



SAR EVALUATION REPORT

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

Date of Testing:
11/25/19 – 02/03/20
Test Site/Location:
PCTEST, Columbia, MD, USA
Document Serial No.:
1M1911250198-01-R4.ZNF

FCC ID: **ZNFV600TM**

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

DUT Type: Portable Handset
Application Type: Certification
FCC Rule Part(s): CFR §2.1093
Model: LM-V600TM
Additional Model(s): LMV600TM, V600TM

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	CDMA/EVDO BC10 (900S)	817.90 - 823.10 MHz	0.16	0.50	0.34	N/A
PCE	CDMA/EVDO BC0 (822H)	824.70 - 848.31 MHz	0.18	0.55	0.41	N/A
PCE	PCS CDMA/EVDO	1851.25 - 1908.75 MHz	0.10	0.79	0.70	2.57
PCE	GSM/GPRS/EDGE 850	824.20 - 848.80 MHz	0.16	0.52	0.52	N/A
PCE	GSM/GPRS/EDGE 1900	1850.20 - 1909.80 MHz	< 0.1	0.36	0.60	N/A
PCE	UMTS 850	825.40 - 846.60 MHz	0.18	0.57	0.57	N/A
PCE	UMTS 1750	1712.4 - 1752.6 MHz	< 0.1	0.57	0.74	2.59
PCE	UMTS 1900	1852.4 - 1907.6 MHz	0.13	0.74	0.83	2.44
PCE	LTE Band 71	665.5 - 695.5 MHz	0.15	0.27	0.37	N/A
PCE	LTE Band 12	699.7 - 715.3 MHz	0.13	0.26	0.34	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	0.11	0.36	0.36	N/A
PCE	LTE Band 26 (Cell)	814.7 - 848.3 MHz	0.11	0.40	0.40	N/A
PCE	LTE Band 5 (Cell)	824.7 - 848.3 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 66 (AWS)	1710.7 - 1779.3 MHz	0.11	0.74	0.71	2.87
PCE	LTE Band 4 (AWS)	1710.7 - 1754.3 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 25 (PCS)	1850.7 - 1914.3 MHz	0.13	0.88	0.76	2.44
PCE	LTE Band 2 (PCS)	1850.7 - 1909.3 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 30	2307.5 - 2312.5 MHz	< 0.1	0.22	0.44	N/A
PCE	LTE Band 7	2502.5 - 2567.5 MHz	< 0.1	0.32	0.52	1.95
CBE	LTE Band 48	3552.5 - 3697.5 MHz	0.14	1.26	1.26	2.85
PCE	LTE Band 41	2498.5 - 2687.5 MHz	< 0.1	0.38	0.93	N/A
PCE	NR Band n71	665.5 - 695.5 MHz	< 0.1	0.11	0.18	N/A
PCE	NR Band n66 (AWS)	1712.5 - 1777.5 MHz	0.17	0.29	0.45	N/A
PCE	NR Band n25 (PCS)	1852.5 - 1912.5 MHz	0.40	0.36	0.86	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	0.11	0.13	N/A
DTS	2.4 GHz WLAN	2412 - 2462 MHz	0.59	0.18	0.56	N/A
NI	U-NII-1	5180 - 5240 MHz	N/A	N/A	0.25	N/A
NI	U-NII-2A	5260 - 5320 MHz	0.50	0.31	N/A	1.05
NI	U-NII-2C	5500 - 5720 MHz	0.50	0.25	N/A	1.24
NI	U-NII-3	5745 - 5825 MHz	0.50	0.42	0.42	N/A
DSS/DTS	Bluetooth	2402 - 2480 MHz	0.21	< 0.1	< 0.1	N/A
Simultaneous SAR per KDB 690783 D01v01r03:			1.54	1.56	1.58	3.92

Note: This revised Test Report (S/N: 1M1911250198-01-R4.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 1.9 of this report; for North American frequency bands only.
I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them. Test results reported herein relate only to the item(s) tested.


Randy Ortañez
President



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1 DEVICE UNDER TEST

1.1 Device Overview

Band & Mode	Operating Modes	Tx Frequency
CDMA/EVDO BC10 (§90S)	Voice/Data	817.90 - 823.10 MHz
CDMA/EVDO BC0 (§22H)	Voice/Data	824.70 - 848.31 MHz
PCS CDMA/EVDO	Voice/Data	1851.25 - 1908.75 MHz
GSM/GPRS/EDGE 850	Voice/Data	824.20 - 848.80 MHz
GSM/GPRS/EDGE 1900	Voice/Data	1850.20 - 1909.80 MHz
UMTS 850	Voice/Data	826.40 - 846.60 MHz
UMTS 1750	Voice/Data	1712.4 - 1752.6 MHz
UMTS 1900	Voice/Data	1852.4 - 1907.6 MHz
LTE Band 71	Voice/Data	665.5 - 695.5 MHz
LTE Band 12	Voice/Data	699.7 - 715.3 MHz
LTE Band 17	Voice/Data	706.5 - 713.5 MHz
LTE Band 13	Voice/Data	779.5 - 784.5 MHz
LTE Band 26 (Cell)	Voice/Data	814.7 - 848.3 MHz
LTE Band 5 (Cell)	Voice/Data	824.7 - 848.3 MHz
LTE Band 66 (AWS)	Voice/Data	1710.7 - 1779.3 MHz
LTE Band 4 (AWS)	Voice/Data	1710.7 - 1754.3 MHz
LTE Band 25 (PCS)	Voice/Data	1850.7 - 1914.3 MHz
LTE Band 2 (PCS)	Voice/Data	1850.7 - 1909.3 MHz
LTE Band 30	Voice/Data	2307.5 - 2312.5 MHz
LTE Band 7	Voice/Data	2502.5 - 2567.5 MHz
LTE Band 48	Voice/Data	3552.5 - 3697.5 MHz
LTE Band 41	Voice/Data	2498.5 - 2687.5 MHz
NR Band n71	Data	665.5 - 695.5 MHz
NR Band n66	Data	1712.5 - 1777.5 MHz
NR Band n25	Data	1852.5-1912.5 MHz
NR Band n2	Data	1852.5-1907.5 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 - 4kHz

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1.2 Time-Averaging Algorithm for RF Exposure Compliance

The equipment under test (EUT) contains:

- Qualcomm® SM8250 modem supporting 2G/3G/4G WWAN technologies
- Qualcomm® SDX55M modem supporting 5G NR

Both of Qualcomm® SM8250 and SDX55M modems are enabled with Qualcomm® Smart Transmit feature. This feature performs time averaging algorithm in real time to control and manage transmitting power and ensure the time-averaged RF exposure is in compliance with FCC requirements all the time. Refer to Compliance Summary document for detailed description of Qualcomm® Smart Transmit feature (report SN could be found in Section 1.11 – Bibliography).

Note that WLAN operations are not enabled with Smart Transmit.

The Smart Transmit algorithm maintains the time-averaged transmit power, in turn, time-averaged RF exposure of *SAR_design_target*, below the predefined time-averaged power limit (i.e., P_{limit} for sub-6 radio), for each characterized technology and band (see RF Exposure Part 0 Test Report, report SN could be found in Section 1.11 - Bibliography).

Smart Transmit allows the device to transmit at higher power instantaneously, as high as P_{max} , when needed, but enforces power limiting to maintain time-averaged transmit power to P_{limit} . Below table shows P_{limit} EFS settings and maximum tune up output power P_{max} configured for this EUT for various transmit conditions (Device State Index DSI). Note that the device uncertainty for sub-6GHz WWAN is +0.5/-1.5 dB for this EUT.

Exposure Scenario:		Head	Body-Worn	Phablet	Hotspot	Phablet	Maximum Tune-Up Output Power*
Averaging Volume:		1g	1g	10g	1g	10g	
Spacing:		0 mm	10 mm	3, 2, 4 mm	10 mm	0 mm	
DSI:		1			5	8	
Technology/Band	Antenna	Plimit					Pmax
GSM/GPRS/EDGE 850 MHz	1	29.2					25.5
GSM/GPRS/EDGE 1900 MHz	2	24.8					22.5
UMTS B5	1	27.8					25.0
UMTS B4	2	26.5			22.2		24.7
UMTS B2	2	26.7			22.2		24.7
CDMA/EVDO BC10	1	29.3					25.0
CDMA/EVDO BC0	1	28.8					25.0
CDMA/EVDO BC1	2	26.3			22.2		24.7
LTE FDD B71	1	29.7					25.0
LTE FDD B12	1	30.0					25.0
LTE FDD B17	1	30.0					25.0
LTE FDD B13	1	29.9					25.0
LTE FDD B26	1	29.4					25.0
LTE FDD B5	1	29.4					25.0
LTE FDD B66	2	26.1			22.2		24.7
LTE FDD B4	2	26.1			22.2		24.7
LTE FDD B25	2	26.6			22.2		24.7
LTE FDD B2	2	26.6			22.2		24.7
LTE FDD B30	2	25.0					22.2
LTE FDD B7	2	27.6			21.2		23.2
LTE TDD B48	11	21.5					21.2
LTE TDD B41 (PC3)	2	23.8					22.7
LTE TDD B41 (PC2)	2	23.8					23.6
NR FDD n71	1	32.8					25.0
NR FDD n66	3	22.9					25.0
NR FDD n25	3	22.9					25.0
NR FDD n2	3	22.9					25.0
NR TDD n41(PC3)	3	23.2					18.9
NR TDD n41(PC2)	3	23.2					20.9

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

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

The maximum time-averaged output power (dBm) for any 2G/3G/4G WWAN technology, band, and DSI = minimum of " P_{limit} EFS" and "Maximum tune up output power P_{max} " +0.5/-1.5 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 Nominal and Maximum Output Power Specifications

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

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

CDMA BC10 (815 MHz)				
Power Level		Modulated Average Output Power (in dBm)		
		1x-RTT	EVDO Rev 0	EVDO Rev A
All DSI	Max allowed power	25.5	25.5	25.5
	Nominal	25.0	25.0	25.0
CDMA BC0 (835 MHz)				
Device State Index		Modulated Average Output Power (in dBm)		
		1x-RTT	EVDO Rev 0	EVDO Rev A
All DSI	Max allowed power	25.5	25.5	25.5
	Nominal	25.0	25.0	25.0
CDMA BC1 (1900 MHz)				
Device State Index		Modulated Average Output Power (in dBm)		
		1x-RTT	EVDO Rev 0	EVDO Rev A
DSI = 1 (Head, Body-worn, or Phablet Max)	Max allowed power	25.2	25.2	25.2
	Nominal	24.7	24.7	24.7
DSI = 5 (Hotspot); DSI = 8 (Phablet Reduced)	Max allowed power	22.7	22.7	22.7
	Nominal	22.2	22.2	22.2

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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	33.4	33.4	31.2	30.2	29.2	27.2	26.7	25.7	24.7
	Nominal	32.9	32.9	30.7	29.7	28.7	26.7	26.2	25.2	24.2
GSM/GPRS/EDGE 1900										
Device State Index		Voice (in dBm)	Data - Burst Average GMSK (in dBm)				Data - Burst Average 8-PSK (in dBm)			
		1 TX Slot	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots
All DSI	Max allowed power	30.2	30.2	29.2	27.2	25.7	26.2	25.7	24.7	23.7
	Nominal	29.7	29.7	28.7	26.7	25.2	25.7	25.2	24.2	23.2
UMTS Band 5 (850 MHz)										
Device State Index		Modulated Average Output Power (in dBm)								
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8					
All DSI	Max allowed power	25.5	25.5	25.5	25.5					
	Nominal	25.0	25.0	25.0	25.0					
UMTS Band 4 (1750 MHz)										
Device State Index		Modulated Average Output Power (in dBm)								
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8					
DSI = 1 (Head, Body-worn, or Phablet Max)	Max allowed power	25.2	25.2	25.2	25.2					
	Nominal	24.7	24.7	24.7	24.7					
DSI = 5 (Hotspot); DSI = 8 (Phablet Reduced)	Max allowed power	22.7	22.7	22.7	22.7					
	Nominal	22.2	22.2	22.2	22.2					
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, Body-worn, or Phablet Max)	Max allowed power	25.2	25.2	25.2	25.2					
	Nominal	24.7	24.7	24.7	24.7					
DSI = 5 (Hotspot); DSI = 8 (Phablet Reduced)	Max allowed power	22.7	22.7	22.7	22.7					
	Nominal	22.2	22.2	22.2	22.2					

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Mode / Band		Modulated Average Output Power (in dBm)	
		DSI = 1 (Head, Body-worn, or Phablet Max)	DSI = 5 (Hotspot); DSI = 8 (Phablet Reduced)
LTE FDD Band 71	Max allowed power	25.5	25.5
	Nominal	25.0	25.0
LTE FDD Band 12	Max allowed power	25.5	25.5
	Nominal	25.0	25.0
LTE FDD Band 17	Max allowed power	25.5	25.5
	Nominal	25.0	25.0
LTE FDD Band 13	Max allowed power	25.5	25.5
	Nominal	25.0	25.0
LTE FDD Band 26	Max allowed power	25.5	25.5
	Nominal	25.0	25.0
LTE FDD Band 5	Max allowed power	25.5	25.5
	Nominal	25.0	25.0
LTE FDD Band 66	Max allowed power	25.2	22.7
	Nominal	24.7	22.2
LTE FDD Band 4	Max allowed power	25.2	22.7
	Nominal	24.7	22.2
LTE FDD Band 25	Max allowed power	25.2	22.7
	Nominal	24.7	22.2
LTE FDD Band 2	Max allowed power	25.2	22.7
	Nominal	24.7	22.2
LTE FDD Band 30	Max allowed power	22.7	22.7
	Nominal	22.2	22.2
LTE FDD Band 7	Max allowed power	23.7	21.7
	Nominal	23.2	21.2
LTE TDD Band 48	Max allowed power	23.7	23.7
	Nominal	23.2	23.2
LTE TDD Band 41 (PC3)	Max allowed power	25.2	25.2
	Nominal	24.7	24.7
LTE TDD Band 41 (PC2)	Max allowed power	27.7	27.7
	Nominal	27.2	27.2
Mode / Band		Modulated Average Output Power (in dBm)	
		DSI = 1 (Head, Body-worn, or Phablet Max); DSI = 5 (Hotspot); DSI = 8 (Phablet Reduced)	
NR FDD Band n71	Max allowed power	25.5	
	Nominal	25.0	
NR FDD Band n66	Max allowed power	23.4	
	Nominal	22.9	
NR FDD Band n25	Max allowed power	23.4	
	Nominal	22.9	
NR FDD Band n2	Max allowed power	23.4	
	Nominal	22.9	
NR TDD Band n41 (PC3)	Max allowed power	25.7	
	Nominal	25.2	
NR TDD Band n41 (PC2)	Max allowed power	27.7	
	Nominal	27.2	

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1.4.2 Maximum Bluetooth and SISO/MIMO WLAN Output Power

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

Mode / Band		Modulated Average - Single Tx Chain (dBm)		
		Ch. 1-2	Ch. 3-9	Ch 10-11
IEEE 802.11b (2.4 GHz)	Maximum	20.5		
	Nominal	19.5		
IEEE 802.11g (2.4 GHz)	Maximum	18.0	19.5	17.5
	Nominal	17.0	18.5	16.5
IEEE 802.11n (2.4 GHz)	Maximum	17.0	18.5	16.5
	Nominal	16.0	17.5	15.5
IEEE 802.11ac (2.4 GHz)	Maximum	17.0	18.5	16.5
	Nominal	16.0	17.5	15.5
IEEE 802.11ax SU (2.4 GHz)	Maximum	15.0	16.5	14.5
	Nominal	14.0	15.5	13.5
Bluetooth	Maximum	12.5		
	Nominal	11.5		
Bluetooth LE	Maximum	7.0		
	Nominal	6.0		
Mode / Band		Modulated Average - MIMO (dBm)		
		Ch. 1-2	Ch. 3-9	Ch 10-11
IEEE 802.11g (2.4 GHz)	Maximum	21.0	22.5	20.5
	Nominal	20.0	21.5	19.5
IEEE 802.11n (2.4 GHz)	Maximum	20.0	21.5	19.5
	Nominal	19.0	20.5	18.5
IEEE 802.11ac (2.4 GHz)	Maximum	20.0	21.5	19.5
	Nominal	19.0	20.5	18.5
IEEE 802.11ax SU (2.4 GHz)	Maximum	18.0	19.5	17.5
	Nominal	17.0	18.5	16.5

Mode / Band		Modulated Average - Single Tx Chain (dBm)													
		20 MHz Bandwidth								40 MHz Bandwidth				80 MHz Bandwidth	
		36	40	44-52	56	60-153	157	161	165	38	46-54	62-102	110-159	42-58	106-155
IEEE 802.11a (5 GHz)	Maximum	17.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0						
	Nominal	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0						
IEEE 802.11n (5 GHz)	Maximum	17.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0	11.5	16.0	11.5	16.0		
	Nominal	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	10.5	15.0	10.5	15.0		
IEEE 802.11ac (5 GHz)	Maximum	17.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0	11.5	16.0	11.5	16.0	11.0	13.0
	Nominal	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	10.5	15.0	10.5	15.0	10.0	12.0
IEEE 802.11ax SU (5 GHz)	Maximum	15.0								9.5	13.0	9.5	13.0	9.0	11.0
	Nominal	14.0								8.5	12.0	8.5	12.0	8.0	10.0
Mode / Band		Modulated Average - MIMO (dBm)													
		20 MHz Bandwidth								40 MHz Bandwidth				80 MHz Bandwidth	
		36	40	44-52	56	60-153	157	161	165	38	46-54	62-102	110-159	42-58	106-155
IEEE 802.11a (5 GHz)	Maximum	20.0	21.0	20.0	21.0	20.0	21.0	20.0	21.0						
	Nominal	19.0	20.0	19.0	20.0	19.0	20.0	19.0	20.0						
IEEE 802.11n (5 GHz)	Maximum	20.0	21.0	20.0	21.0	20.0	21.0	20.0	21.0	14.5	19.0	14.5	19.0		
	Nominal	19.0	20.0	19.0	20.0	19.0	20.0	19.0	20.0	13.5	18.0	13.5	18.0		
IEEE 802.11ac (5 GHz)	Maximum	20.0	21.0	20.0	21.0	20.0	21.0	20.0	21.0	14.5	19.0	14.5	19.0	14.0	16.0
	Nominal	19.0	20.0	19.0	20.0	19.0	20.0	19.0	20.0	13.5	18.0	13.5	18.0	13.0	15.0
IEEE 802.11ax SU (5 GHz)	Maximum	18.0								12.5	16.0	12.5	16.0	12.0	14.0
	Nominal	17.0								11.5	15.0	11.5	15.0	11.0	13.0

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1.4.3 Reduced SISO/MIMO WLAN Output Power

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

The below table is applicable in the following conditions:

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

Mode / Band		Modulated Average - Single Tx Chain (dBm)		
		Ch. 1-2	Ch. 3-9	Ch 10-11
IEEE 802.11b (2.4 GHz)	Maximum	15.5		
	Nominal	14.5		
IEEE 802.11g (2.4 GHz)	Maximum	15.5		
	Nominal	14.5		
IEEE 802.11n (2.4 GHz)	Maximum	15.5		
	Nominal	14.5		
IEEE 802.11ac (2.4 GHz)	Maximum	15.5		
	Nominal	14.5		
IEEE 802.11ax SU (2.4 GHz)	Maximum	15.0	15.5	14.5
	Nominal	14.0	14.5	13.5
Mode / Band		Modulated Average - MIMO (dBm)		
		Ch. 1-2	Ch. 3-9	Ch 10-11
IEEE 802.11g (2.4 GHz)	Maximum	18.5		
	Nominal	17.5		
IEEE 802.11n (2.4 GHz)	Maximum	18.5		
	Nominal	17.5		
IEEE 802.11ac (2.4 GHz)	Maximum	18.5		
	Nominal	17.5		
IEEE 802.11ax SU (2.4 GHz)	Maximum	18.0	18.5	17.5
	Nominal	17.0	17.5	16.5

The below table is applicable in simultaneous conditions with 2.4 GHz WLAN and 5 GHz WLAN

Mode / Band		Modulated Average - Single Tx Chain (dBm)													
		20 MHz Bandwidth							40 MHz Bandwidth				80 MHz Bandwidth		
		36	40	44-52	56	60-153	157	161	165	38	46-54	62-102	110-159	42-58	106-155
IEEE 802.11a (5 GHz)	Maximum	15.0													
	Nominal	14.0													
IEEE 802.11n (5 GHz)	Maximum	15.0							11.5	15.0	11.5	15.0			
	Nominal	14.0							10.5	14.0	10.5	14.0			
IEEE 802.11ac (5 GHz)	Maximum	15.0							11.5	15.0	11.5	15.0	11.0	13.0	
	Nominal	14.0							10.5	14.0	10.5	14.0	10.0	12.0	
IEEE 802.11ax SU (5 GHz)	Maximum	15.0							9.5	13.0	9.5	13.0	9.0	11.0	
	Nominal	14.0							8.5	12.0	8.5	12.0	8.0	10.0	
Mode / Band		Modulated Average - MIMO (dBm)													
		20 MHz Bandwidth							40 MHz Bandwidth				80 MHz Bandwidth		
		36	40	44-52	56	60-153	157	161	165	38	46-54	62-102	110-159	42-58	106-155
IEEE 802.11a (5 GHz)	Maximum	18.0													
	Nominal	17.0													
IEEE 802.11n (5 GHz)	Maximum	18.0							14.5	18.0	14.5	18.0			
	Nominal	17.0							13.5	17.0	13.5	17.0			
IEEE 802.11ac (5 GHz)	Maximum	18.0							14.5	18.0	14.5	18.0	14.0	16.0	
	Nominal	17.0							13.5	17.0	13.5	17.0	13.0	15.0	
IEEE 802.11ax SU (5 GHz)	Maximum	18.0							12.5	16.0	12.5	16.0	12.0	14.0	
	Nominal	17.0							11.5	15.0	11.5	15.0	11.0	13.0	

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1.5 DUT Antenna Locations

The overall dimensions of this device are > 9 x 5 cm. A diagram showing the location of the device antennas can be found in 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
EVDO BC10 (§90S)	Yes	Yes	No	Yes	Yes	No
EVDO BC0 (§22H)	Yes	Yes	No	Yes	Yes	No
PCS EVDO	Yes	Yes	No	Yes	No	Yes
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
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 26 (Cell)	Yes	Yes	No	Yes	Yes	No
LTE Band 66 (AWS)	Yes	Yes	No	Yes	No	Yes
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 48	Yes	Yes	No	No	Yes	No
LTE Band 41	Yes	Yes	No	Yes	No	Yes
NR Band n71	Yes	Yes	No	Yes	Yes	No
NR Band n66	Yes	Yes	No	Yes	Yes	No
NR Band n25	Yes	Yes	No	Yes	Yes	No
NR Band n41	Yes	Yes	No	Yes	Yes	No
2.4 GHz WLAN Ant 1	Yes	Yes	Yes	No	No	Yes
2.4 GHz WLAN Ant 2	Yes	Yes	Yes	No	No	Yes
2.4 GHz WLAN MIMO	Yes	Yes	Yes	No	No	Yes
5 GHz WLAN Ant 1	Yes	Yes	Yes	No	No	Yes
5 GHz WLAN Ant 2	Yes	Yes	Yes	No	No	Yes
5 GHz WLAN MIMO	Yes	Yes	Yes	No	No	Yes
Bluetooth	Yes	Yes	Yes	No	No	Yes

