05381	6	back	98.3	0.298	0.120	1.009	1.017	0.123	
5600	120	802.11a	OFDM	20	17.0	16.78	0.19	10 mm	2	05381	6	back	96.4	0.856	0.382	1.052	1.037	0.417	
5785	157	802.11a	OFDM	20	19.0	18.86	-0.06	10 mm	1	05381	6	back	98.3	0.480	0.206	1.033	1.017	0.216	
5785	157	802.11a	OFDM	20	19.0	18.93	0.14	10 mm	2	05381	6	back	96.4	0.615	0.248	1.016	1.037	0.261	
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 11-33
DSS Body-Worn SAR

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate [Mbps]	Side	Duty Cycle (%)	SAR (1g)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)			(W/kg)	
2402	0	Bluetooth	FHSS	11.0	10.20	0.12	10 mm	05373	1	back	77.3	0.015	1.202	1.294	0.023	A67
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram								

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11.3 Standalone Hotspot SAR Data

Table 11-34
GPRS/UMTS/CDMA Hotspot SAR Data

MEASUREMENT RESULTS																	
FREQUENCY	Mode	Service	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Power Drift (dB)	Spacing	Ant State	Dual Display Accessory Configuration	Device Serial Number	# of Time Slots	Duty Cycle	Side	SAR (1g) (W/kg)	Scaling Factor	Reported SAR (1g) (W/kg)	Plot	
MHz	Ch.																
836.52	384	Cell. CDMA	EVD0 Rev. 0	25.5	25.18	-0.03	10 mm	8	-	05258	N/A	1:1	back	0.526	1.076	0.566	A2
836.52	384	Cell. CDMA	EVD0 Rev. 0	25.5	25.18	-0.02	10 mm	8	-	05258	N/A	1:1	front	0.486	1.076	0.523	
836.52	384	Cell. CDMA	EVD0 Rev. 0	25.5	25.18	-0.07	10 mm	8	-	05258	N/A	1:1	bottom	0.275	1.076	0.296	
836.52	384	Cell. CDMA	EVD0 Rev. 0	25.5	25.18	-0.02	10 mm	8	-	05258	N/A	1:1	right	0.223	1.076	0.240	
1880.00	600	PCS CDMA	EVD0 Rev. 0	22.5	22.09	0.12	10 mm	N/A	-	05282	N/A	1:1	back	0.488	1.099	0.536	
1880.00	600	PCS CDMA	EVD0 Rev. 0	22.5	22.09	0.01	10 mm	N/A	-	05282	N/A	1:1	front	0.371	1.099	0.408	
1851.25	25	PCS CDMA	EVD0 Rev. 0	22.5	22.21	-0.06	10 mm	N/A	-	05282	N/A	1:1	bottom	0.727	1.069	0.777	
1880.00	600	PCS CDMA	EVD0 Rev. 0	22.5	22.09	-0.06	10 mm	N/A	-	05282	N/A	1:1	bottom	0.852	1.099	0.936	
1908.75	1175	PCS CDMA	EVD0 Rev. 0	22.5	22.37	-0.03	10 mm	N/A	-	05282	N/A	1:1	bottom	0.912	1.030	0.939	A3
1880.00	600	PCS CDMA	EVD0 Rev. 0	22.5	22.09	-0.15	10 mm	N/A	-	05282	N/A	1:1	left	0.146	1.099	0.160	
1880.00	600	PCS CDMA	EVD0 Rev. 0	24.5	24.08	0.02	10 mm	N/A	#1	05258	N/A	1:1	back	0.650	1.102	0.716	
1880.00	600	PCS CDMA	EVD0 Rev. 0	24.5	24.08	0.05	10 mm	N/A	#3	05258	N/A	1:1	front	0.577	1.102	0.636	
1851.25	25	PCS CDMA	EVD0 Rev. 0	24.5	23.92	-0.03	10 mm	N/A	#1	05258	N/A	1:1	bottom	0.705	1.143	0.806	
1880.00	600	PCS CDMA	EVD0 Rev. 0	24.5	24.08	0.01	10 mm	N/A	#1	05258	N/A	1:1	bottom	0.697	1.102	0.768	
1908.75	1175	PCS CDMA	EVD0 Rev. 0	24.5	23.92	0.04	10 mm	N/A	#1	05258	N/A	1:1	bottom	0.645	1.143	0.737	
1880.00	600	PCS CDMA	EVD0 Rev. 0	24.5	24.08	0.04	10 mm	N/A	#1	05258	N/A	1:1	left	0.039	1.102	0.043	
1908.75	1175	PCS CDMA	EVD0 Rev. 0	22.5	22.37	-0.06	10 mm	N/A	-	05282	N/A	1:1	bottom	0.902	1.030	0.929	
836.60	190	GSM 850	GPRS	29.0	28.43	-0.11	10 mm	N/A	-	05266	4	1.2.076	back	0.500	1.140	0.570	A3
836.60	190	GSM 850	GPRS	29.0	28.43	-0.14	10 mm	N/A	-	05266	4	1.2.076	front	0.383	1.140	0.437	
836.60	190	GSM 850	GPRS	29.0	28.43	-0.12	10 mm	N/A	-	05266	4	1.2.076	bottom	0.226	1.140	0.258	
836.60	190	GSM 850	GPRS	29.0	28.43	0.09	10 mm	N/A	-	05266	4	1.2.076	right	0.196	1.140	0.223	
1880.00	661	GSM 1900	GPRS	28.0	27.70	-0.15	10 mm	N/A	-	05290	3	1.2.76	back	0.384	1.072	0.412	
1880.00	661	GSM 1900	GPRS	28.0	27.70	-0.04	10 mm	N/A	-	05290	3	1.2.76	front	0.305	1.072	0.327	
1850.20	512	GSM 1900	GPRS	28.0	27.54	-0.12	10 mm	N/A	-	05290	3	1.2.76	bottom	0.722	1.112	0.802	
1880.00	661	GSM 1900	GPRS	28.0	27.70	-0.03	10 mm	N/A	-	05290	3	1.2.76	bottom	0.604	1.072	0.647	
1909.80	810	GSM 1900	GPRS	28.0	27.35	-0.09	10 mm	N/A	-	05290	3	1.2.76	bottom	0.774	1.161	0.899	A3
1880.00	661	GSM 1900	GPRS	28.0	27.70	-0.19	10 mm	N/A	-	05290	3	1.2.76	left	0.144	1.072	0.154	
836.60	4183	UMTS 850	RMC	25.5	25.04	-0.01	10 mm	8	-	05266	N/A	1:1	back	0.520	1.112	0.578	A3
836.60	4183	UMTS 850	RMC	25.5	25.04	0.00	10 mm	8	-	05266	N/A	1:1	front	0.462	1.112	0.514	
836.60	4183	UMTS 850	RMC	25.5	25.04	0.00	10 mm	8	-	05266	N/A	1:1	bottom	0.247	1.112	0.275	
836.60	4183	UMTS 850	RMC	25.5	25.04	-0.06	10 mm	8	-	05266	N/A	1:1	right	0.206	1.112	0.229	
1732.40	1412	UMTS 1750	RMC	22.5	22.43	-0.03	10 mm	N/A	-	05282	N/A	1:1	back	0.375	1.016	0.381	
1732.40	1412	UMTS 1750	RMC	22.5	22.43	-0.02	10 mm	N/A	-	05282	N/A	1:1	front	0.306	1.016	0.311	
1732.40	1412	UMTS 1750	RMC	22.5	22.43	-0.02	10 mm	N/A	-	05282	N/A	1:1	bottom	0.573	1.016	0.582	
1732.40	1412	UMTS 1750	RMC	22.5	22.43	0.03	10 mm	N/A	-	05282	N/A	1:1	left	0.109	1.016	0.111	
1732.40	1412	UMTS 1750	RMC	24.5	24.22	0.00	10 mm	N/A	#1	05258	N/A	1:1	back	0.643	1.067	0.686	
1732.40	1412	UMTS 1750	RMC	24.5	24.22	0.07	10 mm	N/A	#3	05258	N/A	1:1	front	0.637	1.067	0.680	
1712.40	1312	UMTS 1750	RMC	24.5	24.20	0.00	10 mm	N/A	#1	05258	N/A	1:1	bottom	0.587	1.072	0.629	
1732.40	1412	UMTS 1750	RMC	24.5	24.22	-0.03	10 mm	N/A	#1	05258	N/A	1:1	bottom	0.694	1.067	0.740	
1752.60	1513	UMTS 1750	RMC	24.5	24.21	-0.01	10 mm	N/A	#1	05258	N/A	1:1	bottom	0.743	1.069	0.794	A3
1732.40	1412	UMTS 1750	RMC	24.5	24.22	0.01	10 mm	N/A	#1	05258	N/A	1:1	left	0.087	1.067	0.093	
1880.00	9400	UMTS 1900	RMC	22.5	22.44	0.01	10 mm	N/A	-	05258	N/A	1:1	back	0.463	1.014	0.469	
1880.00	9400	UMTS 1900	RMC	22.5	22.44	-0.06	10 mm	N/A	-	05258	N/A	1:1	front	0.335	1.014	0.340	
1852.40	9262	UMTS 1900	RMC	22.5	22.42	-0.07	10 mm	N/A	-	05258	N/A	1:1	bottom	0.653	1.019	0.665	
1880.00	9400	UMTS 1900	RMC	22.5	22.44	-0.06	10 mm	N/A	-	05258	N/A	1:1	bottom	0.694	1.014	0.704	
1907.60	9538	UMTS 1900	RMC	22.5	22.50	-0.07	10 mm	N/A	-	05258	N/A	1:1	bottom	0.738	1.000	0.738	
1880.00	9400	UMTS 1900	RMC	22.5	22.44	-0.01	10 mm	N/A	-	05258	N/A	1:1	left	0.120	1.014	0.122	
1852.40	9262	UMTS 1900	RMC	24.5	24.24	0.02	10 mm	N/A	#1	05258	N/A	1:1	back	0.803	1.062	0.853	
1880.00	9400	UMTS 1900	RMC	24.5	24.16	0.08	10 mm	N/A	#1	05258	N/A	1:1	back	0.779	1.081	0.842	
1907.60	9538	UMTS 1900	RMC	24.5	24.05	0.04	10 mm	N/A	#1	05258	N/A	1:1	back	0.748	1.109	0.830	
1852.40	9262	UMTS 1900	RMC	24.5	24.24	-0.06	10 mm	N/A	#3	05258	N/A	1:1	front	0.862	1.062	0.915	A3
1880.00	9400	UMTS 1900	RMC	24.5	24.16	-0.04	10 mm	N/A	#3	05258	N/A	1:1	front	0.839	1.081	0.907	
1907.60	9538	UMTS 1900	RMC	24.5	24.05	-0.06	10 mm	N/A	#3	05258	N/A	1:1	front	0.753	1.109	0.835	
1852.40	9262	UMTS 1900	RMC	24.5	24.24	0.15	10 mm	N/A	#1	05258	N/A	1:1	bottom	0.838	1.062	0.890	
1880.00	9400	UMTS 1900	RMC	24.5	24.16	0.16	10 mm	N/A	#1	05258	N/A	1:1	bottom	0.772	1.081	0.835	
1907.60	9538	UMTS 1900	RMC	24.5	24.05	0.16	10 mm	N/A	#1	05258	N/A	1:1	bottom	0.680	1.109	0.754	
1880.00	9400	UMTS 1900	RMC	24.5	24.16	0.09	10 mm	N/A	#1	05258	N/A	1:1	left	0.094	1.081	0.102	
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: 1) Blue entry represents variability measurement. 2) Green entries represent additional Hotspot SAR Position (DD #1: 0 degrees) 3) Light orange entries represent additional Hotspot SAR Position (DD #3: 360 degrees)

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Table 11-35
LTE Band 71 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant 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	25.5	25.40	-0.03	0	30	05266	QPSK	1	50	10 mm	back	1:1	0.356	1.023	0.364	A39
680.50	133297	Mid	LTE Band 71	20	24.5	24.47	-0.04	1	30	05266	QPSK	50	0	10 mm	back	1:1	0.281	1.007	0.283	
680.50	133297	Mid	LTE Band 71	20	25.5	25.40	-0.04	0	30	05266	QPSK	1	50	10 mm	front	1:1	0.278	1.023	0.284	
680.50	133297	Mid	LTE Band 71	20	24.5	24.47	-0.02	1	30	05266	QPSK	50	0	10 mm	front	1:1	0.209	1.007	0.210	
680.50	133297	Mid	LTE Band 71	20	25.5	25.40	-0.04	0	30	05266	QPSK	1	50	10 mm	bottom	1:1	0.130	1.023	0.133	
680.50	133297	Mid	LTE Band 71	20	24.5	24.47	-0.04	1	30	05266	QPSK	50	0	10 mm	bottom	1:1	0.104	1.007	0.105	
680.50	133297	Mid	LTE Band 71	20	25.5	25.40	-0.02	0	30	05266	QPSK	1	50	10 mm	right	1:1	0.272	1.023	0.278	
680.50	133297	Mid	LTE Band 71	20	24.5	24.47	0.01	1	30	05266	QPSK	50	0	10 mm	right	1:1	0.220	1.007	0.222	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak								Body 1.6 W/kg (mW/g) averaged over 1 gram												
Uncontrolled Exposure/General Population																				

Table 11-36
LTE Band 12 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant 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	25.5	25.31	-0.01	0	19	05266	QPSK	1	49	10 mm	back	1:1	0.376	1.045	0.393	A40
707.50	23095	Mid	LTE Band 12	10	24.5	24.34	-0.14	1	19	05266	QPSK	25	25	10 mm	back	1:1	0.305	1.038	0.317	
707.50	23095	Mid	LTE Band 12	10	25.5	25.31	0.11	0	19	05266	QPSK	1	49	10 mm	front	1:1	0.306	1.045	0.320	
707.50	23095	Mid	LTE Band 12	10	24.5	24.34	0.03	1	19	05266	QPSK	25	25	10 mm	front	1:1	0.251	1.038	0.261	
707.50	23095	Mid	LTE Band 12	10	25.5	25.31	0.02	0	19	05266	QPSK	1	49	10 mm	bottom	1:1	0.154	1.045	0.161	
707.50	23095	Mid	LTE Band 12	10	24.5	24.34	-0.03	1	19	05266	QPSK	25	25	10 mm	bottom	1:1	0.129	1.038	0.134	
707.50	23095	Mid	LTE Band 12	10	25.5	25.31	0.11	0	19	05266	QPSK	1	49	10 mm	right	1:1	0.219	1.045	0.229	
707.50	23095	Mid	LTE Band 12	10	24.5	24.34	-0.01	1	19	05266	QPSK	25	25	10 mm	right	1:1	0.177	1.038	0.184	
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 11-37
LTE Band 13 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant 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	25.5	25.33	0.11	0	14	05266	QPSK	1	25	10 mm	back	1:1	0.411	1.040	0.427	A41
782.00	23230	Mid	LTE Band 13	10	24.5	24.33	-0.01	1	14	05266	QPSK	25	25	10 mm	back	1:1	0.333	1.040	0.346	
782.00	23230	Mid	LTE Band 13	10	25.5	25.33	0.01	0	14	05266	QPSK	1	25	10 mm	front	1:1	0.347	1.040	0.361	
782.00	23230	Mid	LTE Band 13	10	24.5	24.33	0.02	1	14	05266	QPSK	25	25	10 mm	front	1:1	0.284	1.040	0.295	
782.00	23230	Mid	LTE Band 13	10	25.5	25.33	-0.21	0	14	05266	QPSK	1	25	10 mm	bottom	1:1	0.195	1.040	0.203	
782.00	23230	Mid	LTE Band 13	10	24.5	24.33	-0.11	1	14	05266	QPSK	25	25	10 mm	bottom	1:1	0.156	1.040	0.162	
782.00	23230	Mid	LTE Band 13	10	25.5	25.33	0.02	0	14	05266	QPSK	1	25	10 mm	right	1:1	0.133	1.040	0.138	
782.00	23230	Mid	LTE Band 13	10	24.5	24.33	0.03	1	14	05266	QPSK	25	25	10 mm	right	1:1	0.108	1.040	0.112	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram												

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Table 11-38
LTE Band 14 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant 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)		
793.00	23330	Mid	LTE Band 14	10	25.5	25.33	0.02	0	13	05266	QPSK	1	0	10 mm	back	1:1	0.411	1.040	0.427	A42
793.00	23330	Mid	LTE Band 14	10	24.5	24.26	0.01	1	13	05266	QPSK	25	12	10 mm	back	1:1	0.321	1.057	0.339	
793.00	23330	Mid	LTE Band 14	10	25.5	25.33	0.03	0	13	05266	QPSK	1	0	10 mm	front	1:1	0.326	1.040	0.339	
793.00	23330	Mid	LTE Band 14	10	24.5	24.26	0.03	1	13	05266	QPSK	25	12	10 mm	front	1:1	0.267	1.057	0.282	
793.00	23330	Mid	LTE Band 14	10	25.5	25.33	-0.01	0	13	05266	QPSK	1	0	10 mm	bottom	1:1	0.186	1.040	0.193	
793.00	23330	Mid	LTE Band 14	10	24.5	24.26	0.10	1	13	05266	QPSK	25	12	10 mm	bottom	1:1	0.145	1.057	0.153	
793.00	23330	Mid	LTE Band 14	10	25.5	25.33	-0.09	0	13	05266	QPSK	1	0	10 mm	right	1:1	0.102	1.040	0.106	
793.00	23330	Mid	LTE Band 14	10	24.5	24.26	-0.11	1	13	05266	QPSK	25	12	10 mm	right	1:1	0.090	1.057	0.095	
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 5 (Cell) Hotspot SAR

MEASUREMENT RESULTS																						
1 CC Uplink 2 CC Uplink	Component Carrier	FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant 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)		
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	24.97	-0.08	0	8	05266	QPSK	1	49	10 mm	back	1:1	0.542	1.130	0.612	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	23.98	-0.02	1	8	05266	QPSK	25	25	10 mm	back	1:1	0.441	1.127	0.497	
2 CC Uplink	PCC	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.14	-0.06	0	8	05266	QPSK	1	49	10 mm	back	1:1	0.560	1.086	0.608	A43
	SCC	843.70	20597	Mid		5								1	0							
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	24.97	0.03	0	8	05266	QPSK	1	49	10 mm	front	1:1	0.453	1.130	0.512	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	23.98	0.03	1	8	05266	QPSK	25	25	10 mm	front	1:1	0.370	1.127	0.417	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	24.97	0.03	0	8	05266	QPSK	1	49	10 mm	bottom	1:1	0.239	1.130	0.270	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	23.98	0.03	1	8	05266	QPSK	25	25	10 mm	bottom	1:1	0.196	1.127	0.221	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	24.97	0.04	0	8	05266	QPSK	1	49	10 mm	right	1:1	0.201	1.130	0.227	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	23.98	0.00	1	8	05266	QPSK	25	25	10 mm	right	1:1	0.158	1.127	0.178	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram												

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Table 11-40
LTE Band 66 (AWS) Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Dual Display Accessory Configuration	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant	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	132572	High	LTE Band 66 (AWS)	20	-	22.5	21.84	-0.06	0	Ant 2	05282	QPSK	1	0	10 mm	back	1:1	0.375	1.164	0.437	
1770.00	132572	High	LTE Band 66 (AWS)	20	-	22.5	21.76	-0.08	0	Ant 2	05282	QPSK	50	0	10 mm	back	1:1	0.381	1.186	0.452	
1770.00	132572	High	LTE Band 66 (AWS)	20	-	22.5	21.84	0.11	0	Ant 2	05282	QPSK	1	0	10 mm	front	1:1	0.322	1.164	0.375	
1770.00	132572	High	LTE Band 66 (AWS)	20	-	22.5	21.76	0.09	0	Ant 2	05282	QPSK	50	0	10 mm	front	1:1	0.326	1.186	0.387	
1770.00	132572	High	LTE Band 66 (AWS)	20	-	22.5	21.84	0.01	0	Ant 2	05282	QPSK	1	0	10 mm	bottom	1:1	0.635	1.164	0.739	
1720.00	132072	Low	LTE Band 66 (AWS)	20	-	22.5	21.72	0.02	0	Ant 2	05282	QPSK	50	25	10 mm	bottom	1:1	0.496	1.197	0.594	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	-	22.5	21.74	-0.01	0	Ant 2	05282	QPSK	50	25	10 mm	bottom	1:1	0.566	1.191	0.674	
1770.00	132572	High	LTE Band 66 (AWS)	20	-	22.5	21.76	-0.03	0	Ant 2	05282	QPSK	50	0	10 mm	bottom	1:1	0.627	1.186	0.744	
1770.00	132572	High	LTE Band 66 (AWS)	20	-	22.5	21.84	0.04	0	Ant 2	05282	QPSK	1	0	10 mm	left	1:1	0.116	1.164	0.135	
1770.00	132572	High	LTE Band 66 (AWS)	20	-	22.5	21.76	0.01	0	Ant 2	05282	QPSK	50	0	10 mm	left	1:1	0.115	1.186	0.136	
1720.00	132072	Low	LTE Band 66 (AWS)	20	-	17.7	17.16	-0.04	0	Ant 3	05258	QPSK	1	0	10 mm	back	1:1	0.061	1.132	0.069	
1720.00	132072	Low	LTE Band 66 (AWS)	20	-	17.7	17.27	0.06	0	Ant 3	05258	QPSK	50	25	10 mm	back	1:1	0.071	1.104	0.078	
1720.00	132072	Low	LTE Band 66 (AWS)	20	-	17.7	17.16	0.09	0	Ant 3	05258	QPSK	1	0	10 mm	front	1:1	0.046	1.132	0.052	
1720.00	132072	Low	LTE Band 66 (AWS)	20	-	17.7	17.27	0.12	0	Ant 3	05258	QPSK	50	25	10 mm	front	1:1	0.054	1.104	0.060	
1720.00	132072	Low	LTE Band 66 (AWS)	20	-	17.7	17.16	-0.07	0	Ant 3	05258	QPSK	1	0	10 mm	right	1:1	0.106	1.132	0.120	
1720.00	132072	Low	LTE Band 66 (AWS)	20	-	17.7	17.27	-0.07	0	Ant 3	05258	QPSK	50	25	10 mm	right	1:1	0.117	1.104	0.129	
1770.00	132572	High	LTE Band 66 (AWS)	20	#1	24.5	23.99	0.07	0	Ant 2	05266	QPSK	1	0	10 mm	back	1:1	0.650	1.125	0.731	
1770.00	132572	High	LTE Band 66 (AWS)	20	#3	24.5	23.99	0.02	0	Ant 2	05266	QPSK	1	0	10 mm	front	1:1	0.639	1.125	0.719	
1720.00	132072	Low	LTE Band 66 (AWS)	20	#1	24.5	23.57	0.01	0	Ant 2	05266	QPSK	1	99	10 mm	bottom	1:1	0.598	1.239	0.741	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	#1	24.5	23.82	0.00	0	Ant 2	05266	QPSK	1	50	10 mm	bottom	1:1	0.639	1.169	0.747	
1770.00	132572	High	LTE Band 66 (AWS)	20	#1	24.5	23.99	0.00	0	Ant 2	05266	QPSK	1	0	10 mm	bottom	1:1	0.690	1.125	0.776	A45
1770.00	132572	High	LTE Band 66 (AWS)	20	#1	24.5	23.99	0.03	0	Ant 2	05266	QPSK	1	0	10 mm	left	1:1	0.073	1.125	0.082	
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: 1) Green entries represent additional Hotspot SAR Position (DD #1: 0 degrees) Light orange entries represent additional Hotspot SAR Position (DD #3: 360 degrees)

Table 11-41
LTE Band 2 (PCS) Hotspot SAR – Ant 3

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant	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)		
1860.00	18700	Low	LTE Band 2 (PCS)	20	17.7	17.47	-0.06	0	Ant 3	05258	QPSK	1	0	10 mm	back	1:1	0.115	1.054	0.121	
1860.00	18700	Low	LTE Band 2 (PCS)	20	17.7	17.53	-0.10	0	Ant 3	05258	QPSK	50	25	10 mm	back	1:1	0.118	1.040	0.123	
1860.00	18700	Low	LTE Band 2 (PCS)	20	17.7	17.47	-0.17	0	Ant 3	05258	QPSK	1	0	10 mm	front	1:1	0.100	1.054	0.105	
1860.00	18700	Low	LTE Band 2 (PCS)	20	17.7	17.53	-0.17	0	Ant 3	05258	QPSK	50	25	10 mm	front	1:1	0.100	1.040	0.104	
1860.00	18700	Low	LTE Band 2 (PCS)	20	17.7	17.47	-0.07	0	Ant 3	05258	QPSK	1	0	10 mm	right	1:1	0.259	1.054	0.273	
1860.00	18700	Low	LTE Band 2 (PCS)	20	17.7	17.53	0.04	0	Ant 3	05258	QPSK	50	25	10 mm	right	1:1	0.270	1.040	0.281	A47
ANSI / IEEE C95.1 1992 - SAFETY LIMIT								Body												
Spatial Peak								1.6 W/kg (mW/g)												
Uncontrolled Exposure/General Population								averaged over 1 gram												