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

1.6 Near Field Communications (NFC) Antenna

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

1.7 Simultaneous Transmission Capabilities

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

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

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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 Bluetooth + 5 GHz Wi-Fi MIMO	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered
9	1x CDMA voice + 2.4 GHz Wi-Fi + 5 GHz Wi-Fi	Yes	Yes	N/A	Yes	
10	1x CDMA voice + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	Yes	Yes	N/A	Yes	
11	GSM voice + 2.4 GHz Wi-Fi	Yes	Yes	N/A	Yes	
12	GSM voice + 5 GHz Wi-Fi	Yes	Yes	N/A	Yes	
13	GSM voice + 2.4 GHz Bluetooth	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered
14	GSM voice + 2.4 GHz Wi-Fi MIMO	Yes	Yes	N/A	Yes	
15	GSM voice + 5 GHz Wi-Fi MIMO	Yes	Yes	N/A	Yes	
16	GSM voice + 2.4 GHz Wi-Fi Antenna 2 + 2.4 GHz Bluetooth	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered
17	GSM voice + 2.4 GHz Bluetooth + 5 GHz Wi-Fi	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered
18	GSM voice + 2.4 GHz Bluetooth + 5 GHz Wi-Fi MIMO	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered
19	GSM voice + 2.4 GHz Wi-Fi + 5 GHz Wi-Fi	Yes	Yes	N/A	Yes	
20	GSM voice + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	Yes	Yes	N/A	Yes	
21	UMTS + 2.4 GHz Wi-Fi	Yes	Yes	Yes	Yes	
22	UMTS + 5 GHz Wi-Fi	Yes	Yes	Yes	Yes	
23	UMTS + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
24	UMTS + 2.4 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
25	UMTS + 5 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
26	UMTS + 2.4 GHz Wi-Fi Antenna 2 + 2.4 GHz Bluetooth	Yes^	Yes	Yes	Yes	^ Bluetooth Tethering is considered
27	UMTS + 2.4 GHz Bluetooth + 5 GHz Wi-Fi	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
28	UMTS + 2.4 GHz Bluetooth + 5 GHz Wi-Fi MIMO	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
29	UMTS + 2.4 GHz Wi-Fi + 5 GHz Wi-Fi	Yes	Yes	Yes	Yes	
30	UMTS + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
31	LTE + 2.4 GHz Wi-Fi	Yes	Yes	Yes	Yes	
32	LTE + 5 GHz Wi-Fi	Yes	Yes	Yes	Yes	
33	LTE + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
34	LTE + 2.4 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
35	LTE + 5 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
36	LTE + 2.4 GHz Wi-Fi Antenna 2 + 2.4 GHz Bluetooth	Yes^	Yes	Yes	Yes	^ Bluetooth Tethering is considered
37	LTE + 2.4 GHz Bluetooth + 5 GHz Wi-Fi	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
38	LTE + 2.4 GHz Bluetooth + 5 GHz Wi-Fi MIMO	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
39	LTE + 2.4 GHz Wi-Fi + 5 GHz Wi-Fi	Yes	Yes	Yes	Yes	
40	LTE + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
41	LTE + 5G NR	Yes^	Yes	N/A	Yes	
42	LTE + 2.4 GHz Wi-Fi + 5G NR	Yes	Yes	Yes	Yes	
43	LTE + 5 GHz Wi-Fi + 5G NR	Yes	Yes	Yes	Yes	
44	LTE + 2.4 GHz Bluetooth + 5G NR	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
45	LTE + 2.4 GHz Wi-Fi MIMO + 5G NR	Yes	Yes	Yes	Yes	
46	LTE + 5 GHz Wi-Fi MIMO + 5G NR	Yes	Yes	Yes	Yes	
47	LTE + 2.4 GHz Wi-Fi Antenna 2 + 2.4 GHz Bluetooth + 5G NR	Yes^	Yes	Yes	Yes	^ Bluetooth Tethering is considered
48	LTE + 2.4 GHz Bluetooth + 5 GHz Wi-Fi + 5G NR	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
49	LTE + 2.4 GHz Bluetooth + 5 GHz Wi-Fi MIMO + 5G NR	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
50	LTE + 2.4 GHz Wi-Fi + 5 GHz Wi-Fi + 5G NR	Yes	Yes	Yes	Yes	
51	LTE + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO + 5G NR	Yes	Yes	Yes	Yes	
52	CDMA/EVDO data + 2.4 GHz Wi-Fi	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
53	CDMA/EVDO data + 5 GHz Wi-Fi	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
54	CDMA/EVDO data + 2.4 GHz Bluetooth	Yes^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered ^ Bluetooth Tethering is considered
55	CDMA/EVDO data + 2.4 GHz Wi-Fi MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
56	CDMA/EVDO data + 5 GHz Wi-Fi MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
57	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
58	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
60	CDMA/EVDO data + 2.4 GHz Wi-Fi + 5 GHz Wi-Fi	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
61	CDMA/EVDO data + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
62	GPRS/EDGE + 2.4 GHz Wi-Fi	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
63	GPRS/EDGE + 5 GHz Wi-Fi	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
64	GPRS/EDGE + 2.4 GHz Bluetooth	Yes^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered ^ Bluetooth Tethering is considered
65	GPRS/EDGE + 2.4 GHz Wi-Fi MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
66	GPRS/EDGE + 5 GHz Wi-Fi MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
67	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
68	GPRS/EDGE + 2.4 GHz Bluetooth + 5 GHz Wi-Fi	Yes^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered ^ Bluetooth Tethering is considered
69	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
70	GPRS/EDGE + 2.4 GHz Wi-Fi + 5 GHz Wi-Fi	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
71	GPRS/EDGE + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	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. All licensed modes share the same antenna path and cannot transmit simultaneously.
3. When the user utilizes multiple services in UMTS 3G mode it uses multi-Radio Access Bearer or multi-RAB. The power control is based on a physical control channel (Dedicated Physical Control Channel [DPCCH]) and power control will be adjusted to meet the needs of both services. Therefore, the UMTS+WLAN scenario also represents the UMTS Voice/DATA + WLAN Hotspot scenario.
4. Per the manufacturer, WIFI Direct is expected to be used in conjunction with a held-to-ear or body-worn accessory voice call. Therefore, there are no simultaneous transmission scenarios involving WIFI direct beyond that listed in the above table.
5. 5 GHz Wireless Router is only supported for the U-NII-1 and U-NII-3 by S/W, therefore U-NII-2A, and U-NII-2C were not evaluated for wireless router conditions.
6. This device supports 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/B41/B66/B25/B71.

1.8 Miscellaneous SAR Test Considerations

(A) WIFI/BT

Since U-NII-1 and U-NII-2A bands have the same maximum output power and the highest reported SAR for U-NII-2A is less than 1.2 W/kg, 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.

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

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.

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

This device supports both Power Class 2 (PC2) and Power Class 3 (PC3) for LTE Band 41. Per May 2017 TCB Workshop Notes, SAR tests were performed with Power Class 3 (given the specific UL/DL limitations for Power Class 2). Additionally, SAR testing for the power class 2 condition was evaluated for the highest configuration in Power Class 3 for each test configuration to confirm the results were scalable linearly (See Section 14.1).

This device supports LTE Carrier Aggregation (CA) for LTE Band 41 with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per 2017 Fall TCB Workshop Notes.

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, n66, n2, n25 and n41 is limited to EN-DC operations only, with LTE B2/B5/B7/B12/B13/B30/B41/B66/B25/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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1.9 Guidance Applied

- IEEE 1528-2013
- FCC KDB Publication 941225 D01v03r01, D05v02r04, D05Av01r02, D06v02r01 (2G/3G/4G and Hotspot)
- FCC KDB Publication 248227 D01v02r02 (SAR Considerations for 802.11 Devices)
- FCC KDB Publication 447498 D01v06 (General SAR Guidance)
- FCC KDB Publication 865664 D01v01r04, D02v01r02 (SAR Measurements up to 6 GHz)
- FCC KDB Publication 648474 D04v01r03 (Phablet Procedures)
- FCC KDB Publication 616217 D04v01r02 (Proximity Sensor)
- October 2013 TCB Workshop Notes (GPRS Testing Considerations)
- May 2017 TCB Workshop Notes (LTE Band 41 Power Class 2/3, LTE 4x4 Downlink MIMO)
- April 2018 TCB Workshop Notes (LTE Carrier Aggregation)
- April 2019 TCB Workshop Notes (IEEE 802.11ax)

1.10 Device Serial Numbers

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

1.11 Bibliography

Report Type	Report Serial Number
RF Exposure Part 0 Test Report	Rev.H
RF Exposure Part 2 Test Report	80-W5674-2 Rev. C

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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 26 (Cell) (814.7 - 848.3 MHz)				
	LTE Band 5 (Cell) (824.7 - 848.3 MHz)				
	LTE Band 66 (AWS) (1710.7 - 1779.3 MHz)				
	LTE Band 4 (AWS) (1710.7 - 1754.3 MHz)				
	LTE Band 25 (PCS) (1850.7 - 1914.3 MHz)				
	LTE Band 2 (PCS) (1850.7 - 1909.3 MHz)				
	LTE Band 30 (2307.5 - 2312.5 MHz)				
	LTE Band 7 (2502.5 - 2567.5 MHz)				
	LTE Band 48 (3552.5 - 3697.5 MHz)				
	LTE Band 41 (2498.5 - 2687.5 MHz)				
Channel Bandwidths	LTE Band 71: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 12: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 17: 5 MHz, 10 MHz				
	LTE Band 13: 5 MHz, 10 MHz				
	LTE Band 26 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz				
	LTE Band 5 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 66 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 4 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 25 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 2 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 30: 5 MHz, 10 MHz				
	LTE Band 7: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 48: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 41: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
Channel Numbers and Frequencies (MHz)	Low	Low-Mid	Mid	Mid-High	High
	LTE Band 71: 5 MHz	665.5 (133147)	680.5 (133297)	695.5 (133447)	
LTE Band 71: 10 MHz	668 (133172)	680.5 (133297)	693 (133422)		
LTE Band 71: 15 MHz	670.5 (133197)	680.5 (133297)	690.5 (133397)		
LTE Band 71: 20 MHz	673 (133222)	680.5 (133297)	688 (133372)		
LTE Band 12: 1.4 MHz	699.7 (23017)	707.5 (23095)	715.3 (23173)		
LTE Band 12: 3 MHz	700.5 (23025)	707.5 (23095)	714.5 (23165)		
LTE Band 12: 5 MHz	701.5 (23035)	707.5 (23095)	713.5 (23155)		
LTE Band 12: 10 MHz	704 (23060)	707.5 (23095)	711 (23130)		
LTE Band 17: 5 MHz	706.5 (23755)	710 (23790)	713.5 (23825)		
LTE Band 17: 10 MHz	709 (23780)	710 (23790)	711 (23800)		
LTE Band 13: 5 MHz	779.5 (23205)	782 (23230)	784.5 (23255)		
LTE Band 13: 10 MHz	N/A	782 (23230)	N/A		
LTE Band 26 (Cell): 1.4 MHz	814.7 (26697)	831.5 (26865)	848.3 (27033)		
LTE Band 26 (Cell): 3 MHz	815.5 (26705)	831.5 (26865)	847.5 (27025)		
LTE Band 26 (Cell): 5 MHz	816.5 (26715)	831.5 (26865)	846.5 (27015)		
LTE Band 26 (Cell): 10 MHz	819 (26740)	831.5 (26865)	844 (26990)		
LTE Band 26 (Cell): 15 MHz	821.5 (26765)	831.5 (26865)	841.5 (26965)		
LTE Band 5 (Cell): 1.4 MHz	824.7 (20407)	836.5 (20525)	848.3 (20643)		
LTE Band 5 (Cell): 3 MHz	825.5 (20415)	836.5 (20525)	847.5 (20635)		
LTE Band 5 (Cell): 5 MHz	826.5 (20425)	836.5 (20525)	846.5 (20625)		
LTE Band 5 (Cell): 10 MHz	829 (20450)	836.5 (20525)	844 (20600)		
LTE Band 66 (AWS): 1.4 MHz	1710.7 (131979)	1745 (132322)	1779.3 (132665)		
LTE Band 66 (AWS): 3 MHz	1711.5 (131987)	1745 (132322)	1778.5 (132657)		
LTE Band 66 (AWS): 5 MHz	1712.5 (131997)	1745 (132322)	1777.5 (132647)		
LTE Band 66 (AWS): 10 MHz	1715 (132022)	1745 (132322)	1775 (132622)		
LTE Band 66 (AWS): 15 MHz	1717.5 (132047)	1745 (132322)	1772.5 (132597)		
LTE Band 66 (AWS): 20 MHz	1720 (132072)	1745 (132322)	1770 (132572)		
LTE Band 4 (AWS): 1.4 MHz	1710.7 (19967)	1732.5 (20175)	1754.3 (20385)		
LTE Band 4 (AWS): 3 MHz	1711.5 (19965)	1732.5 (20175)	1753.5 (20385)		
LTE Band 4 (AWS): 5 MHz	1712.5 (19975)	1732.5 (20175)	1752.5 (20375)		
LTE Band 4 (AWS): 10 MHz	1715 (20000)	1732.5 (20175)	1750 (20350)		
LTE Band 4 (AWS): 15 MHz	1717.5 (20025)	1732.5 (20175)	1747.5 (20325)		
LTE Band 4 (AWS): 20 MHz	1720 (20050)	1732.5 (20175)	1745 (20300)		
LTE Band 25 (PCS): 1.4 MHz	1850.7 (26047)	1882.5 (26365)	1914.3 (26683)		
LTE Band 25 (PCS): 3 MHz	1851.5 (26055)	1882.5 (26365)	1913.5 (26675)		
LTE Band 25 (PCS): 5 MHz	1852.5 (26065)	1882.5 (26365)	1912.5 (26665)		
LTE Band 25 (PCS): 10 MHz	1855 (26090)	1882.5 (26365)	1910 (26640)		
LTE Band 25 (PCS): 15 MHz	1857.5 (26115)	1882.5 (26365)	1907.5 (26615)		
LTE Band 25 (PCS): 20 MHz	1860 (26140)	1882.5 (26365)	1905 (26590)		
LTE Band 2 (PCS): 1.4 MHz	1850.7 (18607)	1880 (18900)	1909.3 (19193)		
LTE Band 2 (PCS): 3 MHz	1851.5 (18615)	1880 (18900)	1908.5 (19185)		
LTE Band 2 (PCS): 5 MHz	1852.5 (18625)	1880 (18900)	1907.5 (19175)		
LTE Band 2 (PCS): 10 MHz	1855 (18650)	1880 (18900)	1905 (19150)		
LTE Band 2 (PCS): 15 MHz	1857.5 (18675)	1880 (18900)	1902.5 (19125)		
LTE Band 2 (PCS): 20 MHz	1860 (18700)	1880 (18900)	1900 (19100)		
LTE Band 30: 5 MHz	2307.5 (27685)	2310 (27710)	2312.5 (27735)		
LTE Band 30: 10 MHz	N/A	2310 (27710)	N/A		
LTE Band 7: 5 MHz	2502.5 (20775)	2535 (21100)	2567.5 (21425)		
LTE Band 7: 10 MHz	2506 (20800)	2535 (21100)	2565 (21400)		
LTE Band 7: 15 MHz	2507.5 (20825)	2535 (21100)	2562.5 (21375)		
LTE Band 7: 20 MHz	2510 (20850)	2535 (21100)	2560 (21350)		
LTE Band 48: 5 MHz	3552.5 (55265)	3600.8 (55748)	N/A	3649.2 (56232)	3697.5 (56715)
LTE Band 48: 10 MHz	3555 (55290)	3601.7 (55757)	N/A	3648.3 (56223)	3695 (56690)
LTE Band 48: 15 MHz	3557.5 (55315)	3602.5 (55765)	N/A	3647.5 (56215)	3692.5 (56665)
LTE Band 48: 20 MHz	3560 (55340)	3603.3 (55773)	N/A	3646.7 (56207)	3690 (56640)
LTE Band 41: 5 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 10 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 15 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 20 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
UE Category	DL UE Cat 20, UL UE Cat 18				
Modulations Supported in UL	QPSK, 16QAM, 64QAM, 256QAM				
LTE MPR Permanently implemented per 3GPP TS 36.101 section 6.2.3-6.2.5? (manufacturer attestation to be provided)	YES				
A-MPR (Additional MPR) disabled for SAR Testing?	YES				
LTE Carrier Aggregation Possible Combinations	The technical description includes all the possible carrier aggregation combinations				
LTE Additional Information	This device does not support full CA features on 3GPP Release 15. It supports carrier aggregation, downlink MIMO, LAA features as shown in Section 9 and Appendix F. All 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 eICIC, MDM, 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 n66 (AWS) (1712.5 - 1777.5 MHz)				
	NR Band n25 (PCS) (1852.5 - 1912.5 MHz)				
	NR Band n2 (PCS) (1852.5 - 1907.5 MHz)				
	NR Band n41 (2506.02 - 2679.99 MHz)				
Channel Bandwidths	NR Band n71: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	NR Band n66 (AWS): 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	NR Band n25 (PCS): 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	NR Band n2 (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)		N/A	690.5 (138100)	
NR Band n71: 20 MHz	673 (134600)		680.5 (136100)	688 (137600)	
NR Band n66 (AWS): 5 MHz	1712.5 (342500)	1734.1 (346820)	N/A	1755.8 (351160)	1777.5 (355500)
NR Band n66 (AWS): 10 MHz	1715 (343000)	1735 (347000)	N/A	1755 (351000)	1775 (355000)
NR Band n66 (AWS): 15 MHz	1717.5 (343500)	1735.8 (347160)	N/A	1754.1 (350820)	1772.5 (354500)
NR Band n66 (AWS): 20 MHz	1720 (344000)		1745 (349000)	1770 (354000)	
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 (375100)		1882.5 (376500)	1907.5 (381500)	
NR Band n25 (PCS): 20 MHz	1860 (372000)		1882.5 (376500)	1905 (381000)	
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 (375100)		1880 (376000)	1902.5 (380500)	
NR Band n2 (PCS): 20 MHz	1860 (372000)		1880 (376000)	1900 (380000)	
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	N/A		2592.99 (518598)	N/A	
NR Band n71/n66/n25/n2 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 66/2/7				
LTE Anchor Bands for NR Band n66	LTE Band 71/12/13/5/2/30/7				
LTE Anchor Bands for NR Band n25	LTE Band 12/66				
LTE Anchor Bands for NR Band n2	LTE Band 12				
LTE Anchor Bands for NR Band n41	LTE Band 66/2/25/41				

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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.

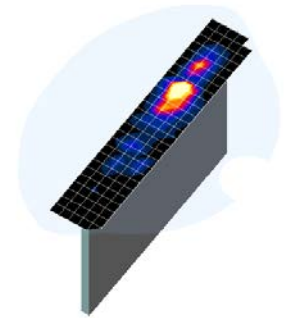


Figure 4-1
Sample SAR Area Scan

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

Frequency	Maximum Area Scan Resolution (mm) ($\Delta x_{\text{area}}, \Delta y_{\text{area}}$)	Maximum Zoom Scan Resolution (mm) ($\Delta x_{\text{zoom}}, \Delta y_{\text{zoom}}$)	Maximum Zoom Scan Spatial Resolution (mm)			Minimum Zoom Scan Volume (mm) (x,y,z)
			Uniform Grid	Graded Grid		
				$\Delta z_{\text{zoom}}(n)$	$\Delta z_{\text{zoom}}(1)^*$	
≤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

DEFINITION OF REFERENCE POINTS

5.1 EAR REFERENCE POINT

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

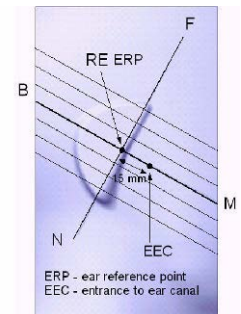


Figure 5-1
Close-Up Side view
of ERP

5.2 HANDSET REFERENCE POINTS

Two imaginary lines on the handset were established: the vertical centerline and the horizontal line. The test device was placed in a normal operating position with the acoustic output located along the “vertical centerline” on the front of the device aligned to the “ear reference point” (See Figure 5-3). The acoustic output was 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

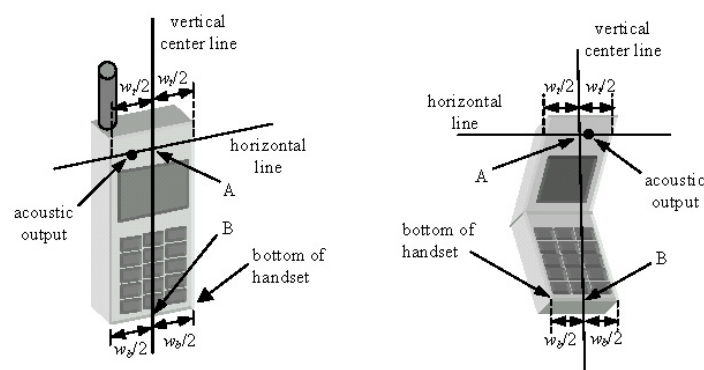


Figure 5-3
Handset Vertical Center & Horizontal Line Reference Points

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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.

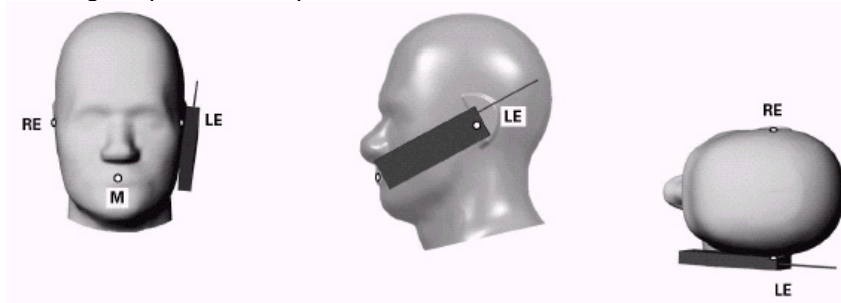


Figure 6-1 Front, Side and Top View of Cheek Position

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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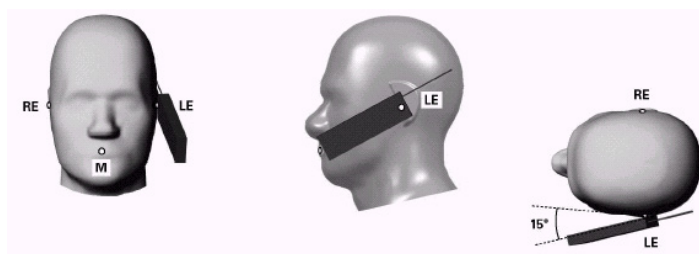


Figure 6-2 Front, Side and Top View of Ear/15° Tilt Position

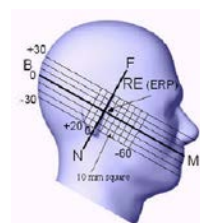


Figure 6-3 Side view w/ relevant markings

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.

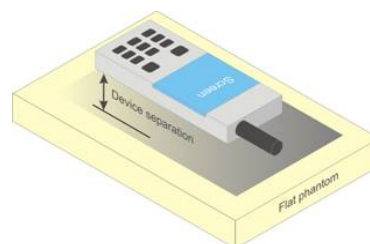


Figure 6-4 Sample Body-Worn Diagram

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
$\bar{I}_{or}$	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
$\bar{I}_{or}$	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

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measurements are required for downlink only carrier aggregation configurations when the average output power with downlink only carrier aggregation active is not more than 0.25 dB higher than the average output power with downlink only carrier aggregation inactive.

8.7 SAR Testing with 802.11 Transmitters

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

8.7.1 General Device Setup

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

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

8.7.2 U-NII-1 and U-NII-2A

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

8.7.3 U-NII-2C and U-NII-3

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

8.7.4 Initial Test Position Procedure

For exposure conditions with multiple test positions, such as handset operating next to the ear, devices with hotspot mode or UMPC mini-tablet, procedures for initial test position can be applied. Using the transmission mode determined by the DSSS procedure or initial test configuration, area scans are measured for all positions in an exposure condition. The test position with the highest extrapolated (peak) SAR is used as the initial test position. When reported SAR for the initial test position is ≤ 0.4 W/kg, no additional testing for the remaining test positions is required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is ≤ 0.8 W/kg or all test positions are measured. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

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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 Subsequent Test Configuration Procedures

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 CDMA Conducted Powers

Table 9-1
Measured P_{max}

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	564	90S	820.1	25.37	25.35	25.39	25.35	25.33	25.34	25.36
Cellular	1013	22H	824.7	25.26	25.25	25.31	25.25	25.26	25.24	25.27
	384	22H	836.52	25.34	25.29	25.35	25.30	25.31	25.32	25.31
	777	22H	848.31	25.29	25.25	25.30	25.27	25.26	25.26	25.28
PCS	25	24E	1851.25	24.96	24.97	24.97	24.97	24.96	24.90	24.87
	600	24E	1880	24.95	24.93	24.93	24.95	24.90	24.86	24.82
	1175	24E	1908.75	24.96	24.95	24.94	24.94	24.95	24.85	24.87

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

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	22.27	22.32	22.31	22.32	22.34	22.36	22.32
	600	24E	1880	22.22	22.26	22.33	22.24	22.26	22.25	22.23
	1175	24E	1908.75	22.36	22.39	22.46	22.40	22.38	22.41	22.28

Note: RC1 is only applicable for IS-95 compatibility. For FCC Rule Part 90S, Per FCC KDB Publication 447498 D01v06 4.1.g), only one channel is required since the device operates within the transmission range of 817.90 – 823.10 MHz.



Figure 9-1
Power Measurement Setup

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9.2 GSM Conducted Powers

Table 9-3
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	33.03	33.05	31.13	30.09	28.71	26.85	26.24	24.83	24.22
	190	32.99	33.01	30.85	29.45	28.68	26.84	26.30	24.97	24.40
	251	32.91	32.95	31.11	30.11	28.67	26.73	26.08	24.80	24.05
GSM 1900	512	29.77	29.68	28.85	26.96	25.08	25.82	25.11	24.25	23.23
	661	29.80	29.88	29.20	27.18	25.53	25.86	25.08	24.18	23.53
	810	29.71	29.72	29.10	27.00	25.36	25.80	25.20	24.22	23.16

Calculated Maximum Frame-Averaged Output Power										
		Voice	GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
Band	Channel	GSM [dBm] CS (1 Slot)	GPRS [dBm] 1 Tx Slot	GPRS [dBm] 2 Tx Slot	GPRS [dBm] 3 Tx Slot	GPRS [dBm] 4 Tx Slot	EDGE [dBm] 1 Tx Slot	EDGE [dBm] 2 Tx Slot	EDGE [dBm] 3 Tx Slot	EDGE [dBm] 4 Tx Slot
GSM 850	128	23.83	23.85	24.94	25.66	25.53	17.65	20.05	20.40	21.04
	190	23.79	23.81	24.66	25.02	25.50	17.64	20.11	20.54	21.22
	251	23.71	23.75	24.92	25.68	25.49	17.53	19.89	20.37	20.87
GSM 1900	512	20.57	20.48	22.66	22.53	21.90	16.62	18.92	19.82	20.05
	661	20.60	20.68	23.01	22.75	22.35	16.66	18.89	19.75	20.35
	810	20.51	20.52	22.91	22.57	22.18	16.60	19.01	19.79	19.98

GSM 850	Frame	23.70	23.70	24.51	25.27	25.52	17.50	20.01	20.77	21.02
GSM 1900	Avg. Targets:	20.50	20.50	22.51	22.27	22.02	16.50	19.01	19.77	20.02

Note:

- 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.
- 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.
- 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.