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Table 11-42
LTE Band 25 (PCS) Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Bandwidth [MHz]	Dual Display Accessory Configuration	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1860.00	26140	Low	LTE Band 25 (PCS)	-	22.5	21.89	0.07	0	05282	QPSK	1	0	10 mm	back	1:1	0.437	1.151	0.503	
1860.00	26140	Low	LTE Band 25 (PCS)	-	22.5	21.98	0.13	0	05282	QPSK	50	25	10 mm	back	1:1	0.447	1.127	0.504	
1860.00	26140	Low	LTE Band 25 (PCS)	-	22.5	21.89	-0.03	0	05282	QPSK	1	0	10 mm	front	1:1	0.311	1.151	0.358	
1860.00	26140	Low	LTE Band 25 (PCS)	-	22.5	21.98	0.01	0	05282	QPSK	50	25	10 mm	front	1:1	0.309	1.127	0.348	
1860.00	26140	Low	LTE Band 25 (PCS)	-	22.5	21.89	-0.07	0	05282	QPSK	1	0	10 mm	bottom	1:1	0.701	1.151	0.807	
1882.50	26365	Mid	LTE Band 25 (PCS)	-	22.5	21.78	0.05	0	05282	QPSK	1	0	10 mm	bottom	1:1	0.766	1.180	0.904	
1905.00	26590	High	LTE Band 25 (PCS)	-	22.5	21.79	-0.04	0	05282	QPSK	1	0	10 mm	bottom	1:1	0.797	1.178	0.939	
1860.00	26140	Low	LTE Band 25 (PCS)	-	22.5	21.98	-0.03	0	05282	QPSK	50	25	10 mm	bottom	1:1	0.718	1.127	0.809	
1882.50	26365	Mid	LTE Band 25 (PCS)	-	22.5	21.91	-0.01	0	05282	QPSK	50	50	10 mm	bottom	1:1	0.820	1.146	0.940	
1905.00	26590	High	LTE Band 25 (PCS)	-	22.5	21.83	-0.02	0	05282	QPSK	50	50	10 mm	bottom	1:1	0.846	1.167	0.987	A49
1860.00	26140	Low	LTE Band 25 (PCS)	-	22.5	21.81	0.00	0	05282	QPSK	100	0	10 mm	bottom	1:1	0.704	1.172	0.825	
1860.00	26140	Low	LTE Band 25 (PCS)	-	22.5	21.89	-0.05	0	05282	QPSK	1	0	10 mm	left	1:1	0.129	1.151	0.148	
1860.00	26140	Low	LTE Band 25 (PCS)	-	22.5	21.98	0.01	0	05282	QPSK	50	25	10 mm	left	1:1	0.132	1.127	0.149	
1860.00	26140	Low	LTE Band 25 (PCS)	#1	24.5	23.86	0.10	0	05282	QPSK	1	50	10 mm	back	1:1	0.716	1.159	0.830	
1882.50	26365	Mid	LTE Band 25 (PCS)	#1	24.5	23.69	0.14	0	05282	QPSK	1	99	10 mm	back	1:1	0.710	1.205	0.856	
1905.00	26590	High	LTE Band 25 (PCS)	#1	24.5	23.67	0.16	0	05282	QPSK	1	0	10 mm	back	1:1	0.720	1.211	0.872	
1860.00	26140	Low	LTE Band 25 (PCS)	#3	24.5	23.86	0.02	0	05282	QPSK	1	50	10 mm	front	1:1	0.528	1.159	0.612	
1860.00	26140	Low	LTE Band 25 (PCS)	#1	24.5	23.86	0.06	0	05282	QPSK	1	50	10 mm	bottom	1:1	0.675	1.159	0.782	
1860.00	26140	Low	LTE Band 25 (PCS)	#1	24.5	23.86	0.06	0	05282	QPSK	1	50	10 mm	left	1:1	0.070	1.159	0.081	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT																			
Spatial Peak									Body										
Uncontrolled Exposure/General Population									1.6 W/kg (mW/g) averaged over 1 gram										

Note: 1) Green entries represent additional Hotspot SAR Position (DD #1: 0 degrees) Light orange entries represent additional Hotspot SAR Position (DD #3: 360 degrees)

Table 11-43
LTE Band 30 Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.														(W/kg)		(W/kg)		
2310.00	27710	Mid	LTE Band 30	10	23.0	22.42	-0.05	0	05258	QPSK	1	0	10 mm	back	1:1	0.533	1.143	0.609	
2310.00	27710	Mid	LTE Band 30	10	22.0	21.56	-0.01	1	05258	QPSK	25	12	10 mm	back	1:1	0.417	1.107	0.462	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.42	-0.02	0	05258	QPSK	1	0	10 mm	front	1:1	0.409	1.143	0.467	
2310.00	27710	Mid	LTE Band 30	10	22.0	21.56	0.01	1	05258	QPSK	25	12	10 mm	front	1:1	0.325	1.107	0.360	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.42	-0.03	0	05258	QPSK	1	0	10 mm	bottom	1:1	0.813	1.143	0.929	A51
2310.00	27710	Mid	LTE Band 30	10	22.0	21.56	-0.08	1	05258	QPSK	25	12	10 mm	bottom	1:1	0.653	1.107	0.723	
2310.00	27710	Mid	LTE Band 30	10	22.0	21.45	-0.07	1	05258	QPSK	50	0	10 mm	bottom	1:1	0.640	1.135	0.726	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.42	-0.02	0	05258	QPSK	1	0	10 mm	left	1:1	0.112	1.143	0.128	
2310.00	27710	Mid	LTE Band 30	10	22.0	21.56	-0.06	1	05258	QPSK	25	12	10 mm	left	1:1	0.087	1.107	0.096	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.42	-0.03	0	05258	QPSK	1	0	10 mm	bottom	1:1	0.811	1.143	0.927	
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: Blue entry represents variability measurement.

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Table 11-44
LTE Band 7 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Dual Display Accessory Configuration	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
2560.00	21350	High	LTE Band 7	20	-	23.5	23.24	-0.02	0	05258	QPSK	1	0	10 mm	back	1:1	0.464	1.062	0.493	
2560.00	21350	High	LTE Band 7	20	-	23.5	23.32	-0.07	0	05258	QPSK	50	25	10 mm	back	1:1	0.487	1.042	0.507	
2560.00	21350	High	LTE Band 7	20	-	23.5	23.24	-0.02	0	05258	QPSK	1	0	10 mm	front	1:1	0.298	1.062	0.316	
2560.00	21350	High	LTE Band 7	20	-	23.5	23.32	-0.01	0	05258	QPSK	50	25	10 mm	front	1:1	0.312	1.042	0.325	
2560.00	21350	High	LTE Band 7	20	-	23.5	23.24	0.02	0	05258	QPSK	1	0	10 mm	bottom	1:1	0.674	1.062	0.716	
2510.00	20850	Low	LTE Band 7	20	-	23.5	23.24	-0.04	0	05258	QPSK	50	25	10 mm	bottom	1:1	0.699	1.062	0.742	
2535.00	21100	Mid	LTE Band 7	20	-	23.5	22.73	-0.04	0	05258	QPSK	50	50	10 mm	bottom	1:1	0.682	1.194	0.814	
2560.00	21350	High	LTE Band 7	20	-	23.5	23.32	-0.07	0	05258	QPSK	50	25	10 mm	bottom	1:1	0.709	1.042	0.739	AS3
2560.00	21350	High	LTE Band 7	20	-	23.5	23.21	-0.05	0	05258	QPSK	100	0	10 mm	bottom	1:1	0.685	1.069	0.732	
2560.00	21350	High	LTE Band 7	20	-	23.5	23.24	-0.11	0	05258	QPSK	1	0	10 mm	left	1:1	0.109	1.062	0.116	
2560.00	21350	High	LTE Band 7	20	-	23.5	23.32	0.01	0	05258	QPSK	50	25	10 mm	left	1:1	0.116	1.042	0.121	
2510.00	20850	Low	LTE Band 7	20	#1	24.5	23.73	0.04	0	05290	QPSK	1	0	10 mm	back	1:1	0.315	1.194	0.376	
2510.00	20850	Low	LTE Band 7	20	#3	24.5	23.73	0.01	0	05290	QPSK	1	0	10 mm	front	1:1	0.264	1.194	0.315	
2510.00	20850	Low	LTE Band 7	20	#1	24.5	23.73	-0.02	0	05290	QPSK	1	0	10 mm	bottom	1:1	0.282	1.194	0.337	
2510.00	20850	Low	LTE Band 7	20	#1	24.5	23.73	0.09	0	05290	QPSK	1	0	10 mm	left	1:1	0.050	1.194	0.060	
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: 1) Green entries represent additional Hotspot SAR Position (DD #1: 0 degrees) Light orange entries represent additional Hotspot SAR Position (DD #3: 360 degrees)

Table 11-45
LTE Band 41 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Dual Display Accessory Configuration	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
2680.00	41490	High	LTE Band 41	20	-	25.0	24.94	-0.15	0	05258	QPSK	1	50	10 mm	back	1:1.58	0.312	1.014	0.316	
2680.00	41490	High	LTE Band 41	20	-	24.5	24.50	-0.09	0.5	05258	QPSK	50	25	10 mm	back	1:1.58	0.299	1.000	0.299	
2680.00	41490	High	LTE Band 41	20	-	25.0	24.94	-0.14	0	05258	QPSK	1	50	10 mm	front	1:1.58	0.225	1.014	0.228	
2680.00	41490	High	LTE Band 41	20	-	24.5	24.50	0.05	0.5	05258	QPSK	50	25	10 mm	front	1:1.58	0.208	1.000	0.208	
2680.00	41490	High	LTE Band 41	20	-	25.0	24.94	-0.01	0	05258	QPSK	1	50	10 mm	bottom	1:1.58	0.520	1.014	0.527	A55
2680.00	41490	High	LTE Band 41	20	-	24.5	24.50	0.03	0.5	05258	QPSK	50	25	10 mm	bottom	1:1.58	0.507	1.000	0.507	
2680.00	41490	High	LTE Band 41	20	-	25.0	24.94	-0.08	0	05258	QPSK	1	50	10 mm	left	1:1.58	0.074	1.014	0.075	
2680.00	41490	High	LTE Band 41	20	-	24.5	24.50	0.03	0.5	05258	QPSK	50	25	10 mm	left	1:1.58	0.066	1.000	0.066	
2680.00	41490	High	LTE Band 41	20	#1	25.5	25.24	0.08	0	05258	QPSK	1	50	10 mm	back	1:1.58	0.204	1.062	0.217	
2680.00	41490	High	LTE Band 41	20	#3	25.5	25.24	0.01	0	05258	QPSK	1	50	10 mm	front	1:1.58	0.320	1.062	0.340	
2680.00	41490	High	LTE Band 41	20	#1	25.5	25.24	0.03	0	05258	QPSK	1	50	10 mm	bottom	1:1.58	0.163	1.062	0.173	
2680.00	41490	High	LTE Band 41	20	#1	25.5	25.24	0.12	0	05258	QPSK	1	50	10 mm	left	1:1.58	0.023	1.062	0.024	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT																				
Spatial Peak									Body											
Uncontrolled Exposure/General Population									1.6 W/kg (mW/g) averaged over 1 gram											

Note: 1) Green entries represent additional Hotspot SAR Position (DD #1: 0 degrees) Light orange entries represent additional Hotspot SAR Position (DD #3: 360 degrees)

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Table 11-46
NR Band n71 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Waveform	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	24.8	24.04	-0.06	0	05209	DFT-S-OFDM	QPSK	1	1	10 mm	back	1:1	0.033	1.191	0.039	
680.50	136100	Mid	NR Band n71	20	24.8	24.06	0.09	0	05209	DFT-S-OFDM	QPSK	50	28	10 mm	back	1:1	0.042	1.186	0.050	A56
680.50	136100	Mid	NR Band n71	20	23.3	22.13	0.13	1.5	05209	CP-OFDM	QPSK	1	1	10 mm	back	1:1	0.020	1.309	0.026	
680.50	136100	Mid	NR Band n71	20	24.8	24.04	0.15	0	05209	DFT-S-OFDM	QPSK	1	1	10 mm	front	1:1	0.021	1.191	0.025	
680.50	136100	Mid	NR Band n71	20	24.8	24.06	-0.07	0	05209	DFT-S-OFDM	QPSK	50	28	10 mm	front	1:1	0.028	1.186	0.033	
680.50	136100	Mid	NR Band n71	20	24.8	24.04	0.14	0	05209	DFT-S-OFDM	QPSK	1	1	10 mm	bottom	1:1	0.011	1.191	0.013	
680.50	136100	Mid	NR Band n71	20	24.8	24.06	-0.11	0	05209	DFT-S-OFDM	QPSK	50	28	10 mm	bottom	1:1	0.014	1.186	0.017	
680.50	136100	Mid	NR Band n71	20	24.8	24.04	0.11	0	05209	DFT-S-OFDM	QPSK	1	1	10 mm	right	1:1	0.022	1.191	0.026	
680.50	136100	Mid	NR Band n71	20	24.8	24.06	0.11	0	05209	DFT-S-OFDM	QPSK	50	28	10 mm	right	1:1	0.025	1.186	0.030	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak								Body 1.6 W/kg (mW/g) averaged over 1 gram												
Uncontrolled Exposure/General Population																				

Table 11-47
NR Band n5 (Cell) Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant State	Serial Number	Waveform	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g) (W/kg)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.																		(W/kg)		
836.50	167300	Mid	NR Band n5 (Cell)	20	24.8	24.11	-0.11	0	8	05191	DFT-S-OFDM	QPSK	1	1	10 mm	back	1:1	0.438	1.172	0.513	A57
836.50	167300	Mid	NR Band n5 (Cell)	20	24.8	23.83	-0.03	0	8	05191	DFT-S-OFDM	QPSK	50	28	10 mm	back	1:1	0.440	1.250	0.550	
836.50	167300	Mid	NR Band n5 (Cell)	20	23.3	21.93	-0.03	1.5	8	05191	CP-OFDM	QPSK	1	1	10 mm	back	1:1	0.292	1.371	0.400	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.8	24.11	-0.01	0	8	05191	DFT-S-OFDM	QPSK	1	1	10 mm	front	1:1	0.401	1.172	0.470	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.8	23.83	0.01	0	8	05191	DFT-S-OFDM	QPSK	50	28	10 mm	front	1:1	0.406	1.250	0.508	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.8	24.11	0.08	0	8	05191	DFT-S-OFDM	QPSK	1	1	10 mm	bottom	1:1	0.217	1.172	0.254	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.8	23.83	0.02	0	8	05191	DFT-S-OFDM	QPSK	50	28	10 mm	bottom	1:1	0.211	1.250	0.264	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.8	24.11	0.04	0	8	05191	DFT-S-OFDM	QPSK	1	1	10 mm	right	1:1	0.148	1.172	0.173	
836.50	167300	Mid	NR Band n5 (Cell)	20	24.8	23.83	0.02	0	8	05191	DFT-S-OFDM	QPSK	50	28	10 mm	right	1:1	0.163	1.250	0.204	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram													

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Table 11-48
NR Band n66 (AWS) Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Bandwidth [MHz]	Dual Display Accessory Configuration	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Waveform	Modulation	RB Size	RB Offset	Spacing	MPR [dB]	Duty Cycle	SAR (lg)	Scaling Factor	Reported SAR (lg)	Plot #	
MHz	Ch.																(W/kg)		(W/kg)		
1720.00	344000	Low	NR Band n66 (AWS)	20	#1	24.5	23.90	0.00	0	05209	DFT-S-OFDM	QPSK	1	104	10 mm	back	1:1	0.354	1.148	0.406	
1720.00	344000	Low	NR Band n66 (AWS)	20	#3	24.5	23.90	-0.02	0	05209	DFT-S-OFDM	QPSK	1	104	10 mm	front	1:1	0.259	1.148	0.297	
1720.00	344000	Low	NR Band n66 (AWS)	20	#1	24.5	23.90	0.01	0	05209	DFT-S-OFDM	QPSK	1	104	10 mm	right	1:1	0.706	1.148	0.810	
1745.00	349000	Mid	NR Band n66 (AWS)	20	#1	24.5	23.60	0.04	0	05209	DFT-S-OFDM	QPSK	1	104	10 mm	right	1:1	0.815	1.230	1.002	
1770.00	354000	High	NR Band n66 (AWS)	20	#1	24.5	23.82	0.01	0	05209	DFT-S-OFDM	QPSK	1	104	10 mm	right	1:1	0.953	1.169	1.114	A59
1770.00	354000	High	NR Band n66 (AWS)	20	#3	24.5	23.82	-0.12	0	05209	DFT-S-OFDM	QPSK	1	104	10 mm	right	1:1	0.716	1.169	0.837	
1720.00	344000	Low	NR Band n66 (AWS)	20	-	24.0	23.46	0.12	0	05209	DFT-S-OFDM	QPSK	1	1	10 mm	back	1:1	0.335	1.132	0.379	
1720.00	344000	Low	NR Band n66 (AWS)	20	-	24.0	23.37	-0.07	0	05209	DFT-S-OFDM	QPSK	50	0	10 mm	back	1:1	0.322	1.156	0.372	
1720.00	344000	Low	NR Band n66 (AWS)	20	-	24.0	23.46	-0.05	0	05209	DFT-S-OFDM	QPSK	1	1	10 mm	front	1:1	0.225	1.132	0.255	
1720.00	344000	Low	NR Band n66 (AWS)	20	-	24.0	23.37	-0.02	0	05209	DFT-S-OFDM	QPSK	50	0	10 mm	front	1:1	0.225	1.156	0.260	
1720.00	344000	Low	NR Band n66 (AWS)	20	-	24.0	23.46	0.02	0	05209	DFT-S-OFDM	QPSK	1	1	10 mm	right	1:1	0.604	1.132	0.684	
1720.00	344000	Low	NR Band n66 (AWS)	20	-	24.0	23.37	-0.09	0	05209	DFT-S-OFDM	QPSK	50	0	10 mm	right	1:1	0.598	1.156	0.691	
1745.00	349000	Mid	NR Band n66 (AWS)	20	-	24.0	23.34	0.00	0	05209	DFT-S-OFDM	QPSK	50	28	10 mm	right	1:1	0.729	1.164	0.849	
1770.00	354000	High	NR Band n66 (AWS)	20	-	24.0	23.29	-0.01	0	05209	DFT-S-OFDM	QPSK	50	28	10 mm	right	1:1	0.799	1.178	0.941	
1720.00	344000	Low	NR Band n66 (AWS)	20	-	24.0	23.36	-0.02	0	05209	DFT-S-OFDM	QPSK	100	0	10 mm	right	1:1	0.615	1.159	0.713	
1720.00	344000	Low	NR Band n66 (AWS)	20	-	24.0	23.17	0.01	0	05209	CP-OFDM	QPSK	1	1	10 mm	right	1:1	0.517	1.211	0.626	
1770.00	354000	High	NR Band n66 (AWS)	20	#1	24.5	23.82	0.04	0	05209	DFT-S-OFDM	QPSK	1	104	10 mm	right	1:1	0.923	1.169	1.079	
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: 1) Blue entry represents variability measurement. 2) Green entries represent additional Hotspot SAR Position (DD #1: 0 degrees) 3) Light orange entries represent additional Hotspot SAR Position (DD #3: 360 degrees)

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Table 11-49
NR Band n25 (PCS) Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Waveform	Modulation	RB Size	RB Offset	Spacing	MPR [dB]	Duty Cycle	SAR (1g) (W/kg)	Scaling Factor	Reported SAR (1g) (W/kg)	Plot #
MHz	Ch.																		
1860.00	372000	Low	NR Band n25 (PCS)	20	24.5	23.88	-0.14	0	05209	DFT-S-OFDM	QPSK	1	104	10 mm	back	1:1	0.538	1.153	0.620
1882.50	376500	Mid	NR Band n25 (PCS)	20	24.5	23.80	-0.17	0	05209	DFT-S-OFDM	QPSK	1	1	10 mm	back	1:1	0.527	1.175	0.619
1905.00	381000	High	NR Band n25 (PCS)	20	24.5	23.73	-0.15	0	05209	DFT-S-OFDM	QPSK	1	104	10 mm	back	1:1	0.480	1.194	0.573
1860.00	372000	Low	NR Band n25 (PCS)	20	24.5	23.94	-0.19	0	05209	DFT-S-OFDM	QPSK	50	28	10 mm	back	1:1	0.507	1.138	0.577
1860.00	372000	Low	NR Band n25 (PCS)	20	24.5	23.88	0.00	0	05209	DFT-S-OFDM	QPSK	1	104	10 mm	front	1:1	0.445	1.153	0.513
1860.00	372000	Low	NR Band n25 (PCS)	20	24.5	23.94	-0.07	0	05209	DFT-S-OFDM	QPSK	50	28	10 mm	front	1:1	0.408	1.138	0.464
1860.00	372000	Low	NR Band n25 (PCS)	20	24.5	23.88	-0.02	0	05209	DFT-S-OFDM	QPSK	1	104	10 mm	right	1:1	0.825	1.153	0.951
1882.50	376500	Mid	NR Band n25 (PCS)	20	24.5	23.80	-0.16	0	05209	DFT-S-OFDM	QPSK	1	1	10 mm	right	1:1	0.803	1.175	0.944
1905.00	381000	High	NR Band n25 (PCS)	20	24.5	23.73	-0.21	0	05209	DFT-S-OFDM	QPSK	1	104	10 mm	right	1:1	0.769	1.194	0.918
1860.00	372000	Low	NR Band n25 (PCS)	20	24.5	23.94	-0.08	0	05209	DFT-S-OFDM	QPSK	50	28	10 mm	right	1:1	0.802	1.138	0.913
1882.50	376500	Mid	NR Band n25 (PCS)	20	24.5	23.77	-0.19	0	05209	DFT-S-OFDM	QPSK	50	0	10 mm	right	1:1	0.779	1.183	0.922
1905.00	381000	High	NR Band n25 (PCS)	20	24.5	23.68	-0.15	0	05209	DFT-S-OFDM	QPSK	50	56	10 mm	right	1:1	0.771	1.208	0.931
1860.00	372000	Low	NR Band n25 (PCS)	20	24.5	23.93	-0.06	0	05209	DFT-S-OFDM	QPSK	100	0	10 mm	right	1:1	0.801	1.140	0.913
1860.00	372000	Low	NR Band n25 (PCS)	20	24.0	23.26	0.01	0.5	05209	CP-OFDM	QPSK	1	1	10 mm	right	1:1	0.694	1.186	0.823
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 11-50
NR Band n41 Hotspot SAR

MEASUREMENT RESULTS																						
FREQUENCY		Mode	Bandwidth [MHz]	Dual Display Accessory Configuration	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Waveform	Modulation	RB Size	RB Offset	Spacing	MPR [dB]	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #		
MHz	Ch.																(W/kg)		(W/kg)			
2592.99	518598	Mid	NR Band n41	100	#1	25.0	24.41	0.03	0	05191	DFT-S-OFDM	QPSK	1	1	10 mm	back	1:4	0.354	1.146	0.406		
2592.99	518598	Mid	NR Band n41	100	#3	25.0	24.41	0.12	0	05191	DFT-S-OFDM	QPSK	1	1	10 mm	front	1:4	0.012	1.146	0.014		
2592.99	518598	Mid	NR Band n41	100	#1	25.0	24.41	0.00	0	05191	DFT-S-OFDM	QPSK	1	1	10 mm	right	1:4	0.100	1.146	0.115		
2592.99	518598	Mid	NR Band n41	100	-	24.0	23.47	-0.14	0	05191	DFT-S-OFDM	QPSK	1	271	10 mm	back	1:4	0.473	1.130	0.534		
2592.99	518598	Mid	NR Band n41	100	-	24.0	23.28	-0.03	0	05191	DFT-S-OFDM	QPSK	135	138	10 mm	back	1:4	0.484	1.180	0.571	A62	
2592.99	518598	Mid	NR Band n41	100	-	23.5	23.01	-0.15	0.5	05191	CP-OFDM	QPSK	1	1	10 mm	back	1:4	0.309	1.119	0.346		
2592.99	518598	Mid	NR Band n41	100	-	24.0	23.47	0.12	0	05191	DFT-S-OFDM	QPSK	1	271	10 mm	front	1:4	0.013	1.130	0.015		
2592.99	518598	Mid	NR Band n41	100	-	24.0	23.28	0.21	0	05191	DFT-S-OFDM	QPSK	135	138	10 mm	front	1:4	0.015	1.180	0.018		
2592.99	518598	Mid	NR Band n41	100	-	24.0	23.47	0.17	0	05191	DFT-S-OFDM	QPSK	1	271	10 mm	right	1:4	0.135	1.130	0.153		
2592.99	518598	Mid	NR Band n41	100	-	24.0	23.28	0.04	0	05191	DFT-S-OFDM	QPSK	135	138	10 mm	right	1:4	0.139	1.180	0.164		
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: 1) Green entries represent additional Hotspot SAR Position (DD #1: 0 degrees) 2) Light orange entries represent additional Hotspot SAR Position (DD #3: 360 degrees)