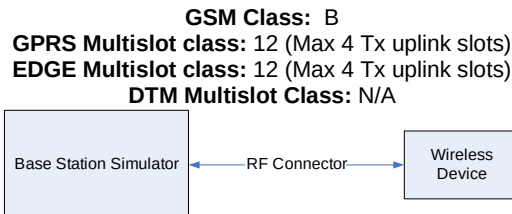


Figure 9-2
Power Measurement Setup

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9.3 UMTS Conducted Powers

Table 9-4
Measured P_{max}

3GPP Release Version	Mode	3GPP 34.121 Subtest	Cellular Band [dBm]			AWS Band [dBm]			PCS Band [dBm]			3GPP MPR [dB]
			4132	4183	4233	1312	1412	1513	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	25.35	25.33	25.39	25.03	25.06	25.08	25.01	24.97	24.98	-
99		12.2 kbps AMR	25.33	25.32	25.24	25.05	25.10	25.07	24.94	24.93	24.91	-
6	HSDPA	Subtest 1	25.19	25.30	25.12	24.28	24.49	24.54	24.66	24.75	24.80	0
6		Subtest 2	25.24	25.29	24.82	24.10	24.51	24.58	24.64	24.80	24.82	0
6		Subtest 3	24.74	24.77	24.62	23.80	23.96	24.06	24.17	24.28	24.29	0.5
6		Subtest 4	24.72	24.78	24.64	23.80	23.97	24.02	24.15	24.25	24.29	0.5
6	HSUPA	Subtest 1	24.36	24.29	24.18	23.89	23.73	23.79	23.87	23.77	23.82	0
6		Subtest 2	23.28	23.48	23.15	22.50	22.64	22.71	22.68	22.82	22.82	2
6		Subtest 3	24.26	24.29	24.16	23.51	23.65	23.72	23.70	23.81	23.85	1
6		Subtest 4	23.27	23.28	23.16	22.52	22.68	22.71	22.71	22.83	22.86	2
6		Subtest 5	25.26	25.28	25.09	24.54	24.67	24.70	24.67	24.79	24.84	0
8	DC-HSDPA	Subtest 1	25.30	25.29	25.20	24.57	25.06	24.97	24.81	24.85	24.78	0
8		Subtest 2	25.29	25.28	25.20	24.49	25.02	24.94	24.82	24.88	24.78	0
8		Subtest 3	24.80	24.79	24.70	24.05	24.55	24.48	24.31	24.32	24.29	0.5
8		Subtest 4	24.78	24.78	24.71	24.06	24.54	24.46	24.33	24.37	24.28	0.5

Table 9-5
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	22.44	22.42	22.43	22.40	22.42	22.45	-
99		12.2 kbps AMR	22.45	22.39	22.38	22.44	22.46	22.48	-
6	HSDPA	Subtest 1	21.50	21.44	21.43	21.53	21.53	21.51	0
6		Subtest 2	21.52	21.46	21.45	21.51	21.50	21.56	0
6		Subtest 3	20.97	20.96	20.93	20.99	21.02	21.03	0.5
6		Subtest 4	20.97	20.95	20.96	21.00	21.02	21.01	0.5
6	HSUPA	Subtest 1	21.47	21.42	21.40	21.43	21.43	21.45	0
6		Subtest 2	19.49	19.44	19.43	19.46	19.45	19.49	2
6		Subtest 3	20.49	20.43	20.43	20.40	20.46	20.49	1
6		Subtest 4	19.48	19.46	19.43	19.42	19.46	19.47	2
6		Subtest 5	21.46	21.42	21.43	21.44	21.43	21.46	0
8	DC-HSDPA	Subtest 1	21.45	21.45	21.44	21.44	21.46	21.44	0
8		Subtest 2	21.44	21.42	21.46	21.43	21.45	21.47	0
8		Subtest 3	20.97	20.95	20.94	20.92	20.97	20.98	0.5
8		Subtest 4	20.96	20.93	20.92	20.94	20.94	20.97	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 9-6
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	25.08	0	0
	1	50	25.33		0
	1	99	25.34		0
	50	0	24.39	0-1	1
	50	25	24.41		1
	50	50	24.36		1
	100	0	24.29		1
16QAM	1	0	24.43	0-1	1
	1	50	24.43		1
	1	99	24.45		1
	50	0	23.25	0-2	2
	50	25	23.17		2
	50	50	23.14		2
	100	0	23.11		2
64QAM	1	0	23.32	0-2	2
	1	50	23.20		2
	1	99	23.24		2
	50	0	22.06	0-3	3
	50	25	21.96		3
	50	50	21.87		3
	100	0	21.98		3
256QAM	1	0	19.97	0-5	5
	1	50	20.08		5
	1	99	19.96		5
	50	0	20.00		5
	50	25	20.09		5
	50	50	20.12		5
	100	0	20.12		5

Note: LTE Band 71 at 20 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

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Table 9-7
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	25.20	0	0
	1	36	25.16		0
	1	74	25.22		0
	36	0	24.26	0-1	1
	36	18	24.27		1
	36	37	24.30		1
	75	0	24.22		1
16QAM	1	0	24.50	0-1	1
	1	36	24.49		1
	1	74	24.47		1
	36	0	23.12	0-2	2
	36	18	23.13		2
	36	37	23.15		2
	75	0	23.07		2
64QAM	1	0	23.34	0-2	2
	1	36	23.48		2
	1	74	23.50		2
	36	0	22.24	0-3	3
	36	18	22.28		3
	36	37	22.00		3
	75	0	22.13		3
256QAM	1	0	20.36	0-5	5
	1	36	20.50		5
	1	74	20.47		5
	36	0	19.99		5
	36	18	20.12		5
	36	37	20.16		5
	75	0	20.02		5

Note: LTE Band 71 at 15 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

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Table 9-8
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	25.22	25.11	25.10	0	0
	1	25	25.01	25.13	25.09		0
	1	49	25.00	25.10	25.01		0
	25	0	24.16	24.11	24.06	0-1	1
	25	12	24.09	24.10	24.07		1
	25	25	24.03	24.14	24.06		1
	50	0	24.04	24.02	23.98		1
16QAM	1	0	24.34	24.38	24.47	0-1	1
	1	25	24.18	24.48	24.50		1
	1	49	24.09	24.43	24.35		1
	25	0	22.98	22.93	22.84	0-2	2
	25	12	22.92	22.94	22.86		2
	25	25	22.85	22.95	22.84		2
	50	0	22.84	22.82	22.78		2
64QAM	1	0	23.39	23.27	23.32	0-2	2
	1	25	22.92	23.34	23.36		2
	1	49	23.22	23.07	23.22		2
	25	0	21.60	22.05	22.07	0-3	3
	25	12	21.59	22.02	22.08		3
	25	25	21.52	22.05	22.07		3
	50	0	21.71	22.00	21.95		3
256QAM	1	0	20.22	20.14	20.14	0-5	5
	1	25	20.31	20.36	20.39		5
	1	49	20.16	20.10	20.04		5
	25	0	19.96	19.98	19.89		5
	25	12	19.99	20.00	19.86		5
	25	25	19.88	19.96	19.84		5
	50	0	19.86	19.82	19.69		5

Table 9-9
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	24.88	24.79	24.86	0	0
	1	12	25.04	24.96	24.92		0
	1	24	25.05	25.01	24.92		0
	12	0	24.05	24.09	23.97	0-1	1
	12	6	24.13	24.10	24.06		1
	12	13	24.16	24.13	24.01		1
	25	0	24.07	24.05	24.00		1
16QAM	1	0	24.01	23.97	23.97	0-1	1
	1	12	24.14	24.13	24.10		1
	1	24	24.16	24.11	23.99		1
	12	0	22.93	22.88	22.84	0-2	2
	12	6	23.00	22.94	22.90		2
	12	13	23.05	22.99	22.92		2
	25	0	22.94	22.85	22.78		2
64QAM	1	0	23.09	22.66	23.00	0-2	2
	1	12	23.21	22.84	23.14		2
	1	24	23.05	22.74	23.10		2
	12	0	22.02	21.83	22.01	0-3	3
	12	6	22.09	21.91	22.05		3
	12	13	22.08	21.95	22.08		3
	25	0	22.07	21.98	21.90		3
256QAM	1	0	19.98	19.78	20.21	0-5	5
	1	12	19.90	19.64	20.35		5
	1	24	20.00	19.90	20.29		5
	12	0	19.83	19.74	19.87		5
	12	6	19.92	19.82	19.92		5
	12	13	19.94	19.88	19.91		5
	25	0	19.85	19.81	19.74		5

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9.4.2

LTE Band 12

Table 9-10
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	25.06	0	0
	1	25	25.13		0
	1	49	25.16		0
	25	0	24.24	0-1	1
	25	12	24.28		1
	25	25	24.27		1
16QAM	50	0	24.25	0-1	1
	1	0	24.13		1
	1	25	24.05		1
	1	49	24.07	0-2	1
	25	0	23.38		2
	25	12	23.13		2
64QAM	25	25	23.12	0-2	2
	50	0	23.02		2
	1	0	23.29	0-3	2
	1	25	23.30		2
	1	49	23.35		2
	25	0	22.18	0-3	3
256QAM	25	12	22.29		3
	25	25	22.25		3
	50	0	22.16	0-5	3
	1	0	20.22		5
	1	25	20.47		5
	1	49	20.39	0-5	5
	25	0	19.98		5
	25	12	20.04		5
	25	25	20.06		5
	50	0	19.99		5

Note: LTE Band 12 at 10 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

Table 9-11
LTE Band 12 Measured P_{max} - 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	24.98	24.88	24.94	0	0
	1	12	24.99	24.97	24.91		0
	1	24	24.98	24.98	24.93		0
	12	0	24.15	24.20	24.15	0-1	1
	12	6	24.22	24.23	24.17		1
	12	13	24.19	24.22	24.17		1
	25	0	24.20	24.21	24.15		1
16QAM	1	0	24.20	24.16	24.14	0-1	1
	1	12	24.15	24.22	24.19		1
	1	24	24.17	24.17	24.20		1
	12	0	23.06	23.05	22.99	0-2	2
	12	6	23.09	23.06	23.00		2
	12	13	23.07	23.08	23.00		2
	25	0	23.04	22.99	22.92		2
64QAM	1	0	23.24	22.86	22.85	0-2	2
	1	12	23.25	22.91	22.85		2
	1	24	23.24	22.93	22.86		2
	12	0	22.16	21.99	21.97	0-3	3
	12	6	22.19	22.02	21.96		3
	12	13	22.17	22.04	21.99		3
	25	0	22.18	22.09	22.06		3
256QAM	1	0	19.99	19.90	19.88	0-5	5
	1	12	19.90	19.99	19.94		5
	1	24	19.95	19.92	19.88		5
	12	0	19.94	19.91	19.87		5
	12	6	20.01	19.95	19.86		5
	12	13	19.98	19.93	19.86		5
	25	0	19.96	19.94	19.85		5

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Table 9-12
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	25.05	25.04	25.03	0	0
	1	7	24.95	25.04	25.00		0
	1	14	24.95	25.05	24.95		0
	8	0	24.22	24.20	24.18	0-1	1
	8	4	24.21	24.24	24.18		1
	8	7	24.15	24.25	24.16		1
16QAM	15	0	24.21	24.19	24.20	0-1	1
	1	0	24.38	24.31	24.33		1
	1	7	24.20	24.28	24.23		1
	1	14	24.28	24.33	24.26	0-2	1
	8	0	23.15	23.14	23.17		2
	8	4	23.18	23.18	23.19		2
64QAM	8	7	23.13	23.17	23.11	0-2	2
	15	0	23.15	23.14	23.15		2
	1	0	23.31	23.29	23.30	0-2	2
	1	7	23.19	23.23	23.18		2
	1	14	23.19	23.26	23.21	0-3	2
	8	0	22.12	22.08	22.08		3
8	4	22.12	22.11	22.09	3		
256QAM	8	7	22.07	22.14	22.07	0-3	3
	15	0	22.18	22.18	22.19		3
	1	0	19.92	19.91	19.90		0-5
	1	7	19.82	19.87	19.82	5	
	1	14	19.87	19.94	19.82	5	
	8	0	20.06	20.03	20.05	5	
	8	4	20.08	20.06	20.06	5	
8	7	20.02	20.08	20.01	5		
15	0	19.95	19.94	19.94	5		

Table 9-13
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	24.91	25.01	24.99	0	0
	1	2	24.95	25.09	24.98		0
	1	5	24.90	25.05	24.94		0
	3	0	24.94	24.92	24.96		0
	3	2	24.94	24.98	24.99		0
	3	3	24.92	24.96	24.94		0
	6	0	24.12	24.12	24.09		0-1
16QAM	1	0	24.23	24.23	24.29	0-1	1
	1	2	24.29	24.34	24.33		1
	1	5	24.21	24.27	24.11		1
	3	0	24.10	24.09	24.05		1
	3	2	24.13	24.18	24.09		1
	3	3	24.12	24.15	24.05		1
	6	0	23.14	23.03	23.02		0-2
64QAM	1	0	23.13	23.28	22.75	0-2	2
	1	2	23.24	23.30	22.82		2
	1	5	23.16	23.26	22.75		2
	3	0	22.88	22.89	22.85		2
	3	2	22.90	22.98	22.85		2
	3	3	22.86	22.96	22.82		2
	6	0	22.01	21.87	22.10		0-3
256QAM	1	0	19.79	19.78	20.01	0-5	5
	1	2	19.83	19.89	20.05		5
	1	5	19.77	19.83	19.98		5
	3	0	19.86	19.78	19.69		5
	3	2	19.89	19.88	19.71		5
	3	3	19.85	19.83	19.68		5
	6	0	19.89	19.80	19.75		5

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LTE Band 13

Table 9-14
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	25.18	0	0
	1	25	25.09		0
	1	49	25.12		0
	25	0	24.45	0-1	1
	25	12	24.46		1
	25	25	24.49		1
16QAM	50	0	24.43	0-1	1
	1	0	24.37		1
	1	25	24.34		1
	1	49	24.43	0-2	1
	25	0	23.32		2
	25	12	23.30		2
64QAM	25	25	23.38	0-2	2
	50	0	23.19		2
	1	0	23.45	0-2	2
	1	25	23.30		2
	1	49	23.48		2
	25	0	22.41	0-3	3
256QAM	25	12	22.45		3
	25	25	22.46		3
	50	0	22.36	0-5	3
	1	0	20.42		5
	1	25	20.49		5
	1	49	20.47	0-5	5
	25	0	20.11		5
	25	12	20.18		5
	25	25	20.22		5
	50	0	20.16		5

Table 9-15
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	24.96	0	0
	1	12	24.95		0
	1	24	25.11		0
	12	0	24.33	0-1	1
	12	6	24.42		1
	12	13	24.45		1
16QAM	25	0	24.36	0-1	1
	1	0	24.39		1
	1	12	24.47		1
	1	24	24.50	0-2	1
	12	0	23.20		2
	12	6	23.24		2
64QAM	12	13	23.30	0-2	2
	25	0	23.14		2
	1	0	23.04	0-2	2
	1	12	23.10		2
	1	24	23.11		2
	12	0	22.17	0-3	3
256QAM	12	6	22.21		3
	12	13	22.24		3
	25	0	22.27	0-5	3
	1	0	20.04		5
	1	12	20.18		5
	1	24	20.18	0-5	5
	12	0	20.05		5
	12	6	20.10		5
	12	13	20.12		5
	25	0	20.09		5

Note: LTE Band 13 at 5 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

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9.4.4 LTE Band 26 (Cell)

Table 9-16
LTE Band 26 (Cell) Measured P_{max} - 15 MHz Bandwidth

LTE Band 26 (Cell) 15 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 26865 (831.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]		
QPSK	1	0	25.25	0	0
	1	36	25.28		0
	1	74	25.29		0
	36	0	24.26	0-1	1
	36	18	24.33		1
	36	37	24.36		1
16QAM	75	0	24.25	0-1	1
	1	0	24.03		1
	1	36	24.11		1
	1	74	24.19	0-2	1
	36	0	23.05		2
	36	18	23.12		2
64QAM	36	37	23.13	0-2	2
	75	0	23.09		2
	1	0	23.28	0-2	2
	1	36	23.38		2
	1	74	23.40		2
	36	0	22.20	0-3	3
256QAM	36	18	22.31		3
	36	37	22.32		3
	75	0	22.22	0-5	3
	1	0	20.21		5
	1	36	20.47		5
	1	74	20.44		5
	36	0	20.05		5
	36	18	20.11		5
	36	37	20.09		5
	75	0	20.00		5

Note: LTE Band 26 (Cell) at 15 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

Table 9-17
LTE Band 26 (Cell) Measured P_{max} - 10 MHz Bandwidth

LTE Band 26 (Cell) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26740 (819.0 MHz)	26865 (831.5 MHz)	26990 (844.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	25.05	25.08	24.96	0	0
	1	25	24.89	25.04	24.82		0
	1	49	24.89	25.07	24.77		0
	25	0	24.02	23.97	23.89	0-1	1
	25	12	24.08	24.01	23.98		1
	25	25	24.00	24.04	23.93		1
16QAM	50	0	24.01	23.96	23.92	0-1	1
	1	0	24.20	24.38	24.21		1
	1	25	24.20	24.34	24.15		1
	1	49	24.21	24.38	24.07	0-2	1
	25	0	22.90	22.81	22.81		2
	25	12	22.99	22.95	22.84		2
64QAM	25	25	22.88	22.93	22.83	0-2	2
	50	0	22.83	22.80	22.75		2
	1	0	22.88	22.80	22.97		0-2
	1	25	22.94	22.83	22.86	2	
	1	49	22.85	22.85	22.86	2	
	25	0	21.96	21.90	21.89	0-3	3
256QAM	25	12	22.08	22.02	21.84		3
	25	25	21.93	22.01	21.73		3
	50	0	21.96	21.93	21.79	3	
	1	0	19.55	20.01	19.41	0-5	5
	1	25	19.68	20.42	19.65		5
	1	49	19.50	20.14	19.35		5
25	0	19.83	19.69	19.72	5		
25	12	19.88	19.84	19.78	5		
25	25	19.81	19.85	19.74	5		
	50	0	19.72	19.74	19.64		5

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Table 9-18
LTE Band 26 (Cell) Measured P_{max} - 5 MHz Bandwidth

LTE Band 26 (Cell) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26715 (816.5 MHz)	26865 (831.5 MHz)	27015 (846.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	25.02	25.05	24.97	0	0
	1	12	25.09	25.08	24.98		0
	1	24	25.01	25.11	24.91		0
	12	0	24.11	24.06	24.07	0-1	1
	12	6	24.18	24.08	24.13		1
	12	13	24.08	24.14	24.09		1
16QAM	25	0	24.06	24.06	24.09	0-1	1
	1	0	23.93	23.93	24.23		1
	1	12	23.99	23.98	24.23		1
	1	24	23.88	24.03	24.14	0-2	1
	12	0	22.89	22.83	22.91		2
	12	6	22.93	22.93	22.98		2
64QAM	12	13	22.88	22.98	22.90	0-2	2
	25	0	22.91	22.88	22.94		2
	1	0	22.92	23.07	22.77		0-2
	1	12	22.90	23.10	22.79	2	
	1	24	23.02	23.13	22.89	0-3	
	12	0	21.96	22.04	21.91		3
12	6	21.96	22.10	21.94	3		
256QAM	12	13	22.07	22.08	22.06	0-3	3
	25	0	21.88	22.02	21.85		3
	1	0	19.68	19.53	19.95		0-5
	1	12	19.67	19.67	20.04	5	
	1	24	19.64	19.70	19.92	5	
	12	0	19.94	19.83	19.90	5	
12	6	20.00	19.89	19.94	5		
12	13	19.90	19.91	19.88	5		
	25	0	19.89	19.83	19.84		5

Table 9-19
LTE Band 26 (Cell) Measured P_{max} - 3 MHz Bandwidth

LTE Band 26 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26705 (815.5 MHz)	26865 (831.5 MHz)	27025 (847.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	25.00	25.10	25.05	0	0
	1	7	24.96	25.02	25.04		0
	1	14	24.97	25.00	25.03		0
	8	0	24.15	24.14	24.12	0-1	1
	8	4	24.18	24.15	24.15		1
	8	7	24.11	24.12	24.12		1
16QAM	15	0	24.13	24.10	24.14	0-1	1
	1	0	24.19	24.12	24.21		1
	1	7	24.17	24.29	24.18	0-1	1
	1	14	24.13	24.30	24.16		1
	8	0	23.08	23.16	23.11		0-2
	8	4	23.10	23.20	23.13	2	
64QAM	8	7	23.04	23.12	23.07	0-2	
	15	0	22.96	23.14	22.99		2
	1	0	22.57	22.75	22.62		0-2
	1	7	22.58	22.63	22.62	2	
	1	14	22.57	22.81	22.61	2	
	8	0	21.98	21.93	22.00	0-3	3
256QAM	8	4	22.00	21.90	21.97		3
	8	7	21.93	21.89	21.84		3
	15	0	21.99	21.80	21.94	3	
	1	0	19.70	19.72	19.71	0-5	5
	1	7	19.70	19.85	19.70		5
	1	14	19.66	19.69	19.66		5
8	0	19.83	19.93	19.86	5		
8	4	19.87	19.96	19.89	5		
8	7	19.81	19.90	19.82	5		
	15	0	19.98	19.86	19.96		5

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Table 9-20
LTE Band 26 (Cell) Measured P_{max} -1.4 MHz Bandwidth

LTE Band 26 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26697 (814.7 MHz)	26865 (831.5 MHz)	27033 (848.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.97	24.87	24.85	0	0
	1	2	25.04	25.00	24.95		0
	1	5	24.95	24.90	24.97		0
	3	0	25.07	24.93	24.80		0
	3	2	25.10	25.03	24.86		0
	3	3	25.03	24.97	24.83		0
	6	0	24.14	24.05	23.85	0-1	1
16QAM	1	0	24.27	24.25	24.00	0-1	1
	1	2	24.37	24.39	24.12		1
	1	5	24.30	24.33	24.00		1
	3	0	23.98	23.91	23.94		1
	3	2	24.04	24.04	23.99		1
	3	3	23.98	23.97	24.03		1
	6	0	23.03	22.95	22.91	0-2	2
64QAM	1	0	22.94	22.87	22.86	0-2	2
	1	2	23.03	22.97	22.98		2
	1	5	22.97	22.98	22.82		2
	3	0	22.88	22.77	22.62		2
	3	2	22.96	22.89	22.63		2
	3	3	22.88	22.83	22.57		2
	6	0	21.96	21.96	21.46	0-3	3
256QAM	1	0	19.79	19.61	19.64	0-5	5
	1	2	19.80	19.78	19.72		5
	1	5	19.70	19.72	19.61		5
	3	0	19.94	19.80	19.64		5
	3	2	19.95	19.86	19.65		5
	3	3	19.91	19.82	19.61		5
	6	0	19.89	19.79	19.59		5

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9.4.5 LTE Band 66 (AWS)

Table 9-21
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	24.51	24.76	24.89	0	0
	1	50	24.56	24.90	24.85		0
	1	99	24.42	24.66	24.66		0
	50	0	23.76	23.96	23.82	0-1	1
	50	25	23.87	23.92	23.82		1
	50	50	23.74	23.98	23.79		1
16QAM	100	0	23.78	23.97	23.78		1
	1	0	23.61	23.69	23.99	0-1	1
	1	50	23.77	24.08	23.87		1
	1	99	23.51	23.67	23.93		1
	50	0	22.63	22.75	22.73	0-2	2
	50	25	22.74	22.74	22.80		2
50	50	22.62	22.75	22.70	2		
64QAM	100	0	22.66	22.68	22.70		2
	1	0	22.33	22.78	23.04	0-2	2
	1	50	22.97	23.00	23.07		2
	1	99	22.85	22.82	23.00		2
	50	0	22.02	22.06	22.06	0-3	3
	50	25	22.14	22.12	22.09		3
50	50	22.02	22.08	22.07	3		
256QAM	100	0	21.95	22.04	22.03		3
	1	0	19.86	19.93	19.80	0-5	5
	1	50	20.10	20.16	20.10		5
	1	99	19.93	19.99	19.88		5
	50	0	19.96	20.02	19.94		5
	50	25	20.06	20.07	20.01		5
50	50	19.96	20.02	20.03	5		
	100	0	20.03	19.98	19.93		5

Table 9-22
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	24.90	25.05	25.12	0	0
	1	36	24.96	25.14	25.05		0
	1	74	24.82	24.94	24.98		0
	36	0	23.83	23.91	23.92	0-1	1
	36	18	23.89	23.89	23.93		1
	36	37	23.83	23.89	23.90		1
	75	0	23.85	23.84	23.86		1
16QAM	1	0	23.70	23.75	23.94	0-1	1
	1	36	23.82	23.84	23.92		1
	1	74	23.67	23.70	23.84		1
	36	0	22.61	22.73	22.72	0-2	2
	36	18	22.72	22.74	22.73		2
	36	37	22.64	22.72	22.72		2
	75	0	22.69	22.66	22.69		2
64QAM	1	0	22.24	22.92	22.57	0-2	2
	1	36	22.48	23.08	22.56		2
	1	74	22.34	22.91	22.48		2
	36	0	21.85	21.87	21.95	0-3	3
	36	18	21.92	21.85	21.94		3
	36	37	21.85	21.86	21.94		3
	75	0	21.81	21.76	21.82		3
256QAM	1	0	19.78	19.90	19.79	0-5	5
	1	36	19.93	20.04	19.92		5
	1	74	19.77	19.86	19.73		5
	36	0	20.08	19.90	20.08		5
	36	18	20.05	19.92	20.08		5
	36	37	20.08	19.91	20.06		5
	75	0	20.01	19.87	20.00		5