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Table 11-51
WLAN Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
2412	1	802.11b	DSSS	22	20.5	20.14	-0.03	10 mm	1	05381	1	back	99.3	0.229	0.149	1.086	1.007	0.163	
2412	1	802.11b	DSSS	22	20.5	20.14	0.14	10 mm	1	05381	1	front	99.3	0.225	-	1.086	1.007	-	
2412	1	802.11b	DSSS	22	20.5	20.14	0.16	10 mm	1	05381	1	top	99.3	0.309	-	1.086	1.007	-	
2412	1	802.11b	DSSS	22	20.5	20.14	0.12	10 mm	1	05381	1	left	99.3	0.534	0.329	1.086	1.007	0.360	A64
2462	11	802.11b	DSSS	22	20.5	20.10	0.17	10 mm	2	05381	1	back	99.3	0.359	0.222	1.096	1.007	0.245	
2462	11	802.11b	DSSS	22	20.5	20.10	0.16	10 mm	2	05381	1	front	99.3	0.217	-	1.096	1.007	-	
2462	11	802.11b	DSSS	22	20.5	20.10	0.17	10 mm	2	05381	1	top	99.3	0.495	0.282	1.096	1.007	0.311	
2462	11	802.11b	DSSS	22	20.5	20.10	0.17	10 mm	2	05381	1	left	99.3	0.051	-	1.096	1.007	-	
5200	40	802.11a	OFDM	20	19.0	18.92	0.16	10 mm	1	05381	6	back	98.3	0.738	0.374	1.019	1.017	0.388	A66
5200	40	802.11a	OFDM	20	19.0	18.92	0.15	10 mm	1	05381	6	front	98.3	0.193	0.086	1.019	1.017	0.089	
5200	40	802.11a	OFDM	20	19.0	18.92	0.19	10 mm	1	05381	6	top	98.3	0.313	-	1.019	1.017	-	
5200	40	802.11a	OFDM	20	19.0	18.92	0.15	10 mm	1	05381	6	left	98.3	0.277	-	1.019	1.017	-	
5200	40	802.11a	OFDM	20	19.0	18.98	0.17	10 mm	2	05381	6	back	96.4	0.212	0.110	1.005	1.037	0.115	
5200	40	802.11a	OFDM	20	19.0	18.98	-0.09	10 mm	2	05381	6	front	96.4	0.158	0.078	1.005	1.037	0.081	
5200	40	802.11a	OFDM	20	19.0	18.98	-0.15	10 mm	2	05381	6	top	96.4	0.142	-	1.005	1.037	-	
5200	40	802.11a	OFDM	20	19.0	18.98	0.17	10 mm	2	05381	6	left	96.4	0.157	-	1.005	1.037	-	
5785	157	802.11a	OFDM	20	19.0	18.86	-0.06	10 mm	1	05381	6	back	98.3	0.480	0.206	1.033	1.017	0.216	
5785	157	802.11a	OFDM	20	19.0	18.86	-0.19	10 mm	1	05381	6	front	98.3	0.256	0.112	1.033	1.017	0.118	
5785	157	802.11a	OFDM	20	19.0	18.86	0.17	10 mm	1	05381	6	top	98.3	0.166	-	1.033	1.017	-	
5785	157	802.11a	OFDM	20	19.0	18.86	0.14	10 mm	1	05381	6	left	98.3	0.226	-	1.033	1.017	-	
5785	157	802.11a	OFDM	20	19.0	18.93	0.14	10 mm	2	05381	6	back	96.4	0.615	0.248	1.016	1.037	0.261	
5785	157	802.11a	OFDM	20	19.0	18.93	-0.19	10 mm	2	05381	6	front	96.4	0.109	0.043	1.016	1.037	0.045	
5785	157	802.11a	OFDM	20	19.0	18.93	-0.13	10 mm	2	05381	6	top	96.4	0.132	-	1.016	1.037	-	
5785	157	802.11a	OFDM	20	19.0	18.93	0.16	10 mm	2	05381	6	left	96.4	0.116	-	1.016	1.037	-	
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 11-52
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)	
2402	0	Bluetooth	FHSS	11.0	10.20	0.12	10 mm	05373	1	back	77.3	0.015	1.202	1.294	0.023	
2402	0	Bluetooth	FHSS	11.0	10.20	-0.12	10 mm	05373	1	front	77.3	0.010	1.202	1.294	0.016	
2402	0	Bluetooth	FHSS	11.0	10.20	0.05	10 mm	05373	1	top	77.3	0.012	1.202	1.294	0.019	
2402	0	Bluetooth	FHSS	11.0	10.20	-0.15	10 mm	05373	1	left	77.3	0.037	1.202	1.294	0.058	A68
ANSI / IEEE C95.1 1992 - SAFETY LIMIT							Body									
Spatial Peak							1.6 W/kg (mW/g)									
Uncontrolled Exposure/General Population							averaged over 1 gram									

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11.4 Standalone Phablet SAR Data

Table 11-53
CDMA Phablet SAR Data

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Position	Spacing	Dual Display Accessory Configuration	Device Serial Number	Duty Cycle	Side	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.												(W/kg)		(W/kg)	
1851.25	25	PCS CDMA	EVDO Rev. 0	25.5	24.97	0.15	Body	2 mm	-	05282	1:1	back	2.270	1.130	2.565	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.5	25.11	0.14	Body	2 mm	-	05282	1:1	back	2.450	1.094	2.680	
1908.75	1175	PCS CDMA	EVDO Rev. 0	25.5	25.06	0.14	Body	2 mm	-	05282	1:1	back	2.450	1.107	2.712	
1851.25	25	PCS CDMA	EVDO Rev. 0	25.5	24.97	-0.03	Body	1 mm	-	05282	1:1	front	2.130	1.130	2.407	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.5	25.11	0.03	Body	1 mm	-	05282	1:1	front	2.240	1.094	2.451	
1908.75	1175	PCS CDMA	EVDO Rev. 0	25.5	25.06	0.05	Body	1 mm	-	05282	1:1	front	2.380	1.107	2.635	
1851.25	25	PCS CDMA	EVDO Rev. 0	25.5	24.97	-0.07	Body	4 mm	-	05282	1:1	bottom	2.020	1.130	2.283	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.5	25.11	-0.03	Body	4 mm	-	05282	1:1	bottom	2.320	1.094	2.538	
1908.75	1175	PCS CDMA	EVDO Rev. 0	25.5	25.06	0.01	Body	4 mm	-	05282	1:1	bottom	2.330	1.107	2.579	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.5	25.11	-0.16	Body	0 mm	-	05282	1:1	left	0.646	1.094	0.707	
1851.25	25	PCS CDMA	EVDO Rev. 0	22.5	22.21	-0.13	Body	0 mm	-	05282	1:1	back	1.850	1.069	1.978	
1880.00	600	PCS CDMA	EVDO Rev. 0	22.5	22.09	0.00	Body	0 mm	-	05282	1:1	back	1.970	1.099	2.165	
1908.75	1175	PCS CDMA	EVDO Rev. 0	22.5	22.37	-0.19	Body	0 mm	-	05282	1:1	back	1.900	1.030	1.957	
1880.00	600	PCS CDMA	EVDO Rev. 0	22.5	22.09	-0.14	Body	0 mm	-	05282	1:1	front	1.580	1.099	1.736	
1851.25	25	PCS CDMA	EVDO Rev. 0	22.5	22.21	0.03	Body	0 mm	-	05282	1:1	bottom	2.240	1.069	2.395	
1880.00	600	PCS CDMA	EVDO Rev. 0	22.5	22.09	-0.07	Body	0 mm	-	05282	1:1	bottom	2.400	1.099	2.638	
1908.75	1175	PCS CDMA	EVDO Rev. 0	22.5	22.37	-0.01	Body	0 mm	-	05282	1:1	bottom	2.580	1.030	2.657	A69
1851.25	25	PCS CDMA	EVDO Rev. 0	24.5	23.92	-0.07	Body	0 mm	#1	05282	1:1	back	2.130	1.143	2.435	
1880.00	600	PCS CDMA	EVDO Rev. 0	24.5	24.08	-0.05	Body	0 mm	#1	05282	1:1	back	2.140	1.102	2.358	
1908.75	1175	PCS CDMA	EVDO Rev. 0	24.5	23.92	-0.06	Body	0 mm	#1	05282	1:1	back	2.100	1.143	2.400	
1851.25	25	PCS CDMA	EVDO Rev. 0	24.5	23.92	0.07	Body	0 mm	#3	05282	1:1	front	2.340	1.143	2.675	
1880.00	600	PCS CDMA	EVDO Rev. 0	24.5	24.08	0.00	Body	0 mm	#3	05282	1:1	front	2.300	1.102	2.535	
1908.75	1175	PCS CDMA	EVDO Rev. 0	24.5	23.92	0.01	Body	0 mm	#3	05282	1:1	front	2.280	1.143	2.606	
1851.25	25	PCS CDMA	EVDO Rev. 0	24.5	23.92	-0.01	Body	0 mm	#1	05282	1:1	bottom	1.790	1.143	2.046	
1880.00	600	PCS CDMA	EVDO Rev. 0	24.5	24.08	-0.11	Body	0 mm	#1	05282	1:1	bottom	1.860	1.102	2.050	
1908.75	1175	PCS CDMA	EVDO Rev. 0	24.5	23.92	-0.09	Body	0 mm	#1	05282	1:1	bottom	1.820	1.143	2.080	
1880.00	600	PCS CDMA	EVDO Rev. 0	24.5	24.08	0.12	Body	0 mm	#1	05282	1:1	left	0.180	1.102	0.198	
1908.75	1175	PCS CDMA	EVDO Rev. 0	22.5	22.37	-0.02	Body	0 mm	-	05282	1:1	bottom	2.550	1.030	2.627	
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: 1) Blue entry represents variability measurement. 2) Green entries represent additional Phablet SAR Position (DD #1: 0 degrees) 3) Light orange entries represent additional Phablet SAR Position (DD #3: 360 degrees)

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Table 11-54
UMTS Phablet SAR Data

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Position	Spacing	Dual Display Accessory Configuration	Device Serial Number	Duty Cycle	Side	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.												(W/kg)		(W/kg)	
1732.40	1412	UMTS 1750	RMC	25.5	25.10	-0.04	Body	2 mm	-	05282	1:1	back	1.320	1.096	1.447	
1732.40	1412	UMTS 1750	RMC	25.5	25.10	-0.02	Body	1 mm	-	05282	1:1	front	1.570	1.096	1.721	
1732.40	1412	UMTS 1750	RMC	25.5	25.10	0.05	Body	4 mm	-	05282	1:1	bottom	1.380	1.096	1.512	
1732.40	1412	UMTS 1750	RMC	25.5	25.10	0.03	Body	0 mm	-	05282	1:1	left	0.433	1.096	0.475	
1732.40	1412	UMTS 1750	RMC	22.5	22.43	-0.01	Body	0 mm	-	05282	1:1	back	1.590	1.016	1.615	
1732.40	1412	UMTS 1750	RMC	22.5	22.43	-0.04	Body	0 mm	-	05282	1:1	front	1.080	1.016	1.097	
1712.40	1312	UMTS 1750	RMC	22.5	22.47	-0.02	Body	0 mm	-	05282	1:1	bottom	1.520	1.007	1.531	
1732.40	1412	UMTS 1750	RMC	22.5	22.43	0.03	Body	0 mm	-	05282	1:1	bottom	1.670	1.016	1.697	
1752.60	1513	UMTS 1750	RMC	22.5	22.45	-0.06	Body	0 mm	-	05282	1:1	bottom	1.780	1.012	1.801	
1712.40	1312	UMTS 1750	RMC	24.5	24.20	0.16	Body	0 mm	#1	05274	1:1	back	2.230	1.072	2.391	
1732.40	1412	UMTS 1750	RMC	24.5	24.22	0.16	Body	0 mm	#1	05274	1:1	back	2.400	1.067	2.561	
1752.60	1513	UMTS 1750	RMC	24.5	24.21	0.09	Body	0 mm	#1	05274	1:1	back	2.700	1.069	2.886	A70
1712.40	1312	UMTS 1750	RMC	24.5	24.20	-0.09	Body	0 mm	#3	05274	1:1	front	2.360	1.072	2.530	
1732.40	1412	UMTS 1750	RMC	24.5	24.22	-0.15	Body	0 mm	#3	05274	1:1	front	2.460	1.067	2.625	
1752.60	1513	UMTS 1750	RMC	24.5	24.21	-0.11	Body	0 mm	#3	05274	1:1	front	2.410	1.069	2.576	
1712.40	1312	UMTS 1750	RMC	24.5	24.20	0.00	Body	0 mm	#1	05274	1:1	bottom	1.590	1.072	1.704	
1732.40	1412	UMTS 1750	RMC	24.5	24.22	-0.04	Body	0 mm	#1	05274	1:1	bottom	1.810	1.067	1.931	
1752.60	1513	UMTS 1750	RMC	24.5	24.21	0.00	Body	0 mm	#1	05274	1:1	bottom	1.970	1.069	2.106	
1732.40	1412	UMTS 1750	RMC	24.5	24.22	-0.08	Body	0 mm	#1	05274	1:1	left	0.152	1.067	0.162	
1880.00	9400	UMTS 1900	RMC	25.5	25.09	0.09	Body	2 mm	-	05258	1:1	back	1.810	1.099	1.989	
1852.40	9262	UMTS 1900	RMC	25.5	25.02	-0.07	Body	1 mm	-	05258	1:1	front	1.720	1.117	1.921	
1880.00	9400	UMTS 1900	RMC	25.5	25.09	-0.06	Body	1 mm	-	05258	1:1	front	1.860	1.099	2.044	
1907.60	9538	UMTS 1900	RMC	25.5	25.05	-0.05	Body	1 mm	-	05258	1:1	front	1.970	1.109	2.185	
1880.00	9400	UMTS 1900	RMC	25.5	25.09	-0.02	Body	4 mm	-	05258	1:1	bottom	1.570	1.099	1.725	
1880.00	9400	UMTS 1900	RMC	25.5	25.09	-0.03	Body	0 mm	-	05258	1:1	left	0.528	1.099	0.580	
1852.40	9262	UMTS 1900	RMC	22.5	22.42	0.15	Body	0 mm	-	05258	1:1	back	1.990	1.019	2.028	
1880.00	9400	UMTS 1900	RMC	22.5	22.44	0.18	Body	0 mm	-	05258	1:1	back	2.070	1.014	2.099	
1907.60	9538	UMTS 1900	RMC	22.5	22.50	-0.05	Body	0 mm	-	05258	1:1	back	2.110	1.000	2.110	
1880.00	9400	UMTS 1900	RMC	22.5	22.44	-0.13	Body	0 mm	-	05258	1:1	front	1.560	1.014	1.582	
1852.40	9262	UMTS 1900	RMC	22.5	22.42	-0.07	Body	0 mm	-	05258	1:1	bottom	2.040	1.019	2.079	
1880.00	9400	UMTS 1900	RMC	22.5	22.44	-0.09	Body	0 mm	-	05258	1:1	bottom	2.160	1.014	2.190	
1907.60	9538	UMTS 1900	RMC	22.5	22.50	-0.07	Body	0 mm	-	05258	1:1	bottom	2.340	1.000	2.340	A71
1852.40	9262	UMTS 1900	RMC	24.5	24.24	0.15	Body	0 mm	#1	05258	1:1	back	2.170	1.062	2.305	
1880.00	9400	UMTS 1900	RMC	24.5	24.16	-0.10	Body	0 mm	#1	05258	1:1	back	2.170	1.081	2.346	
1907.60	9538	UMTS 1900	RMC	24.5	24.05	-0.07	Body	0 mm	#1	05258	1:1	back	2.150	1.109	2.384	
1852.40	9262	UMTS 1900	RMC	24.5	24.24	-0.12	Body	0 mm	#3	05258	1:1	front	2.210	1.062	2.347	
1880.00	9400	UMTS 1900	RMC	24.5	24.16	-0.13	Body	0 mm	#3	05258	1:1	front	2.200	1.081	2.378	
1907.60	9538	UMTS 1900	RMC	24.5	24.05	-0.14	Body	0 mm	#3	05258	1:1	front	2.160	1.109	2.395	
1880.00	9400	UMTS 1900	RMC	24.5	24.16	-0.02	Body	0 mm	#1	05258	1:1	bottom	1.720	1.081	1.859	
1880.00	9400	UMTS 1900	RMC	24.5	24.16	0.02	Body	0 mm	#1	05258	1:1	left	0.126	1.081	0.136	
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: 1) Green entries represent additional Phablet SAR Position (DD #1: 0 degrees) 2) Light orange entries represent additional Phablet SAR Position (DD #3: 360 degrees)

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Table 11-55
LTE Band 66 (AWS) Phablet SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Dual Display Accessory Configuration	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant	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)	-	25.5	25.36	0.12	0	Ant 2	05282	QPSK	1	0	2 mm	back	1:1	1.790	1.033	1.849	
1770.00	132572	High	LTE Band 66 (AWS)	-	24.5	24.40	0.14	1	Ant 2	05282	QPSK	50	0	2 mm	back	1:1	1.450	1.023	1.483	
1770.00	132572	High	LTE Band 66 (AWS)	-	25.5	25.36	0.07	0	Ant 2	05282	QPSK	1	0	1 mm	front	1:1	1.660	1.033	1.715	
1770.00	132572	High	LTE Band 66 (AWS)	-	24.5	24.40	0.12	1	Ant 2	05282	QPSK	50	0	1 mm	front	1:1	1.360	1.023	1.391	
1770.00	132572	High	LTE Band 66 (AWS)	-	25.5	25.36	0.04	0	Ant 2	05282	QPSK	1	0	4 mm	bottom	1:1	1.620	1.033	1.673	
1770.00	132572	High	LTE Band 66 (AWS)	-	24.5	24.40	0.02	1	Ant 2	05282	QPSK	50	0	4 mm	bottom	1:1	1.320	1.023	1.350	
1770.00	132572	High	LTE Band 66 (AWS)	-	25.5	25.36	0.01	0	Ant 2	05282	QPSK	1	0	0 mm	left	1:1	0.560	1.033	0.578	
1770.00	132572	High	LTE Band 66 (AWS)	-	24.5	24.40	0.03	1	Ant 2	05282	QPSK	50	0	0 mm	left	1:1	0.448	1.023	0.458	
1770.00	132572	High	LTE Band 66 (AWS)	-	22.5	21.84	0.03	0	Ant 2	05282	QPSK	1	0	0 mm	back	1:1	1.620	1.164	1.886	
1770.00	132572	High	LTE Band 66 (AWS)	-	22.5	21.76	0.03	0	Ant 2	05282	QPSK	50	0	0 mm	back	1:1	1.650	1.186	1.957	
1770.00	132572	High	LTE Band 66 (AWS)	-	22.5	21.84	-0.03	0	Ant 2	05282	QPSK	1	0	0 mm	front	1:1	1.460	1.164	1.699	
1770.00	132572	High	LTE Band 66 (AWS)	-	22.5	21.76	-0.02	0	Ant 2	05282	QPSK	50	0	0 mm	front	1:1	1.490	1.186	1.767	
1770.00	132572	High	LTE Band 66 (AWS)	-	22.5	21.84	0.00	0	Ant 2	05282	QPSK	1	0	0 mm	bottom	1:1	1.690	1.164	1.967	
1720.00	132072	Low	LTE Band 66 (AWS)	-	22.5	21.72	0.02	0	Ant 2	05282	QPSK	50	25	0 mm	bottom	1:1	1.520	1.197	1.819	
1745.00	132322	Mid	LTE Band 66 (AWS)	-	22.5	21.74	0.02	0	Ant 2	05282	QPSK	50	25	0 mm	bottom	1:1	1.610	1.191	1.918	
1770.00	132572	High	LTE Band 66 (AWS)	-	22.5	21.76	0.03	0	Ant 2	05282	QPSK	50	0	0 mm	bottom	1:1	1.730	1.186	2.052	
1770.00	132572	High	LTE Band 66 (AWS)	-	22.5	21.74	0.02	0	Ant 2	05282	QPSK	100	0	0 mm	bottom	1:1	1.710	1.191	2.037	
1720.00	132072	Low	LTE Band 66 (AWS)	#1	24.5	23.57	0.08	0	Ant 2	05274	QPSK	1	99	0 mm	back	1:1	1.970	1.239	2.441	
1745.00	132322	Mid	LTE Band 66 (AWS)	#1	24.5	23.82	0.15	0	Ant 2	05274	QPSK	1	50	0 mm	back	1:1	2.220	1.169	2.595	
1770.00	132572	High	LTE Band 66 (AWS)	#1	24.5	23.99	0.10	0	Ant 2	05274	QPSK	1	0	0 mm	back	1:1	2.350	1.125	2.644	A72
1720.00	132072	Low	LTE Band 66 (AWS)	#3	24.5	23.57	0.20	0	Ant 2	05274	QPSK	1	99	0 mm	front	1:1	1.970	1.239	2.441	
1745.00	132322	Mid	LTE Band 66 (AWS)	#3	24.5	23.82	0.14	0	Ant 2	05274	QPSK	1	50	0 mm	front	1:1	2.080	1.169	2.432	
1770.00	132572	High	LTE Band 66 (AWS)	#3	24.5	23.99	0.21	0	Ant 2	05274	QPSK	1	0	0 mm	front	1:1	2.060	1.125	2.318	
1770.00	132572	High	LTE Band 66 (AWS)	#1	24.5	23.99	-0.05	0	Ant 2	05274	QPSK	1	0	0 mm	bottom	1:1	1.430	1.125	1.609	
1770.00	132572	High	LTE Band 66 (AWS)	#1	24.5	23.99	-0.14	0	Ant 2	05274	QPSK	1	0	0 mm	left	1:1	0.156	1.125	0.176	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT																				
Spatial Peak									Phablet											
Uncontrolled Exposure/General Population									4.0 W/kg (mW/g) averaged over 10 grams											

Note: 1) Green entries represent additional Phablet SAR Position (DD #1: 0 degrees) 2) Light orange entries represent additional Phablet SAR Position (DD #3: 360 degrees)

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Table 11-56
LTE Band 25 (PCS) Phablet SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Bandwidth [MHz]	Dual Display Accessory Configuration	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1860.00	26140	Low	LTE Band 25 (PCS)	-	25.5	24.64	0.15	0	05282	QPSK	1	99	2 mm	back	1:1	1.910	1.219	2.328	
1882.50	26365	Mid	LTE Band 25 (PCS)	-	25.5	24.91	0.16	0	05282	QPSK	1	99	2 mm	back	1:1	1.950	1.146	2.235	
1905.00	26590	High	LTE Band 25 (PCS)	-	25.5	24.86	0.15	0	05282	QPSK	1	99	2 mm	back	1:1	1.990	1.159	2.306	
1882.50	26365	Mid	LTE Band 25 (PCS)	-	24.5	23.99	0.13	1	05282	QPSK	50	50	2 mm	back	1:1	1.640	1.125	1.845	
1905.00	26590	High	LTE Band 25 (PCS)	-	24.5	23.85	0.14	1	05282	QPSK	100	0	2 mm	back	1:1	1.650	1.161	1.916	
1860.00	26140	Low	LTE Band 25 (PCS)	-	25.5	24.64	-0.06	0	05282	QPSK	1	99	1 mm	front	1:1	1.950	1.219	2.377	
1882.50	26365	Mid	LTE Band 25 (PCS)	-	25.5	24.91	0.05	0	05282	QPSK	1	99	1 mm	front	1:1	1.920	1.146	2.200	
1905.00	26590	High	LTE Band 25 (PCS)	-	25.5	24.86	0.04	0	05282	QPSK	1	99	1 mm	front	1:1	1.970	1.159	2.283	
1882.50	26365	Mid	LTE Band 25 (PCS)	-	24.5	23.99	0.08	1	05282	QPSK	50	50	1 mm	front	1:1	1.640	1.125	1.845	
1905.00	26590	High	LTE Band 25 (PCS)	-	24.5	23.85	0.13	1	05282	QPSK	100	0	1 mm	front	1:1	1.610	1.161	1.869	
1860.00	26140	Low	LTE Band 25 (PCS)	-	25.5	24.64	-0.03	0	05282	QPSK	1	99	4 mm	bottom	1:1	1.970	1.219	2.401	
1882.50	26365	Mid	LTE Band 25 (PCS)	-	25.5	24.91	-0.09	0	05282	QPSK	1	99	4 mm	bottom	1:1	2.070	1.146	2.372	
1905.00	26590	High	LTE Band 25 (PCS)	-	25.5	24.86	-0.13	0	05282	QPSK	1	99	4 mm	bottom	1:1	2.090	1.159	2.422	
1882.50	26365	Mid	LTE Band 25 (PCS)	-	24.5	23.99	-0.12	1	05282	QPSK	50	50	4 mm	bottom	1:1	1.760	1.125	1.980	
1905.00	26590	High	LTE Band 25 (PCS)	-	24.5	23.85	-0.12	1	05282	QPSK	100	0	4 mm	bottom	1:1	1.790	1.161	2.078	
1882.50	26365	Mid	LTE Band 25 (PCS)	-	25.5	24.91	-0.05	0	05282	QPSK	1	99	0 mm	left	1:1	0.614	1.146	0.704	
1882.50	26365	Mid	LTE Band 25 (PCS)	-	24.5	23.99	-0.03	1	05282	QPSK	50	50	0 mm	left	1:1	0.499	1.125	0.561	
1860.00	26140	Low	LTE Band 25 (PCS)	-	22.5	21.89	-0.11	0	05282	QPSK	1	0	0 mm	back	1:1	1.790	1.151	2.060	
1882.50	26365	Mid	LTE Band 25 (PCS)	-	22.5	21.78	-0.01	0	05282	QPSK	1	0	0 mm	back	1:1	1.840	1.180	2.171	
1905.00	26590	High	LTE Band 25 (PCS)	-	22.5	21.79	-0.12	0	05282	QPSK	1	0	0 mm	back	1:1	1.840	1.178	2.168	
1860.00	26140	Low	LTE Band 25 (PCS)	-	22.5	21.98	-0.10	0	05282	QPSK	50	25	0 mm	back	1:1	1.860	1.127	2.096	
1882.50	26365	Mid	LTE Band 25 (PCS)	-	22.5	21.91	-0.14	0	05282	QPSK	50	50	0 mm	back	1:1	1.870	1.146	2.143	
1905.00	26590	High	LTE Band 25 (PCS)	-	22.5	21.83	-0.14	0	05282	QPSK	50	50	0 mm	back	1:1	1.870	1.167	2.182	
1860.00	26140	Low	LTE Band 25 (PCS)	-	22.5	21.81	-0.10	0	05282	QPSK	100	0	0 mm	back	1:1	1.760	1.172	2.063	
1860.00	26140	Low	LTE Band 25 (PCS)	-	22.5	21.89	-0.08	0	05282	QPSK	1	0	0 mm	front	1:1	1.510	1.151	1.738	
1860.00	26140	Low	LTE Band 25 (PCS)	-	22.5	21.98	0.00	0	05282	QPSK	50	25	0 mm	front	1:1	1.580	1.127	1.781	
1860.00	26140	Low	LTE Band 25 (PCS)	-	22.5	21.89	0.07	0	05282	QPSK	1	0	0 mm	bottom	1:1	2.050	1.151	2.360	
1882.50	26365	Mid	LTE Band 25 (PCS)	-	22.5	21.78	0.00	0	05282	QPSK	1	0	0 mm	bottom	1:1	2.150	1.180	2.537	
1905.00	26590	High	LTE Band 25 (PCS)	-	22.5	21.79	0.07	0	05282	QPSK	1	0	0 mm	bottom	1:1	2.240	1.178	2.639	
1860.00	26140	Low	LTE Band 25 (PCS)	-	22.5	21.98	0.02	0	05282	QPSK	50	25	0 mm	bottom	1:1	2.150	1.127	2.423	
1882.50	26365	Mid	LTE Band 25 (PCS)	-	22.5	21.91	0.03	0	05282	QPSK	50	50	0 mm	bottom	1:1	2.280	1.146	2.613	
1905.00	26590	High	LTE Band 25 (PCS)	-	22.5	21.83	0.03	0	05282	QPSK	50	50	0 mm	bottom	1:1	2.420	1.167	2.824	A73
1860.00	26140	Low	LTE Band 25 (PCS)	-	22.5	21.81	0.06	0	05282	QPSK	100	0	0 mm	bottom	1:1	2.130	1.172	2.496	
1860.00	26140	Low	LTE Band 25 (PCS)	#1	24.5	23.86	-0.16	0	05258	QPSK	1	50	0 mm	back	1:1	2.050	1.159	2.376	
1882.50	26365	Mid	LTE Band 25 (PCS)	#1	24.5	23.69	-0.13	0	05258	QPSK	1	99	0 mm	back	1:1	2.070	1.205	2.494	
1905.00	26590	High	LTE Band 25 (PCS)	#1	24.5	23.67	-0.19	0	05258	QPSK	1	0	0 mm	back	1:1	2.110	1.211	2.555	
1860.00	26140	Low	LTE Band 25 (PCS)	#3	24.5	23.86	0.01	0	05258	QPSK	1	50	0 mm	front	1:1	1.950	1.159	2.260	
1882.50	26365	Mid	LTE Band 25 (PCS)	#3	24.5	23.69	-0.03	0	05258	QPSK	1	99	0 mm	front	1:1	1.980	1.205	2.386	
1905.00	26590	High	LTE Band 25 (PCS)	#3	24.5	23.67	-0.05	0	05258	QPSK	1	0	0 mm	front	1:1	2.060	1.211	2.495	
1860.00	26140	Low	LTE Band 25 (PCS)	#1	24.5	23.86	-0.04	0	05258	QPSK	1	50	0 mm	bottom	1:1	1.540	1.159	1.785	
1860.00	26140	Low	LTE Band 25 (PCS)	#1	24.5	23.86	-0.03	0	05258	QPSK	1	50	0 mm	left	1:1	0.114	1.159	0.132	
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: 1) Green entries represent additional Phablet SAR Position (DD #1: 0 degrees) 2) Light orange entries represent additional Phablet SAR Position (DD #3: 360 degrees)

FCC ID: ZNFG900UM	 PCTEST Proud to be part of element	SAR EVALUATION REPORT	 LG	Approved by: Quality Manager
Document S/N: 1M2004150063-01-R1.ZNF	Test Dates: 04/27/20 – 06/25/20	DUT Type: Portable Handset		Page 174 of 224

Table 11-57
LTE Band 7 Phablet SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Dual Display Accessory Configuration	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.	(W/kg)															(W/kg)			
2510.00	20850	Low	LTE Band 7	20	-	25.5	24.51	0.04	0	05258	QPSK	1	0	2 mm	back	1:1	1.990	1.256	2.499	
2535.00	21100	Mid	LTE Band 7	20	-	25.5	24.69	0.02	0	05258	QPSK	1	50	2 mm	back	1:1	1.900	1.205	2.290	
2560.00	21350	High	LTE Band 7	20	-	25.5	24.74	-0.04	0	05258	QPSK	1	99	2 mm	back	1:1	2.000	1.191	2.382	
2560.00	21350	High	LTE Band 7	20	-	24.5	23.83	0.06	1	05258	QPSK	50	25	2 mm	back	1:1	1.660	1.167	1.937	
2510.00	20850	Low	LTE Band 7	20	-	24.5	23.72	0.07	1	05258	QPSK	100	0	2 mm	back	1:1	1.590	1.197	1.903	
2510.00	20850	Low	LTE Band 7	20	-	25.5	24.51	0.00	0	05258	QPSK	1	0	1 mm	front	1:1	1.770	1.256	2.223	
2535.00	21100	Mid	LTE Band 7	20	-	25.5	24.69	0.08	0	05258	QPSK	1	50	1 mm	front	1:1	1.800	1.205	2.169	
2560.00	21350	High	LTE Band 7	20	-	25.5	24.74	0.06	0	05258	QPSK	1	99	1 mm	front	1:1	1.830	1.191	2.180	
2560.00	21350	High	LTE Band 7	20	-	24.5	23.83	0.02	1	05258	QPSK	50	25	1 mm	front	1:1	1.520	1.167	1.774	
2510.00	20850	Low	LTE Band 7	20	-	24.5	23.72	0.08	1	05258	QPSK	100	0	1 mm	front	1:1	1.420	1.197	1.700	
2560.00	21350	High	LTE Band 7	20	-	25.5	24.74	-0.11	0	05258	QPSK	1	99	4 mm	bottom	1:1	1.440	1.191	1.715	
2560.00	21350	High	LTE Band 7	20	-	24.5	23.83	-0.12	1	05258	QPSK	50	25	4 mm	bottom	1:1	1.180	1.167	1.377	
2560.00	21350	High	LTE Band 7	20	-	25.5	24.74	-0.09	0	05258	QPSK	1	99	0 mm	left	1:1	0.576	1.191	0.686	
2560.00	21350	High	LTE Band 7	20	-	24.5	23.83	-0.09	1	05258	QPSK	50	25	0 mm	left	1:1	0.489	1.167	0.571	
2510.00	20850	Low	LTE Band 7	20	-	23.5	23.22	0.17	0	05258	QPSK	1	99	0 mm	back	1:1	2.350	1.067	2.507	
2535.00	21100	Mid	LTE Band 7	20	-	23.5	22.61	0.16	0	05258	QPSK	1	0	0 mm	back	1:1	2.350	1.227	2.883	
2560.00	21350	High	LTE Band 7	20	-	23.5	23.24	0.12	0	05258	QPSK	1	0	0 mm	back	1:1	2.580	1.062	2.740	
2510.00	20850	Low	LTE Band 7	20	-	23.5	23.24	0.18	0	05258	QPSK	50	25	0 mm	back	1:1	2.470	1.062	2.623	
2535.00	21100	Mid	LTE Band 7	20	-	23.5	22.73	0.13	0	05258	QPSK	50	50	0 mm	back	1:1	2.520	1.194	3.009	
2560.00	21350	High	LTE Band 7	20	-	23.5	23.32	0.14	0	05258	QPSK	50	25	0 mm	back	1:1	2.660	1.042	2.772	
2560.00	21350	High	LTE Band 7	20	-	23.5	23.21	0.12	0	05258	QPSK	100	0	0 mm	back	1:1	2.550	1.069	2.726	
2560.00	21350	High	LTE Band 7	20	-	23.5	23.24	0.11	0	05258	QPSK	1	0	0 mm	front	1:1	1.840	1.062	1.954	
2510.00	20850	Low	LTE Band 7	20	-	23.5	23.24	-0.12	0	05258	QPSK	50	25	0 mm	front	1:1	1.880	1.062	1.997	
2535.00	21100	Mid	LTE Band 7	20	-	23.5	22.73	-0.17	0	05258	QPSK	50	50	0 mm	front	1:1	1.870	1.194	2.233	
2560.00	21350	High	LTE Band 7	20	-	23.5	23.32	-0.17	0	05258	QPSK	50	25	0 mm	front	1:1	1.920	1.042	2.001	
2560.00	21350	High	LTE Band 7	20	-	23.5	23.21	-0.17	0	05258	QPSK	100	0	0 mm	front	1:1	1.870	1.069	1.999	
2510.00	20850	Low	LTE Band 7	20	-	23.5	23.22	-0.16	0	05258	QPSK	1	99	0 mm	bottom	1:1	2.460	1.067	2.625	
2535.00	21100	Mid	LTE Band 7	20	-	23.5	22.61	-0.15	0	05258	QPSK	1	0	0 mm	bottom	1:1	2.410	1.227	2.957	
2560.00	21350	High	LTE Band 7	20	-	23.5	23.24	-0.16	0	05258	QPSK	1	0	0 mm	bottom	1:1	2.380	1.062	2.528	
2510.00	20850	Low	LTE Band 7	20	-	23.5	23.24	-0.12	0	05258	QPSK	50	25	0 mm	bottom	1:1	2.870	1.062	3.048	A74
2535.00	21100	Mid	LTE Band 7	20	-	23.5	22.73	-0.16	0	05258	QPSK	50	50	0 mm	bottom	1:1	2.480	1.194	2.961	
2560.00	21350	High	LTE Band 7	20	-	23.5	23.32	-0.14	0	05258	QPSK	50	25	0 mm	bottom	1:1	2.430	1.042	2.532	
2560.00	21350	High	LTE Band 7	20	-	23.5	23.21	-0.16	0	05258	QPSK	100	0	0 mm	bottom	1:1	2.330	1.069	2.491	
2510.00	20850	Low	LTE Band 7	20	#1	24.5	23.73	0.13	0	05290	QPSK	1	0	0 mm	back	1:1	1.570	1.194	1.875	
2510.00	20850	Low	LTE Band 7	20	#3	24.5	23.73	-0.21	0	05290	QPSK	1	0	0 mm	front	1:1	1.960	1.194	2.340	
2535.00	21100	Mid	LTE Band 7	20	#3	24.5	23.71	-0.13	0	05290	QPSK	1	99	0 mm	front	1:1	1.750	1.199	2.098	
2560.00	21350	High	LTE Band 7	20	#3	24.5	23.67	-0.21	0	05290	QPSK	1	50	0 mm	front	1:1	1.760	1.211	2.131	
2510.00	20850	Low	LTE Band 7	20	#1	24.5	23.73	0.06	0	05290	QPSK	1	0	0 mm	bottom	1:1	1.020	1.194	1.218	
2510.00	20850	Low	LTE Band 7	20	#1	24.5	23.73	0.14	0	05290	QPSK	1	0	0 mm	left	1:1	0.088	1.194	0.105	
2510.00	20850	Low	LTE Band 7	20	-	23.5	23.24	-0.12	0	05258	QPSK	50	25	0 mm	bottom	1:1	2.810	1.062	2.984	
2560.00	21350	High	LTE Band 7	20	-	23.5	23.32	0.13	0	05258	QPSK	50	25	0 mm	back	1:1	2.620	1.042	2.730	
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: 1) Blue entries represent variability measurements. 2) Green entries represent additional Phablet SAR Position (DD #1: 0 degrees) 3) Light orange entries represent additional Phablet SAR Position (DD #3: 360 degrees)

FCC ID: ZNFG900UM		SAR EVALUATION REPORT		Approved by: Quality Manager
Document S/N: 1M2004150063-01-R1.ZNF	Test Dates: 04/27/20 – 06/25/20	DUT Type: Portable Handset	Page 175 of 224	

Table 11-58
LTE Band 41 Phablet SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Dual Display Accessory Configuration	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
2680.00	41490	High	LTE Band 41	20	-	25.5	25.24	-0.12	0	05258	QPSK	1	50	2 mm	back	1:1.58	0.892	1.062	0.947	
2680.00	41490	High	LTE Band 41	20	-	24.5	24.31	-0.18	1	05258	QPSK	50	25	2 mm	back	1:1.58	0.722	1.045	0.754	
2680.00	41490	High	LTE Band 41	20	-	25.5	25.24	-0.20	0	05258	QPSK	1	50	1 mm	front	1:1.58	0.990	1.062	1.051	
2680.00	41490	High	LTE Band 41	20	-	24.5	24.31	0.09	1	05258	QPSK	50	25	1 mm	front	1:1.58	0.813	1.045	0.850	
2680.00	41490	High	LTE Band 41	20	-	25.5	25.24	-0.08	0	05258	QPSK	1	50	4 mm	bottom	1:1.58	0.807	1.062	0.857	
2680.00	41490	High	LTE Band 41	20	-	24.5	24.31	-0.07	1	05258	QPSK	50	25	4 mm	bottom	1:1.58	0.661	1.045	0.691	
2680.00	41490	High	LTE Band 41	20	-	25.5	25.24	-0.17	0	05258	QPSK	1	50	0 mm	left	1:1.58	0.286	1.062	0.304	
2680.00	41490	High	LTE Band 41	20	-	24.5	24.31	-0.14	1	05258	QPSK	50	25	0 mm	left	1:1.58	0.231	1.045	0.241	
2506.00	39750	Low	LTE Band 41	20	-	25.0	24.81	0.17	0	05258	QPSK	1	99	0 mm	back	1:1.58	1.910	1.045	1.996	
2549.50	40185	Low-Mid	LTE Band 41	20	-	25.0	24.82	0.17	0	05258	QPSK	1	99	0 mm	back	1:1.58	1.960	1.042	2.042	
2593.00	40620	Mid	LTE Band 41	20	-	25.0	24.91	0.18	0	05258	QPSK	1	50	0 mm	back	1:1.58	2.030	1.021	2.073	
2636.50	41055	Mid-High	LTE Band 41	20	-	25.0	24.87	0.18	0	05258	QPSK	1	50	0 mm	back	1:1.58	1.880	1.030	1.936	
2680.00	41490	High	LTE Band 41	20	-	25.0	24.94	0.15	0	05258	QPSK	1	50	0 mm	back	1:1.58	1.490	1.014	1.511	
2680.00	41490	High	LTE Band 41	20	-	24.5	24.50	0.19	1	05258	QPSK	50	25	0 mm	back	1:1.58	1.430	1.000	1.430	
2680.00	41490	High	LTE Band 41	20	-	24.5	24.38	0.18	1	05258	QPSK	100	0	0 mm	back	1:1.58	1.410	1.028	1.449	
2680.00	41490	High	LTE Band 41	20	-	25.0	24.94	-0.19	0	05258	QPSK	1	50	0 mm	front	1:1.58	1.300	1.014	1.318	
2680.00	41490	High	LTE Band 41	20	-	24.5	24.50	-0.11	1	05258	QPSK	50	25	0 mm	front	1:1.58	1.250	1.000	1.250	
2506.00	39750	Low	LTE Band 41	20	-	25.0	24.81	-0.20	0	05258	QPSK	1	99	0 mm	bottom	1:1.58	2.270	1.045	2.372	A75
2549.50	40185	Low-Mid	LTE Band 41	20	-	25.0	24.82	-0.13	0	05258	QPSK	1	99	0 mm	bottom	1:1.58	2.030	1.042	2.115	
2593.00	40620	Mid	LTE Band 41	20	-	25.0	24.91	0.05	0	05258	QPSK	1	50	0 mm	bottom	1:1.58	2.000	1.021	2.042	
2636.50	41055	Mid-High	LTE Band 41	20	-	25.0	24.87	-0.11	0	05258	QPSK	1	50	0 mm	bottom	1:1.58	1.860	1.030	1.916	
2680.00	41490	High	LTE Band 41	20	-	25.0	24.94	-0.01	0	05258	QPSK	1	50	0 mm	bottom	1:1.58	1.660	1.014	1.683	
2506.00	39750	Low	LTE Band 41	20	-	24.5	24.38	0.06	1	05258	QPSK	50	50	0 mm	bottom	1:1.58	2.180	1.028	2.241	
2549.50	40185	Low-Mid	LTE Band 41	20	-	24.5	24.38	0.04	1	05258	QPSK	50	50	0 mm	bottom	1:1.58	1.980	1.028	2.035	
2593.00	40620	Mid	LTE Band 41	20	-	24.5	24.35	0.02	1	05258	QPSK	50	25	0 mm	bottom	1:1.58	1.920	1.035	1.987	
2636.50	41055	Mid-High	LTE Band 41	20	-	24.5	24.39	0.01	1	05258	QPSK	50	25	0 mm	bottom	1:1.58	1.790	1.026	1.837	
2680.00	41490	High	LTE Band 41	20	-	24.5	24.50	-0.02	1	05258	QPSK	50	25	0 mm	bottom	1:1.58	1.600	1.000	1.600	
2680.00	41490	High	LTE Band 41	20	-	24.5	24.38	-0.01	1	05258	QPSK	100	0	0 mm	bottom	1:1.58	1.580	1.028	1.624	
2680.00	41490	High	LTE Band 41	20	#1	25.5	25.24	0.02	0	05258	QPSK	1	50	0 mm	back	1:1.58	0.988	1.062	1.049	
2680.00	41490	High	LTE Band 41	20	#3	25.5	25.24	-0.08	0	05258	QPSK	1	50	0 mm	front	1:1.58	1.410	1.062	1.497	
2680.00	41490	High	LTE Band 41	20	#1	25.5	25.24	-0.09	0	05258	QPSK	1	50	0 mm	bottom	1:1.58	0.657	1.062	0.698	
2680.00	41490	High	LTE Band 41	20	#1	25.5	25.24	-0.16	0	05258	QPSK	1	50	0 mm	left	1:1.58	0.110	1.062	0.117	
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: 1) Green entries represent additional Phablet SAR Position (DD #1: 0 degrees) 2) Light orange entries represent additional Phablet SAR Position (DD #3: 360 degrees)

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Table 11-59
NR Band n66 (AWS) Phablet SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Cover Type	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Waveform	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g) (W/kg)	Scaling Factor	Reported SAR (10g) (W/kg)	Plot #
MHz	Ch.																				
1720.00	344000	Low	NR Band n66 (AWS)	20	#1	24.5	23.90	0.05	0	05191	DFT-S-OFDM	QPSK	1	104	0 mm	right	1:1	2.260	1.148	2.594	
1745.00	349000	Mid	NR Band n66 (AWS)	20	#1	24.5	23.60	-0.01	0	05191	DFT-S-OFDM	QPSK	1	104	0 mm	right	1:1	2.560	1.230	3.149	
1770.00	354000	High	NR Band n66 (AWS)	20	#1	24.5	23.82	0.03	0	05191	DFT-S-OFDM	QPSK	1	104	0 mm	right	1:1	2.710	1.169	3.168	
1770.00	354000	High	NR Band n66 (AWS)	20	#3	24.5	23.82	-0.01	0	05191	DFT-S-OFDM	QPSK	1	104	0 mm	right	1:1	2.520	1.169	2.946	
1720.00	344000	Low	NR Band n66 (AWS)	20	-	24.0	23.46	0.02	0	05209	DFT-S-OFDM	QPSK	1	1	0 mm	right	1:1	2.560	1.132	2.898	
1745.00	349000	Mid	NR Band n66 (AWS)	20	-	24.0	23.29	-0.04	0	05209	DFT-S-OFDM	QPSK	1	53	0 mm	right	1:1	2.570	1.178	3.027	
1770.00	354000	High	NR Band n66 (AWS)	20	-	24.0	23.25	-0.04	0	05209	DFT-S-OFDM	QPSK	1	53	0 mm	right	1:1	2.540	1.189	3.020	
1720.00	344000	Low	NR Band n66 (AWS)	20	-	24.0	23.37	0.04	0	05209	DFT-S-OFDM	QPSK	50	0	0 mm	right	1:1	2.540	1.156	2.936	
1745.00	349000	Mid	NR Band n66 (AWS)	20	-	24.0	23.34	0.01	0	05209	DFT-S-OFDM	QPSK	50	28	0 mm	right	1:1	2.720	1.164	3.166	A76
1770.00	354000	High	NR Band n66 (AWS)	20	-	24.0	23.29	-0.02	0	05209	DFT-S-OFDM	QPSK	50	28	0 mm	right	1:1	2.590	1.178	3.051	
1720.00	344000	Low	NR Band n66 (AWS)	20	-	24.0	23.36	-0.07	0	05209	DFT-S-OFDM	QPSK	100	0	0 mm	right	1:1	2.580	1.159	2.990	
1720.00	344000	Low	NR Band n66 (AWS)	20	-	24.0	23.17	-0.04	0	05209	CP-OFDM	QPSK	1	1	0 mm	right	1:1	2.400	1.211	2.906	
1745.00	349000	Mid	NR Band n66 (AWS)	20	-	24.0	23.34	0.01	0	05209	DFT-S-OFDM	QPSK	50	28	0 mm	right	1:1	2.600	1.164	3.026	
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: 1) Blue entry represents variability measurement. 2) Green entries represent additional Phablet SAR Position (DD #1: 0 degrees) 3) Light orange entries represent additional Phablet SAR Position (DD #3: 360 degrees)

Table 11-60
WLAN Phablet SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Dual Display Accessory Configuration	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan W/kg	SAR (10g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (10g)	Plot #
MHz	Ch.															(W/kg)			(W/kg)	
5260	52	802.11a	OFDM	20	17.0	16.87	-0.15	0 mm	1	-	05381	6	back	98.3	6.209	1.010	1.030	1.017	1.058	
5280	56	802.11a	OFDM	20	19.0	18.87	0.01	0 mm	1	-	05381	6	back	98.3	10.186	1.490	1.030	1.017	1.561	
5320	64	802.11a	OFDM	20	17.0	16.85	-0.16	0 mm	1	-	05381	6	back	98.3	5.702	0.952	1.035	1.017	1.002	
5280	56	802.11a	OFDM	20	19.0	18.87	0.17	0 mm	1	#1	05381	6	back	98.3	7.177	1.090	1.030	1.017	1.142	
5280	56	802.11a	OFDM	20	19.0	18.87	0.19	0 mm	1	-	05381	6	front	98.3	1.859	0.296	1.030	1.017	0.310	
5280	56	802.11a	OFDM	20	19.0	18.87	0.17	0 mm	1	-	05381	6	top	98.3	2.240	-	1.030	1.017	-	
5280	56	802.11a	OFDM	20	19.0	18.87	0.15	0 mm	1	-	05381	6	left	98.3	4.097	0.421	1.030	1.017	0.441	
5280	56	802.11a	OFDM	20	19.0	18.85	0.01	0 mm	2	-	05381	6	back	96.4	5.423	0.444	1.035	1.037	0.477	
5280	56	802.11a	OFDM	20	19.0	18.85	0.17	0 mm	2	#1	05381	6	back	96.4	2.681	0.286	1.035	1.037	0.307	
5280	56	802.11a	OFDM	20	19.0	18.85	0.14	0 mm	2	-	05381	6	front	96.4	1.914	-	1.035	1.037	-	
5280	56	802.11a	OFDM	20	19.0	18.85	0.12	0 mm	2	-	05381	6	top	96.4	1.106	-	1.035	1.037	-	
5280	56	802.11a	OFDM	20	19.0	18.85	0.18	0 mm	2	-	05381	6	left	96.4	1.950	-	1.035	1.037	-	
5720	144	802.11a	OFDM	20	17.0	16.96	-0.05	0 mm	1	-	05381	6	back	98.3	4.134	0.685	1.009	1.017	0.703	
5720	144	802.11a	OFDM	20	17.0	16.96	0.19	0 mm	1	#1	05381	6	back	98.3	4.041	0.461	1.009	1.017	0.473	
5720	144	802.11a	OFDM	20	17.0	16.96	0.17	0 mm	1	-	05381	6	front	98.3	0.285	0.032	1.009	1.017	0.033	
5720	144	802.11a	OFDM	20	17.0	16.96	0.15	0 mm	1	-	05381	6	top	98.3	0.636	-	1.009	1.017	-	
5720	144	802.11a	OFDM	20	17.0	16.96	0.17	0 mm	1	-	05381	6	left	98.3	1.329	-	1.009	1.017	-	
5600	120	802.11a	OFDM	20	17.0	16.78	0.13	0 mm	2	-	05381	6	back	96.4	4.843	0.677	1.052	1.037	0.739	
5600	120	802.11a	OFDM	20	17.0	16.78	0.19	0 mm	2	#1	05381	6	back	96.4	4.013	0.438	1.052	1.037	0.478	
5600	120	802.11a	OFDM	20	17.0	16.78	-0.14	0 mm	2	-	05381	6	front	96.4	1.572	-	1.052	1.037	-	
5600	120	802.11a	OFDM	20	17.0	16.78	0.16	0 mm	2	-	05381	6	top	96.4	1.086	-	1.052	1.037	-	
5600	120	802.11a	OFDM	20	17.0	16.78	0.19	0 mm	2	-	05381	6	left	96.4	2.032	-	1.052	1.037	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT																				
Spatial Peak								Phablet												
Uncontrolled Exposure/General Population								4.0 W/kg (mW/g) averaged over 10 grams												

Note: 1) Green entries represent additional Phablet SAR Position (DD #1: 0 degrees)

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**Table 11-61
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 Diff [dB]	Spacing	Antenna Config.	Dual Display Accessory Configuration	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	802.11n	OFDM	20	17.0	16.89	17.0	16.63	0.12	0 mm	MIMO	-	05381	13	back	98.2	8.926	1.330	1.089	1.018	1.474	A77
5280	56	802.11n	OFDM	20	19.0	18.76	19.0	18.61	0.16	0 mm	MIMO	-	05381	13	back	98.2	11.447	2.130	1.094	1.018	2.372	
5320	64	802.11n	OFDM	20	17.0	16.87	17.0	16.73	-0.16	0 mm	MIMO	-	05381	13	back	98.2	10.124	1.350	1.064	1.018	1.462	
5280	56	802.11n	OFDM	20	19.0	18.76	19.0	18.61	0.17	0 mm	MIMO	#1	05381	13	back	98.2	10.708	1.260	1.094	1.018	1.403	
5280	56	802.11n	OFDM	20	19.0	18.76	19.0	18.61	0.18	0 mm	MIMO	-	05381	13	front	98.2	3.529	0.570	1.094	1.018	0.635	
5280	56	802.11n	OFDM	20	19.0	18.76	19.0	18.61	0.03	0 mm	MIMO	-	05381	13	top	98.2	3.541	-	1.094	1.018	-	
5280	56	802.11n	OFDM	20	19.0	18.76	19.0	18.61	0.16	0 mm	MIMO	-	05381	13	left	98.2	7.327	0.610	1.094	1.018	0.679	
5600	120	802.11n	OFDM	20	17.0	16.93	17.0	16.66	0.02	0 mm	MIMO	-	05381	13	back	98.2	9.767	1.590	1.081	1.018	1.750	
5600	120	802.11n	OFDM	20	17.0	16.93	17.0	16.66	0.13	0 mm	MIMO	#1	05381	13	back	98.2	7.225	0.947	1.081	1.018	1.042	
5600	120	802.11n	OFDM	20	17.0	16.93	17.0	16.66	-0.19	0 mm	MIMO	-	05381	13	front	98.2	1.897	0.336	1.081	1.018	0.370	
5600	120	802.11n	OFDM	20	17.0	16.93	17.0	16.66	0.18	0 mm	MIMO	-	05381	13	top	98.2	1.570	-	1.081	1.018	-	
5600	120	802.11n	OFDM	20	17.0	16.93	17.0	16.66	-0.18	0 mm	MIMO	-	05381	13	left	98.2	3.749	0.290	1.081	1.018	0.319	
5280	56	802.11n	OFDM	20	19.0	18.76	19.0	18.61	-0.19	0 mm	MIMO	-	05381	13	back	98.2	16.801	2.120	1.094	1.018	2.361	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Phablet 4.0 W/kg (mW/g) averaged over 10 grams												

Note:

- For channels 52, 64, 120 to achieve the 20.0 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 17.0 dBm. For channel 56 to achieve the 22.0 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 19.0 dBm.
- Blue entry represents variability measurement.
- Green entries represent additional Phablet SAR Position (DD #1: 0 degrees).