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Table 9-23
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	24.50	24.60	24.67	0	0
	1	25	24.68	24.85	24.92		0
	1	49	24.50	24.65	24.62		0
	25	0	23.65	23.65	23.68	0-1	1
	25	12	23.70	23.70	23.72		1
	25	25	23.58	23.67	23.68		1
	50	0	23.63	23.63	23.67		1
16QAM	1	0	23.61	23.79	23.79	0-1	1
	1	25	23.80	23.81	24.07		1
	1	49	23.58	23.77	23.80		1
	25	0	22.53	22.51	22.55	0-2	2
	25	12	22.58	22.56	22.61		2
	25	25	22.48	22.52	22.57		2
	50	0	22.44	22.46	22.50		2
64QAM	1	0	22.20	22.39	22.21	0-2	2
	1	25	22.51	22.72	22.48		2
	1	49	22.29	22.41	22.24		2
	25	0	21.62	21.58	21.65	0-3	3
	25	12	21.67	21.68	21.71		3
	25	25	21.57	21.60	21.65		3
	50	0	21.57	21.57	21.58		3
256QAM	1	0	19.75	19.77	19.80	0-5	5
	1	25	19.93	20.01	20.02		5
	1	49	19.77	19.81	19.83		5
	25	0	20.04	19.99	19.97		5
	25	12	20.05	20.07	20.04		5
	25	25	20.07	20.02	19.98		5
	50	0	20.00	19.97	19.95		5

Table 9-24
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	24.78	24.75	24.86	0	0
	1	12	24.75	24.83	24.86		0
	1	24	24.66	24.78	24.75		0
	12	0	23.70	23.72	23.82	0-1	1
	12	6	23.70	23.71	23.84		1
	12	13	23.61	23.71	23.71		1
	25	0	23.70	23.71	23.77		1
16QAM	1	0	23.74	23.82	23.89	0-1	1
	1	12	23.74	23.82	23.82		1
	1	24	23.66	23.77	23.80		1
	12	0	22.54	22.57	22.64	0-2	2
	12	6	22.55	22.56	22.67		2
	12	13	22.46	22.50	22.57		2
	25	0	22.53	22.56	22.65		2
64QAM	1	0	22.40	22.48	22.58	0-2	2
	1	12	22.53	22.59	22.61		2
	1	24	22.45	22.54	22.50		2
	12	0	21.70	21.73	21.83	0-3	3
	12	6	21.71	21.75	21.83		3
	12	13	21.61	21.69	21.70		3
	25	0	21.58	21.65	21.69		3
256QAM	1	0	19.90	19.95	19.89	0-5	5
	1	12	19.93	19.99	19.89		5
	1	24	19.83	19.90	19.81		5
	12	0	20.07	20.03	20.08		5
	12	6	20.00	20.02	20.06		5
	12	13	20.12	20.00	20.08		5
	25	0	20.09	20.07	20.05		5

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Table 9-25
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	24.87	24.89	24.89	0	0
	1	7	24.83	24.83	24.81		0
	1	14	24.76	24.79	24.77		0
	8	0	23.70	23.70	23.80	0-1	1
	8	4	23.69	23.74	23.79		1
	8	7	23.65	23.72	23.72		1
	15	0	23.68	23.73	23.79		1
16QAM	1	0	23.78	23.81	24.07	0-1	1
	1	7	23.70	23.78	23.99		1
	1	14	23.67	23.76	23.93		1
	8	0	22.65	22.65	22.81	0-2	2
	8	4	22.64	22.70	22.79		2
	8	7	22.56	22.66	22.73		2
	15	0	22.53	22.52	22.78		2
64QAM	1	0	22.30	22.36	22.70	0-2	2
	1	7	22.28	22.34	22.60		2
	1	14	22.22	22.29	22.54		2
	8	0	21.65	21.69	21.72	0-3	3
	8	4	21.70	21.77	21.72		3
	8	7	21.62	21.69	21.64		3
	15	0	21.73	21.72	21.76		3
256QAM	1	0	19.94	19.97	19.94	0-5	5
	1	7	19.86	19.91	19.81		5
	1	14	19.83	19.88	19.85		5
	8	0	20.06	20.07	20.07		5
	8	4	20.08	20.02	20.01		5
	8	7	20.00	20.05	19.98		5
	15	0	20.05	20.04	20.00		5

Table 9-26
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	24.87	24.93	24.96	0	0
	1	2	24.91	24.97	24.95		0
	1	5	24.81	24.91	24.89		0
	3	0	24.81	24.86	24.86		0
	3	2	24.82	24.89	24.86		0
	3	3	24.75	24.81	24.81		0
	6	0	23.63	23.66	23.69		0-1
16QAM	1	0	23.82	23.93	23.94	0-1	1
	1	2	23.93	24.02	24.01		1
	1	5	23.79	23.86	23.88		1
	3	0	23.74	23.80	23.77		1
	3	2	23.80	23.82	23.82		1
	3	3	23.72	23.77	23.75		1
	6	0	22.69	22.74	22.72		0-2
64QAM	1	0	22.77	22.81	22.85	0-2	2
	1	2	22.84	22.89	22.90		2
	1	5	22.70	22.80	22.75		2
	3	0	22.53	22.57	22.57		2
	3	2	22.52	22.59	22.59		2
	3	3	22.48	22.53	22.51		2
	6	0	21.48	21.52	21.51		0-3
256QAM	1	0	19.98	20.07	19.98	0-5	5
	1	2	20.05	20.10	20.02		5
	1	5	19.92	19.96	19.91		5
	3	0	20.00	20.04	19.99		5
	3	2	20.00	20.04	19.99		5
	3	3	19.93	19.98	19.90		5
	6	0	19.89	19.94	19.88		5

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Table 9-27

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	22.13	22.12	22.45	0	0
	1	50	22.32	22.36	22.42		0
	1	99	22.13	22.16	22.36		0
	50	0	22.40	22.40	22.44	0-1	0
	50	25	22.53	22.53	22.54		0
	50	50	22.48	22.51	22.51		0
16QAM	100	0	22.43	22.41	22.44	0-1	0
	1	0	22.23	22.21	22.58		0
	1	50	22.51	22.59	22.57		0
	1	99	22.25	22.34	22.62	0-2	0
	50	0	22.41	22.44	22.48		0
	50	25	22.56	22.53	22.55		0
64QAM	50	50	22.45	22.51	22.54	0-2	0
	100	0	22.49	22.43	22.48		0
	1	0	22.06	22.35	22.69		0-2
	1	50	22.65	22.68	22.70	0	
	1	99	22.55	22.55	22.69	0-3	
	50	0	21.35	21.45	21.48		0.5
256QAM	50	25	21.61	21.51	21.55		0-3
	50	50	21.46	21.54	21.49	0.5	
	100	0	21.54	21.43	21.48	0.5	
	1	0	19.31	19.35	19.32	0-5	2.5
	1	50	19.60	19.61	19.63		2.5
	1	99	19.42	19.43	19.41		2.5
50	0	19.41	19.48	19.46	2.5		
50	25	19.55	19.54	19.55	2.5		
50	50	19.47	19.55	19.51	2.5		
	100	0	19.50	19.43	19.55	2.5	

Table 9-28

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	22.33	22.40	22.51	0	0
	1	36	22.47	22.50	22.52		0
	1	74	22.34	22.47	22.44		0
	36	0	22.54	22.63	22.59	0-1	0
	36	18	22.64	22.57	22.70		0
	36	37	22.57	22.58	22.61		0
	75	0	22.59	22.55	22.58		0
16QAM	1	0	22.69	22.66	22.68	0-1	0
	1	36	22.70	22.70	22.69		0
	1	74	22.69	22.63	22.64		0
	36	0	22.54	22.56	22.60	0-2	0
	36	18	22.66	22.58	22.69		0
	36	37	22.67	22.69	22.68		0
	75	0	22.63	22.59	22.56		0
64QAM	1	0	22.42	22.65	22.60	0-2	0
	1	36	22.65	22.62	22.62		0
	1	74	22.63	22.69	22.70		0
	36	0	21.60	21.63	21.64	0-3	0.5
	36	18	21.65	21.64	21.72		0.5
	36	37	21.62	21.72	21.67		0.5
	75	0	21.63	21.59	21.61		0.5
256QAM	1	0	19.50	19.52	19.61	0-5	2.5
	1	36	19.70	19.77	19.79		2.5
	1	74	19.57	19.57	19.60		2.5
	36	0	19.57	19.63	19.57		2.5
	36	18	19.67	19.69	19.76		2.5
	36	37	19.61	19.67	19.63		2.5
	75	0	19.63	19.60	19.60		2.5

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Table 9-29
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	22.06	22.09	22.07	0	0	
	1	25	22.30	22.39	22.27		0	
	1	49	22.07	22.14	22.10		0	
	25	0	22.29	22.32	22.35	0-1	0	
	25	12	22.41	22.40	22.35		0	
	25	25	22.46	22.42	22.39		0	
16QAM	50	0	22.34	22.35	22.30	0-1	0	
	1	0	22.55	22.38	22.38		0	
	1	25	22.66	22.61	22.68		0	
	1	49	22.52	22.62	22.57	0-2	0	
	25	0	22.42	22.27	22.34		0	
	25	12	22.50	22.41	22.41		0	
64QAM	25	25	22.38	22.44	22.34	0-2	0	
	50	0	22.37	22.30	22.33		0	
	1	0	22.11	22.30	22.29		0-3	0
	1	25	22.61	22.53	22.53	0		
	1	49	22.37	22.50	22.37	0		
	25	0	21.36	21.37	21.34	0-3	0.5	
25	12	21.44	21.47	21.43	0.5			
25	25	21.38	21.41	21.39	0.5			
256QAM	50	0	21.38	21.34	21.40	0-3	0.5	
	1	0	19.24	19.24	19.22		0-5	2.5
	1	25	19.60	19.50	19.57			2.5
	1	49	19.37	19.27	19.36	2.5		
	25	0	19.40	19.38	19.36	2.5		
	25	12	19.46	19.43	19.45	2.5		
25	25	19.36	19.41	19.44	2.5			
	50	0	19.39	19.33	19.32		2.5	

Table 9-30
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	22.31	22.30	22.30	0	0
	1	12	22.37	22.44	22.29		0
	1	24	22.23	22.25	22.23		0
	12	0	22.48	22.44	22.44	0-1	0
	12	6	22.47	22.47	22.45		0
	12	13	22.39	22.39	22.36		0
	25	0	22.41	22.37	22.42		0
16QAM	1	0	22.68	22.67	22.68	0-1	0
	1	12	22.68	22.70	22.67		0
	1	24	22.64	22.63	22.60		0
	12	0	22.52	22.49	22.53	0-2	0
	12	6	22.53	22.50	22.51		0
	12	13	22.47	22.51	22.45		0
	25	0	22.42	22.43	22.45		0
64QAM	1	0	22.40	22.58	22.62	0-2	0
	1	12	22.51	22.63	22.64		0
	1	24	22.55	22.61	22.56		0
	12	0	21.48	21.47	21.54	0-3	0.5
	12	6	21.50	21.47	21.51		0.5
	12	13	21.44	21.52	21.44		0.5
	25	0	21.41	21.38	21.46		0.5
256QAM	1	0	19.53	19.50	19.53	0-5	2.5
	1	12	19.59	19.57	19.54		2.5
	1	24	19.54	19.49	19.48		2.5
	12	0	19.51	19.50	19.49		2.5
	12	6	19.50	19.42	19.50		2.5
	12	13	19.38	19.44	19.43		2.5
	25	0	19.43	19.40	19.47		2.5

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Table 9-31

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	22.38	22.35	22.38	0	0
	1	7	22.35	22.35	22.29		0
	1	14	22.27	22.33	22.25		0
	8	0	22.47	22.42	22.41	0-1	0
	8	4	22.48	22.49	22.40		0
	8	7	22.42	22.42	22.37		0
	15	0	22.46	22.39	22.38		0
16QAM	1	0	22.69	22.68	22.70	0-1	0
	1	7	22.62	22.67	22.67		0
	1	14	22.62	22.69	22.66		0
	8	0	22.58	22.51	22.57	0-2	0
	8	4	22.54	22.62	22.52		0
	8	7	22.56	22.55	22.48		0
	15	0	22.51	22.46	22.46		0
64QAM	1	0	22.52	22.58	22.68	0-2	0
	1	7	22.53	22.68	22.60		0
	1	14	22.58	22.65	22.55		0
	8	0	21.50	21.49	21.45	0-3	0.5
	8	4	21.54	21.56	21.50		0.5
	8	7	21.47	21.47	21.41		0.5
	15	0	21.49	21.43	21.48		0.5
256QAM	1	0	19.63	19.62	19.53	0-5	2.5
	1	7	19.62	19.51	19.50		2.5
	1	14	19.47	19.54	19.51		2.5
	8	0	19.55	19.45	19.51		2.5
	8	4	19.48	19.53	19.50		2.5
	8	7	19.43	19.47	19.44		2.5
	15	0	19.51	19.44	19.49		2.5

Table 9-32

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	22.28	22.28	22.23	0	0	
	1	2	22.34	22.36	22.29		0	
	1	5	22.28	22.23	22.23		0	
	3	0	22.29	22.28	22.26		0	
	3	2	22.30	22.33	22.27		0	
	3	3	22.26	22.32	22.22		0	
16QAM	6	0	22.39	22.37	22.30	0-1	0	
	1	0	22.63	22.66	22.69	0-1	0	
	1	2	22.64	22.65	22.68		0	
	1	5	22.61	22.65	22.54		0	
	3	0	22.58	22.55	22.48		0	
	3	2	22.57	22.56	22.56		0	
64QAM	3	3	22.46	22.50	22.44		0-2	0
	6	0	22.43	22.43	22.40	0		
	1	0	22.53	22.62	22.53	0-2		0
	1	2	22.60	22.62	22.60			0
	1	5	22.53	22.54	22.47			0
	3	0	22.46	22.50	22.50			0
256QAM	3	2	22.54	22.55	22.51		0-3	0
	3	3	22.34	22.46	22.46			0.5
	6	0	21.40	21.43	21.44	0-5		2.5
	1	0	19.51	19.46	19.42			2.5
	1	2	19.58	19.56	19.51			2.5
	1	5	19.42	19.46	19.43			2.5
3	0	19.53	19.54	19.49	2.5			
256QAM	3	2	19.55	19.50	19.53		2.5	2.5
	3	3	19.44	19.50	19.46	2.5		
	6	0	19.36	19.35	19.34	2.5		

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9.4.6 LTE Band 25 (PCS)

Table 9-33
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	24.88	24.92	24.90	0	0
	1	50	24.82	24.87	24.88		0
	1	99	24.87	24.90	24.79		0
	50	0	23.92	23.95	23.88	0-1	1
	50	25	23.99	24.04	23.97		1
	50	50	23.95	23.98	23.92		1
	100	0	23.92	23.83	23.89		1
16QAM	1	0	24.19	24.20	24.20	0-1	1
	1	50	24.18	24.17	24.19		1
	1	99	24.20	24.20	24.14		1
	50	0	23.01	22.95	22.85	0-2	2
	50	25	22.90	22.95	22.99		2
	50	50	22.98	22.98	22.90		2
	100	0	22.92	22.86	22.94		2
64QAM	1	0	23.15	23.17	23.12	0-2	2
	1	50	23.14	23.20	23.18		2
	1	99	23.15	23.18	23.12		2
	50	0	21.95	21.96	21.90	0-3	3
	50	25	22.03	21.97	21.98		3
	50	50	21.97	21.99	21.95		3
	100	0	21.92	21.89	21.94		3
256QAM	1	0	19.71	19.69	19.69	0-5	5
	1	50	20.12	20.07	20.07		5
	1	99	19.79	19.82	19.79		5
	50	0	19.81	19.84	19.77		5
	50	25	20.01	19.95	19.99		5
	50	50	19.94	19.97	19.92		5
	100	0	19.96	19.88	19.91		5

Table 9-34
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	24.64	24.88	24.77	0	0
	1	36	24.85	24.88	24.74		0
	1	74	24.73	24.87	24.72		0
	36	0	23.96	23.95	23.93	0-1	1
	36	18	24.12	24.04	24.03		1
	36	37	24.10	24.09	24.07		1
	75	0	24.05	23.97	23.95		1
16QAM	1	0	23.94	24.17	24.20	0-1	1
	1	36	24.18	24.19	24.18		1
	1	74	24.10	24.20	24.13		1
	36	0	22.79	22.75	22.74	0-2	2
	36	18	22.94	22.85	22.85		2
	36	37	22.94	22.94	22.89		2
	75	0	22.88	22.78	22.80		2
64QAM	1	0	22.93	23.18	23.14	0-2	2
	1	36	23.13	23.14	23.02		2
	1	74	23.15	23.15	23.03		2
	36	0	21.93	21.92	21.86	0-3	3
	36	18	22.06	22.01	21.96		3
	36	37	22.06	22.06	22.00		3
	75	0	21.97	21.89	21.91		3
256QAM	1	0	19.89	19.88	19.82	0-5	5
	1	36	20.19	20.18	20.13		5
	1	74	20.05	20.06	20.01		5
	36	0	19.72	19.70	19.68		5
	36	18	19.88	19.79	19.78		5
	36	37	19.85	19.83	19.82		5
	75	0	19.79	19.73	19.74		5

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Table 9-35
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	25.10	24.99	25.11	0	0
	1	25	25.08	25.19	25.14		0
	1	49	25.07	25.01	25.20		0
	25	0	24.15	23.99	23.94	0-1	1
	25	12	24.15	24.05	24.06		1
	25	25	24.19	24.09	24.08		1
	50	0	24.19	24.01	24.00		1
16QAM	1	0	23.89	24.15	24.10	0-1	1
	1	25	24.06	24.16	24.01		1
	1	49	23.87	24.07	24.05		1
	25	0	23.01	22.86	22.85	0-2	2
	25	12	23.09	22.95	22.96		2
	25	25	23.03	22.94	22.97		2
	50	0	22.98	22.80	22.82		2
64QAM	1	0	22.62	22.59	22.94	0-2	2
	1	25	22.82	22.86	23.02		2
	1	49	22.61	22.60	22.96		2
	25	0	22.16	21.93	21.95	0-3	3
	25	12	22.03	22.02	22.09		3
	25	25	22.20	22.02	22.06		3
	50	0	22.11	21.97	21.92		3
256QAM	1	0	19.54	20.09	19.43	0-5	5
	1	25	19.72	20.14	19.68		5
	1	49	19.50	20.15	19.53		5
	25	0	19.91	19.76	19.76		5
	25	12	20.02	19.83	19.87		5
	25	25	19.95	19.84	19.88		5
	50	0	19.91	19.76	19.72		5

Table 9-36
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	25.01	25.03	25.07	0	0
	1	12	25.04	25.10	25.09		0
	1	24	25.11	25.12	25.10		0
	12	0	23.97	23.92	23.92	0-1	1
	12	6	24.01	24.02	23.93		1
	12	13	24.00	24.05	23.95		1
	25	0	23.99	23.98	23.89		1
16QAM	1	0	24.05	24.01	24.02	0-1	1
	1	12	23.97	24.07	23.96		1
	1	24	24.03	24.14	24.04		1
	12	0	22.79	22.77	22.90	0-2	2
	12	6	22.84	22.84	22.93		2
	12	13	22.87	22.87	22.95		2
	25	0	22.85	22.80	22.73		2
64QAM	1	0	23.16	23.12	23.17	0-2	2
	1	12	23.12	23.06	23.15		2
	1	24	23.07	23.07	23.12		2
	12	0	21.97	21.96	21.77	0-3	3
	12	6	22.01	21.95	21.82		3
	12	13	21.98	22.00	21.83		3
	25	0	21.92	21.92	21.86		3
256QAM	1	0	19.77	19.72	20.17	0-5	5
	1	12	20.10	20.10	20.08		5
	1	24	19.79	19.79	19.82		5
	12	0	19.82	19.75	19.74		5
	12	6	20.04	20.04	20.02		5
	12	13	19.97	19.99	19.90		5
	25	0	19.95	19.92	19.93		5

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Table 9-37
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	25.10	25.00	25.00	0	0	
	1	7	25.06	25.06	25.03		0	
	1	14	25.19	25.09	25.01		0	
	8	0	23.98	23.86	23.91	0-1	1	
	8	4	24.04	23.98	23.96		1	
	8	7	24.02	23.92	23.93		1	
16QAM	15	0	24.04	23.88	23.94	0-1	1	
	1	0	24.02	24.15	24.15		1	
	1	7	24.02	24.08	24.16		1	
	1	14	24.05	24.12	24.13	0-2	1	
	8	0	22.93	22.90	22.94		2	
	8	4	22.97	22.99	22.96		2	
64QAM	8	7	22.98	22.95	22.98	0-2	2	
	15	0	22.87	22.83	22.96		2	
	1	0	23.07	23.04	23.11	0-2	2	
	1	7	23.10	23.07	23.19		2	
	1	14	23.15	23.17	23.13		2	
	8	0	21.96	21.83	21.83	0-3	3	
8	4	22.01	21.95	21.90	3			
8	7	22.00	21.92	21.88	3			
256QAM	15	0	22.04	21.77	21.93	0-3	3	
	1	0	19.64	20.16	19.56		0-5	5
	1	7	20.14	20.16	20.06			5
	1	14	19.60	20.00	19.65	5		
	8	0	19.77	19.64	19.69	5		
	8	4	20.04	19.78	20.06	5		
8	7	19.72	19.73	19.74	5			
256QAM	15	0	19.86	19.61	19.70		5	

Table 9-38
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	25.13	25.13	25.17	0	0	
	1	2	25.19	25.19	25.19		0	
	1	5	25.20	25.02	25.17		0	
	3	0	25.07	25.06	25.07		0	
	3	2	25.13	25.14	25.13		0	
	3	3	25.09	25.11	25.07		0	
16QAM	6	0	23.93	23.95	23.92	0-1	1	
	1	0	24.16	24.15	24.12	0-1	1	
	1	2	24.12	24.06	24.20		1	
	1	5	24.17	24.17	24.18		1	
	3	0	24.01	24.02	24.02		1	
	3	2	24.10	24.12	24.07		1	
	3	3	24.05	24.03	24.03	0-2	1	
	6	0	23.00	22.99	22.98		2	
	64QAM	1	0	23.10	23.04	23.03	0-2	2
		1	2	23.15	23.16	23.11		2
1		5	23.11	23.10	23.07	2		
3		0	22.79	22.81	22.79	2		
3		2	22.87	22.87	22.85	2		
3		3	22.82	22.82	22.81	2		
256QAM	6	0	21.77	21.78	21.76	0-3	3	
	1	0	19.73	19.71	19.70	0-5	5	
	1	2	19.82	19.82	19.79		5	
	1	5	19.73	19.72	19.73		5	
	3	0	19.73	19.76	19.76		5	
	3	2	19.77	19.77	19.78		5	
	3	3	19.74	19.71	19.72	5		
	6	0	19.72	19.67	19.66	5		

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Table 9-39

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	22.36	22.38	22.60	0	0
	1	50	22.34	22.38	22.51		0
	1	99	22.41	22.43	22.43		0
	50	0	22.38	22.44	22.55	0-1	0
	50	25	22.51	22.54	22.69		0
	50	50	22.46	22.49	22.64		0
	100	0	22.42	22.41	22.59		0
16QAM	1	0	22.56	22.54	22.68	0-1	0
	1	50	22.52	22.55	22.70		0
	1	99	22.63	22.51	22.66		0
	50	0	22.41	22.42	22.65	0-2	0
	50	25	22.47	22.52	22.68		0
	50	50	22.44	22.47	22.70		0
	100	0	22.38	22.39	22.63		0
64QAM	1	0	22.70	22.57	22.68	0-2	0
	1	50	22.69	22.69	22.70		0
	1	99	22.67	22.70	22.67		0
	50	0	21.69	21.55	21.76	0-3	0.5
	50	25	21.76	21.62	21.79		0.5
	50	50	21.79	21.66	21.81		0.5
	100	0	21.66	21.54	21.73		0.5
256QAM	1	0	19.42	19.27	19.49	0-5	2.5
	1	50	19.83	19.72	19.74		2.5
	1	99	19.64	19.47	19.64		2.5
	50	0	19.54	19.42	19.63		2.5
	50	25	19.81	19.66	19.82		2.5
	50	50	19.70	19.56	19.80		2.5
	100	0	19.70	19.55	19.74		2.5

Table 9-40

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	22.23	22.47	22.47	0	0
	1	36	22.42	22.50	22.45		0
	1	74	22.33	22.51	22.45		0
	36	0	22.39	22.45	22.48	0-1	0
	36	18	22.60	22.58	22.60		0
	36	37	22.57	22.63	22.62		0
16QAM	75	0	22.57	22.55	22.44	0-1	0
	1	0	22.64	22.67	22.63		0
	1	36	22.68	22.68	22.62		0
	1	74	22.67	22.70	22.70	0-2	0
	36	0	22.45	22.45	22.48		0
	36	18	22.60	22.57	22.66		0
	36	37	22.59	22.60	22.65	0-2	0
	75	0	22.57	22.59	22.56		0
64QAM	1	0	22.41	22.68	22.70	0-2	0
	1	36	22.63	22.69	22.69		0
	1	74	22.69	22.70	22.61		0
	36	0	21.60	21.61	21.65	0-3	0.5
	36	18	21.71	21.68	21.74		0.5
	36	37	21.71	21.77	21.79		0.5
	75	0	21.63	21.68	21.64		0.5
256QAM	1	0	19.51	19.52	19.52	0-5	2.5
	1	36	19.69	19.83	19.73		2.5
	1	74	19.64	19.72	19.79		2.5
	36	0	19.53	19.53	19.68		2.5
	36	18	19.70	19.70	19.68		2.5
	36	37	19.70	19.72	19.74		2.5
	75	0	19.63	19.69	19.61		2.5