11.5 SAR Test Notes

General Notes:

- 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.
- Batteries are fully charged at the beginning of the SAR measurements.
- Liquid tissue depth was at least 15.0 cm for all frequencies.
- The orange highlights throughout the report represents the highest SAR per FCC Equipment Class reflected on the FCC Grant.
- 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.
- SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D01v06.
- Device was tested using a fixed spacing for body-worn accessory testing. A separation distance of 10 mm was considered because the manufacturer has determined that there will be body-worn accessories available in the marketplace for users to support this separation distance.
- 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.
- 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.
- 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).
- 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

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mode does not apply or if wireless router 1g SAR > 1.2 W/kg. Additional SAR tests for phablet SAR were evaluated per KDB 616217 Section 6 (See Section 6.9 for more information)

12. Unless otherwise noted, when 10g SAR measurement is considered, a factor of 2.5 is applied to the 1g thresholds for the equivalent test cases.
13. This device uses Qualcomm Smart Transmit for 2G/3G/4G/5G operations to control and manage transmitting power in real time to ensure RF Exposure compliance. Per FCC Guidance, compliance was assessed at the minimum of the time averaged power and the maximum output power for each band/mode/exposure condition (DSI).
14. SAR with the Dual Display Cover was measured for the configurations with the highest SAR reported for each exposure condition. Head SAR tests were performed with the accessory cover folded to 0 and 360 degrees to represent typical use conditions. Body-worn, Hotspot, and Phablet SAR tests were performed with accessory cover folded to 0, 180 and 360 degrees.
15. When the output power for dual-display cover in a given exposure condition was higher than the power without the dual display cover, additional tests were performed at the higher output power level.

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 $> \frac{1}{2}$ dB, instead of the middle channel, the highest output power channel was used.
4. GPRS was additionally evaluated for head and body-worn exposure conditions to address possible VoIP scenarios.

CDMA Notes:

1. Head SAR for CDMA2000 mode was tested under RC3/SO55 per FCC KDB Publication 941225 D01v03r01.
2. Body-Worn SAR was tested with 1x RTT with TDSO / SO32 FCH Only. EVDO Rev0 and RevA and TDSO / SO32 FCH+SCH SAR tests were not required per the 3G SAR Test Reduction Procedure in FCC KDB Publication 941225 D01v03r01.
3. CDMA Wireless Router SAR is measured using Subtype 0/1 Physical Layer configurations for Rev. 0 according to KDB 941225 D01v03r01 procedures for data devices. Wireless Router SAR tests for Subtype 2 of Rev.A and 1x RTT configurations were not required per the 3G SAR Test Reduction Policy in KDB Publication 941225 D01v03r01.
4. Head SAR was additionally evaluated using EVDO Rev. A to determine compliance for VoIP operations.
5. Per FCC KDB Publication 447498 D01v06, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg for 1g evaluations then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the required test channels is $> \frac{1}{2}$ 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.

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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 $> \frac{1}{2}$ dB, instead of the middle channel, the highest output power channel was used.

LTE Notes:

1. LTE test configurations are determined according to SAR Evaluation Considerations for LTE Devices in FCC KDB Publication 941225 D05v02r04. The general test procedures used for testing can be found in Section 8.6.4.
2. MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.
3. A-MPR was disabled for all SAR tests by setting NS=01 on the base station simulator. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).
4. Per FCC KDB Publication 447498 D01v06, when the reported LTE Band 41 SAR measured at the highest output power channel in a given a test configuration was > 0.6 W/kg for 1g evaluations, testing at the other channels was required for such test configurations.
5. TDD LTE was tested per the guidance provided in FCC KDB Publication 941225 D05v02r04. Testing was performed using UL-DL configuration 0 with 6 UL subframes and 2 S subframes using extended cyclic prefix only and special subframe configuration 6. SAR tests were performed at maximum output power and worst-case transmission duty factor in extended cyclic prefix. Per 3GPP 36.211 Section 4, the duty factor for special subframe configuration 6 using extended cyclic prefix is 0.633.
6. Per KDB Publication 941225 D05Av01r02, SAR for downlink only LTE CA operations was not needed since the maximum average output power in LTE CA mode was not > 0.25 dB higher than the maximum output power when downlink carrier aggregation was inactive.
7. For LTE Band 5, per FCC guidance, SAR was first measured with only a single carrier active in the uplink (carrier aggregation not active). For each exposure condition, the uplink CA scenario with two component carriers was additionally tested for the configuration with the highest SAR when carrier aggregation was not active. The SCC was configured with the closest available contiguous channel. The two component carriers were configured so the resource blocks are physically allocated side by side to achieve the maximum output power.

NR Notes:

1. NR implementation is limited to EN-DC operations only. Per FCC guidance, SAR tests for NR Bands and LTE Anchors Bands were performed separately due to limitations in SAR probe calibration factors.
2. Due to test setup limitations, SAR testing for NR was performed using test mode software to establish the connection.
3. Simultaneous transmission analysis for EN-DC operations is addressed in the Part 2 Test Report (Serial Number can be found in the bibliography in section 1-12).
4. This device additionally supports some EN-DC conditions where additional LTE carriers are added on the downlink only.
5. Per FCC Guidance, NR modulations and RB Sizes/Offsets were selected for testing such that configurations with the highest output power were evaluated for SAR tests.
6. For final implementation, NR slot configuration is synchronized using maximum duty cycle of 23.33%. SAR testing was performed using FTM mode with a 23.33% duty cycle applied to match final duty cycle.
7. 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.

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WLAN Notes:

1. For held-to-ear, hotspot, and phablet operations, the initial test position procedures were applied. The test position with the highest extrapolated peak SAR will be used as the initial test position. When reported SAR for the initial test position is ≤ 0.4 W/kg for 1g evaluations, no additional testing for the remaining test positions was required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is ≤ 0.8 W/kg or all test positions are measured.
2. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 2.4 GHz WIFI single transmission chain operations, the highest measured maximum output power channel for DSSS was selected for SAR measurement. SAR for OFDM modes (2.4 GHz 802.11g/n) 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. 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.
5. 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.
6. 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.

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.

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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 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.

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

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.

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12.3 Head SAR Simultaneous Transmission Analysis

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

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
Head	CDMA/EVDO BC0 (\$22H)	0.167	0.455	0.770	0.622	0.937	1.392
	PCS CDMA/EVDO	0.130	0.455	0.770	0.585	0.900	1.355
	GSM 850	0.125	0.455	0.770	0.580	0.895	1.350
	GSM 1900	0.056	0.455	0.770	0.511	0.826	1.281
	UMTS 850	0.155	0.455	0.770	0.610	0.925	1.380
	UMTS 1750	0.096	0.455	0.770	0.551	0.866	1.321
	UMTS 1900	0.112	0.455	0.770	0.567	0.882	1.337
	LTE Band 71	0.124	0.455	0.770	0.579	0.894	1.349
	LTE Band 12	0.137	0.455	0.770	0.592	0.907	1.362
	LTE Band 13	0.164	0.455	0.770	0.619	0.934	1.389
	LTE Band 14	0.128	0.455	0.770	0.583	0.898	1.353
	LTE Band 5 (Cell)	0.180	0.455	0.770	0.635	0.950	1.405
	LTE Band 66 (AWS)	0.130	0.455	0.770	0.585	0.900	1.355
	LTE Band 66 Ant 3 (AWS)	0.026	0.455	0.770	0.481	0.796	1.251
	LTE Band 2 Ant 3 (PCS)	0.044	0.455	0.770	0.499	0.814	1.269
	LTE Band 25 (PCS)	0.141	0.455	0.770	0.596	0.911	1.366
	LTE Band 30	0.102	0.455	0.770	0.557	0.872	1.327
	LTE Band 7	0.176	0.455	0.770	0.631	0.946	1.401
	LTE Band 41	0.073	0.455	0.770	0.528	0.843	1.298
	NR Band n71	0.007	0.455	0.770	0.462	0.777	1.232
	NR Band n5 (Cell)	0.133	0.455	0.770	0.588	0.903	1.358
	NR Band n66 (AWS)	0.133	0.455	0.770	0.588	0.903	1.358
	NR Band n25 (PCS)	0.223	0.455	0.770	0.678	0.993	1.448
	NR Band n41	0.062	0.455	0.770	0.517	0.832	1.287

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

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
Head	CDMA/EVDO BC0 (§22H)	0.167	0.206	0.307	0.373	0.474	0.680
	PCS CDMA/EVDO	0.130	0.206	0.307	0.336	0.437	0.643
	GSM 850	0.125	0.206	0.307	0.331	0.432	0.638
	GSM 1900	0.056	0.206	0.307	0.262	0.363	0.569
	UMTS 850	0.155	0.206	0.307	0.361	0.462	0.668
	UMTS 1750	0.096	0.206	0.307	0.302	0.403	0.609
	UMTS 1900	0.112	0.206	0.307	0.318	0.419	0.625
	LTE Band 71	0.124	0.206	0.307	0.330	0.431	0.637
	LTE Band 12	0.137	0.206	0.307	0.343	0.444	0.650
	LTE Band 13	0.164	0.206	0.307	0.370	0.471	0.677
	LTE Band 14	0.128	0.206	0.307	0.334	0.435	0.641
	LTE Band 5 (Cell)	0.180	0.206	0.307	0.386	0.487	0.693
	LTE Band 66 (AWS)	0.130	0.206	0.307	0.336	0.437	0.643
	LTE Band 66 Ant 3 (AWS)	0.026	0.206	0.307	0.232	0.333	0.539
	LTE Band 2 Ant 3 (PCS)	0.044	0.206	0.307	0.250	0.351	0.557
	LTE Band 25 (PCS)	0.141	0.206	0.307	0.347	0.448	0.654
	LTE Band 30	0.102	0.206	0.307	0.308	0.409	0.615
	LTE Band 7	0.176	0.206	0.307	0.382	0.483	0.689
	LTE Band 41	0.073	0.206	0.307	0.279	0.380	0.586
	NR Band n71	0.007	0.206	0.307	0.213	0.314	0.520
	NR Band n5 (Cell)	0.133	0.206	0.307	0.339	0.440	0.646
	NR Band n66 (AWS)	0.133	0.206	0.307	0.339	0.440	0.646
	NR Band n25 (PCS)	0.223	0.206	0.307	0.429	0.530	0.736
	NR Band n41	0.062	0.206	0.307	0.268	0.369	0.575

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Table 12-3
Simultaneous Transmission Scenario with 2.4 GHz WLAN Ant 1 and 5 GHz WLAN Ant 2 (Held to Ear)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head	CDMA/EVDO BC0 (\$22H)	0.167	0.455	0.307	0.929
	PCS CDMA/EVDO	0.130	0.455	0.307	0.892
	GSM 850	0.125	0.455	0.307	0.887
	GSM 1900	0.056	0.455	0.307	0.818
	UMTS 850	0.155	0.455	0.307	0.917
	UMTS 1750	0.096	0.455	0.307	0.858
	UMTS 1900	0.112	0.455	0.307	0.874
	LTE Band 71	0.124	0.455	0.307	0.886
	LTE Band 12	0.137	0.455	0.307	0.899
	LTE Band 13	0.164	0.455	0.307	0.926
	LTE Band 14	0.128	0.455	0.307	0.890
	LTE Band 5 (Cell)	0.180	0.455	0.307	0.942
	LTE Band 66 (AWS)	0.130	0.455	0.307	0.892
	LTE Band 66 Ant 3 (AWS)	0.026	0.455	0.307	0.788
	LTE Band 2 Ant 3 (PCS)	0.044	0.455	0.307	0.806
	LTE Band 25 (PCS)	0.141	0.455	0.307	0.903
	LTE Band 30	0.102	0.455	0.307	0.864
	LTE Band 7	0.176	0.455	0.307	0.938
	LTE Band 41	0.073	0.455	0.307	0.835
	NR Band n71	0.007	0.455	0.307	0.769
	NR Band n5 (Cell)	0.133	0.455	0.307	0.895
	NR Band n66 (AWS)	0.133	0.455	0.307	0.895
	NR Band n25 (PCS)	0.223	0.455	0.307	0.985
	NR Band n41	0.062	0.455	0.307	0.824

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

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Head	CDMA/EVDO BC0 (§22H)	0.167	0.131	0.298
	PCS CDMA/EVDO	0.130	0.131	0.261
	GSM 850	0.125	0.131	0.256
	GSM 1900	0.056	0.131	0.187
	UMTS 850	0.155	0.131	0.286
	UMTS 1750	0.096	0.131	0.227
	UMTS 1900	0.112	0.131	0.243
	LTE Band 71	0.124	0.131	0.255
	LTE Band 12	0.137	0.131	0.268
	LTE Band 13	0.164	0.131	0.295
	LTE Band 14	0.128	0.131	0.259
	LTE Band 5 (Cell)	0.180	0.131	0.311
	LTE Band 66 (AWS)	0.130	0.131	0.261
	LTE Band 66 Ant 3 (AWS)	0.026	0.131	0.157
	LTE Band 2 Ant 3 (PCS)	0.044	0.131	0.175
	LTE Band 25 (PCS)	0.141	0.131	0.272
	LTE Band 30	0.102	0.131	0.233
	LTE Band 7	0.176	0.131	0.307
	LTE Band 41	0.073	0.131	0.204
	NR Band n71	0.007	0.131	0.138
	NR Band n5 (Cell)	0.133	0.131	0.264
	NR Band n66 (AWS)	0.133	0.131	0.264
	NR Band n25 (PCS)	0.223	0.131	0.354
	NR Band n41	0.062	0.131	0.193

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

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	Bluetooth SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head	CDMA/EVDO BC0 (\$22H)	0.167	0.131	0.770	1.068
	PCS CDMA/EVDO	0.130	0.131	0.770	1.031
	GSM 850	0.125	0.131	0.770	1.026
	GSM 1900	0.056	0.131	0.770	0.957
	UMTS 850	0.155	0.131	0.770	1.056
	UMTS 1750	0.096	0.131	0.770	0.997
	UMTS 1900	0.112	0.131	0.770	1.013
	LTE Band 71	0.124	0.131	0.770	1.025
	LTE Band 12	0.137	0.131	0.770	1.038
	LTE Band 13	0.164	0.131	0.770	1.065
	LTE Band 14	0.128	0.131	0.770	1.029
	LTE Band 5 (Cell)	0.180	0.131	0.770	1.081
	LTE Band 66 (AWS)	0.130	0.131	0.770	1.031
	LTE Band 66 Ant 3 (AWS)	0.026	0.131	0.770	0.927
	LTE Band 2 Ant 3 (PCS)	0.044	0.131	0.770	0.945
	LTE Band 25 (PCS)	0.141	0.131	0.770	1.042
	LTE Band 30	0.102	0.131	0.770	1.003
	LTE Band 7	0.176	0.131	0.770	1.077
	LTE Band 41	0.073	0.131	0.770	0.974
	NR Band n71	0.007	0.131	0.770	0.908
	NR Band n5 (Cell)	0.133	0.131	0.770	1.034
	NR Band n66 (AWS)	0.133	0.131	0.770	1.034
	NR Band n25 (PCS)	0.223	0.131	0.770	1.124
	NR Band n41	0.062	0.131	0.770	0.963

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

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
Head	CDMA/EVDO BC0 (\$22H)	0.167	0.131	0.206	0.307	0.504	0.605	0.811
	PCS CDMA/EVDO	0.130	0.131	0.206	0.307	0.467	0.568	0.774
	GSM 850	0.125	0.131	0.206	0.307	0.462	0.563	0.769
	GSM 1900	0.056	0.131	0.206	0.307	0.393	0.494	0.700
	UMTS 850	0.155	0.131	0.206	0.307	0.492	0.593	0.799
	UMTS 1750	0.096	0.131	0.206	0.307	0.433	0.534	0.740
	UMTS 1900	0.112	0.131	0.206	0.307	0.449	0.550	0.756
	LTE Band 71	0.124	0.131	0.206	0.307	0.461	0.562	0.768
	LTE Band 12	0.137	0.131	0.206	0.307	0.474	0.575	0.781
	LTE Band 13	0.164	0.131	0.206	0.307	0.501	0.602	0.808
	LTE Band 14	0.128	0.131	0.206	0.307	0.465	0.566	0.772
	LTE Band 5 (Cell)	0.180	0.131	0.206	0.307	0.517	0.618	0.824
	LTE Band 66 (AWS)	0.130	0.131	0.206	0.307	0.467	0.568	0.774
	LTE Band 66 Ant 3 (AWS)	0.026	0.131	0.206	0.307	0.363	0.464	0.670
	LTE Band 2 Ant 3 (PCS)	0.044	0.131	0.206	0.307	0.381	0.482	0.688
	LTE Band 25 (PCS)	0.141	0.131	0.206	0.307	0.478	0.579	0.785
	LTE Band 30	0.102	0.131	0.206	0.307	0.439	0.540	0.746
	LTE Band 7	0.176	0.131	0.206	0.307	0.513	0.614	0.820
	LTE Band 41	0.073	0.131	0.206	0.307	0.410	0.511	0.717
	NR Band n71	0.007	0.131	0.206	0.307	0.344	0.445	0.651
	NR Band n5 (Cell)	0.133	0.131	0.206	0.307	0.470	0.571	0.777
	NR Band n66 (AWS)	0.133	0.131	0.206	0.307	0.470	0.571	0.777
	NR Band n25 (PCS)	0.223	0.131	0.206	0.307	0.560	0.661	0.867
	NR Band n41	0.062	0.131	0.206	0.307	0.399	0.500	0.706

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12.4 Body-Worn Simultaneous Transmission Analysis

Table 12-7
Simultaneous Transmission Scenario with 2.4 GHz WLAN (Body-Worn at 1.0 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
Body - Worn	Cell. CDMA	0.612	0.163	0.245	0.775	0.857	1.020
	PCS CDMA	0.848	0.163	0.245	1.011	1.093	1.256
	GSM/GPRS 850	0.570	0.163	0.245	0.733	0.815	0.978
	GSM/GPRS 1900	0.412	0.163	0.245	0.575	0.657	0.820
	UMTS 850	0.578	0.163	0.245	0.741	0.823	0.986
	UMTS 1750	0.773	0.163	0.245	0.936	1.018	1.181
	UMTS 1900	0.853	0.163	0.245	1.016	1.098	1.261
	LTE Band 71	0.364	0.163	0.245	0.527	0.609	0.772
	LTE Band 12	0.393	0.163	0.245	0.556	0.638	0.801
	LTE Band 13	0.427	0.163	0.245	0.590	0.672	0.835
	LTE Band 14	0.427	0.163	0.245	0.590	0.672	0.835
	LTE Band 5 (Cell)	0.612	0.163	0.245	0.775	0.857	1.020
	LTE Band 66 (AWS)	0.820	0.163	0.245	0.983	1.065	1.228
	LTE Band 66 Ant 3 (AWS)	0.078	0.163	0.245	0.241	0.323	0.486
	LTE Band 2 Ant 3 (PCS)	0.123	0.163	0.245	0.286	0.368	0.531
	LTE Band 25 (PCS)	0.920	0.163	0.245	1.083	1.165	1.328
	LTE Band 30	0.609	0.163	0.245	0.772	0.854	1.017
	LTE Band 7	0.771	0.163	0.245	0.934	1.016	1.179
	LTE Band 41	0.405	0.163	0.245	0.568	0.650	0.813
	NR Band n71	0.050	0.163	0.245	0.213	0.295	0.458
	NR Band n5 (Cell)	0.550	0.163	0.245	0.713	0.795	0.958
	NR Band n66 (AWS)	0.406	0.163	0.245	0.569	0.651	0.814
	NR Band n25 (PCS)	0.620	0.163	0.245	0.783	0.865	1.028
	NR Band n41	0.571	0.163	0.245	0.734	0.816	0.979

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Table 12-8
Simultaneous Transmission Scenario with 5 GHz WLAN (Body-Worn at 1.0 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)			SPLSR		
		1	2	3	1+2	1+3	1+2+3	1+2	1+3	2+3
Body - Worn	Cell. CDMA	0.612	0.495	0.417	1.107	1.029	1.524	N/A	N/A	N/A
	PCS CDMA	0.848	0.495	0.417	1.343	1.265	See Note 1	0.01	0.01	0.04
	GSM/GPRS 850	0.570	0.495	0.417	1.065	0.987	1.482	N/A	N/A	N/A
	GSM/GPRS 1900	0.412	0.495	0.417	0.907	0.829	1.324	N/A	N/A	N/A
	UMTS 850	0.578	0.495	0.417	1.073	0.995	1.490	N/A	N/A	N/A
	UMTS 1750	0.773	0.495	0.417	1.268	1.190	See Note 1	0.01	0.01	0.04
	UMTS 1900	0.853	0.495	0.417	1.348	1.270	See Note 1	0.01	0.01	0.04
	LTE Band 71	0.364	0.495	0.417	0.859	0.781	1.276	N/A	N/A	N/A
	LTE Band 12	0.393	0.495	0.417	0.888	0.810	1.305	N/A	N/A	N/A
	LTE Band 13	0.427	0.495	0.417	0.922	0.844	1.339	N/A	N/A	N/A
	LTE Band 14	0.427	0.495	0.417	0.922	0.844	1.339	N/A	N/A	N/A
	LTE Band 5 (Cell)	0.612	0.495	0.417	1.107	1.029	1.524	N/A	N/A	N/A
	LTE Band 66 (AWS)	0.820	0.495	0.417	1.315	1.237	See Note 1	0.01	0.01	0.04
	LTE Band 66 Ant 3 (AWS)	0.078	0.495	0.417	0.573	0.495	0.990	N/A	N/A	N/A
	LTE Band 2 Ant 3 (PCS)	0.123	0.495	0.417	0.618	0.540	1.035	N/A	N/A	N/A
	LTE Band 25 (PCS)	0.920	0.495	0.417	1.415	1.337	See Note 1	0.01	0.01	0.04
	LTE Band 30	0.609	0.495	0.417	1.104	1.026	1.521	N/A	N/A	N/A
	LTE Band 7	0.771	0.495	0.417	1.266	1.188	See Note 1	0.01	0.01	0.04
	LTE Band 41	0.405	0.495	0.417	0.900	0.822	1.317	N/A	N/A	N/A
	NR Band n71	0.050	0.495	0.417	0.545	0.467	0.962	N/A	N/A	N/A
	NR Band n5 (Cell)	0.550	0.495	0.417	1.045	0.967	1.462	N/A	N/A	N/A
	NR Band n66 (AWS)	0.406	0.495	0.417	0.901	0.823	1.318	N/A	N/A	N/A
	NR Band n25 (PCS)	0.620	0.495	0.417	1.115	1.037	1.532	N/A	N/A	N/A
	NR Band n41	0.571	0.495	0.417	1.066	0.988	1.483	N/A	N/A	N/A