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Table 9-41

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	22.02	22.03	22.24	0	0
	1	25	22.14	22.25	22.23		0
	1	49	21.99	22.01	22.21		0
	25	0	22.27	22.21	22.20	0-1	0
	25	12	22.39	22.34	22.34		0
	25	25	22.39	22.35	22.34		0
16QAM	50	0	22.33	22.38	22.27	0-1	0
	1	0	22.42	22.38	22.69		0
	1	25	22.68	22.69	22.67		0
	1	49	22.47	22.50	22.65	0-2	0
	25	0	22.32	22.19	22.30		0
	25	12	22.39	22.32	22.37		0
64QAM	25	25	22.29	22.32	22.35	0-2	0
	50	0	22.35	22.32	22.31		0
	1	0	22.32	22.25	22.62	0-2	0
	1	25	22.50	22.51	22.48		0
	1	49	22.27	22.26	22.57	0-3	0
	25	0	21.39	21.37	21.36		0.5
25	12	21.52	21.46	21.49	0.5		
256QAM	25	25	21.48	21.46	21.51	0-3	0.5
	50	0	21.43	21.44	21.43		0.5
	1	0	19.35	19.25	19.33		0-5
	1	25	19.66	19.63	19.50	2.5	
	1	49	19.40	19.42	19.33	2.5	
	25	0	19.42	19.36	19.31	2.5	
25	12	19.56	19.45	19.49	2.5		
256QAM	25	25	19.48	19.45	19.53	0-5	2.5
	50	0	19.47	19.46	19.42		2.5

Table 9-42

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	22.17	22.23	22.30	0	0
	1	12	22.28	22.29	22.32		0
	1	24	22.27	22.37	22.33		0
	12	0	22.33	22.34	22.37	0-1	0
	12	6	22.42	22.43	22.41		0
	12	13	22.39	22.40	22.38		0
16QAM	25	0	22.38	22.38	22.39	0-1	0
	1	0	22.57	22.61	22.69		0
	1	12	22.62	22.59	22.68		0
	1	24	22.59	22.68	22.61	0-2	0
	12	0	22.35	22.38	22.42		0
	12	6	22.47	22.45	22.50		0
	12	13	22.43	22.47	22.45	0-2	0
	25	0	22.40	22.37	22.37		0
64QAM	1	0	22.47	22.49	22.53	0-2	0
	1	12	22.51	22.58	22.57		0
	1	24	22.62	22.59	22.60		0
	12	0	21.45	21.45	21.57	0-3	0.5
	12	6	21.57	21.54	21.57		0.5
	12	13	21.50	21.59	21.56		0.5
	25	0	21.49	21.49	21.52		0.5
256QAM	1	0	19.55	19.47	19.56	0-5	2.5
	1	12	19.58	19.57	19.58		2.5
	1	24	19.60	19.62	19.60		2.5
	12	0	19.43	19.40	19.51		2.5
	12	6	19.51	19.48	19.55		2.5
	12	13	19.54	19.52	19.55		2.5
	25	0	19.52	19.51	19.50		2.5

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Table 9-43

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	22.25	22.19	22.22	0	0
	1	7	22.24	22.38	22.28		0
	1	14	22.31	22.31	22.26		0
	8	0	22.34	22.25	22.34	0-1	0
	8	4	22.41	22.41	22.43		0
	8	7	22.33	22.41	22.41		0
16QAM	15	0	22.33	22.39	22.40	0-1	0
	1	0	22.60	22.58	22.60		0
	1	7	22.59	22.61	22.65		0
	1	14	22.60	22.69	22.64	0-2	0
	8	0	22.50	22.42	22.45		0
	8	4	22.45	22.54	22.48		0
64QAM	8	7	22.47	22.44	22.46	0-2	0
	15	0	22.39	22.42	22.42		0
	1	0	22.45	22.52	22.56	0-2	0
	1	7	22.55	22.59	22.56		0
	1	14	22.57	22.63	22.62	0-3	0
	8	0	21.49	21.47	21.51		0.5
8	4	21.51	21.60	21.56	0.5		
256QAM	8	7	21.50	21.54	21.52	0-3	0.5
	15	0	21.50	21.53	21.54		0.5
	1	0	19.55	19.51	19.59		0-5
	1	7	19.58	19.56	19.60	2.5	
	1	14	19.58	19.62	19.63	2.5	
	8	0	19.45	19.40	19.49	2.5	
8	4	19.52	19.57	19.55	2.5		
8	7	19.51	19.53	19.57	2.5		
15	0	19.51	19.53	19.52	2.5		

Table 9-44

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	22.19	22.16	22.16	0	0	
	1	2	22.21	22.22	22.19		0	
	1	5	22.17	22.19	22.19		0	
	3	0	22.18	22.20	22.15		0	
	3	2	22.25	22.25	22.20		0	
	3	3	22.20	22.17	22.20		0	
16QAM	6	0	22.29	22.31	22.31	0-1	0	
	1	0	22.53	22.55	22.60		0	
	1	2	22.67	22.67	22.56		0	
	1	5	22.52	22.57	22.60		0	
	3	0	22.39	22.38	22.35		0	
	3	2	22.44	22.47	22.41		0	
64QAM	3	3	22.39	22.33	22.42	0-2	0	
	6	0	22.36	22.33	22.37		0	
	1	0	22.40	22.49	22.45		0	
	1	2	22.54	22.58	22.55		0	
	1	5	22.46	22.47	22.49		0	
	3	0	22.40	22.40	22.33		0	
256QAM	3	2	22.48	22.44	22.44	0-3	0	
	3	3	22.42	22.44	22.37		0	
	6	0	21.42	21.47	21.45		0.5	
	1	0	19.49	19.46	19.45		0-5	2.5
	1	2	19.56	19.54	19.52			2.5
	1	5	19.48	19.48	19.51			2.5
3	0	19.52	19.49	19.52	2.5			
3	2	19.55	19.56	19.54	2.5			
3	3	19.49	19.54	19.53	2.5			
256QAM	6	0	19.39	19.41	19.34	2.5	2.5	

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LTE Band 30

Table 9-45
LTE Band 30 Measured P_{max} - 10 MHz Bandwidth

LTE Band 30 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]		
QPSK	1	0	22.11	0	0
	1	25	22.23		0
	1	49	22.22		0
	25	0	21.30	0-1	1
	25	12	21.35		1
	25	25	21.24		1
16QAM	50	0	21.25	0-1	1
	1	0	21.39		1
	1	25	21.35		1
	1	49	21.34	0-2	1
	25	0	20.37		2
	25	12	20.43		2
64QAM	25	25	20.36	0-2	2
	50	0	20.31		2
	1	0	20.59	0-2	2
	1	25	20.62		2
	1	49	20.55	0-3	2
	25	0	19.42		3
256QAM	25	12	19.45	0-3	3
	25	25	19.35		3
	50	0	19.33		3
	1	0	17.10	0-5	5
	1	25	17.10		5
	1	49	16.86		5
	25	0	17.42		5
	25	12	17.48		5
	25	25	17.44		5
	50	0	17.33		5

Table 9-46
LTE Band 30 Measured P_{max} - 5 MHz Bandwidth

LTE Band 30 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]		
QPSK	1	0	22.12	0	0
	1	12	22.25		0
	1	24	22.13		0
	12	0	21.07	0-1	1
	12	6	21.13		1
	12	13	21.16		1
16QAM	25	0	21.18	0-1	1
	1	0	21.15		1
	1	12	21.19		1
	1	24	20.95	0-2	1
	12	0	19.95		2
	12	6	20.03		2
64QAM	12	13	19.97	0-2	2
	25	0	19.99		2
	1	0	19.86	0-2	2
	1	12	20.06		2
	1	24	19.94	0-3	2
	12	0	19.09		3
256QAM	12	6	19.13	0-3	3
	12	13	19.12		3
	25	0	19.01		3
	1	0	16.43	0-5	5
	1	12	16.54		5
	1	24	16.54		5
	12	0	16.88		5
	12	6	16.88		5
	12	13	16.78		5
	25	0	16.91		5

Note: LTE Band 30 at 5 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

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LTE Band 7

Table 9-47
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	23.34	23.36	23.22	0	0
	1	50	23.35	23.37	23.20		0
	1	99	23.38	23.39	23.21		0
	50	0	22.40	22.43	22.49	0-1	1
	50	25	22.44	22.42	22.47		1
	50	50	22.43	22.53	22.52		1
16QAM	100	0	22.41	22.36	22.43	0-1	1
	1	0	22.58	22.34	22.50		1
	1	50	22.47	22.35	22.64		1
	1	99	22.40	22.33	22.45	0-2	1
	50	0	21.35	21.45	21.52		2
	50	25	21.42	21.46	21.51		2
64QAM	50	50	21.43	21.51	21.53	0-2	2
	100	0	21.40	21.41	21.44		2
	1	0	21.62	21.25	21.31	0-2	2
	1	50	21.58	21.35	21.46		2
	1	99	21.62	21.69	21.64		2
	256QAM	50	0	20.42	20.53	20.54	0-3
50		25	20.46	20.54	20.53	3	
50		50	20.49	20.54	20.54	3	
100		0	20.46	20.43	20.40	3	
256QAM	1	0	18.16	18.35	18.46	0-5	5
	1	50	18.41	18.61	18.60		5
	1	99	18.40	18.47	18.24		5
	50	0	18.33	18.43	18.46		5
	50	25	18.49	18.42	18.50		5
	50	50	18.43	18.48	18.43		5
	100	0	18.43	18.44	18.43	5	

Table 9-48
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	23.24	23.23	23.30	0	0
	1	36	23.31	23.23	23.29		0
	1	74	23.23	23.13	23.28		0
	36	0	22.11	22.12	22.18	0-1	1
	36	18	22.15	22.13	22.12		1
	36	37	22.15	22.09	22.05		1
16QAM	75	0	22.12	22.01	22.10	0-1	1
	1	0	22.47	22.42	22.24		1
	1	36	22.45	22.46	22.25	0-2	1
	1	74	22.44	22.38	22.26		1
	36	0	20.95	20.90	20.88		2
	36	18	21.05	20.97	20.93	2	
64QAM	36	37	21.04	21.04	20.90	0-2	2
	75	0	20.96	20.87	20.91		2
	1	0	20.81	20.83	21.26		0-2
	1	36	20.87	20.95	21.33	2	
	1	74	20.78	20.86	21.24	2	
	36	0	20.10	20.10	20.03	0-3	3
36	18	20.11	20.03	20.10	3		
36	37	20.15	20.08	20.07	3		
256QAM	75	0	20.05	19.91	20.07	0-5	3
	1	0	18.20	18.12	18.18		5
	1	36	18.43	18.48	18.25		5
	1	74	18.36	18.18	18.10		5
	36	0	17.83	17.87	17.87		5
	36	18	17.91	17.80	17.88		5
	36	37	17.94	17.94	17.88		5
	75	0	17.82	17.86	17.80		5

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Table 9-49
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	23.24	23.02	23.18	0	0
	1	25	23.01	23.07	23.05		0
	1	49	23.25	23.13	23.13		0
	25	0	21.97	22.02	21.91	0-1	1
	25	12	22.00	21.97	21.92		1
	25	25	21.96	22.02	22.00		1
16QAM	50	0	21.95	21.84	21.88	0-1	1
	1	0	22.12	22.14	22.25		1
	1	25	22.09	22.25	22.22		1
	1	49	22.25	22.11	22.18	0-2	1
	25	0	20.87	20.79	20.80		2
	25	12	20.84	20.90	20.84		2
64QAM	25	25	20.90	20.89	20.86	0-2	2
	50	0	20.78	20.61	20.62		2
	1	0	20.72	20.75	20.65		0-2
	1	25	20.74	20.91	20.66	2	
	1	49	21.02	20.86	20.65	0-3	
	25	0	19.97	19.96	19.98		3
256QAM	25	12	19.95	19.96	19.97		0-3
	25	25	19.86	19.99	20.00	3	
	50	0	19.86	19.85	19.79	3	
	1	0	18.05	17.41	18.00	0-5	5
	1	25	18.26	17.60	18.27		5
	1	49	17.94	17.39	18.02		5
25	0	17.72	17.69	17.63	5		
25	12	17.85	17.70	17.73	5		
	25	25	17.65	17.73	17.58		5
	50	0	17.84	17.62	17.54		5

Table 9-50
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	23.19	23.03	23.09	0	0
	1	12	23.10	23.08	22.76		0
	1	24	23.13	23.05	22.81		0
	12	0	21.96	21.95	21.98	0-1	1
	12	6	22.04	22.00	22.00		1
	12	13	21.98	22.03	21.69		1
16QAM	25	0	21.88	22.00	21.98	0-1	1
	1	0	21.94	22.14	22.15		1
	1	12	21.82	22.05	22.04		1
	1	24	21.89	22.14	21.78	0-2	1
	12	0	20.71	20.71	20.80		2
	12	6	20.78	20.83	20.89		2
64QAM	12	13	20.77	20.80	20.82	0-2	2
	25	0	20.75	20.74	20.87		2
	1	0	20.97	21.00	20.63	0-2	2
	1	12	20.99	21.01	20.62		2
	1	24	21.02	21.05	20.48		2
	12	0	19.95	19.98	19.90	0-3	3
12	6	20.04	19.95	19.64	3		
12	13	19.92	20.01	19.75	3		
256QAM	25	0	19.86	19.84	19.81	0-5	3
	1	0	17.62	17.56	17.55		5
	1	12	17.61	17.63	17.61		5
	1	24	17.56	17.59	17.52		5
	12	0	17.75	17.77	17.71		5
	12	6	17.80	17.80	17.66		5
12	13	17.75	17.79	17.71	5		
25	0	17.77	17.66	17.71	5		

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Table 9-51
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	21.32	21.24	21.44	0	0
	1	50	21.21	21.22	21.35		0
	1	99	21.24	21.29	21.21		0
	50	0	21.35	21.32	21.47	0-1	0
	50	25	21.41	21.28	21.49		0
	50	50	21.38	21.37	21.50		0
	100	0	21.31	21.26	21.43		0
16QAM	1	0	21.55	21.45	21.52	0-1	0
	1	50	21.50	21.40	21.48		0
	1	99	21.43	21.47	21.49		0
	50	0	20.93	20.96	20.97	0-2	0
	50	25	21.04	20.91	21.13		0
	50	50	20.91	20.94	21.08		0
	100	0	20.95	20.87	21.02		0
64QAM	1	0	21.16	21.09	21.24	0-2	0
	1	50	21.13	21.08	21.27		0
	1	99	21.10	21.10	21.28		0
	50	0	20.01	19.94	20.06	0-3	1
	50	25	20.02	19.94	20.12		1
	50	50	19.98	19.99	20.09		1
	100	0	19.96	19.86	20.02		1
256QAM	1	0	17.75	17.89	18.00	0-5	3
	1	50	18.14	18.03	18.20		3
	1	99	17.81	17.84	17.78		3
	50	0	17.90	17.89	18.05		3
	50	25	18.07	17.95	18.17		3
	50	50	18.00	17.94	18.01		3
	100	0	17.98	17.88	18.09		3

Table 9-52
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	21.15	21.13	21.29	0	0
	1	36	21.04	21.06	21.25		0
	1	74	21.03	21.09	21.29		0
	36	0	21.18	21.18	21.42	0-1	0
	36	18	21.22	21.15	21.45		0
	36	37	21.21	21.21	21.48		0
	75	0	21.19	21.11	21.37		0
16QAM	1	0	21.53	21.48	21.11	0-1	0
	1	36	21.54	21.43	21.19		0
	1	74	21.50	21.48	21.20		0
	36	0	20.83	20.77	20.89	0-2	0
	36	18	20.83	20.74	20.92		0
	36	37	20.84	20.85	20.99		0
	75	0	20.82	20.71	20.92		0
64QAM	1	0	20.96	20.95	21.01	0-2	0
	1	36	20.98	20.95	21.15		0
	1	74	21.03	21.01	21.14		0
	36	0	19.84	19.78	19.94	0-3	1
	36	18	19.92	19.82	19.95		1
	36	37	19.84	19.88	20.03		1
	75	0	19.83	19.69	19.91		1
256QAM	1	0	17.76	17.66	17.97	0-5	3
	1	36	17.81	17.88	17.95		3
	1	74	17.80	17.83	17.99		3
	36	0	17.70	17.73	17.93		3
	36	18	17.88	17.80	17.96		3
	36	37	17.86	17.83	17.98		3
	75	0	17.74	17.75	17.93		3

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Table 9-53
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	21.34	21.36	21.14	0	0
	1	25	21.40	21.33	21.19		0
	1	49	21.30	21.41	21.15		0
	25	0	21.49	21.39	21.18	0-1	0
	25	12	21.49	21.45	21.25		0
	25	25	21.43	21.37	21.23		0
16QAM	50	0	21.40	21.27	21.10	0-1	0
	1	0	21.45	21.45	21.59		0
	1	25	21.38	21.50	21.64		0
	1	49	21.47	21.53	21.65	0-2	0
	25	0	21.15	21.17	21.26		0
	25	12	21.17	21.07	21.24		0
64QAM	25	25	21.13	21.10	21.26	0-2	0
	50	0	21.09	21.03	21.14		0
	1	0	21.06	20.98	21.09		0-2
	1	25	20.95	20.95	21.02	0	
	1	49	20.99	20.99	21.16	0-3	
	25	0	19.83	19.79	19.95		1
25	12	19.86	19.85	19.93	1		
256QAM	25	25	19.82	19.89	20.01	0-3	1
	50	0	19.83	19.78	19.89		1
	1	0	17.79	17.75	17.95		0-5
	1	25	17.92	17.99	18.23	3	
	1	49	17.59	17.76	17.73	3	
	25	0	17.77	17.68	17.86	3	
25	12	17.89	17.81	17.93	3		
25	25	17.79	17.83	17.92	3		
50	0	17.83	17.77	17.88	3		

Table 9-54
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	21.30	21.20	21.38	0	0
	1	12	21.24	21.34	21.41		0
	1	24	21.28	21.31	21.39		0
	12	0	21.38	21.28	21.47	0-1	0
	12	6	21.40	21.32	21.53		0
	12	13	21.35	21.37	21.48		0
	25	0	21.38	21.30	21.45		0
16QAM	1	0	21.48	21.48	21.66	0-1	0
	1	12	21.45	21.51	21.53		0
	1	24	21.47	21.50	21.60		0
	12	0	21.22	21.16	21.34	0-2	0
	12	6	21.18	21.23	21.40		0
	12	13	21.19	21.22	21.30		0
	25	0	21.13	21.11	21.27		0
64QAM	1	0	21.03	20.95	21.13	0-2	0
	1	12	21.00	21.02	21.21		0
	1	24	21.04	21.05	21.17		0
	12	0	19.84	19.89	20.01	0-3	1
	12	6	19.88	19.86	20.05		1
	12	13	19.90	19.90	20.07		1
	25	0	19.78	19.85	20.00		1
256QAM	1	0	17.92	17.90	18.06	0-5	3
	1	12	17.97	17.98	18.04		3
	1	24	17.89	17.94	18.01		3
	12	0	17.85	17.79	17.97		3
	12	6	17.89	17.84	18.05		3
	12	13	17.82	17.83	17.95		3
	25	0	17.84	17.82	17.98		3

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Table 9-55
LTE Band 48 Measured P_{max} - 20 MHz Bandwidth

LTE Band 48 20 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			55340 (3560.0 MHz)	55773 (3603.3 MHz)	56207 (3646.7 MHz)	56640 (3690.0 MHz)		
			Conducted Power [dBm]					
QPSK	1	0	23.47	23.34	23.52	23.47	0	0
	1	50	23.52	23.35	23.60	23.44		0
	1	99	23.60	23.43	23.61	23.41		0
	50	0	22.29	22.32	22.29	22.30	0-1	1
	50	25	22.38	22.38	22.48	22.32		1
	50	50	22.33	22.25	22.39	22.29		1
	100	0	22.32	22.28	22.39	22.26	1	
16QAM	1	0	22.43	22.16	22.59	22.60	0-1	1
	1	50	22.45	22.14	22.54	22.54		1
	1	99	22.50	22.22	22.57	22.49		1
	50	0	21.15	21.14	21.17	21.10	0-2	2
	50	25	21.25	21.20	21.33	21.16		2
	50	50	21.17	21.10	21.27	21.09		2
	100	0	21.10	21.13	21.17	21.03	2	
64QAM	1	0	20.87	21.39	20.95	21.60	0-2	2
	1	50	20.86	21.50	20.97	21.62		2
	1	99	20.94	21.56	21.03	21.59		2
	50	0	20.23	20.28	20.23	20.24	0-3	3
	50	25	20.32	20.33	20.42	20.27		3
	50	50	20.25	20.20	20.35	20.19		3
	100	0	20.25	20.26	20.31	20.17		3
256QAM	1	0	17.88	18.17	17.94	18.09	0-5	5
	1	50	18.29	18.43	18.38	18.33		5
	1	99	18.05	18.11	18.06	17.98		5
	50	0	18.02	18.06	18.06	18.00		5
	50	25	18.12	18.11	18.24	18.05		5
	50	50	18.06	18.01	18.13	17.97		5
	100	0	18.02	18.05	18.12	17.94		5

Table 9-56
LTE Band 48 Measured P_{max} - 15 MHz Bandwidth

LTE Band 48 15 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			55315 (3557.5 MHz)	55765 (3602.5 MHz)	56215 (3647.5 MHz)	56665 (3692.5 MHz)		
			Conducted Power [dBm]					
QPSK	1	0	23.61	23.42	23.61	23.67	0	0
	1	36	23.61	23.48	23.61	23.64		0
	1	74	23.61	23.54	23.62	23.59		0
	36	0	22.37	22.37	22.39	22.40	0-1	1
	36	18	22.54	22.38	22.55	22.51		1
	36	37	22.53	22.35	22.50	22.43		1
	75	0	22.47	22.33	22.46	22.42		1
16QAM	1	0	21.94	21.93	22.09	22.13	0-1	1
	1	36	21.96	21.96	22.06	22.10		1
	1	74	22.00	22.02	22.07	22.06		1
	36	0	21.17	21.13	21.24	21.14	0-2	2
	36	18	21.35	21.17	21.41	21.25		2
	36	37	21.29	21.10	21.38	21.18		2
	75	0	21.28	21.15	21.31	21.27		2
64QAM	1	0	21.23	20.94	21.30	21.12	0-2	2
	1	36	21.34	21.00	21.37	21.15		2
	1	74	21.31	21.09	21.39	21.12		2
	36	0	20.33	20.41	20.32	20.33	0-3	3
	36	18	20.48	20.34	20.49	20.41		3
	36	37	20.48	20.28	20.43	20.35		3
	75	0	20.41	20.24	20.44	20.33		3
256QAM	1	0	17.84	17.85	18.20	17.94	0-5	5
	1	36	18.01	17.96	18.44	18.09		5
	1	74	17.93	17.84	18.31	17.89		5
	36	0	18.09	18.13	18.09	18.13		5
	36	18	18.27	18.14	18.27	18.26		5
	36	37	18.25	18.10	18.23	18.17		5
	75	0	18.20	18.08	18.25	18.16		5

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Table 9-57
LTE Band 48 Measured P_{max} - 10 MHz Bandwidth

LTE Band 48 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]	
			55290 (3555.0 MHz)	55757 (3601.7 MHz)	56223 (3648.3 MHz)	56690 (3695.0 MHz)			
			Conducted Power [dBm]						
QPSK	1	0	23.33	23.38	23.46	23.24	0	0	
	1	25	23.34	23.51	23.49	23.27		0	
	1	49	23.38	23.54	23.52	23.32		0	
	25	0	22.07	22.36	22.13	21.91	0-1	1	
	25	12	22.19	22.36	22.28	22.06		1	
	25	25	22.14	22.34	22.28	22.05		1	
16QAM	50	0	22.12	22.33	22.17	21.97	0-1	1	
	1	0	21.99	21.75	22.11	22.12		1	
	1	25	21.97	21.89	22.12	22.08		1	
	1	49	22.03	21.92	22.15	22.06	0-2	1	
	25	0	20.84	21.20	20.93	20.70		2	
	25	12	20.97	21.22	21.05	20.86		2	
64QAM	25	25	20.92	21.22	21.07	20.93	0-2	2	
	50	0	20.97	21.20	21.04	20.81		2	
	1	0	20.82	20.96	20.87	21.20		0-2	2
	1	25	20.80	21.17	20.97	21.16	2		
	1	49	20.85	21.21	21.01	21.21	2		
	25	0	20.02	20.24	20.13	19.82	0-3	3	
25	12	20.18	20.30	20.24	20.01	3			
25	25	20.12	20.29	20.26	20.04	3			
256QAM	50	0	20.01	20.29	20.11	19.96	0-3	3	
	1	0	17.68	17.67	17.58	17.61		0-5	5
	1	25	17.81	17.94	17.98	17.84			5
	1	49	17.67	18.04	17.82	17.64	5		
	25	0	17.79	18.12	17.91	17.71	5		
	25	12	17.93	18.12	18.03	17.83	5		
25	25	17.88	18.09	18.04	17.91	5			
50	0	17.86	18.08	17.94	17.80		5		