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Table 12-9
Simultaneous Transmission Scenario with 2.4 GHz WLAN Ant 1 and 5 GHz WLAN Ant 2 (Body-Worn at 1.0 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn	Cell. CDMA	0.612	0.163	0.417	1.192
	PCS CDMA	0.848	0.163	0.417	1.428
	GSM/GPRS 850	0.570	0.163	0.417	1.150
	GSM/GPRS 1900	0.412	0.163	0.417	0.992
	UMTS 850	0.578	0.163	0.417	1.158
	UMTS 1750	0.773	0.163	0.417	1.353
	UMTS 1900	0.853	0.163	0.417	1.433
	LTE Band 71	0.364	0.163	0.417	0.944
	LTE Band 12	0.393	0.163	0.417	0.973
	LTE Band 13	0.427	0.163	0.417	1.007
	LTE Band 14	0.427	0.163	0.417	1.007
	LTE Band 5 (Cell)	0.612	0.163	0.417	1.192
	LTE Band 66 (AWS)	0.820	0.163	0.417	1.400
	LTE Band 66 Ant 3 (AWS)	0.078	0.163	0.417	0.658
	LTE Band 2 Ant 3 (PCS)	0.123	0.163	0.417	0.703
	LTE Band 25 (PCS)	0.920	0.163	0.417	1.500
	LTE Band 30	0.609	0.163	0.417	1.189
	LTE Band 7	0.771	0.163	0.417	1.351
	LTE Band 41	0.405	0.163	0.417	0.985
	NR Band n71	0.050	0.163	0.417	0.630
	NR Band n5 (Cell)	0.550	0.163	0.417	1.130
	NR Band n66 (AWS)	0.406	0.163	0.417	0.986
	NR Band n25 (PCS)	0.620	0.163	0.417	1.200
	NR Band n41	0.571	0.163	0.417	1.151

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

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body - Worn	Cell. CDMA	0.612	0.023	0.635
	PCS CDMA	0.848	0.023	0.871
	GSM/GPRS 850	0.570	0.023	0.593
	GSM/GPRS 1900	0.412	0.023	0.435
	UMTS 850	0.578	0.023	0.601
	UMTS 1750	0.773	0.023	0.796
	UMTS 1900	0.853	0.023	0.876
	LTE Band 71	0.364	0.023	0.387
	LTE Band 12	0.393	0.023	0.416
	LTE Band 13	0.427	0.023	0.450
	LTE Band 14	0.427	0.023	0.450
	LTE Band 5 (Cell)	0.612	0.023	0.635
	LTE Band 66 (AWS)	0.820	0.023	0.843
	LTE Band 66 Ant 3 (AWS)	0.078	0.023	0.101
	LTE Band 2 Ant 3 (PCS)	0.123	0.023	0.146
	LTE Band 25 (PCS)	0.920	0.023	0.943
	LTE Band 30	0.609	0.023	0.632
	LTE Band 7	0.771	0.023	0.794
	LTE Band 41	0.405	0.023	0.428
	NR Band n71	0.050	0.023	0.073
	NR Band n5 (Cell)	0.550	0.023	0.573
	NR Band n66 (AWS)	0.406	0.023	0.429
	NR Band n25 (PCS)	0.620	0.023	0.643
	NR Band n41	0.571	0.023	0.594

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

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	Bluetooth SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn	Cell. CDMA	0.612	0.023	0.245	0.880
	PCS CDMA	0.848	0.023	0.245	1.116
	GSM/GPRS 850	0.570	0.023	0.245	0.838
	GSM/GPRS 1900	0.412	0.023	0.245	0.680
	UMTS 850	0.578	0.023	0.245	0.846
	UMTS 1750	0.773	0.023	0.245	1.041
	UMTS 1900	0.853	0.023	0.245	1.121
	LTE Band 71	0.364	0.023	0.245	0.632
	LTE Band 12	0.393	0.023	0.245	0.661
	LTE Band 13	0.427	0.023	0.245	0.695
	LTE Band 14	0.427	0.023	0.245	0.695
	LTE Band 5 (Cell)	0.612	0.023	0.245	0.880
	LTE Band 66 (AWS)	0.820	0.023	0.245	1.088
	LTE Band 2 Ant 3 (PCS)	0.123	0.023	0.245	0.391
	LTE Band 25 (PCS)	0.920	0.023	0.245	1.188
	LTE Band 30	0.609	0.023	0.245	0.877
	LTE Band 7	0.771	0.023	0.245	1.039
	LTE Band 66 Ant 3 (AWS)	0.078	0.023	0.245	0.346
	LTE Band 41	0.405	0.023	0.245	0.673
	NR Band n71	0.050	0.023	0.245	0.318
	NR Band n5 (Cell)	0.550	0.023	0.245	0.818
	NR Band n66 (AWS)	0.406	0.023	0.245	0.674
	NR Band n25 (PCS)	0.620	0.023	0.245	0.888
	NR Band n41	0.571	0.023	0.245	0.839

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Table 12-12
Simultaneous Transmission Scenario with 5 GHz WLAN and Bluetooth (Body-Worn at 1.0 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)			SPLSR					
		1	2	3	4	1+2+3	1+2+4	1+2+3+4	1+2	1+3	1+4	2+3	2+4	3+4
Body - Worn	Cell. CDMA	0.612	0.023	0.495	0.417	1.130	1.052	1.547	N/A	N/A	N/A	N/A	N/A	N/A
	PCS CDMA	0.848	0.023	0.495	0.417	1.366	1.288	See Note 1	0.01	0.01	0.01	0.02	0.01	0.04
	GSM/GPRS 850	0.570	0.023	0.495	0.417	1.088	1.010	1.505	N/A	N/A	N/A	N/A	N/A	N/A
	GSM/GPRS 1900	0.412	0.023	0.495	0.417	0.930	0.852	1.347	N/A	N/A	N/A	N/A	N/A	N/A
	UMTS 850	0.578	0.023	0.495	0.417	1.096	1.018	1.513	N/A	N/A	N/A	N/A	N/A	N/A
	UMTS 1750	0.773	0.023	0.495	0.417	1.291	1.213	See Note 1	0.00	0.01	0.01	0.02	0.01	0.04
	UMTS 1900	0.853	0.023	0.495	0.417	1.371	1.293	See Note 1	0.01	0.01	0.01	0.02	0.01	0.04
	LTE Band 71	0.364	0.023	0.495	0.417	0.882	0.804	1.299	N/A	N/A	N/A	N/A	N/A	N/A
	LTE Band 12	0.393	0.023	0.495	0.417	0.911	0.833	1.328	N/A	N/A	N/A	N/A	N/A	N/A
	LTE Band 13	0.427	0.023	0.495	0.417	0.945	0.867	1.362	N/A	N/A	N/A	N/A	N/A	N/A
	LTE Band 14	0.427	0.023	0.495	0.417	0.945	0.867	1.362	N/A	N/A	N/A	N/A	N/A	N/A
	LTE Band 5 (Cell)	0.612	0.023	0.495	0.417	1.130	1.052	1.547	N/A	N/A	N/A	N/A	N/A	N/A
	LTE Band 66 (AWS)	0.820	0.023	0.495	0.417	1.338	1.260	See Note 1	0.01	0.01	0.01	0.02	0.01	0.04
	LTE Band 66 Ant 3	0.078	0.023	0.495	0.417	0.596	0.518	1.013	N/A	N/A	N/A	N/A	N/A	N/A
	LTE Band 2 Ant 3 (PCS)	0.123	0.023	0.495	0.417	0.641	0.563	1.058	N/A	N/A	N/A	N/A	N/A	N/A
	LTE Band 25 (PCS)	0.920	0.023	0.495	0.417	1.438	1.360	See Note 1	0.01	0.01	0.01	0.02	0.01	0.04
	LTE Band 30	0.609	0.023	0.495	0.417	1.127	1.049	1.544	N/A	N/A	N/A	N/A	N/A	N/A
	LTE Band 7	0.771	0.023	0.495	0.417	1.289	1.211	See Note 1	0.01	0.01	0.01	0.02	0.01	0.04
	LTE Band 41	0.405	0.023	0.495	0.417	0.923	0.845	1.340	N/A	N/A	N/A	N/A	N/A	N/A
	NR Band n71	0.050	0.023	0.495	0.417	0.568	0.490	0.985	N/A	N/A	N/A	N/A	N/A	N/A
	NR Band n5 (Cell)	0.550	0.023	0.495	0.417	1.068	0.990	1.485	N/A	N/A	N/A	N/A	N/A	N/A
	NR Band n66 (AWS)	0.406	0.023	0.495	0.417	0.924	0.846	1.341	N/A	N/A	N/A	N/A	N/A	N/A
	NR Band n25 (PCS)	0.620	0.023	0.495	0.417	1.138	1.060	1.555	N/A	N/A	N/A	N/A	N/A	N/A
	NR Band n41	0.571	0.023	0.495	0.417	1.089	1.011	1.506	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

1. No evaluation was performed to determine the aggregate 1g SAR for these configurations as the SPLS ratio between the antenna pairs was not greater than 0.04 per FCC KDB 447498 D01v06. See Section 12.7 for detailed SPLS ratio analysis.

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12.5 Hotspot SAR Simultaneous Transmission Analysis

Table 12-13
Simultaneous Transmission Scenario with 2.4 GHz WLAN (Hotspot at 1.0 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
Hotspot	EVDO BC0 (\$22H)	0.566	0.360	0.311	0.926	0.877	1.237
	PCS EVDO	0.939	0.360	0.311	1.299	1.250	See Table Below
	GPRS 850	0.570	0.360	0.311	0.930	0.881	1.241
	GPRS 1900	0.899	0.360	0.311	1.259	1.210	1.570
	UMTS 850	0.578	0.360	0.311	0.938	0.889	1.249
	UMTS 1750	0.794	0.360	0.311	1.154	1.105	1.465
	UMTS 1900	0.915	0.360	0.311	1.275	1.226	1.586
	LTE Band 71	0.364	0.360	0.311	0.724	0.675	1.035
	LTE Band 12	0.393	0.360	0.311	0.753	0.704	1.064
	LTE Band 13	0.427	0.360	0.311	0.787	0.738	1.098
	LTE Band 14	0.427	0.360	0.311	0.787	0.738	1.098
	LTE Band 5 (Cell)	0.612	0.360	0.311	0.972	0.923	1.283
	LTE Band 66 (AWS)	0.776	0.360	0.311	1.136	1.087	1.447
	LTE Band 66 Ant 3 (AWS)	0.129	0.360	0.311	0.489	0.440	0.800
	LTE Band 2 Ant 3 (PCS)	0.281	0.360	0.311	0.641	0.592	0.952
	LTE Band 25 (PCS)	0.987	0.360	0.311	1.347	1.298	See Table Below
	LTE Band 30	0.929	0.360	0.311	1.289	1.240	See Table Below
	LTE Band 7	0.814	0.360	0.311	1.174	1.125	1.485
	LTE Band 41	0.527	0.360	0.311	0.887	0.838	1.198
	NR Band n71	0.050	0.360	0.311	0.410	0.361	0.721
	NR Band n5 (Cell)	0.550	0.360	0.311	0.910	0.861	1.221
	NR Band n66 (AWS)	1.114	0.360	0.311	1.474	1.425	See Table Below
	NR Band n25 (PCS)	0.951	0.360	0.311	1.311	1.262	See Table Below
	NR Band n41	0.571	0.360	0.311	0.931	0.882	1.242
Simult Tx	Configuration	PCS CDMA 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	0.716	0.163	0.245	0.879	0.961	1.124
	Front	0.636	0.360*	0.311*	0.996	0.947	1.307
	Top	-	0.360*	0.311	0.360	0.311	0.671
	Bottom	0.939	-	-	0.939	0.939	0.939
Hotspot SAR	Right	-	-	-	-	-	-
	Left	0.160	0.360	0.311*	0.520	0.471	0.831
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)		
		1	2	3	1+2	1+3	1+2+3
	Back	0.609	0.163	0.245	0.772	0.854	1.017
	Front	0.467	0.360*	0.311*	0.827	0.778	1.138
	Top	-	0.360*	0.311	0.360	0.311	0.671
	Bottom	0.929	-	-	0.929	0.929	0.929
Hotspot SAR	Right	-	-	-	-	-	-
	Left	0.128	0.360	0.311*	0.488	0.439	0.799
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+3	1+2+3
	Back	0.872	0.163	0.245	1.035	1.117	1.280
	Front	0.612	0.360*	0.311*	0.972	0.923	1.283
	Top	-	0.360*	0.311	0.360	0.311	0.671
	Bottom	0.987	-	-	0.987	0.987	0.987
Hotspot SAR	Right	-	-	-	-	-	-
	Left	0.149	0.360	0.311*	0.509	0.460	0.820
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	1+3	1+2+3
	Back	0.406	0.163	0.245	0.569	0.651	0.814
	Front	0.297	0.360*	0.311*	0.657	0.608	0.968
	Top	-	0.360*	0.311	0.360	0.311	0.671
	Bottom	-	-	-	-	-	-
Hotspot SAR	Right	1.114	-	-	1.114	1.114	1.114
	Left	-	0.360	0.311*	0.360	0.311	0.671

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Simult Tx	Configuration	NR Band n25 (PCS) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.620	0.163	0.245	0.783	0.865	1.028
	Front	0.513	0.360*	0.311*	0.873	0.824	1.184
	Top	-	0.360*	0.311	0.360	0.311	0.671
	Bottom	-	-	-	-	-	-
	Right	0.951	-	-	0.951	0.951	0.951
	Left	-	0.360	0.311*	0.360	0.311	0.671

Table 12-14
Simultaneous Transmission Scenario with 5 GHz WLAN (Hotspot at 1.0 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
Hotspot	EVDO BC0 (S22H)	0.566	0.388	0.261	0.954	0.827	1.215
	PCS EVDO	0.939	0.388	0.261	1.327	1.200	1.588
	GPRS 850	0.570	0.388	0.261	0.958	0.831	1.219
	GPRS 1900	0.899	0.388	0.261	1.287	1.160	1.548
	UMTS 850	0.578	0.388	0.261	0.966	0.839	1.227
	UMTS 1750	0.794	0.388	0.261	1.182	1.055	1.443
	UMTS 1900	0.915	0.388	0.261	1.303	1.176	1.564
	LTE Band 71	0.364	0.388	0.261	0.752	0.625	1.013
	LTE Band 12	0.393	0.388	0.261	0.781	0.654	1.042
	LTE Band 13	0.427	0.388	0.261	0.815	0.688	1.076
	LTE Band 14	0.427	0.388	0.261	0.815	0.688	1.076
	LTE Band 5 (Cell)	0.612	0.388	0.261	1.000	0.873	1.261
	LTE Band 66 (AWS)	0.776	0.388	0.261	1.164	1.037	1.425
	LTE Band 66 Ant 3 (AWS)	0.129	0.388	0.261	0.517	0.390	0.778
	LTE Band 2 Ant 3 (PCS)	0.281	0.388	0.261	0.669	0.542	0.930
	LTE Band 25 (PCS)	0.987	0.388	0.261	1.375	1.248	See Table Below
	LTE Band 30	0.929	0.388	0.261	1.317	1.190	1.578
	LTE Band 7	0.814	0.388	0.261	1.202	1.075	1.463
	LTE Band 41	0.527	0.388	0.261	0.915	0.788	1.176
	NR Band n71	0.050	0.388	0.261	0.438	0.311	0.699
	NR Band n5 (Cell)	0.550	0.388	0.261	0.938	0.811	1.199
	NR Band n66 (AWS)	1.114	0.388	0.261	1.502	1.375	See Table Below
	NR Band n25 (PCS)	0.951	0.388	0.261	1.339	1.212	See Table Below
	NR Band n41	0.571	0.388	0.261	0.959	0.832	1.220

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	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	1+2+3			1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.872	0.388	0.261	1.260	1.133	1.521	Hotspot SAR	Back	0.406	0.388	0.261	0.794	0.667	1.055
	Front	0.612	0.118	0.081	0.730	0.693	0.811		Front	0.297	0.118	0.081	0.415	0.378	0.496
	Top	-	0.388*	0.261*	0.388	0.261	0.649		Top	-	0.388*	0.261*	0.388	0.261	0.649
	Bottom	0.987	-	-	0.987	0.987	0.987		Bottom	-	-	-	-	-	-
	Right	-	-	-	-	-	-		Right	1.114	-	-	1.114	1.114	1.114
	Left	0.149	0.388*	0.261*	0.537	0.410	0.798		Left	-	0.388*	0.261*	0.388	0.261	0.649

Simult Tx	Configuration	NR Band n25 (PCS) 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
Hotspot SAR	Back	0.620	0.388	0.261	1.008	0.881	1.269
	Front	0.513	0.118	0.081	0.631	0.594	0.712
	Top	-	0.388*	0.261*	0.388	0.261	0.649
	Bottom	-	-	-	-	-	-
	Right	0.951	-	-	0.951	0.951	0.951
	Left	-	0.388*	0.261*	0.388	0.261	0.649

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Table 12-15
Simultaneous Transmission Scenario with 2.4 GHz WLAN Ant 1 and 5 GHz WLAN Ant 2 (Hotspot at 1.0 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot	EVDO BC0 (\$22H)	0.566	0.360	0.261	1.187
	PCS EVDO	0.939	0.360	0.261	1.560
	GPRS 850	0.570	0.360	0.261	1.191
	GPRS 1900	0.899	0.360	0.261	1.520
	UMTS 850	0.578	0.360	0.261	1.199
	UMTS 1750	0.794	0.360	0.261	1.415
	UMTS 1900	0.915	0.360	0.261	1.536
	LTE Band 71	0.364	0.360	0.261	0.985
	LTE Band 12	0.393	0.360	0.261	1.014
	LTE Band 13	0.427	0.360	0.261	1.048
	LTE Band 14	0.427	0.360	0.261	1.048
	LTE Band 5 (Cell)	0.612	0.360	0.261	1.233
	LTE Band 66 (AWS)	0.776	0.360	0.261	1.397
	LTE Band 66 Ant 3 (AWS)	0.129	0.360	0.261	0.750
	LTE Band 2 Ant 3 (PCS)	0.281	0.360	0.261	0.902
	LTE Band 25 (PCS)	0.987	0.360	0.261	See Table Below
	LTE Band 30	0.929	0.360	0.261	1.550
	LTE Band 7	0.814	0.360	0.261	1.435
	LTE Band 41	0.527	0.360	0.261	1.148
	NR Band n71	0.050	0.360	0.261	0.671
	NR Band n5 (Cell)	0.550	0.360	0.261	1.171
	NR Band n66 (AWS)	1.114	0.360	0.261	See Table Below
	NR Band n25 (PCS)	0.951	0.360	0.261	1.572
	NR Band n41	0.571	0.360	0.261	1.192

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	5 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)	5 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	0.872	0.163	0.261	1.296	Hotspot SAR	Back	0.406	0.163	0.261	0.830
	Front	0.612	0.360*	0.081	1.053		Front	0.297	0.360*	0.081	0.738
	Top	-	0.360*	0.261*	0.621		Top	-	0.360*	0.261*	0.621
	Bottom	0.987	-	-	0.987		Bottom	-	-	-	-
	Right	-	-	-	-		Right	1.114	-	-	1.114
	Left	0.149	0.360	0.261*	0.770		Left	-	0.360	0.261*	0.621

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

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot	EVDO BC0 (\$22H)	0.566	0.058	0.624
	PCS EVDO	0.939	0.058	0.997
	GPRS 850	0.570	0.058	0.628
	GPRS 1900	0.899	0.058	0.957
	UMTS 850	0.578	0.058	0.636
	UMTS 1750	0.794	0.058	0.852
	UMTS 1900	0.915	0.058	0.973
	LTE Band 71	0.364	0.058	0.422
	LTE Band 12	0.393	0.058	0.451
	LTE Band 13	0.427	0.058	0.485
	LTE Band 14	0.427	0.058	0.485
	LTE Band 5 (Cell)	0.612	0.058	0.670
	LTE Band 66 (AWS)	0.776	0.058	0.834
	LTE Band 66 Ant 3 (AWS)	0.129	0.058	0.187
	LTE Band 2 Ant 3 (PCS)	0.281	0.058	0.339
	LTE Band 25 (PCS)	0.987	0.058	1.045
	LTE Band 30	0.929	0.058	0.987
	LTE Band 7	0.814	0.058	0.872
	LTE Band 41	0.527	0.058	0.585
	NR Band n71	0.050	0.058	0.108
	NR Band n5 (Cell)	0.550	0.058	0.608
	NR Band n66 (AWS)	1.114	0.058	1.172
	NR Band n25 (PCS)	0.951	0.058	1.009
	NR Band n41	0.571	0.058	0.629

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

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	Bluetooth SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot	EVDO BC0 (\$22H)	0.566	0.058	0.311	0.935
	PCS EVDO	0.939	0.058	0.311	1.308
	GPRS 850	0.570	0.058	0.311	0.939
	GPRS 1900	0.899	0.058	0.311	1.268
	UMTS 850	0.578	0.058	0.311	0.947
	UMTS 1750	0.794	0.058	0.311	1.163
	UMTS 1900	0.915	0.058	0.311	1.284
	LTE Band 71	0.364	0.058	0.311	0.733
	LTE Band 12	0.393	0.058	0.311	0.762
	LTE Band 13	0.427	0.058	0.311	0.796
	LTE Band 14	0.427	0.058	0.311	0.796
	LTE Band 5 (Cell)	0.612	0.058	0.311	0.981
	LTE Band 66 (AWS)	0.776	0.058	0.311	1.145
	LTE Band 66 Ant 3 (AWS)	0.129	0.058	0.311	0.498
	LTE Band 2 Ant 3 (PCS)	0.281	0.058	0.311	0.650
	LTE Band 25 (PCS)	0.987	0.058	0.311	1.356
	LTE Band 30	0.929	0.058	0.311	1.298
	LTE Band 7	0.814	0.058	0.311	1.183
	LTE Band 41	0.527	0.058	0.311	0.896
	NR Band n71	0.050	0.058	0.311	0.419
	NR Band n5 (Cell)	0.550	0.058	0.311	0.919
	NR Band n66 (AWS)	1.114	0.058	0.311	1.483
	NR Band n25 (PCS)	0.951	0.058	0.311	1.320
	NR Band n41	0.571	0.058	0.311	0.940

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Table 12-18
Simultaneous Transmission Scenario with 5 GHz WLAN and Bluetooth (Hotspot at 1.0 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
Hotspot	EVDO BC0 (\$22H)	0.566	0.058	0.388	0.261	1.012	0.885	1.273
	PCS EVDO	0.939	0.058	0.388	0.261	1.385	1.258	See Table Below
	GPRS 850	0.570	0.058	0.388	0.261	1.016	0.889	1.277
	GPRS 1900	0.899	0.058	0.388	0.261	1.345	1.218	See Table Below
	UMTS 850	0.578	0.058	0.388	0.261	1.024	0.897	1.285
	UMTS 1750	0.794	0.058	0.388	0.261	1.240	1.113	1.501
	UMTS 1900	0.915	0.058	0.388	0.261	1.361	1.234	See Table Below
	LTE Band 71	0.364	0.058	0.388	0.261	0.810	0.683	1.071
	LTE Band 12	0.393	0.058	0.388	0.261	0.839	0.712	1.100
	LTE Band 13	0.427	0.058	0.388	0.261	0.873	0.746	1.134
	LTE Band 14	0.427	0.058	0.388	0.261	0.873	0.746	1.134
	LTE Band 5 (Cell)	0.612	0.058	0.388	0.261	1.058	0.931	1.319
	LTE Band 66 (AWS)	0.776	0.058	0.388	0.261	1.222	1.095	1.483
	LTE Band 66 Ant 3 (AWS)	0.129	0.058	0.388	0.261	0.575	0.448	0.836
	LTE Band 2 Ant 3 (PCS)	0.281	0.058	0.388	0.261	0.727	0.600	0.988
	LTE Band 25 (PCS)	0.987	0.058	0.388	0.261	1.433	1.306	See Table Below
	LTE Band 30	0.929	0.058	0.388	0.261	1.375	1.248	See Table Below
	LTE Band 7	0.814	0.058	0.388	0.261	1.260	1.133	1.521
	LTE Band 41	0.527	0.058	0.388	0.261	0.973	0.846	1.234
	NR Band n71	0.050	0.058	0.388	0.261	0.496	0.369	0.757
	NR Band n5 (Cell)	0.550	0.058	0.388	0.261	0.996	0.869	1.257
	NR Band n66 (AWS)	1.114	0.058	0.388	0.261	1.560	1.433	See Table Below
	NR Band n25 (PCS)	0.951	0.058	0.388	0.261	1.397	1.270	See Table Below
	NR Band n41	0.571	0.058	0.388	0.261	1.017	0.890	1.278