Table 9-58
LTE Band 48 Measured P_{max} – 5 MHz Bandwidth

LTE Band 48 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]	
			55265 (3552.5 MHz)	55748 (3600.8 MHz)	56232 (3649.2 MHz)	56715 (3697.5 MHz)			
			Conducted Power [dBm]						
QPSK	1	0	23.19	23.15	23.03	23.19	0	0	
	1	12	23.31	23.30	23.22	23.34		0	
	1	24	23.25	23.26	23.17	23.27		0	
	12	0	22.07	22.11	21.93	22.11	0-1	1	
	12	6	22.18	22.19	22.05	22.16		1	
	12	13	22.12	22.20	22.05	22.16		1	
16QAM	25	0	22.10	22.16	21.95	22.15	0-1	1	
	1	0	21.98	21.79	22.10	22.12		1	
	1	12	22.06	21.96	22.19	22.09		1	
	1	24	22.00	21.93	22.08	22.06	0-2	1	
	12	0	20.96	20.86	20.93	20.94		2	
	12	6	20.90	20.96	20.88	20.94		2	
64QAM	12	13	20.85	20.91	20.88	20.91	0-2	2	
	25	0	20.95	20.98	20.78	21.01		2	
	1	0	20.37	21.19	20.50	21.10		0-2	2
	1	12	20.52	21.12	20.62	21.30	2		
	1	24	20.44	21.21	20.63	21.19	2		
	12	0	19.94	20.01	19.80	19.99	0-3	3	
12	6	20.01	20.08	19.94	20.05	3			
12	13	20.01	20.07	19.94	20.06	3			
256QAM	25	0	20.00	20.07	19.87	20.06	0-3	3	
	1	0	17.54	17.70	17.51	17.59		0-5	5
	1	12	17.89	17.93	17.92	17.84			5
	1	24	17.60	17.67	17.58	17.69	5		
	12	0	17.85	17.95	17.75	17.93	5		
	12	6	17.95	18.02	17.85	18.02	5		
12	13	17.92	18.00	17.85	17.98	5			
	25	0	17.84	17.94	17.73	17.89		5	

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LTE Band 41 Power Class 3

Table 9-59
LTE Band 41 PC3 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	24.99	24.94	24.61	24.51	24.45	0	0
	1	50	24.96	24.93	24.85	24.71	24.81		0
	1	99	24.89	24.90	24.57	24.74	24.74		0
	50	0	23.98	23.94	23.82	23.73	23.78	0-1	1
	50	25	24.07	23.97	23.97	23.80	24.02		1
	50	50	24.05	24.00	23.89	23.72	23.99		1
	100	0	23.98	23.94	23.91	23.77	23.93		1
16QAM	1	0	23.78	23.57	23.41	23.49	23.96	0-1	1
	1	50	23.78	23.55	23.72	23.70	23.85		1
	1	99	23.83	23.87	23.43	23.30	23.79		1
	50	0	22.88	22.86	22.70	22.61	22.69	0-2	2
	50	25	22.85	22.89	22.87	22.75	22.90		2
	50	50	22.91	22.93	22.78	22.60	22.90		2
	100	0	22.89	22.86	22.77	22.63	22.82		2
64QAM	1	0	22.85	22.83	22.48	22.43	22.20	0-2	2
	1	50	22.77	22.80	22.75	22.66	22.63		2
	1	99	22.83	22.75	22.46	22.29	22.54		2
	50	0	21.97	22.00	21.88	21.82	21.86	0-3	3
	50	25	22.05	22.01	21.98	21.92	22.01		3
	50	50	22.03	22.05	21.95	21.84	22.00		3
	100	0	21.97	21.98	21.90	21.78	21.96		3
256QAM	1	0	19.65	19.89	19.74	19.69	19.55	0-5	5
	1	50	19.98	20.15	19.92	19.92	19.95		5
	1	99	19.84	19.76	19.75	19.53	19.89		5
	50	0	19.92	19.88	19.83	19.73	19.81		5
	50	25	19.97	20.05	20.01	19.86	19.97		5
	50	50	20.02	19.93	19.94	19.72	20.02		5
	100	0	19.99	19.98	19.92	19.74	19.98		5

Table 9-60
LTE Band 41 PC3 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	24.98	24.79	24.67	24.56	24.64	0	0
	1	36	24.97	24.95	24.77	24.68	24.86		0
	1	74	25.00	24.72	24.72	24.46	24.79		0
	36	0	24.07	23.93	23.94	23.82	23.97	0-1	1
	36	18	24.12	24.19	24.01	23.88	24.13		1
	36	37	24.19	24.10	24.02	24.04	24.01		1
	75	0	24.09	24.11	23.99	23.80	24.03		1
16QAM	1	0	23.84	23.61	23.64	23.40	23.59	0-1	1
	1	36	23.83	23.75	23.67	23.50	23.84		1
	1	74	23.73	23.50	23.57	23.33	23.85		1
	36	0	22.83	22.82	22.71	22.62	22.66	0-2	2
	36	18	22.93	23.01	22.76	22.73	22.87		2
	36	37	22.99	22.93	22.78	22.71	22.85		2
	75	0	22.95	22.91	22.87	22.68	22.75		2
64QAM	1	0	22.72	22.66	22.52	22.58	22.36	0-2	2
	1	36	22.72	23.02	22.65	22.83	22.72		2
	1	74	22.80	22.79	22.52	22.57	22.77		2
	36	0	22.01	21.96	21.96	21.82	21.93	0-3	3
	36	18	22.10	22.08	21.92	21.77	22.06		3
	36	37	22.18	21.90	22.04	21.78	22.07		3
	75	0	22.04	22.00	21.97	21.78	21.95		3
256QAM	1	0	19.56	19.92	19.58	19.60	19.46	0-5	5
	1	36	19.80	20.08	19.63	19.85	19.80		5
	1	74	19.75	19.74	19.64	19.69	19.77		5
	36	0	19.76	19.79	19.77	19.47	19.67		5
	36	18	19.96	19.88	19.80	19.59	19.86		5
	36	37	19.99	19.82	19.86	19.62	19.94		5
	75	0	19.87	19.84	19.74	19.59	19.78		5

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Table 9-61
LTE Band 41 PC3 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	25.16	24.96	24.92	24.76	24.88	0	0	
	1	25	25.12	25.20	25.16	25.01	25.11		0	
	1	49	25.10	24.95	24.90	24.78	24.80		0	
	25	0	24.01	24.15	23.99	23.81	23.94	0-1	1	
	25	12	24.12	24.13	24.12	23.88	24.00		1	
	25	25	24.10	24.11	24.03	23.88	23.99		1	
16QAM	50	0	24.05	24.13	24.04	23.82	23.93	0-1	1	
	1	0	23.70	23.63	23.50	23.72	23.75		1	
	1	25	23.68	23.86	23.66	23.86	24.03		1	
	1	49	23.72	23.47	23.42	23.63	23.76	0-2	1	
	25	0	22.81	22.95	22.77	22.61	22.76		2	
	25	12	22.90	23.01	22.89	22.67	22.77		2	
64QAM	25	25	22.88	22.92	22.78	22.65	22.81	0-2	2	
	50	0	22.88	22.93	22.87	22.65	22.78		2	
	1	0	22.68	22.69	22.41	22.33	22.50		0-2	2
	1	25	22.74	23.01	22.67	22.61	22.70	2		
	1	49	22.77	22.75	22.51	22.37	22.49	2		
	25	0	21.97	21.99	21.92	21.81	21.78	0-3	3	
256QAM	25	12	22.08	22.08	22.05	21.86	21.85		3	
	25	25	22.05	21.96	21.92	21.83	21.85		3	
	50	0	21.91	21.98	21.88	21.70	21.82	0-3	3	
	1	0	19.97	19.51	19.34	19.39	19.71		0-5	5
	1	25	19.88	19.56	19.55	19.34	20.00			5
	1	49	19.83	19.37	19.37	19.27	19.77	5		
25	0	19.70	19.91	19.66	19.57	19.71	5			
25	12	19.88	19.99	19.77	19.67	19.77	5			
25	25	19.74	19.88	19.65	19.64	19.77	5			
	50	0	19.74	19.82	19.68	19.51	19.65		5	

Table 9-62
LTE Band 41 PC3 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	24.53	24.69	24.63	24.47	24.55	0	0	
	1	12	24.59	24.76	24.69	24.58	24.53		0	
	1	24	24.60	24.70	24.67	24.56	24.53		0	
	12	0	24.07	24.07	23.97	23.86	23.96	0-1	1	
	12	6	24.07	24.13	23.99	23.86	24.02		1	
	12	13	24.09	24.06	23.96	23.91	24.04		1	
16QAM	25	0	24.08	24.12	23.97	23.84	23.97	0-1	1	
	1	0	23.54	23.64	23.61	23.48	23.50		1	
	1	12	23.57	23.75	23.67	23.51	23.55		1	
	1	24	23.58	23.74	23.63	23.49	23.52	0-2	1	
	12	0	22.91	22.94	22.82	22.69	22.77		2	
	12	6	22.92	22.98	22.90	22.74	22.84		2	
64QAM	12	13	22.89	22.94	22.85	22.79	22.82	0-2	2	
	25	0	22.93	22.90	22.77	22.62	22.78		2	
	1	0	22.94	22.58	22.52	22.41	22.89		0-2	2
	1	12	23.07	22.65	22.56	22.46	23.06	2		
	1	24	23.02	22.65	22.51	22.42	22.97	2		
	12	0	22.07	22.04	21.89	21.80	21.97	0-3	3	
12	6	22.10	22.08	21.98	21.81	21.98	3			
12	13	22.09	22.00	21.92	21.85	22.03	3			
256QAM	25	0	21.92	21.97	21.90	21.77	21.86	0-3	3	
	1	0	19.86	19.92	19.85	19.75	19.84		0-5	5
	1	12	19.96	19.97	19.88	19.79	19.87			5
	1	24	19.93	19.94	19.83	19.77	19.82	5		
	12	0	19.79	19.83	19.65	19.58	19.67	5		
	12	6	19.83	19.86	19.71	19.56	19.71	5		
12	13	19.79	19.82	19.66	19.62	19.66	5			
25	0	19.82	19.81	19.69	19.59	19.68		5		

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LTE Band 41 Power Class 2

Table 9-63
LTE Band 41 PC2 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	27.35	27.28	27.00	26.87	26.85	0	0
	1	50	27.32	27.25	27.20	27.06	27.21		0
	1	99	27.38	27.25	26.85	26.68	27.12		0
	50	0	26.20	26.17	25.99	25.94	25.97	0-1	1
	50	25	26.29	26.28	26.15	25.96	26.12		1
	50	50	26.25	26.20	26.03	25.89	26.16		1
	100	0	26.18	26.14	26.05	25.92	26.04		1
16QAM	1	0	26.22	26.47	25.73	25.75	25.60	0-1	1
	1	50	26.13	26.39	25.97	25.87	25.98		1
	1	99	26.14	26.35	25.67	25.45	25.91		1
	50	0	25.04	24.97	24.80	24.81	24.75	0-2	2
	50	25	25.12	25.03	24.98	24.77	24.92		2
	50	50	25.06	25.01	24.87	24.75	25.00		2
	100	0	25.02	24.93	24.91	24.72	24.84		2
64QAM	1	0	25.40	25.48	25.00	24.79	24.83	0-2	2
	1	50	25.35	25.46	25.28	25.16	25.21		2
	1	99	25.39	25.45	24.92	24.75	25.14		2
	50	0	24.15	24.09	23.95	23.62	23.89	0-3	3
	50	25	24.21	24.18	24.12	23.75	24.04		3
	50	50	24.15	24.14	24.00	23.77	24.13		3
	100	0	24.17	24.04	24.00	23.87	24.00		3
256QAM	1	0	22.20	22.18	22.10	22.00	22.12	0-5	5
	1	50	22.22	22.13	22.00	22.07	22.18		5
	1	99	22.17	22.15	22.11	22.02	22.11		5
	50	0	22.13	22.22	21.97	22.11	22.01		5
	50	25	22.21	22.14	21.91	21.98	21.96		5
	50	50	22.15	22.15	22.01	21.95	21.92		5
	100	0	22.10	22.20	22.00	22.00	22.03		5

Table 9-64
LTE Band 41 PC2 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	27.29	27.16	27.12	27.05	27.02	0	0
	1	36	27.28	27.33	27.30	27.19	27.29		0
	1	74	27.32	27.11	27.07	26.96	27.26		0
	36	0	26.15	26.14	26.09	26.04	26.08	0-1	1
	36	18	26.22	26.28	26.16	26.08	26.16		1
	36	37	26.24	26.20	26.19	26.08	26.24		1
	75	0	26.18	26.17	26.15	26.00	26.13		1
16QAM	1	0	26.15	26.04	26.01	25.92	25.89	0-1	1
	1	36	26.15	26.21	26.12	26.07	26.18		1
	1	74	26.18	25.95	25.95	25.80	26.14		1
	36	0	24.92	24.90	24.86	24.81	24.84	0-2	2
	36	18	25.04	25.03	24.93	24.85	24.93		2
	36	37	25.00	24.95	24.96	24.84	25.01		2
	75	0	24.99	25.01	24.99	24.81	24.91		2
64QAM	1	0	24.82	24.80	24.78	24.67	24.69	0-2	2
	1	36	24.81	25.06	25.01	24.69	25.05		2
	1	74	24.86	24.81	24.89	24.82	25.00		2
	36	0	23.89	24.06	24.05	23.60	24.01	0-3	3
	36	18	23.87	24.20	24.06	23.61	24.11		3
	36	37	23.84	24.13	23.98	23.70	24.20		3
	75	0	23.81	24.08	23.96	23.54	24.01		3
256QAM	1	0	21.79	21.85	21.83	21.84	21.76	0-5	5
	1	36	22.06	22.09	22.06	21.99	22.09		5
	1	74	21.97	21.83	21.85	21.70	22.06		5
	36	0	21.82	21.86	21.84	21.78	21.81		5
	36	18	21.98	22.02	21.90	21.81	21.92		5
	36	37	21.96	21.93	21.94	21.81	21.99		5
	75	0	21.91	21.90	21.88	21.72	21.85		5

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Table 9-65
LTE Band 41 PC2 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	27.18	27.02	26.96	26.83	26.90	0	0
	1	25	27.21	27.28	27.18	27.11	27.16		0
	1	49	27.19	27.00	26.89	26.80	26.91		0
	25	0	26.02	26.17	26.00	25.87	25.96	0-1	1
	25	12	26.14	26.25	26.12	25.95	26.04		1
	25	25	26.10	26.13	26.02	25.93	26.00		1
	50	0	26.04	26.14	26.05	25.88	25.93	1	
16QAM	1	0	25.56	26.09	26.00	25.85	25.72	0-1	1
	1	25	25.59	25.70	26.23	26.13	26.00		1
	1	49	25.62	25.45	25.94	25.90	25.78		1
	25	0	24.88	24.98	24.85	24.73	24.77	0-2	2
	25	12	24.98	25.07	24.97	24.78	24.83		2
	25	25	24.96	24.95	24.86	24.77	24.82		2
	50	0	24.86	24.95	24.89	24.71	24.80	2	
64QAM	1	0	25.04	24.92	24.60	24.60	24.57	0-2	2
	1	25	25.16	25.14	24.85	24.51	24.86		2
	1	49	25.18	24.94	24.60	24.60	24.63		2
	25	0	23.93	24.04	23.87	23.63	23.93	0-3	3
	25	12	23.95	24.14	24.02	23.71	24.02		3
	25	25	23.91	24.03	23.88	23.70	23.95		3
	50	0	23.88	24.04	23.99	23.65	23.82	3	
256QAM	1	0	21.46	21.45	21.91	21.76	21.58	0-5	5
	1	25	21.65	21.66	22.18	22.07	21.94		5
	1	49	21.47	21.43	21.91	21.85	21.63		5
	25	0	21.70	21.91	21.70	21.57	21.70	0-5	5
	25	12	21.87	22.01	21.83	21.65	21.75		5
	25	25	21.77	21.92	21.73	21.62	21.75		5
	50	0	21.74	21.82	21.75	21.57	21.67		5

Table 9-66
LTE Band 41 PC2 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	27.11	27.23	27.15	27.03	27.10	0	0
	1	12	27.14	27.15	27.19	26.93	27.16		0
	1	24	27.13	27.29	27.12	27.07	27.09		0
	12	0	26.11	26.20	26.07	25.95	26.02	0-1	1
	12	6	26.12	26.24	26.17	25.96	26.04		1
	12	13	26.08	26.15	26.10	25.97	26.07		1
	25	0	26.09	26.22	26.13	25.95	26.00	0-1	1
1	0	25.95	26.25	26.00	26.02	25.91	1		
16QAM	1	12	26.02	26.33	26.08	26.10	25.97	0-1	1
	1	24	26.01	26.28	25.96	26.00	25.91		1
	12	0	24.98	25.10	24.92	24.86	24.88		2
	12	6	24.99	25.16	25.04	24.89	24.96	0-2	2
	12	13	24.97	25.12	24.99	24.93	24.92		2
	25	0	24.98	25.00	24.99	24.76	24.88		2
	64QAM	1	0	25.13	24.91	25.22	24.59	25.19	0-2
1		12	25.14	24.97	25.28	24.62	25.26	2	
1		24	25.19	24.92	25.23	24.68	25.21	2	
12		0	23.96	24.17	24.11	23.81	24.04	0-3	3
12		6	23.99	24.22	24.21	23.84	24.08		3
12		13	23.92	24.14	24.11	23.83	24.10		3
25		0	23.74	24.13	24.03	23.57	23.94	3	
256QAM	1	0	22.13	22.12	22.16	21.95	22.12	0-5	5
	1	12	22.20	22.20	22.25	22.02	22.18		5
	1	24	22.18	22.17	22.18	21.99	22.13		5
	12	0	21.78	21.89	21.75	21.65	21.72	0-5	5
	12	6	21.76	21.94	21.86	21.67	21.73		5
	12	13	21.74	21.85	21.80	21.69	21.76		5
	25	0	21.80	21.92	21.83	21.65	21.72		5

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9.4.12 LTE Uplink Carrier Aggregation Conducted Powers

Table 9-67
LTE B41 PC3 Uplink Carrier Aggregation Measured P_{max}

Combination	PCC							SCC							Power	
	PCC Band	PCC Bandwidth [MHz]	PCC (UL/DL) Channel	PCC (UL/DL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL/DL) Channel	SCC (UL/DL) Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	LTE Tx.Power with UL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_41C	LTE B41 PC3	20	39750	2506.0	QPSK	1	99	LTE B41 PC3	20	39948	2525.8	QPSK	1	0	25.20	24.89

Table 9-68
LTE B41 PC2 Uplink Carrier Aggregation Measured P_{max}

Combination	PCC							SCC							Power	
	PCC Band	PCC Bandwidth [MHz]	PCC (UL/DL) Channel	PCC (UL/DL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL/DL) Channel	SCC (UL/DL) Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	LTE Tx.Power with UL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_41C	LTE B41 PC2	20	39750	2506.0	QPSK	1	99	LTE B41 PC2	20	39948	2525.8	QPSK	1	0	27.24	27.38

Notes:

1. This device supports uplink carrier aggregation for LTE CA_41C with a maximum of two 20 MHz 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 9-69
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	25.34	0	0
	1	53	25.15		0
	1	104	25.23		0
	50	0	25.22	0-0.5	0
	50	28	25.20	0	0
	50	56	25.19	0-0.5	0
	100	0	25.16		0
DFT-s-OFDM QPSK	1	1	25.22	0	0
	1	53	25.02		0
	1	104	25.17		0
	50	0	25.18	0-1	0
	50	28	25.08	0	0
	50	56	25.16	0-1	0
	100	0	25.17		0
DFT-s-OFDM 16QAM	1	1	25.28	0-1	0
CP-OFDM QPSK	1	1	24.93	0-1.5	0

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 9-70
NR Band n71 Measured P_{max} - 15 MHz Bandwidth

NR Band n71 15 MHz Bandwidth						
			Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	134100 (670.5 MHz)	138100 (690.5 MHz)		
			Conducted Power [dBm]			
DFT-s-OFDM $\pi/2$ BPSK	1	1	25.27	25.36	0	0
	1	40	25.29	25.32		0
	1	77	25.34	25.20		0
	36	0	25.05	25.25	0-0.5	0
	36	22	25.22	25.19	0	0
	36	43	25.17	25.10	0-0.5	0
	75	0	25.28	25.22		0
DFT-s-OFDM QPSK	1	1	25.20	25.27	0	0
	1	40	25.17	25.09		0
	1	77	25.25	25.12		0
	36	0	25.19	25.19	0-1	0
	36	22	25.24	25.17	0	0
	36	43	25.21	25.11	0-1	0
	75	0	24.86	25.02		0
DFT-s-OFDM 16QAM	1	1	24.12	25.04	0-1	0
CP-OFDM QPSK	1	1	23.89	25.11	0-1.5	0

Table 9-71
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	25.03	25.27	25.13	0	0
	1	26	25.11	25.22	25.23		0
	1	50	25.14	25.18	25.09		0
	25	0	24.69	25.05	25.14	0-0.5	0
	25	14	25.03	25.06	25.05	0	0
	25	27	24.94	25.03	24.98	0-0.5	0
	50	0	24.91	25.08	25.08		0
DFT-s-OFDM QPSK	1	1	24.95	25.12	25.06	0	0
	1	26	25.07	25.08	25.02		0
	1	50	25.00	25.01	25.05		0
	25	0	24.80	25.04	25.08	0-1	0
	25	14	25.00	25.06	25.06	0	0
	25	27	24.97	25.01	24.95	0-1	0
	50	0	24.41	25.06	24.71		0
DFT-s-OFDM 16QAM	1	1	23.85	24.84	25.03	0-1	0
CP-OFDM QPSK	1	1	23.60	24.32	24.56	0-1.5	0

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Table 9-72
NR Band n71 Measured P_{max} - 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	25.08	25.14	25.36	0	0
	1	13	25.20	25.19	25.25		0
	1	23	25.07	25.16	25.07		0
	12	0	24.49	25.08	25.16	0-0.5	0
	12	7	24.95	25.10	25.08	0	0
	12	13	24.55	24.95	25.05	0-0.5	0
	25	0	24.56	24.94	25.06		0
DFT-s-OFDM QPSK	1	1	24.90	24.94	25.08	0	0
	1	13	24.94	24.96	24.86		0
	1	23	24.90	24.85	24.90		0
	12	0	24.01	24.96	24.61	0-1	0
	12	7	25.08	25.08	25.20	0	0
	12	13	24.10	25.02	24.57	0-1	0
	25	0	24.02	24.94	24.52		0
DFT-s-OFDM 16QAM	1	1	23.87	24.88	24.79	0-1	0
CP-OFDM QPSK	1	1	23.64	24.18	24.09	0-1.5	0

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NR Band n66 (AWS)

Table 9-73
NR Band n66 (AWS) Measured P_{limit} - 20 MHz Bandwidth

NR Band n66 20 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	344000 (1720 MHz)	349000 (1745 MHz)	354000 (1770 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	22.67	23.02	23.21	0	0
	1	53	22.86	23.17	23.12		0
	1	104	23.20	23.30	23.40		0
	50	0	22.82	23.14	23.35	0-0.5	0
	50	28	22.86	23.28	23.32	0	0
	50	56	23.03	23.30	23.31	0-0.5	0
	100	0	22.87	23.30	23.26		0
DFT-s-OFDM QPSK	1	1	22.72	23.26	23.23	0	0
	1	53	22.90	23.29	23.26		0
	1	104	22.21	23.30	23.36		0
	50	0	22.78	23.25	23.24	0-1	0
	50	28	22.93	23.30	23.29	0	0
	50	56	23.04	23.18	23.34	0-1	0
	100	0	22.98	23.29	23.32		0
DFT-s-OFDM 16QAM	1	1	22.34	23.20	23.37	0-1	0
DFT-s-OFDM 64QAM	1	1	22.69	23.40	23.40	0-2.5	0
DFT-s-OFDM 256QAM	1	1	22.42	23.19	23.39	0-4.5	0
CP-OFDM QPSK	1	1	22.58	23.12	23.26	0-1.5	0
CP-OFDM 16QAM	1	1	22.60	23.05	23.01	0-2	0
CP-OFDM 64QAM	1	1	22.38	23.12	23.26	0-3.5	0