Simult Tx	Configuration	PCS 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)	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+3+4			1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.716	0.023	0.388	0.261	1.388	Hotspot SAR	Back	0.412	0.023	0.388	0.261	1.084
	Front	0.636	0.016	0.118	0.081	0.851		Front	0.327	0.016	0.118	0.081	0.542
	Top	-	0.019	0.388*	0.261*	0.668		Top	-	0.019	0.388*	0.261*	0.668
	Bottom	0.939	-	-	-	0.939		Bottom	0.899	-	-	-	0.899
	Right	-	-	-	-	-		Right	-	-	-	-	-
	Left	0.160	0.058	0.388*	0.261*	0.867		Left	0.154	0.058	0.388*	0.261*	0.861
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)	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+3+4			1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.853	0.023	0.388	0.261	1.525	Hotspot SAR	Back	0.872	0.023	0.388	0.261	1.544
	Front	0.915	0.016	0.118	0.081	1.130		Front	0.612	0.016	0.118	0.081	0.827
	Top	-	0.019	0.388*	0.261*	0.668		Top	-	0.019	0.388*	0.261*	0.668
	Bottom	0.890	-	-	-	0.890		Bottom	0.987	-	-	-	0.987
	Right	-	-	-	-	-		Right	-	-	-	-	-
	Left	0.122	0.058	0.388*	0.261*	0.829		Left	0.149	0.058	0.388*	0.261*	0.856

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Simult Tx	Configuration	LTE Band 30 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)	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+3+4			1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.609	0.023	0.388	0.261	1.281	Hotspot SAR	Back	0.406	0.023	0.388	0.261	1.078
	Front	0.467	0.016	0.118	0.081	0.682		Front	0.297	0.016	0.118	0.081	0.512
	Top	-	0.019	0.388*	0.261*	0.668		Top	-	0.019	0.388*	0.261*	0.668
	Bottom	0.929	-	-	-	0.929		Bottom	-	-	-	-	-
	Right	-	-	-	-	-		Right	1.114	-	-	-	1.114
	Left	0.128	0.058	0.388*	0.261*	0.835		Left	-	0.058	0.388*	0.261*	0.707

Simult Tx	Configuration	NR Band n25 (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+3+4
Hotspot SAR	Back	0.620	0.023	0.388	0.261	1.292
	Front	0.513	0.016	0.118	0.081	0.728
	Top	-	0.019	0.388*	0.261*	0.668
	Bottom	-	-	-	-	-
	Right	0.951	-	-	-	0.951
	Left	-	0.058	0.388*	0.261*	0.707

12.6 Phablet Simultaneous Transmission Analysis

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

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

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

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		SPLSR	Simult Tx	Configuration	PCS EVDO 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			1	2	3	1+2	1+3
Phablet SAR	Back (without Accessory)	2.712	1.561	0.739	See Note 1	3.451	0.06	Phablet SAR	Front	2.675	0.310	0.739*	2.985	3.414
	Top	-	1.561*	0.739*	-	-	-		Top	-	1.561*	0.739*	1.561	0.739
	Bottom	2.657	-	-	-	-	-		Bottom	2.657	-	-	2.657	2.657
	Right	-	-	-	-	-	-		Right	-	-	-	-	-
	Back (Position #1)	2.435	1.142	0.478	3.577	2.913	N/A		Left	0.707	0.441	0.739*	1.148	1.446
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)		SPLSR	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			1	2	3	1+2	1+3
Phablet SAR	Back (without Accessory)	1.615	1.561	0.739	3.176	2.354	N/A	Phablet SAR	Front	2.625	0.310	0.739*	2.935	3.364
	Top	-	1.561*	0.739*	-	-	-		Top	-	1.561*	0.739*	1.561	0.739
	Bottom	2.106	-	-	-	-	-		Bottom	2.106	-	-	2.106	2.106
	Right	-	-	-	-	-	-		Right	-	-	-	-	-
	Back (Position #1)	2.886	1.142	0.478	See Note 1	3.364	0.06		Left	0.475	0.441	0.739*	0.916	1.214

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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)	
		1	2	3	1+2	1+3
Phablet SAR	Back (without Accessory)	2.110	1.561	0.739	3.671	2.849
		2.384	1.142	0.478	3.526	2.862
	Back (Position #1)	2.384	1.142	0.478	3.526	2.862
		2.384	1.142	0.478	3.526	2.862
Simult Tx	Configuration	LTE Band 66 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 (without Accessory)	1.957	1.561	0.739	3.518	2.696
		2.644	1.142	0.478	3.786	3.122
	Back (Position #1)	2.644	1.142	0.478	3.786	3.122
		2.644	1.142	0.478	3.786	3.122
Simult Tx	Configuration	LTE Band 25 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 (without Accessory)	2.328	1.561	0.739	3.889	3.067
		2.555	1.142	0.478	3.697	3.033
	Back (Position #1)	2.555	1.142	0.478	3.697	3.033
		2.555	1.142	0.478	3.697	3.033

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)		SPLSR
		1	2	3	1+2	1+3	1+2
Phablet SAR	Back (without Accessory)	3.009	1.561	0.739	See Note 1	3.748	0.07
		1.875	1.142	0.478	3.017	2.353	N/A
	Back (Position #1)	1.875	1.142	0.478	3.017	2.353	N/A
		1.875	1.142	0.478	3.017	2.353	N/A

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
Phablet SAR	Back (without Accessory)	2.073	1.561	0.739	3.634	2.812
		1.049	1.142	0.478	2.191	1.527
	Back (Position #1)	1.049	1.142	0.478	2.191	1.527
		1.049	1.142	0.478	2.191	1.527

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	-	1.561	0.739	1.561	0.739
	Front	-	0.310	0.739*	0.310	0.739
	Top	-	1.561*	0.739*	1.561	0.739
	Bottom	-	-	-	-	-
	Right	3.168	-	-	3.168	3.168
	Left	-	0.441	0.739*	0.441	0.739

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Table 12-20
Simultaneous Transmission Scenario with 5 GHz WLAN MIMO (Phablet)

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR	Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2	1+2			1	2	1+2
Phablet SAR	Back (without Accessory)	2.712	2.372	See Note 1	0.08	Phablet SAR	Front	2.675	0.635	3.310
							Top	-	2.372*	2.372
							Bottom	2.657	-	2.657
	Back (Position #1)	2.435	1.403	3.838	N/A		Right	-	-	-
							Left	0.707	0.679	1.386
Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR	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	1+2
Phablet SAR	Back (without Accessory)	1.615	2.372	3.987	N/A	Phablet SAR	Front	2.625	0.635	3.260
							Top	-	2.372*	2.372
							Bottom	2.106	-	2.106
	Back (Position #1)	2.886	1.403	See Note 1	0.06		Right	-	-	-
							Left	0.475	0.679	1.154
Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR	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
Phablet SAR	Back (without Accessory)	2.110	2.372	See Note 1	0.06	Phablet SAR	Front	2.395	0.635	3.030
							Top	-	2.372*	2.372
							Bottom	2.340	-	2.340
	Back (Position #1)	2.384	1.403	3.787	N/A		Right	-	-	-
							Left	0.580	0.679	1.259
Simult Tx	Configuration	LTE Band 66 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR	Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2	1+2			1	2	1+2
Phablet SAR	Back (without Accessory)	1.957	2.372	See Note 1	0.06	Phablet SAR	Front	2.441	0.635	3.076
							Top	-	2.372*	2.372
							Bottom	2.052	-	2.052
	Back (Position #1)	2.644	1.403	See Note 1	0.06		Right	-	-	-
							Left	0.578	0.679	1.257
Simult Tx	Configuration	LTE Band 25 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR	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	1+2
Phablet SAR	Back (without Accessory)	2.328	2.372	See Note 1	0.07	Phablet SAR	Front	2.495	0.635	3.130
							Top	-	2.372*	2.372
							Bottom	2.824	-	2.824
	Back (Position #1)	2.555	1.403	3.958	N/A		Right	-	-	-
							Left	0.704	0.679	1.383

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Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR	Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2	1+2			1	2	1+2
Phablet SAR	Back (without Accessory)	3.009	2.372	See Note 1	0.09	Phablet SAR	Front	2.340	0.635	2.975
							Top	-	2.372*	2.372
							Bottom	3.048	-	3.048
	Back (Position #1)	1.875	1.403	3.278	N/A		Right	-	-	-
							Left	0.686	0.679	1.365

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR	Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2	1+2			1	2	1+2
Phablet SAR	Back (without Accessory)	2.073	2.372	See Note 1	0.07	Phablet SAR	Front	1.497	0.635	2.132
							Top	-	2.372*	2.372
							Bottom	2.372	-	2.372
	Back (Position #1)	1.049	1.403	2.452	N/A		Right	-	-	-
							Left	0.304	0.679	0.983

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
Phablet SAR	Back	-	2.372	2.372
	Front	-	0.635	0.635
	Top	-	2.372*	2.372
	Bottom	-	-	-
	Right	3.168	-	3.168
	Left	-	0.679	0.679

Notes:

1. No evaluation was performed to determine the aggregate 10g SAR for these configurations as the SPLS ratio between the antenna pairs was not greater than 0.10 per FCC KDB 447498 D01v06. See Section 12.7 for detailed SPLS ratio analysis.

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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 SAR 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.

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

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

12.7.1 Body worn Back Side SPLSR Evaluation and Analysis

Table 12-21
Peak SAR Locations for Body worn Back Side

Mode/Band	x (mm)	y (mm)
Bluetooth	7.80	56.40
5 GHz WLAN Ant 1	-3.00	75.00
5 GHz WLAN Ant 2	-22.00	62.00
PCS CDMA	-0.50	-84.00
UMTS 1750	-10.00	-87.00
UMTS 1900	-11.50	-85.50
LTE Band 66 (AWS)	-8.50	-85.50
LTE Band 25 (PCS)	-13.00	-84.00
LTE Band 7	-13.00	-82.20

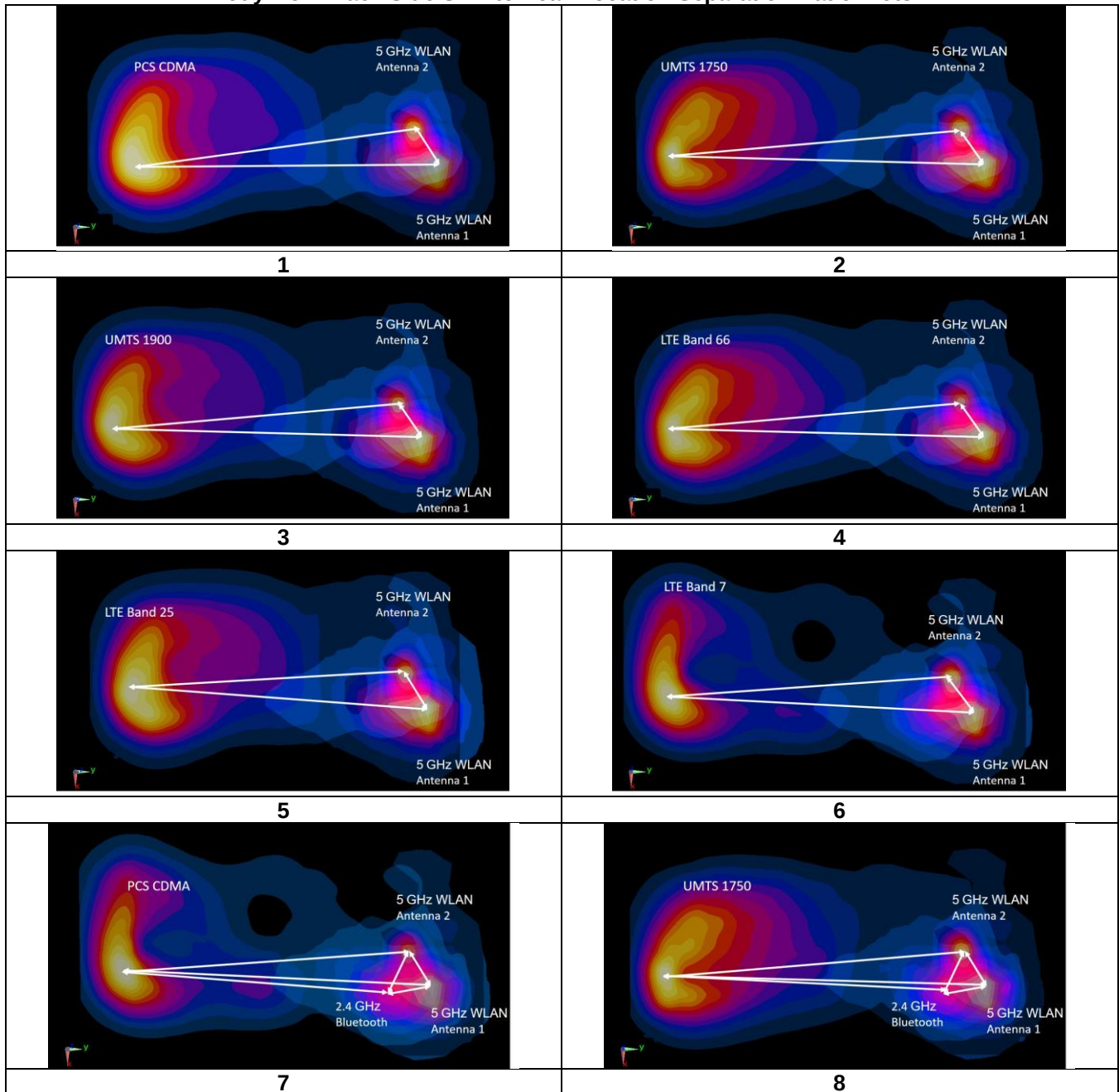
FCC ID: ZNFG900UM	 PCTEST Proud to be part of 	SAR EVALUATION REPORT		Approved by: Quality Manager
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Table 12-22
Body worn Back Side SAR to Peak Location Separation Ratio Calculations

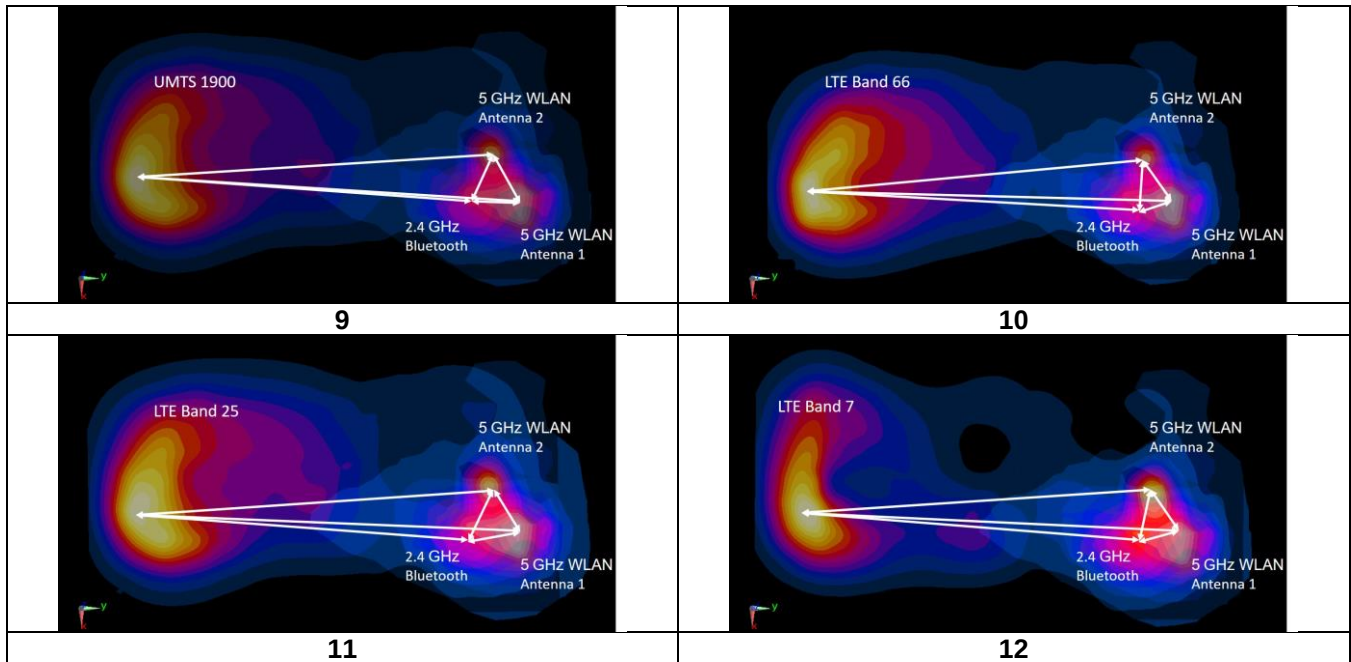
Antenna Pair		Standalone SAR (W/kg)		Standalone SAR Sum (W/kg)	Peak SAR Separation Distance (mm)	SPLS Ratio $(a+b)^{1.5}/D_{a-b}$	Plot Number
Ant "a"	Ant "b"	a	b	a+b	D_{a-b}	$(a+b)^{1.5}/D_{a-b}$	
PCS CDMA	5 GHz WLAN Ant 1	0.848	0.495	1.343	159.02	0.01	1
PCS CDMA	5 GHz WLAN Ant 2	0.848	0.417	1.265	147.57	0.01	
5 GHz WLAN Ant 1	5 GHz WLAN Ant 2	0.495	0.417	0.912	23.02	0.04	
UMTS 1750	5 GHz WLAN Ant 1	0.773	0.495	1.268	162.15	0.01	2
UMTS 1750	5 GHz WLAN Ant 2	0.773	0.417	1.19	149.48	0.01	
5 GHz WLAN Ant 1	5 GHz WLAN Ant 2	0.495	0.417	0.912	23.02	0.04	
UMTS 1900	5 GHz WLAN Ant 1	0.853	0.495	1.348	160.72	0.01	3
UMTS 1900	5 GHz WLAN Ant 2	0.853	0.417	1.27	147.87	0.01	
5 GHz WLAN Ant 1	5 GHz WLAN Ant 2	0.495	0.417	0.912	23.02	0.04	
LTE Band 66 (AWS)	5 GHz WLAN Ant 1	0.820	0.495	1.315	160.59	0.01	4
LTE Band 66 (AWS)	5 GHz WLAN Ant 2	0.820	0.417	1.237	148.12	0.01	
5 GHz WLAN Ant 1	5 GHz WLAN Ant 2	0.495	0.417	0.912	23.02	0.04	
LTE Band 25 (PCS)	5 GHz WLAN Ant 1	0.920	0.495	1.415	159.31	0.01	5
LTE Band 25 (PCS)	5 GHz WLAN Ant 2	0.920	0.417	1.337	146.28	0.01	
5 GHz WLAN Ant 1	5 GHz WLAN Ant 2	0.495	0.417	0.912	23.02	0.04	
LTE Band 7	5 GHz WLAN Ant 1	0.771	0.495	1.266	157.52	0.01	6
LTE Band 7	5 GHz WLAN Ant 2	0.771	0.417	1.188	144.48	0.01	
5 GHz WLAN Ant 1	5 GHz WLAN Ant 2	0.495	0.417	0.912	23.02	0.04	
PCS CDMA	Bluetooth	0.848	0.023	0.871	140.65	0.01	7
PCS CDMA	5 GHz WLAN Ant 1	0.848	0.495	1.343	159.02	0.01	
PCS CDMA	5 GHz WLAN Ant 2	0.848	0.417	1.265	147.57	0.01	
Bluetooth	5 GHz WLAN Ant 1	0.023	0.495	0.518	21.51	0.02	
Bluetooth	5 GHz WLAN Ant 2	0.023	0.417	0.44	30.32	0.01	
5 GHz WLAN Ant 1	5 GHz WLAN Ant 2	0.495	0.417	0.912	23.02	0.04	8
UMTS 1750	Bluetooth	0.773	0.023	0.796	144.50	0.00	
UMTS 1750	5 GHz WLAN Ant 1	0.773	0.495	1.268	162.15	0.01	
UMTS 1750	5 GHz WLAN Ant 2	0.773	0.417	1.19	149.48	0.01	
Bluetooth	5 GHz WLAN Ant 1	0.023	0.495	0.518	21.51	0.02	
Bluetooth	5 GHz WLAN Ant 2	0.023	0.417	0.44	30.32	0.01	9
5 GHz WLAN Ant 1	5 GHz WLAN Ant 2	0.495	0.417	0.912	23.02	0.04	
UMTS 1900	Bluetooth	0.853	0.023	0.876	143.21	0.01	
UMTS 1900	5 GHz WLAN Ant 1	0.853	0.495	1.348	160.72	0.01	
UMTS 1900	5 GHz WLAN Ant 2	0.853	0.417	1.27	147.87	0.01	
Bluetooth	5 GHz WLAN Ant 1	0.023	0.495	0.518	21.51	0.02	10
Bluetooth	5 GHz WLAN Ant 2	0.023	0.417	0.44	30.32	0.01	
5 GHz WLAN Ant 1	5 GHz WLAN Ant 2	0.495	0.417	0.912	23.02	0.04	
LTE Band 66 (AWS)	Bluetooth	0.820	0.023	0.843	142.83	0.01	
LTE Band 66 (AWS)	5 GHz WLAN Ant 1	0.820	0.495	1.315	160.59	0.01	
LTE Band 66 (AWS)	5 GHz WLAN Ant 2	0.820	0.417	1.237	148.12	0.01	11
Bluetooth	5 GHz WLAN Ant 1	0.023	0.495	0.518	21.51	0.02	
Bluetooth	5 GHz WLAN Ant 2	0.023	0.417	0.44	30.32	0.01	
5 GHz WLAN Ant 1	5 GHz WLAN Ant 2	0.495	0.417	0.912	23.02	0.04	
LTE Band 25 (PCS)	Bluetooth	0.920	0.023	0.943	141.93	0.01	
LTE Band 25 (PCS)	5 GHz WLAN Ant 1	0.920	0.495	1.415	159.31	0.01	12
LTE Band 25 (PCS)	5 GHz WLAN Ant 2	0.920	0.417	1.337	146.28	0.01	
Bluetooth	5 GHz WLAN Ant 1	0.023	0.495	0.518	21.51	0.02	
Bluetooth	5 GHz WLAN Ant 2	0.023	0.417	0.44	30.32	0.01	
5 GHz WLAN Ant 1	5 GHz WLAN Ant 2	0.495	0.417	0.912	23.02	0.04	
LTE Band 7	Bluetooth	0.771	0.023	0.794	140.15	0.01	
LTE Band 7	5 GHz WLAN Ant 1	0.771	0.495	1.266	157.52	0.01	
LTE Band 7	5 GHz WLAN Ant 2	0.771	0.417	1.188	144.48	0.01	
Bluetooth	5 GHz WLAN Ant 1	0.023	0.495	0.518	21.51	0.02	
Bluetooth	5 GHz WLAN Ant 2	0.023	0.417	0.44	30.32	0.01	
5 GHz WLAN Ant 1	5 GHz WLAN Ant 2	0.495	0.417	0.912	23.02	0.04	

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Table 12-23
Body worn Back Side SAR to Peak Location Separation Ratio Plots



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12.7.2 Phablet Back Side SPLSR Evaluation and Analysis

Table 12-24
Peak SAR Locations for Phablet Back Side

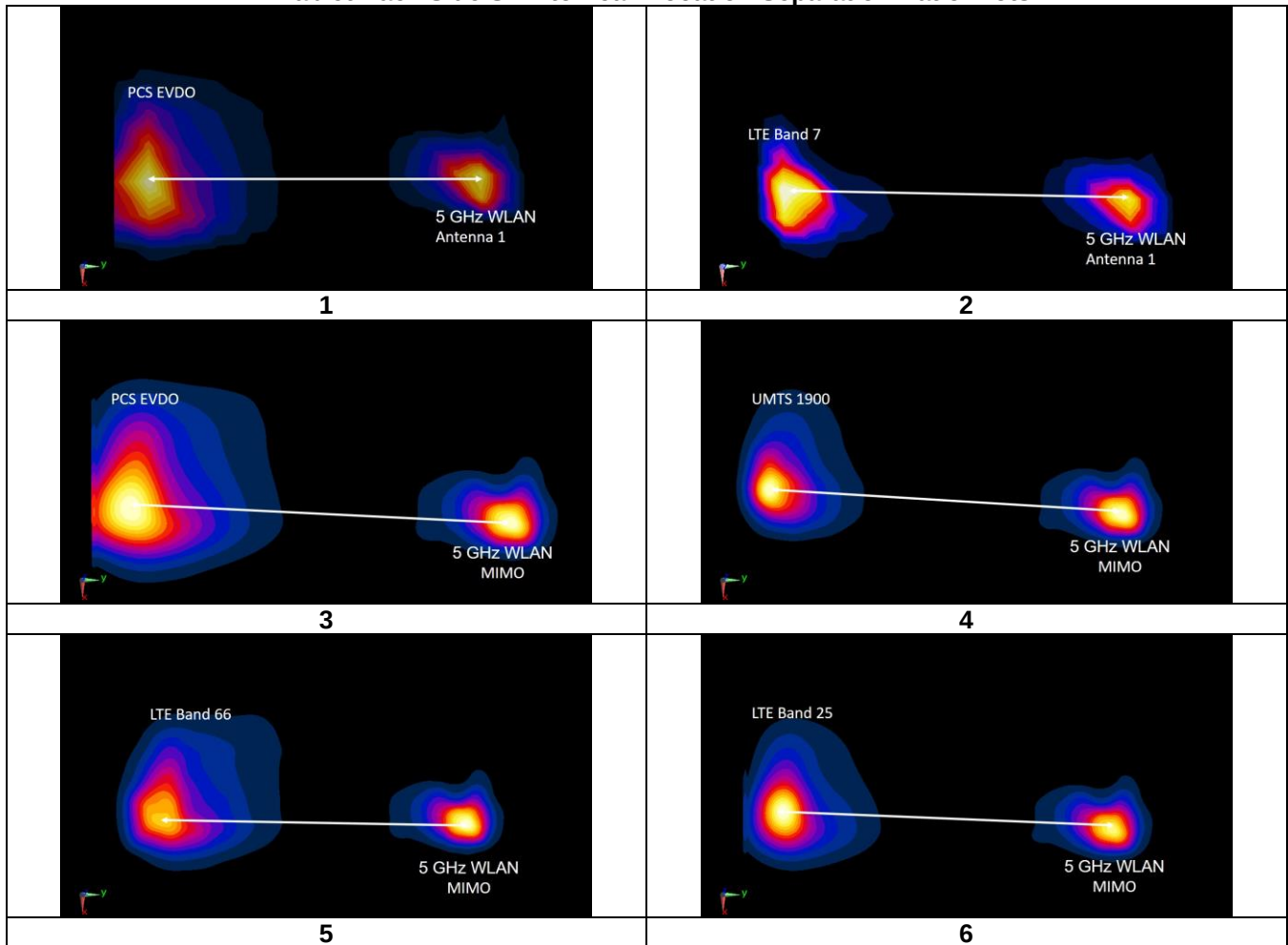
Mode/Band	x (mm)	y (mm)
5 GHz WLAN Ant 1	-10.00	64.00
5 GHz WLAN MIMO	0.00	66.20
PCS EVDO	-2.00	-84.50
UMTS 1900	-11.50	-85.50
LTE Band 66 (AWS)	-7.00	-82.50
LTE Band 25 (PCS)	4.00	-83.00
LTE Band 7	-8.20	-71.20
LTE Band 41	-13.20	-76.20

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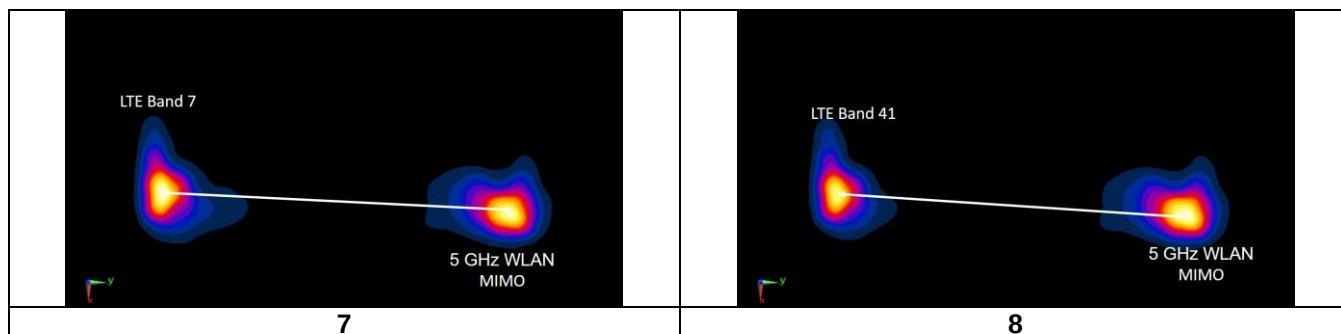
Table 12-25
Phablet Back Side SAR to Peak Location Separation Ratio Calculations

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}	$(a+b)^{1.5}/D_{a-b}$	
PCS EVDO	5 GHz WLAN Ant 1	2.712	1.561	4.273	148.72	0.06	1
LTE Band 7	5 GHz WLAN Ant 1	3.009	1.561	4.57	135.21	0.07	2
PCS EVDO	5 GHz WLAN MIMO	2.712	2.372	5.084	150.71	0.08	3
UMTS 1900	5 GHz WLAN MIMO	2.110	2.372	4.482	152.14	0.06	4
LTE Band 66 (AWS)	5 GHz WLAN MIMO	1.957	2.372	4.329	148.86	0.06	5
LTE Band 25 (PCS)	5 GHz WLAN MIMO	2.328	2.372	4.7	149.25	0.07	6
LTE Band 7	5 GHz WLAN MIMO	3.009	2.372	5.381	137.64	0.09	7
LTE Band 41	5 GHz WLAN MIMO	2.073	2.372	4.445	143.01	0.07	8

Table 12-26
Phablet Back Side SAR to Peak Location Separation Ratio Plots



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12.7.3 Phablet Back Side with Dual Display Accessory Position #1 SPLSR Evaluation and Analysis

Table 12-27
Peak SAR Locations for Phablet Back Side with Dual Display Accessory Position #1

Mode/Band	x (mm)	y (mm)
5 GHz WLAN Ant 1	-4.00	66.00
5 GHz WLAN MIMO	-7.00	65.00
UMTS 1750	-7.20	-80.70
LTE Band 66 (AWS)	-11.00	-76.90

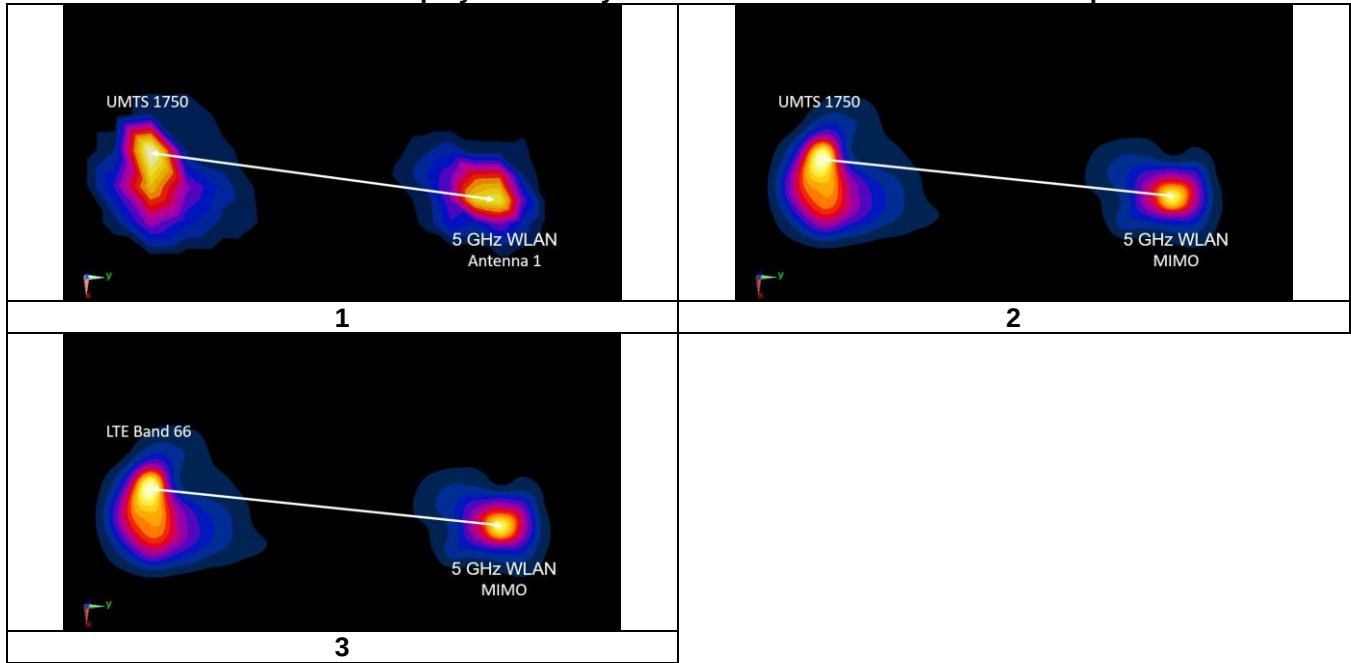
Table 12-28
Phablet Back Side with Dual Display Accessory Position #1 SAR to Peak Location Separation Ratio Calculations

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}	$(a+b)^{1.5}/D_{a-b}$	
UMTS 1750	5 GHz WLAN Ant 1	2.886	1.142	4.028	146.73	0.06	1
UMTS 1750	5 GHz WLAN MIMO	2.886	1.403	4.289	145.70	0.06	2
LTE Band 66 (AWS)	5 GHz WLAN MIMO	2.644	1.403	4.047	141.96	0.06	3

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Table 12-29

Phablet Back Side with Dual Display Accessory Position #1 SAR to Peak Location Separation Ratio Plots



12.8 Simultaneous Transmission Conclusion

The above numerical summed SAR results and SPLSR analysis for all the worst-case simultaneous transmission conditions were below the SAR limit. Therefore, the above analysis is sufficient to determine that simultaneous transmission cases will not exceed the SAR limit and therefore no measured volumetric simultaneous SAR summation is required per FCC KDB Publication 447498 D01v06 and IEEE 1528-2013 Section 6.3.4.1.2.

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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	Dual Display Accessory Configuration	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)	
1900	1908.75	1175	PCS CDMA	EVDO Rev. 0	N/A	bottom	10 mm	0.912	0.902	1.01	N/A	N/A	N/A	N/A
2300	2310.00	27710	LTE Band 30, 10 MHz Bandwidth	QPSK, 1 RB, 0 RB Offset	N/A	bottom	10 mm	0.813	0.811	1.00	N/A	N/A	N/A	N/A
1750	1770.00	354000	NR Band n66, 20 MHz Bandwidth	DFT-s-OFDM QPSK, 1 RB, 104 RB Offset	#1	right	10 mm	0.953	0.923	1.03	N/A	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT							Body							
Spatial Peak							1.6 W/kg (mW/g)							
Uncontrolled Exposure/General Population							averaged over 1 gram							

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Table 13-2
Phablet SAR Measurement Variability Results

PHABLET VARIABILITY RESULTS														
Band	FREQUENCY		Mode	Service	Data Rate (Mbps)	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)	
1900	1908.75	1175	PCS CDMA	EVDO Rev. 0	N/A	bottom	0 mm	2.580	2.550	1.01	N/A	N/A	N/A	N/A
2450	2510.00	20850	LTE Band 7, 20 MHz Bandwidth	QPSK, 50 RB, 25 RB Offset	N/A	bottom	0 mm	2.870	2.810	1.02	N/A	N/A	N/A	N/A
2600	2560.00	21350	LTE Band 7, 20 MHz Bandwidth	QPSK, 50 RB, 25 RB Offset	N/A	back	0 mm	2.660	2.620	1.02	N/A	N/A	N/A	N/A
1750	1745.00	349000	NR Band n66, 20 MHz Bandwidth	DFT-s-OFDM QPSK, 50 RB, 28 RB Offset	N/A	right	0 mm	2.720	2.600	1.05	N/A	N/A	N/A	N/A
5250	5280.00	56	802.11n, 20 MHz Bandwidth	OFDM, MIMO	13	back	0 mm	2.130	2.120	1.00	N/A	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT							Phablet							
Spatial Peak							4.0 W/kg (mW/g)							
Uncontrolled Exposure/General Population							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.

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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 32 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 32 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		CDMA BC0	
RMC		CDMA	
Test Position	Left Cheek	Test Position	Left Cheek
Frequency (MHz)	836.6	Frequency (MHz)	836.52
Channel	4183	Channel	384
Measured 1g SAR (W/kg)	0.139	Measured 1g SAR (W/kg)	0.152
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 8)	0.185	Auto-tune (State 8)	0.188
Default (State 8)	0.186	Default (State 8)	0.179
State 2	0.167	State 8	0.179
State 6	0.170	State 18	0.113
State 8	0.186	State 21	0.050
State 11	0.108	State 24	0.033
State 16	0.078	State 28	0.036
State 20	0.056	State 32	0.018

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Table 14-2
LTE Supplemental Head SAR Data

Supplemental Head SAR Data					
LTE B71		LTE B12		LTE B13	
QPSK, 20 MHz Bandwidth, 1RB,50RB Offset		QPSK, 10 MHz Bandwidth, 1 RB, 49 RB Offset		QPSK, 10 MHz Bandwidth, 1 RB, 25 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)	0.121	Measured 1g SAR (W/kg)	0.131	Measured 1g SAR (W/kg)	0.158
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)	0.152	Auto-tune (State 20)	0.169	Auto-tune (State 10)	0.209
Default (State 30)	0.141	Default (State 22)	0.172	Default (State 13)	0.212
State 4	0.014	State 1	0.029	State 10	0.207
State 9	0.014	State 5	0.027	State 11	0.209
State 13	0.039	State 7	0.027	State 15	0.209
State 26	0.112	State 9	0.069	State 18	0.122
State 27	0.151	State 14	0.054	State 22	0.081
State 31	0.150	State 20	0.170	State 30	0.041

Supplemental Head SAR Data			
LTE B14		LTE B5	
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
Frequency (MHz)	793.0	Frequency (MHz)	836.5
Channel	23330	Channel	20525
Measured 1g SAR (W/kg)	0.123	Measured 1g SAR (W/kg)	0.153
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 16)	0.160	Auto-tune (State 8)	0.218
Default (State 13)	0.164	Default (State 8)	0.218
State 16	0.161	State 3	0.199
State 18	0.118	State 7	0.128
State 25	0.127	State 8	0.218
State 27	0.050	State 10	0.128
State 32	0.028	State 17	0.181

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Table 14-3
NR Supplemental Head SAR Data

Supplemental Head SAR Data	
NR Band n5	
DFT-s-OFDM QPSK, 20 MHz Bandwidth, 50 RB, 28 RB Offset	
Test Position	Left Cheek
Frequency (MHz)	836.5
Channel	167300
Measured 1g SAR (W/kg)	0.106
Average Value of Time Sweep (W/kg)	
Auto-tune (State 8)	0.138
Default (State 8)	0.138
State 4	0.127
State 8	0.138
State 12	0.083
State 16	0.066
State 21	0.039
State 25	0.097

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Table 14-4
UMTS/CDMA Supplemental Body SAR Data

Supplemental Body SAR Data			
UMTS B5		CDMA BC0	
RMC		CDMA	
Test Position	Back	Test Position	Back
Spacing	10 mm	Spacing	10 mm
Frequency (MHz)	836.6	Frequency (MHz)	836.52
Channel	4183	Channel	384
Measured 1g SAR (W/kg)	0.520	Measured 1g SAR (W/kg)	0.567
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 8)	0.803	Auto-tune (State 8)	0.867
Default (State 8)	0.807	Default (State 8)	0.859
State 8	0.807	State 5	0.850
State 20	0.279	State 8	0.859
State 23	0.204	State 9	0.754
State 26	0.459	State 14	0.485
State 29	0.177	State 26	0.487
State 32	0.106	State 31	0.144

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Table 14-5
LTE Supplemental Body SAR Data

Supplemental Body SAR Data					
LTE B71		LTE B12		LTE B13	
QPSK, 20MHz Bandwidth, 1 RB, 50 RB Offset		QPSK, 10MHz Bandwidth, 1 RB, 49 RB Offset		QPSK, 10MHz Bandwidth, 1 RB, 25 RB Offset	
Test Position	Back	Test Position	Back	Test Position	Back
Spacing	10 mm	Spacing	10 mm	Spacing	10 mm
Frequency (MHz)	680.5	Frequency (MHz)	707.5	Frequency (MHz)	782.0
Channel	133297	Channel	23095	Channel	23230
Measured 1g SAR (W/kg)	0.356	Measured 1g SAR (W/kg)	0.376	Measured 1g SAR (W/kg)	0.411
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 30)	0.527	Auto-tune (State 19)	0.565	Auto-tune (State 14)	0.640
Default (State 30)	0.517	Default (State 22)	0.568	Default (State 13)	0.620
State 9	0.161	State 2	0.124	State 1	0.462
State 17	0.301	State 11	0.242	State 4	0.474
State 19	0.430	State 16	0.162	State 6	0.484
State 24	0.319	State 19	0.562	State 14	0.618
State 30	0.517	State 22	0.568	State 20	0.313

Supplemental Body SAR Data			
LTE B14		LTE B5	
QPSK, 10MHz Bandwidth, 1 RB, 0 RB Offset		QPSK, 10MHz Bandwidth, 1 RB, 49 RB Offset	
Test Position	Back	Test Position	Back
Spacing	10 mm	Spacing	10 mm
Frequency (MHz)	793.0	Frequency (MHz)	836.5
Channel	23330	Channel	20525
Measured 1g SAR (W/kg)	0.411	Measured 1g SAR (W/kg)	0.542
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 13)	0.622	Auto-tune (State 8)	0.830
Default (State 13)	0.615	Default (State 8)	0.846
State 9	0.601	State 5	0.665
State 13	0.615	State 7	0.811
State 15	0.599	State 8	0.846
State 17	0.581	State 13	0.457
State 27	0.221	State 19	0.304
State 31	0.15	State 30	0.158

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Table 14-6
NR Supplemental Body SAR Data

Supplemental Body SAR Data	
NR Band n5	
DFT-s-OFDM QPSK, 20MHz Bandwidth, 50 RB, 28 RB Offset	
Test Position	Back
Spacing	10 mm
Frequency (MHz)	836.5
Channel	167300
Measured 1g SAR (W/kg)	0.440
Average Value of Time Sweep (W/kg)	
Auto-tune (State 8)	0.678
Default (State 8)	0.678
State 5	0.648
State 8	0.678
State 11	0.455
State 18	0.45
State 23	0.172
State 29	0.146

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Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	85033E	3.5mm Standard Calibration Kit	6/6/2020	Annual	6/6/2021	MY53402352
Agilent	8594A	(9kHz-2.5GHz) Spectrum Analyzer	CBT	N/A	CBT	3051A00187
Agilent	86480	(9kHz-40GHz) Signal Generator	CBT	N/A	CBT	3629J00887
Agilent	8753ES	Network Analyzer	3/5/2020	Annual	3/5/2021	MY40001472
Agilent	N9020A	PXA Signal Analyzer (44GHz)	6/12/2019	Annual	6/12/2020	MY52350166
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	6/27/2019	Annual	6/27/2020	MY45093852
Agilent	E5515C	8960 Series 10 Wireless Communications Test Set	2/10/2020	Annual	2/10/2021	GB42230325
Agilent	E5515C	Wireless Communications Test Set	6/26/2019	Annual	6/26/2020	MY50267125
Agilent	N4010A	Wireless Connectivity Test Set	N/A	N/A	N/A	GB46170464
Agilent	N5182A	MXG Vector Signal Generator	6/27/2019	Annual	6/27/2020	US46240505
Agilent	N5182A	MXG Vector Signal Generator	7/10/2019	Annual	7/10/2020	MY47420800
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	353468
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	353469
Anritsu	MA24106A	USB Power Sensor	8/5/2019	Annual	8/5/2020	1827527
Anritsu	MA24106A	USB Power Sensor	7/8/2019	Annual	7/8/2020	1248508
Anritsu	MA2411B	Pulse Power Sensor	8/8/2019	Annual	8/8/2020	1339008
Anritsu	MA2411B	Pulse Power Sensor	12/4/2019	Annual	12/4/2020	1126066
Anritsu	ML2495A	Power Meter	11/15/2019	Annual	11/15/2020	1039008
Anritsu	ML2495A	Power Meter	12/17/2019	Annual	12/17/2020	941001
Anritsu	MT8820C	Radio Communication Analyzer	7/25/2019	Annual	7/25/2020	6201240328
Anritsu	MT8821C	Radio Communication Analyzer	8/16/2019	Annual	8/16/2020	6201144418
Anritsu	MT8821C	Radio Communication Analyzer	10/2/2019	Annual	10/2/2020	6201664756
Anritsu	MT8821C	Radio Communication Analyzer	11/22/2019	Annual	11/22/2020	6262044715
Anritsu	MT8821C	Radio Communication Analyzer	2/22/2020	Annual	2/22/2021	6261895213
Anritsu	MT8821C	Radio Communication Analyzer	3/10/2020	Annual	3/10/2021	6200801190
Anritsu	MT8862A	Wireless Connectivity Test Set	8/8/2019	Annual	8/8/2020	6261782395
Control Company	4040	Therm / Clock/ Humidity Monitor	10/9/2018	Biennial	10/9/2020	181647811
Control Company	4040	Therm / Clock/ Humidity Monitor	10/9/2018	Biennial	10/9/2020	181647802
Control Company	4352	Long Stem Thermometer	6/26/2019	Biennial	6/26/2021	192282744
Control Company	4352	Long Stem Thermometer	6/26/2019	Biennial	6/26/2021	192282739
Control Company	4352	Ultra Long Stem Thermometer	8/2/2018	Biennial	8/2/2020	181292054
Control Company	4352	Ultra Long Stem Thermometer	8/2/2018	Biennial	8/2/2020	181292061
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
Keysight Technologies	AT/N6705B	DC Power Supply	CBT	N/A	CBT	MY53001315
Keysight Technologies	N6705B	DC Power Analyzer	4/27/2019	Biennial	4/27/2021	MY53004059
Keysight Technologies	U3401A	Digital Multimeter	5/14/2020	Biennial	5/14/2022	MY57201470
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	BW-N20W5	Power Attenuator	CBT	N/A	CBT	1226
MiniCircuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	CBT	N/A
MiniCircuits	NLP-1200+	Low Pass Filter DC to 1000 MHz	CBT	N/A	CBT	N/A
MiniCircuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT	N/A	CBT	N/A
Narda	4014C-6	4 - 8 GHz SMA 6 dB Directional Coupler	CBT	N/A	CBT	N/A
Narda	4172-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Narda	BW-33W2	Attenuator (3dB)	CBT	N/A	CBT	120
Pasternack	PE2208-6	Bidirectional Coupler	CBT	N/A	CBT	N/A
Rohde & Schwarz	CWV500	Radio Communication Tester	6/26/2019	Annual	6/26/2020	112347
Rohde & Schwarz	CWV500	Radio Communication Tester	6/26/2019	Annual	6/26/2020	108843
Rohde & Schwarz	ZNL66	Vector Network Analyzer	10/11/2019	Annual	10/11/2020	101307
Seokonk	NC-100	Torque Wrench 5/16", 8" lbs	7/18/2019	Annual	7/18/2020	N/A
SPEAG	DAK-12	Dielectric Assessment Kit (10MHz - 3GHz)	11/12/2019	Annual	11/12/2020	1121
SPEAG	D1750V2	1750 MHz SAR Dipole	10/22/2018	Biennial	10/22/2020	1150
SPEAG	D1765V2	1765 MHz SAR Dipole	5/23/2018	Triennial	5/23/2021	1008
SPEAG	D1900V2	1900 MHz SAR Dipole	10/23/2018	Biennial	10/23/2020	50080
SPEAG	D1900V2	1900 MHz SAR Dipole	10/23/2018	Biennial	10/23/2020	50149
SPEAG	D1900V2	1900 MHz SAR Dipole	2/21/2019	Biennial	2/21/2021	50148
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	D2450V2	2450 MHz SAR Dipole	8/16/2018	Biennial	8/16/2020	981
SPEAG	D2450V2	2450 MHz SAR Dipole	9/11/2017	Triennial	9/11/2020	797
SPEAG	D2600V2	2600 MHz SAR Dipole	6/14/2019	Biennial	6/14/2021	1064
SPEAG	D5GHV2	5 GHz SAR Dipole	1/16/2018	Triennial	1/16/2021	1057
SPEAG	D750V3	750 MHz Dipole	3/11/2020	Annual	3/11/2021	1054
SPEAG	D750V3	750 MHz SAR Dipole	10/19/2018	Biennial	10/19/2020	1161
SPEAG	D750V3	750 MHz SAR Dipole	3/16/2020	Annual	3/16/2021	1003
SPEAG	D835V2	835 MHz SAR Dipole	1/13/2020	Annual	1/13/2021	44132
SPEAG	D835V2	835 MHz SAR Dipole	3/13/2019	Biennial	3/13/2021	46047
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/11/2019	Annual	7/11/2020	1323
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	1323
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/13/2020	Annual	1/13/2021	1530
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/13/2020	Annual	1/13/2021	1558
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/12/2020	Annual	3/12/2021	1368
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/15/2020	Annual	4/15/2021	1407
SPEAG	DAE4	Data Acquisition Electronics	12/5/2019	Annual	12/5/2020	1533
SPEAG	DAE4	Dasy Data Acquisition Electronics	6/20/2019	Annual	6/20/2020	1334
SPEAG	EX30V4	SAR Probe	7/15/2019	Annual	7/15/2020	7547
SPEAG	EX30V4	SAR Probe	7/16/2019	Annual	7/16/2020	7410
SPEAG	EX30V4	SAR Probe	9/19/2019	Annual	9/19/2020	7551
SPEAG	EX30V4	SAR Probe	12/11/2019	Annual	12/11/2020	7570
SPEAG	EX30V4	SAR Probe	12/11/2019	Annual	12/11/2020	7571
SPEAG	EX30V4	SAR Probe	1/21/2020	Annual	1/21/2021	3589
SPEAG	EX30V4	SAR Probe	1/21/2020	Annual	1/21/2021	7488
SPEAG	EX30V4	SAR Probe	3/17/2020	Annual	3/17/2021	7527
SPEAG	EX30V4	SAR Probe	4/21/2020	Annual	4/21/2021	7357
SPEAG	EX30V4	SAR Probe	6/19/2019	Annual	6/19/2020	7409

Notes: 1) Equipment was solely used during its calibration period 2) 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.

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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 Uncertainty	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
Expanded Uncertainty (95% CONFIDENCE LEVEL)						k=2	23.0	22.6

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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]

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