Table 9-74
NR Band n66 (AWS) Measured P_{limit} - 15 MHz Bandwidth

NR Band n66								
15 MHz Bandwidth								
			Channel				MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	343500 (1717.5 MHz)	347160 (1735.8 MHz)	350820 (1754.1 MHz)	354500 (1772.5 MHz)		
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	22.63	22.81	23.00	23.24	0	0
	1	40	22.58	22.99	23.07	22.90		0
	1	77	22.87	23.18	23.15	23.19		0
	36	0	22.64	22.97	23.01	23.11	0-0.5	0
	36	22	22.60	22.96	23.10	23.12	0	0
	36	43	22.74	23.20	23.15	23.24	0-0.5	0
	75	0	22.83	23.09	23.08	23.27		0
DFT-s-OFDM QPSK	1	1	22.53	22.83	22.92	23.06	0	0
	1	40	22.54	22.89	22.95	23.11		0
	1	77	22.75	23.18	23.05	23.20		0
	36	0	22.49	22.95	22.83	23.23	0-1	0
	36	22	22.58	23.00	23.10	23.17	0	0
	36	43	22.71	23.11	23.08	23.32	0-1	0
	75	0	22.85	23.02	23.00	23.34		0
DFT-s-OFDM 16QAM	1	1	22.73	22.78	23.11	23.16	0-1	0
DFT-s-OFDM 64QAM	1	1	22.70	23.12	23.40	23.40	0-2.5	0
DFT-s-OFDM 256QAM	1	1	22.16	22.92	23.25	23.22	0-4.5	0
CP-OFDM QPSK	1	1	22.29	23.07	23.26	23.02	0-1.5	0
CP-OFDM 16QAM	1	1	22.23	23.06	23.17	23.12	0-2	0
CP-OFDM 64QAM	1	1	22.29	23.17	23.23	23.37	0-3.5	0

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Table 9-75
NR Band n66 (AWS) Measured P_{limit} - 10 MHz Bandwidth

NR Band n66 10 MHz Bandwidth								
			Channel				MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	343000 (1715 MHz)	347000 (1735 MHz)	351000 (1755 MHz)	355000 (1775 MHz)		
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	22.20	22.93	23.05	23.27	0	0
	1	26	22.30	22.97	23.01	23.20		0
	1	50	22.39	22.97	23.00	23.24		0
	25	0	22.25	22.88	22.98	23.14	0-0.5	0
	25	14	22.17	22.93	23.01	23.18	0	0
	25	27	22.23	22.96	22.98	23.20	0-0.5	0
	50	0	22.31	22.94	23.01	23.18		0
DFT-s-OFDM QPSK	1	1	22.20	22.82	23.02	23.07	0	0
	1	26	22.22	22.87	23.04	23.18		0
	1	50	22.58	22.99	23.19	23.24		0
	25	0	22.23	22.98	23.00	23.14	0-1	0
	25	14	22.26	22.95	23.07	23.13	0	0
	25	27	22.21	22.93	23.00	23.16	0-1	0
	50	0	22.23	22.76	23.06	23.18		0
DFT-s-OFDM 16QAM	1	1	22.12	22.81	23.02	23.23	0-1	0
DFT-s-OFDM 64QAM	1	1	22.55	23.11	23.40	23.40	0-2.5	0
DFT-s-OFDM 256QAM	1	1	22.30	22.93	23.14	23.29	0-4.5	0
CP-OFDM QPSK	1	1	22.05	22.86	22.95	23.10	0-1.5	0
CP-OFDM 16QAM	1	1	22.11	22.74	23.00	23.06	0-2	0
CP-OFDM 64QAM	1	1	22.06	22.66	23.03	23.06	0-3.5	0

Table 9-76
NR Band n66 (AWS) Measured P_{limit} - 5 MHz Bandwidth

NR Band n66 5 MHz Bandwidth								
			Channel				MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	342500 (1712.5 MHz)	346820 (1734.1 MHz)	351160 (1755.8 MHz)	355500 (1777.5 MHz)		
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	22.42	22.73	23.26	23.35	0	0
	1	13	22.51	23.08	23.40	23.21		0
	1	23	22.44	22.77	23.37	23.40		0
	12	0	22.31	22.90	23.29	23.17	0-0.5	0
	12	7	22.33	22.85	23.30	23.24	0	0
	12	13	22.25	22.98	23.21	23.20	0-0.5	0
	25	0	22.28	23.00	23.22	23.27		0
DFT-s-OFDM QPSK	1	1	22.36	23.00	23.25	23.13	0	0
	1	13	22.29	22.92	23.19	23.14		0
	1	23	22.32	22.93	23.15	23.24		0
	12	0	22.33	22.96	23.26	23.21	0-1	0
	12	7	22.38	23.02	23.32	23.24	0	0
	12	13	22.32	23.37	23.29	23.21	0-1	0
	25	0	22.37	22.97	23.32	23.18		0
DFT-s-OFDM 16QAM	1	1	22.22	22.77	23.24	23.04	0-1	0
DFT-s-OFDM 64QAM	1	1	22.65	23.12	23.39	23.40	0-2.5	0
DFT-s-OFDM 256QAM	1	1	22.35	22.99	23.17	23.18	0-4.5	0
CP-OFDM QPSK	1	1	22.40	22.92	23.08	23.07	0-1.5	0
CP-OFDM 16QAM	1	1	22.38	22.71	22.94	23.05	0-2	0
CP-OFDM 64QAM	1	1	22.16	22.75	23.05	23.02	0-3.5	0

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NR Band n25 (PCS)

Table 9-77
NR Band n25 (PCS) Measured P_{limit} - 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	22.96	23.03	22.97	0	0
	1	53	22.95	22.95	22.90		0
	1	104	22.97	23.02	23.08		0
	50	0	23.04	22.92	22.96	0-0.5	0
	50	28	22.98	23.01	23.05	0	0
	50	56	23.04	23.04	23.03	0-0.5	0
	100	0	22.98	22.96	22.96		0
DFT-s-OFDM QPSK	1	1	22.94	22.93	22.95	0	0
	1	53	22.91	22.90	22.91		0
	1	104	22.96	22.96	23.07		0
	50	0	22.96	22.90	22.97	0-1	0
	50	28	22.97	22.99	23.06	0	0
	50	56	23.05	22.98	23.04	0-1	0
	100	0	23.03	23.04	22.99		0
DFT-s-OFDM 16QAM	1	1	23.04	22.85	22.84	0-1	0
DFT-s-OFDM 64QAM	1	1	23.39	23.30	23.37	0-2.5	0
CP-OFDM QPSK	1	1	22.93	22.92	22.94	0-1.5	0
CP-OFDM 16QAM	1	1	23.25	23.19	23.34	0-2	0
CP-OFDM 64QAM	1	1	23.33	23.05	23.40	0-3.5	0

Table 9-78
NR Band n25 (PCS) Measured P_{limit} - 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	23.36	23.14	23.29	0	0
	1	40	23.31	23.11	23.31		0
	1	77	23.34	23.39	23.39		0
	36	0	23.38	23.39	23.33	0-0.5	0
	36	22	23.33	23.37	23.35	0	0
	36	43	23.37	23.40	23.33	0-0.5	0
	75	0	23.33	23.39	23.31		0
DFT-s-OFDM QPSK	1	1	23.33	23.37	23.27	0	0
	1	40	23.26	23.35	23.24		0
	1	77	23.24	23.39	23.39		0
	36	0	23.32	23.40	23.34	0-1	0
	36	22	23.32	23.35	23.34	0	0
	36	43	23.40	23.39	23.37	0-1	0
	75	0	23.32	23.40	23.27		0
DFT-s-OFDM 16QAM	1	1	23.21	23.21	23.15	0-1	0
DFT-s-OFDM 64QAM	1	1	23.40	23.39	23.31	0-2.5	0
CP-OFDM QPSK	1	1	22.97	23.03	22.93	0-1.5	0
CP-OFDM 16QAM	1	1	23.21	23.24	23.19	0-2	0
CP-OFDM 64QAM	1	1	23.37	23.40	23.30	0-3.5	0

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Table 9-79
NR Band n25 (PCS) Measured P_{limit} - 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	23.16	23.28	23.24	0	0
	1	26	23.15	23.25	23.18		0
	1	50	23.21	23.31	23.25		0
	25	0	23.10	23.21	23.20	0-0.5	0
	25	14	23.12	23.23	23.20	0	0
	25	27	23.13	23.24	23.17	0-0.5	0
	50	0	23.14	23.20	23.18		0
DFT-s-OFDM QPSK	1	1	23.13	23.26	23.20	0	0
	1	26	22.90	23.21	23.17		0
	1	50	23.15	23.21	23.17		0
	25	0	23.10	23.14	23.11	0-1	0
	25	14	23.09	23.20	23.17	0	0
	25	27	23.12	23.19	23.16	0-1	0
	50	0	23.14	23.19	23.16		0
DFT-s-OFDM 16QAM	1	1	22.88	23.02	22.99	0-1	0
DFT-s-OFDM 64QAM	1	1	23.31	23.35	23.40	0-2.5	0
CP-OFDM QPSK	1	1	22.76	22.81	22.76	0-1.5	0
CP-OFDM 16QAM	1	1	23.10	23.14	23.27	0-2	0
CP-OFDM 64QAM	1	1	23.29	23.20	23.30	0-3.5	0

Table 9-80
NR Band n25 (PCS) Measured P_{limit} - 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	23.16	23.22	23.28	0	0
	1	13	23.17	23.29	23.26		0
	1	23	23.16	23.24	23.25		0
	12	0	23.13	23.18	23.14	0-0.5	0
	12	7	23.14	23.23	23.14	0	0
	12	13	23.12	23.26	23.19	0-0.5	0
	25	0	23.07	23.15	23.09		0
DFT-s-OFDM QPSK	1	1	23.16	23.24	23.20	0	0
	1	13	23.15	23.30	23.23		0
	1	23	23.14	23.22	23.18		0
	12	0	23.12	23.19	23.11	0-1	0
	12	7	23.14	23.21	23.10	0	0
	12	13	23.14	23.21	23.12	0-1	0
	25	0	23.10	23.18	23.18		0
DFT-s-OFDM 16QAM	1	1	22.97	23.00	22.91	0-1	0
DFT-s-OFDM 64QAM	1	1	23.27	23.37	23.40	0-2.5	0
CP-OFDM QPSK	1	1	22.73	22.80	22.88	0-1.5	0
CP-OFDM 16QAM	1	1	23.05	23.16	23.25	0-2	0
CP-OFDM 64QAM	1	1	23.39	23.40	23.18	0-3.5	0

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NR Band n41 Power Class 2

Table 9-81
NR Band n41 PC2 Measured P_{max} - 100 MHz Bandwidth

NR Band n41 100 MHz Bandwidth					
Modulation	RB Size	RB Offset	Channel		MPR [dB]
			518598 (2592.99 MHz)	MPR Allowed per 3GPP [dB]	
DFT-s-OFDM $\pi/2$ BPSK	1	1	27.62	0	0
	1	137	27.45		0
	1	271	27.26		0
	135	0	27.38	0-0.5	0
	135	69	27.18	0	0
	135	138	27.67	0-0.5	0
	270	0	27.69		0
DFT-s-OFDM QPSK	1	1	27.19	0	0
	1	137	27.18		0
	1	271	26.81		0
	135	0	27.39	0-1	0
	135	69	27.31	0	0
	135	138	27.38	0-1	0
	270	0	27.38		0
DFT-s-OFDM 16QAM	1	1	26.64	0-1	1
CP-OFDM QPSK	1	1	26.24	0-1.5	1

Note: NR Band n41 at 100 MHz bandwidth does not support non-overlapping channels. Per FCC Guidance, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

Table 9-82
NR Band n41 PC2 Measured P_{max} - 90 MHz Bandwidth

NR Band n41 90 MHz Bandwidth						
Modulation	RB Size	RB Offset	Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
			508200 (2541 MHz)	528996 (2644.98 MHz)		
DFT-s-OFDM $\pi/2$ BPSK	1	1	27.37	27.48	0	0
	1	123	27.11	27.40		0
	1	243	27.50	27.64		0
	120	0	27.25	27.31	0-0.5	0
	120	63	27.07	27.43	0	0
	120	125	26.96	27.48	0-0.5	0
	243	0	26.81	27.45		0
DFT-s-OFDM QPSK	1	1	27.68	27.45	0	0
	1	123	27.58	26.87		0
	1	243	27.70	27.26		0
	120	0	27.01	27.29	0-1	0
	120	63	26.70	26.84	0	0
	120	125	27.47	27.50	0-1	0
	243	0	27.61	27.25		0
DFT-s-OFDM 16QAM	1	1	26.22	26.37	0-1	1
CP-OFDM QPSK	1	1	25.81	25.66	0-1.5	1

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Table 9-83
NR Band n41 PC2 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	27.42	27.50	0	0
	1	109	27.46	27.65		0
	1	215	27.53	27.41		0
	108	0	27.66	27.63	0-0.5	0
	108	55	27.33	27.60	0	0
	108	109	27.61	27.53	0-0.5	0
	216	0	27.52	27.59		0
DFT-s-OFDM QPSK	1	1	27.11	27.69	0	0
	1	109	27.15	27.38		0
	1	215	27.25	27.29		0
	108	0	27.11	27.00	0-1	0
	108	55	27.14	27.14	0	0
	108	109	27.07	26.87	0-1	0
	216	0	27.02	27.08		0
DFT-s-OFDM 16QAM	1	1	26.24	26.63	0-1	1
CP-OFDM QPSK	1	1	25.86	25.74	0-1.5	1

Table 9-84
NR Band n41 PC2 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	27.16	27.63	27.49	0	0
	1	81	26.58	27.34	27.12		0
	1	160	27.13	26.92	27.36		0
	81	0	27.18	27.37	27.06	0-0.5	0
	81	41	27.06	26.93	26.97	0	0
	81	81	27.03	27.03	27.05	0-0.5	0
	162	0	27.33	27.17	27.36		0
DFT-s-OFDM QPSK	1	1	27.14	27.55	27.67	0	0
	1	81	27.21	26.95	27.65		0
	1	160	26.68	27.24	27.21		0
	81	0	27.26	27.43	27.17	0-1	0
	81	41	27.22	27.11	27.20	0	0
	81	81	27.16	26.98	27.06	0-1	0
	162	0	27.08	27.13	27.19		0
DFT-s-OFDM 16QAM	1	1	25.96	25.71	25.73	0-1	1
CP-OFDM QPSK	1	1	25.64	26.22	25.98	0-1.5	1

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Table 9-85
NR Band n41 PC2 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	27.67	27.64	27.51	0	0
	1	67	27.15	27.60	27.07		0
	1	131	27.58	27.42	27.15		0
	64	0	27.12	27.32	27.46	0-0.5	0
	64	35	26.89	26.77	27.32	0	0
	64	69	27.03	27.04	27.20	0-0.5	0
	128	0	27.43	27.10	27.15		0
DFT-s-OFDM QPSK	1	1	27.45	27.48	27.55	0	0
	1	67	26.93	26.65	26.64		0
	1	131	27.43	26.73	27.27		0
	64	0	26.95	27.13	26.96	0-1	0
	64	35	27.14	26.68	27.21	0	0
	64	69	26.79	26.87	26.74	0-1	0
	128	0	26.83	26.94	26.87		0
DFT-s-OFDM 16QAM	1	1	26.44	26.45	26.21	0-1	1
CP-OFDM QPSK	1	1	26.53	26.32	26.31	0-1.5	1

Table 9-86
NR Band n41 PC2 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	27.56	27.66	27.70	27.59	0	0
	1	53	27.47	27.55	27.61	27.57		0
	1	104	27.69	27.69	27.58	27.63		0
	50	0	27.70	27.66	27.69	27.70	0-0.5	0
	50	28	27.43	27.59	27.43	27.68	0	0
	50	56	27.67	27.55	27.46	27.66	0-0.5	0
	100	0	27.50	27.68	27.56	27.69		0
DFT-s-OFDM QPSK	1	1	27.52	27.53	27.62	27.43	0	0
	1	53	27.29	27.13	27.39	27.20		0
	1	104	27.26	27.44	27.26	27.56		0
	50	0	27.13	27.05	27.04	27.21	0-1	0
	50	28	27.16	27.09	27.13	27.16	0	0
	50	56	27.51	27.21	27.55	27.46	0-1	0
	100	0	27.42	27.35	27.34	27.53		0
DFT-s-OFDM 16QAM	1	1	26.68	26.35	26.61	26.47	0-1	1
CP-OFDM QPSK	1	1	26.27	26.20	26.07	25.88	0-1.5	1

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Table 9-87
NR Band n41 PC2 Measured P_{max} - 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	27.23	27.29	26.84	27.67	26.90	0	0
	1	26	27.22	27.13	27.22	27.13	27.02		0
	1	49	27.27	26.91	26.99	27.63	27.12		0
	25	0	27.12	27.49	26.92	26.83	26.72	0-0.5	0
	25	13	26.89	27.51	27.00	27.62	26.87	0	0
	25	26	27.34	27.45	27.14	27.10	27.09	0-0.5	0
	50	0	27.13	27.34	27.29	27.37	27.48		0
DFT-s-OFDM QPSK	1	1	26.99	27.63	26.85	27.09	27.19	0	0
	1	26	26.89	27.02	27.10	27.34	27.49		0
	1	49	26.88	27.22	26.79	27.20	27.31		0
	25	0	26.71	26.73	26.71	27.21	26.82	0-1	0
	25	13	26.52	26.93	26.84	26.89	27.03	0	0
	25	26	27.10	26.85	26.52	26.88	27.01	0-1	0
	50	0	26.99	26.84	26.62	26.94	26.97		0
DFT-s-OFDM 16QAM	1	1	25.61	26.37	26.12	25.76	25.80	0-1	1
CP-OFDM QPSK	1	1	25.64	25.76	26.42	26.07	25.80	0-1.5	1

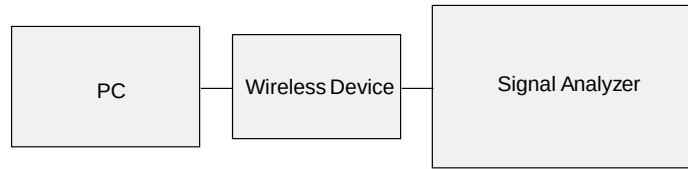


Figure 9-5
Power Measurement Setup

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9.6 WLAN Conducted Powers

Table 9-88
2.4 GHz WLAN Maximum Average RF Power – Ant 1

2.4GHz Conducted Power [dBm]						
Freq [MHz]	Channel	IEEE Transmission Mode				
		802.11b	802.11g	802.11n	802.11ac	802.11ax
		Average	Average	Average	Average	Average
2412	1	19.92	17.36	16.15	16.17	14.49
2422	3		19.01	17.66	17.67	15.83
2437	6	19.93	18.86	17.57	17.58	15.71
2452	9		18.96	17.63	17.61	15.79
2462	11	19.97	16.93	15.82	15.83	13.95

Table 9-89
2.4 GHz WLAN Maximum Average RF Power – Ant 2

2.4GHz Conducted Power [dBm]						
Freq [MHz]	Channel	IEEE Transmission Mode				
		802.11b	802.11g	802.11n	802.11ac	802.11ax
		Average	Average	Average	Average	Average
2412	1	20.12	17.42	16.16	16.16	14.68
2422	3		19.02	17.74	17.76	15.84
2437	6	20.05	19.02	17.77	17.81	15.93
2452	9		19.28	17.92	17.95	15.97
2462	11	19.98	16.89	15.62	15.67	13.95

Table 9-90
2.4 GHz WLAN Reduced Average RF Power– Ant 1

2.4GHz Conducted Power [dBm]						
Freq [MHz]	Channel	IEEE Transmission Mode				
		802.11b	802.11g	802.11n	802.11ac	802.11ax
		Average	Average	Average	Average	Average
2412	1	15.23	14.81	14.78	14.69	14.18
2437	6	15.39	14.92	14.91	14.90	14.82
2462	11	15.26	14.88	14.83	14.86	13.90

Table 9-91
2.4 GHz WLAN Reduced Average RF Power – Ant 2

2.4GHz Conducted Power [dBm]						
Freq [MHz]	Channel	IEEE Transmission Mode				
		802.11b	802.11g	802.11n	802.11ac	802.11ax
		Average	Average	Average	Average	Average
2412	1	15.45	14.76	14.77	14.80	14.12
2437	6	15.49	14.99	15.04	15.01	14.69
2462	11	15.32	14.89	14.87	14.98	13.78

Table 9-92
2.4 GHz WLAN Reduced Output Powers During Conditions with 2.4 GHz and 5 GHz WLAN

2.4GHz 802.11n Conducted Power [dBm]			
Freq [MHz]	Channel	ANT1	ANT2
2412	1	14.78	14.77
2437	6	14.91	15.04
2462	11	14.83	14.87

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Table 9-93
5 GHz WLAN Maximum Average RF Power – Ant 1

5GHz (20MHz) Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11a	802.11n	802.11ac	802.11ax
		Average	Average	Average	Average
5180	36	16.28	16.44	16.48	14.25
5200	40	17.46	17.62	17.67	14.27
5220	44	16.55	16.79	16.77	14.27
5240	48	16.53	16.75	16.75	14.24
5260	52	16.52	16.71	16.73	14.21
5280	56	17.26	17.54	17.54	14.21
5300	60	16.47	16.67	16.69	14.34
5320	64	16.34	16.53	16.53	14.29
5500	100	16.48	16.74	16.77	14.37
5600	120	16.37	16.65	16.68	14.31
5620	124	16.42	16.67	16.71	14.41
5720	144	16.37	16.67	16.55	14.21
5745	149	16.26	16.45	16.51	14.12
5785	157	17.36	17.60	17.63	14.49
5825	165	17.32	17.57	17.62	14.55

Table 9-94
5 GHz WLAN Maximum Average RF Power – Ant 2

5GHz (20MHz) Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11a	802.11n	802.11ac	802.11ax
		Average	Average	Average	Average
5180	36	16.65	16.84	16.81	14.32
5200	40	17.54	17.68	17.78	14.56
5220	44	16.58	16.73	16.72	14.49
5240	48	16.47	16.58	16.59	14.39
5260	52	16.42	16.52	16.55	14.38
5280	56	17.16	17.43	17.44	14.18
5300	60	16.23	16.27	16.37	14.21
5320	64	16.23	16.38	16.37	14.20
5500	100	16.44	16.70	16.63	14.32
5600	120	16.89	16.77	16.75	14.80
5620	124	16.62	16.84	16.84	14.49
5720	144	16.41	16.63	16.57	14.25
5745	149	16.49	16.65	16.63	14.34
5785	157	17.26	17.49	17.54	14.32
5825	165	17.41	17.65	17.67	14.51

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Table 9-95
5 GHz WLAN Maximum Average RF Power – MIMO

5GHz (20MHz) 802.11n Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
5180	36	16.44	16.84	19.65
5200	40	17.62	17.68	20.66
5220	44	16.79	16.73	19.77
5240	48	16.75	16.58	19.68
5260	52	16.71	16.52	19.63
5280	56	17.54	17.43	20.50
5300	60	16.67	16.27	19.48
5320	64	16.53	16.38	19.47
5500	100	16.74	16.70	19.73
5600	120	16.65	16.77	19.72
5620	124	16.67	16.84	19.77
5720	144	16.67	16.63	19.66
5745	149	16.45	16.65	19.56
5785	157	17.60	17.49	20.56
5825	165	17.57	17.65	20.62

Table 9-96
5 GHz WLAN Reduced Output Powers During Conditions with 2.4 GHz and 5 GHz WLAN

5GHz (40MHz) 802.11n Conducted Power [dBm]			
Freq [MHz]	Channel	ANT1	ANT2
5190	38	10.52	11.02
5230	46	14.98	14.67
5270	54	14.99	14.67
5310	62	10.71	11.05
5510	102	10.63	10.53
5550	110	14.80	14.72
5590	118	14.99	14.61
5630	126	14.98	14.89
5710	142	14.81	14.99
5755	151	14.83	14.51
5795	159	14.99	14.72

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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.

The bolded data rate and channel above were tested for SAR.

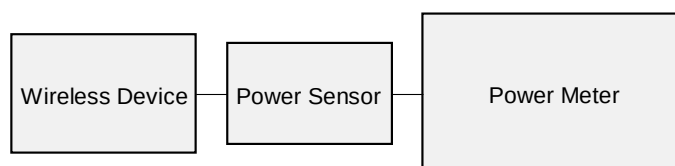


Figure 9-6
Power Measurement Setup

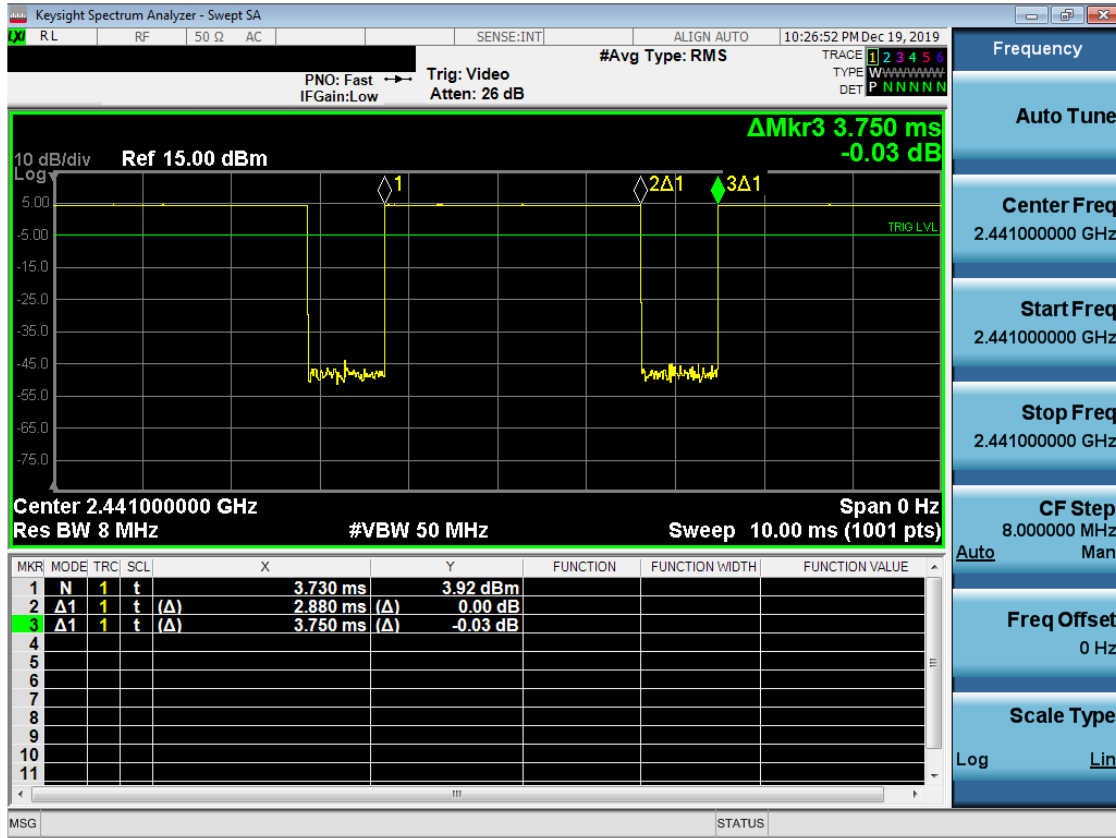
9.7 Bluetooth Conducted Powers

Table 9-97
Bluetooth Average RF Power

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
			[dBm]	[mW]
2402	1.0	0	12.28	16.890
2441	1.0	39	12.49	17.750
2480	1.0	78	11.98	15.772
2402	2.0	0	11.69	14.767
2441	2.0	39	11.72	14.871
2480	2.0	78	11.11	12.916
2402	3.0	0	11.55	14.289
2441	3.0	39	11.78	15.066
2480	3.0	78	11.24	13.305

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Figure 9-7
Bluetooth Transmission Plot



Equation 9-1
Bluetooth Duty Cycle Calculation

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

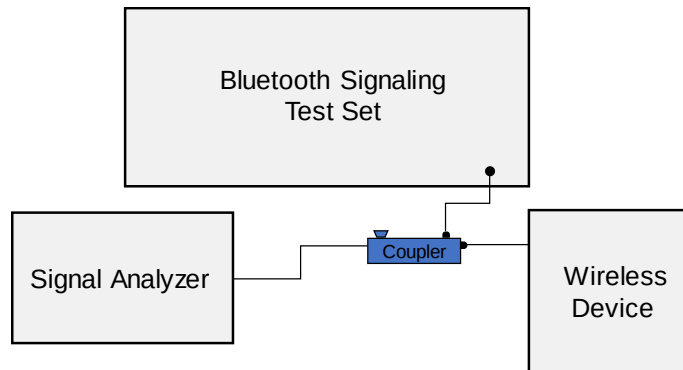


Figure 9-8
Power Measurement Setup

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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
12/23/2019	750 Head	20.4	700	0.874	42.215	0.889	42.201	-1.69%	0.03%
			710	0.878	42.179	0.890	42.149	-1.35%	0.07%
			750	0.892	42.057	0.894	41.942	-0.22%	0.27%
			770	0.899	41.999	0.895	41.838	0.45%	0.38%
12/29/2019	750 Head	21.0	785	0.905	41.954	0.896	41.760	1.00%	0.46%
			680	0.873	41.964	0.888	42.305	-1.69%	-0.81%
			695	0.878	41.925	0.889	42.227	-1.24%	-0.72%
			750	0.897	41.772	0.894	41.942	0.34%	-0.41%
01/13/2020	750 Head	21.0	680	0.867	40.507	0.888	42.305	-2.36%	-4.25%
			695	0.873	40.465	0.889	42.227	-1.80%	-4.17%
			750	0.892	40.283	0.894	41.942	-0.22%	-3.96%
			820	0.878	41.932	0.899	41.578	-2.34%	0.85%
1/13/2020	835 Head	21.5	835	0.893	41.734	0.900	41.500	-0.78%	0.56%
			850	0.908	41.540	0.916	41.500	-0.87%	0.10%
			1710	1.352	39.196	1.348	40.142	0.30%	-2.36%
			1720	1.359	39.181	1.354	40.126	0.37%	-2.36%
12/02/2019	1750 Head	21.2	1745	1.376	39.158	1.368	40.087	0.58%	-2.32%
			1750	1.379	39.153	1.371	40.079	0.58%	-2.31%
			1745	1.401	38.417	1.368	40.087	2.41%	-4.17%
			1750	1.405	38.409	1.371	40.079	2.48%	-4.17%
12/26/2019	1750 Head	20.7	1770	1.426	38.315	1.383	40.047	3.11%	-4.32%
			1745	1.341	39.534	1.368	40.087	-1.97%	-1.38%
			1750	1.345	39.526	1.371	40.079	-1.90%	-1.38%
			1770	1.357	39.492	1.383	40.047	-1.88%	-1.39%
01/01/2020	1750 Head	21.2	1880	1.440	38.955	1.400	40.000	2.86%	-2.61%
			1880	1.451	38.937	1.400	40.000	3.64%	-2.66%
			1900	1.462	38.899	1.400	40.000	4.43%	-2.75%
			1880	1.421	39.306	1.400	40.000	1.50%	-1.74%
12/02/2019	1900 Head	21.2	1880	1.440	38.955	1.400	40.000	2.86%	-2.61%
			1880	1.451	38.937	1.400	40.000	3.64%	-2.66%
			1900	1.462	38.899	1.400	40.000	4.43%	-2.75%
			1880	1.421	39.306	1.400	40.000	1.50%	-1.74%
12/31/2019	1900 Head	21.1	1900	1.433	39.280	1.400	40.000	2.36%	-1.80%
			1905	1.435	39.274	1.400	40.000	2.50%	-1.82%
			1880	1.444	40.488	1.400	40.000	3.14%	1.22%
			1900	1.457	40.475	1.400	40.000	4.07%	1.19%
01/02/2020	1900 Head	20.6	1905	1.460	40.472	1.400	40.000	4.29%	1.18%
			2300	1.752	38.620	1.670	39.500	4.91%	-2.23%
			2310	1.760	38.602	1.679	39.480	4.82%	-2.22%
			2400	1.827	38.471	1.756	39.289	4.04%	-2.08%
12/25/2019	2300-2450 Head	23.0	2450	1.867	38.384	1.800	39.200	3.72%	-2.08%
			2450	1.820	38.320	1.800	39.200	1.11%	-2.24%
			2500	1.857	38.241	1.855	39.136	0.11%	-2.29%
			2510	1.864	38.220	1.866	39.123	-0.11%	-2.31%
12/29/2019	2450 Head	24.3	2400	1.814	37.626	1.756	39.289	3.30%	-4.23%
			2450	1.851	37.535	1.800	39.200	2.83%	-4.25%
			2500	1.886	37.457	1.855	39.136	1.67%	-4.29%
			2535	1.916	38.669	1.893	39.092	1.22%	-1.08%
12/09/2019	2600 Head	19.8	2560	1.936	38.631	1.920	39.060	0.83%	-1.10%
			2600	1.968	38.574	1.964	39.009	0.20%	-1.12%
			2560	1.901	37.322	1.920	39.060	-0.99%	-4.45%
			2600	1.930	37.273	1.964	39.009	-1.73%	-4.45%
01/10/2020	2600 Head	23.2	2650	1.970	37.193	2.018	38.945	-2.38%	-4.50%
			3600	3.026	36.756	3.014	37.800	0.40%	-2.76%
			3650	3.068	36.686	3.066	37.757	0.07%	-2.84%
			3700	3.107	36.624	3.117	37.700	-0.32%	-2.85%
12/16/2019	3600 Head	20.3	5250	4.591	35.155	4.706	35.929	-2.44%	-2.15%
			5270	4.612	35.115	4.727	35.906	-2.43%	-2.20%
			5280	4.623	35.100	4.737	35.894	-2.41%	-2.21%
			5500	4.855	34.787	4.963	35.643	-2.18%	-2.40%
			5600	4.963	34.631	5.065	35.529	-2.01%	-2.53%
			5620	4.986	34.608	5.086	35.506	-1.97%	-2.53%
			5640	5.007	34.603	5.106	35.483	-1.94%	-2.48%
			5750	5.128	34.427	5.219	35.357	-1.74%	-2.63%
			5785	5.156	34.380	5.255	35.317	-1.88%	-2.65%
			5795	5.166	34.358	5.265	35.305	-1.88%	-2.68%
			5825	5.204	34.314	5.296	35.271	-1.74%	-2.71%

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Table 10-2
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
12/26/2019	750 Body	19.8	680	0.914	53.701	0.958	55.804	-4.59%	-3.77%
			695	0.920	53.691	0.959	55.745	-4.07%	-3.68%
			700	0.921	53.684	0.959	55.726	-3.96%	-3.66%
			710	0.925	53.666	0.960	55.687	-3.65%	-3.63%
			750	0.939	53.514	0.964	55.531	-2.59%	-3.63%
			770	0.948	53.468	0.965	55.453	-1.76%	-3.58%
			785	0.954	53.453	0.966	55.395	-1.24%	-3.51%
02/03/2020	750 Body	19.5	680	0.923	53.667	0.958	55.804	-3.65%	-3.83%
			695	0.929	53.620	0.959	55.745	-3.13%	-3.81%
			750	0.950	53.477	0.964	55.531	-1.45%	-3.70%
11/25/2019	835 Body	21.1	820	0.949	54.176	0.969	55.258	-2.06%	-1.96%
			835	0.964	54.041	0.970	55.200	-0.62%	-2.10%
			850	0.980	53.913	0.988	55.154	-0.81%	-2.25%
12/03/2019	835 Body	21.6	820	0.980	53.690	0.969	55.258	1.14%	-2.84%
			835	0.985	53.644	0.970	55.200	1.55%	-2.82%
			850	0.991	53.596	0.988	55.154	0.30%	-2.82%
12/18/2019	835 Body	19.9	820	0.958	53.916	0.969	55.258	-1.14%	-2.43%
			835	0.966	53.962	0.970	55.200	-0.41%	-2.24%
			850	0.973	53.996	0.988	55.154	-1.52%	-2.10%
12/20/2019	835 Body	19.7	820	0.959	54.036	0.969	55.258	-1.03%	-2.21%
			835	0.965	54.007	0.970	55.200	-0.52%	-2.16%
			850	0.971	53.986	0.988	55.154	-1.72%	-2.12%
12/22/2019	1750 Body	20.3	1710	1.487	52.588	1.463	53.537	1.64%	-1.77%
			1720	1.499	52.549	1.469	53.511	2.04%	-1.80%
			1745	1.528	52.447	1.485	53.445	2.90%	-1.87%
			1750	1.534	52.426	1.488	53.432	3.09%	-1.88%
			1770	1.555	52.339	1.501	53.379	3.60%	-1.95%
12/25/2019	1750 Body	20.5	1710	1.490	53.093	1.463	53.537	1.85%	-0.83%
			1720	1.502	53.055	1.469	53.511	2.25%	-0.85%
			1745	1.532	52.964	1.485	53.445	3.16%	-0.90%
			1750	1.537	52.946	1.488	53.432	3.29%	-0.91%
			1770	1.559	52.864	1.501	53.379	3.86%	-0.96%
12/30/2019	1750 Body	20.7	1745	1.516	52.684	1.485	53.445	2.09%	-1.42%
			1750	1.521	52.663	1.488	53.432	2.22%	-1.44%
			1770	1.543	52.586	1.501	53.379	2.80%	-1.49%
01/09/2020	1750 Body	21.1	1720	1.476	53.201	1.469	53.511	0.48%	-0.58%
			1745	1.505	53.091	1.485	53.445	1.35%	-0.66%
			1750	1.510	53.069	1.488	53.432	1.48%	-0.68%
01/15/2020	1750 Body	21.1	1770	1.530	52.978	1.501	53.379	1.93%	-0.75%
			1720	1.461	54.763	1.469	53.511	-0.54%	2.34%
			1745	1.488	54.663	1.485	53.445	0.20%	2.28%
12/09/2019	1900 Body	23.0	1750	1.493	54.644	1.488	53.432	0.34%	2.27%
			1770	1.514	54.570	1.501	53.379	0.87%	2.23%
			1850	1.518	51.591	1.520	53.300	-0.13%	-3.21%
			1860	1.529	51.565	1.520	53.300	0.59%	-3.26%
			1880	1.551	51.504	1.520	53.300	2.04%	-3.37%
12/27/2019	1900 Body	22.8	1900	1.572	51.438	1.520	53.300	3.42%	-3.49%
			1905	1.577	51.422	1.520	53.300	3.75%	-3.52%
			1910	1.582	51.407	1.520	53.300	4.08%	-3.55%
			1860	1.533	51.962	1.520	53.300	0.86%	-2.51%
			1880	1.555	51.892	1.520	53.300	2.30%	-2.64%
01/03/2020	1900 Body	23.1	1900	1.577	51.821	1.520	53.300	3.75%	-2.77%
			1905	1.582	51.803	1.520	53.300	4.08%	-2.81%
			1860	1.495	51.283	1.520	53.300	-1.64%	-3.78%
			1880	1.516	51.214	1.520	53.300	-0.26%	-3.91%
			1900	1.539	51.151	1.520	53.300	1.25%	-4.03%
01/05/2020	1900 Body	22.3	1905	1.545	51.135	1.520	53.300	1.64%	-4.06%
			1850	1.528	51.840	1.520	53.300	0.53%	-2.74%
			1860	1.538	51.811	1.520	53.300	1.18%	-2.79%
			1880	1.558	51.745	1.520	53.300	2.50%	-2.92%
			1900	1.578	51.678	1.520	53.300	3.82%	-3.04%
01/06/2020	1900 Body	22.0	1905	1.583	51.660	1.520	53.300	4.14%	-3.08%
			1910	1.589	51.643	1.520	53.300	4.47%	-3.11%
			1850	1.514	51.551	1.520	53.300	-0.39%	-3.28%
			1860	1.524	51.492	1.520	53.300	0.26%	-3.39%
			1880	1.550	51.420	1.520	53.300	1.97%	-3.53%
			1900	1.577	51.410	1.520	53.300	3.75%	-3.55%
			1905	1.583	51.409	1.520	53.300	4.14%	-3.55%
01/06/2020	1900 Body	22.0	1910	1.589	51.407	1.520	53.300	4.54%	-3.55%

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Table 10-3
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
01/08/2020	1900 Body	22.1	1850	1.524	51.108	1.520	53.300	0.26%	-4.11%
			1860	1.535	51.077	1.520	53.300	0.99%	-4.17%
			1880	1.557	51.004	1.520	53.300	2.43%	-4.31%
			1900	1.578	50.931	1.520	53.300	3.82%	-4.44%
			1905	1.583	50.912	1.520	53.300	4.14%	-4.48%
			1910	1.589	50.895	1.520	53.300	4.54%	-4.51%
01/11/2020	1900 Body	21.8	1850	1.523	51.417	1.520	53.300	0.20%	-3.53%
			1860	1.534	51.386	1.520	53.300	0.92%	-3.59%
			1880	1.556	51.313	1.520	53.300	2.37%	-3.73%
			1900	1.579	51.230	1.520	53.300	3.88%	-3.88%
			1905	1.584	51.208	1.520	53.300	4.21%	-3.92%
			1910	1.590	51.187	1.520	53.300	4.61%	-3.96%
01/06/2020	2300 Body	20.6	2300	1.887	52.563	1.809	52.900	4.31%	-0.64%
			2310	1.899	52.580	1.816	52.887	4.57%	-0.58%
12/10/2019	2450 Body	22.8	2320	1.908	52.592	1.826	52.873	4.49%	-0.53%
			2400	1.942	50.948	1.902	52.767	2.10%	-3.45%
			2450	2.010	50.763	1.950	52.700	3.08%	-3.68%
			2500	2.077	50.576	2.021	52.636	2.77%	-3.91%
01/11/2020	2450-2600 Body	21.2	2450	2.038	51.454	1.950	52.700	4.51%	-2.36%
			2510	2.095	51.348	2.035	52.623	2.95%	-2.42%
			2535	2.119	51.316	2.071	52.592	2.32%	-2.43%
			2560	2.142	51.272	2.106	52.560	1.71%	-2.45%
			2600	2.181	51.198	2.163	52.509	0.83%	-2.50%
			2450	2.012	50.309	1.950	52.700	3.18%	-4.54%
01/13/2020	2450-2600 Body	21.9	2500	2.065	50.418	2.021	52.636	2.18%	-4.21%
			2510	2.071	50.375	2.035	52.623	1.77%	-4.27%
			2535	2.087	50.197	2.071	52.592	0.77%	-4.55%
			2550	2.101	50.135	2.092	52.573	0.43%	-4.64%
			2560	2.114	50.142	2.106	52.560	0.38%	-4.60%
			2600	2.161	50.264	2.163	52.509	-0.09%	-4.28%
			2650	2.197	49.959	2.234	52.445	-1.66%	-4.74%
			2680	2.236	50.043	2.277	52.407	-1.80%	-4.51%
			2400	1.982	51.363	1.902	52.767	4.21%	-2.66%
			2450	2.043	51.219	1.950	52.700	4.77%	-2.81%
01/17/2020	2450 Body	22.9	2500	2.099	51.069	2.021	52.636	3.86%	-2.98%
			2535	2.097	51.392	2.071	52.592	1.26%	-2.28%
01/09/2020	2600 Body	21.7	2560	2.122	51.380	2.106	52.560	0.76%	-2.25%
			2600	2.158	51.319	2.163	52.509	-0.23%	-2.27%
12/16/2019	3600 Body	19.5	3500	3.450	50.163	3.310	51.320	4.23%	-2.25%
			3560	3.515	50.063	3.382	51.238	3.93%	-2.29%
			3600	3.559	50.007	3.430	51.190	3.76%	-2.31%
			3650	3.616	49.925	3.489	51.118	3.64%	-2.33%
			3690	3.661	49.867	3.536	51.063	3.54%	-2.34%
			3700	3.672	49.858	3.548	51.050	3.49%	-2.33%
01/18/2020	3600 Body	21.5	3500	3.368	49.370	3.314	51.321	1.63%	-3.80%
			3560	3.430	49.283	3.384	51.240	1.36%	-3.82%
			3600	3.472	49.209	3.431	51.186	1.19%	-3.86%
			3650	3.524	49.153	3.489	51.118	1.00%	-3.84%
			3690	3.566	49.077	3.536	51.063	0.85%	-3.89%
			3700	3.578	49.067	3.548	51.050	0.85%	-3.88%
01/21/2020	3600 Body	21.0	3500	3.414	50.128	3.314	51.321	3.02%	-2.32%
			3560	3.481	50.041	3.384	51.240	2.87%	-2.34%
01/13/2020	5200-5800 Body	22.1	3600	3.524	49.995	3.431	51.186	2.71%	-2.33%
			5200	5.451	47.196	5.299	49.014	2.87%	-3.71%
			5220	5.479	47.158	5.323	48.987	2.93%	-3.73%
			5240	5.502	47.116	5.346	48.960	2.92%	-3.77%
			5250	5.518	47.094	5.358	48.947	2.99%	-3.79%
			5270	5.551	47.060	5.381	48.919	3.16%	-3.80%
			5280	5.563	47.047	5.393	48.906	3.15%	-3.80%
			5500	5.846	46.669	5.650	48.607	3.47%	-3.99%
			5600	5.978	46.497	5.766	48.471	3.68%	-4.07%
			5620	6.008	46.475	5.790	48.444	3.77%	-4.06%
			5640	6.036	46.449	5.813	48.417	3.84%	-4.06%
			5720	6.141	46.292	5.907	48.309	3.96%	-4.18%
			5750	6.187	46.260	5.942	48.268	4.12%	-4.16%
			5785	6.225	46.207	5.982	48.220	4.06%	-4.17%
			5795	6.242	46.177	5.994	48.207	4.14%	-4.21%
			5825	6.289	46.125	6.029	48.166	4.31%	-4.24%
01/19/2020	5200-5800 Body	22.5	5250	5.465	48.326	5.358	48.947	2.00%	-1.27%
			5280	5.501	48.279	5.393	48.906	2.00%	-1.28%
			5600	5.918	47.763	5.766	48.471	2.64%	-1.46%

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 10-4
System Verification Results – Head 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	12/23/2019	23.1	20.4	0.200	1003	7417	1.610	8.280	8.050	-2.78%
L	750	HEAD	12/29/2019	22.3	21.0	0.200	1161	7410	1.710	8.030	8.550	6.48%
E	750	HEAD	01/13/2020	23.4	21.0	0.200	1003	7417	1.530	8.280	7.650	-7.61%
D	835	HEAD	01/13/2020	22.0	21.5	0.200	4d047	3914	2.020	9.420	10.100	7.22%
P	1750	HEAD	12/02/2019	23.7	21.2	0.100	1150	7551	3.780	36.500	37.800	3.56%
H	1750	HEAD	12/26/2019	21.4	20.7	0.100	1148	7406	3.440	37.000	34.400	-7.03%
H	1750	HEAD	01/01/2020	22.1	21.2	0.100	1148	7406	3.440	37.000	34.400	-7.03%
P	1900	HEAD	12/02/2019	23.7	21.2	0.100	5d080	7551	4.140	39.800	41.400	4.02%
L	1900	HEAD	12/31/2019	22.6	21.1	0.100	5d148	7410	4.080	39.100	40.800	4.35%
L	1900	HEAD	01/02/2020	21.9	20.6	0.100	5d148	7410	4.180	39.100	41.800	6.91%
E	2300	HEAD	12/25/2019	22.6	22.0	0.100	1073	7417	5.160	49.200	51.600	4.88%
E	2450	HEAD	12/12/2019	23.6	20.9	0.100	981	7417	5.280	52.300	52.800	0.96%
E	2450	HEAD	12/25/2019	22.6	22.0	0.100	981	7417	5.340	52.300	53.400	2.10%
E	2450	HEAD	12/29/2019	22.1	22.8	0.100	719	7417	5.530	53.100	55.300	4.14%
E	2600	HEAD	12/09/2019	20.8	19.8	0.100	1064	7417	6.020	58.100	60.200	3.61%
E	2600	HEAD	01/10/2020	23.1	22.2	0.100	1064	7417	6.070	58.100	60.700	4.48%
H	3700	HEAD	12/16/2019	20.4	20.3	0.100	1018	3589	7.010	65.80	70.100	6.53%
H	5250	HEAD	12/17/2019	22.1	20.9	0.050	1191	7406	3.720	80.800	74.400	-7.92%
H	5600	HEAD	12/17/2019	22.1	20.9	0.050	1191	7406	3.940	82.700	78.800	-4.72%
H	5750	HEAD	12/17/2019	22.1	20.9	0.050	1191	7406	3.760	80.200	75.200	-6.23%

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Table 10-5
System Verification Results – Body 1g

System Verification TARGET & MEASURED												
SAR System #	Tissue Frequency (MHz)	Tissue Type	Date	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Source SN	Probe SN	Measured SAR _{1g} (W/kg)	1 W Target SAR _{1g} (W/kg)	1 W Normalized SAR _{1g} (W/kg)	Deviation _{1g} (%)
L	750	BODY	12/26/2019	20.3	19.8	0.200	1161	7410	1.680	8.430	8.400	-0.36%
K	750	BODY	02/03/2020	23.1	19.5	0.200	1054	7547	1.830	8.550	9.150	7.02%
D	835	BODY	11/25/2019	21.4	21.1	0.200	4d132	3914	2.030	9.670	10.150	4.96%
L	835	BODY	12/03/2019	23.5	21.6	0.200	4d047	7410	2.010	9.470	10.050	6.12%
L	835	BODY	12/18/2019	21.1	19.9	0.200	4d047	7410	2.040	9.470	10.200	7.71%
L	835	BODY	12/20/2019	20.3	19.7	0.200	4d047	7410	2.020	9.470	10.100	6.65%
I	1750	BODY	12/22/2019	20.6	20.3	0.100	1150	7357	3.930	36.600	39.300	7.38%
I	1750	BODY	12/25/2019	21.2	20.5	0.100	1150	7357	3.820	36.600	38.200	4.37%
I	1750	BODY	12/30/2019	20.4	20.7	0.100	1148	7357	3.480	37.700	34.800	-7.69%
I	1750	BODY	01/09/2020	21.5	21.1	0.100	1148	7357	3.920	37.700	39.200	3.98%
P	1900	BODY	12/09/2019	23.7	22.1	0.100	5d080	7551	4.140	39.200	41.400	5.61%
P	1900	BODY	12/27/2019	21.5	21.8	0.100	5d148	7551	4.180	39.100	41.800	6.91%
P	1900	BODY	01/03/2020	23.3	22.1	0.100	5d148	7551	4.120	39.100	41.200	5.37%
P	1900	BODY	01/05/2020	20.7	21.7	0.100	5d148	7551	4.140	39.100	41.400	5.88%
P	1900	BODY	01/06/2020	21.9	22.0	0.100	5d080	7551	4.060	39.200	40.600	3.57%
P	1900	BODY	01/08/2020	21.9	22.1	0.100	5d149	7551	4.130	39.400	41.300	4.82%
P	1900	BODY	01/11/2020	21.9	21.8	0.100	5d149	7551	4.160	39.400	41.600	5.58%
L	2300	BODY	01/06/2020	21.9	20.7	0.100	1073	7410	4.710	47.700	47.100	-1.26%
M	2450	BODY	12/10/2019	23.1	22.8	0.100	719	7308	5.240	50.800	52.400	3.15%
L	2450	BODY	01/13/2020	22.7	21.9	0.100	719	7410	5.450	50.800	54.500	7.28%
K	2450	BODY	01/17/2020	23.7	22.0	0.100	981	7547	5.190	50.900	51.900	1.96%
L	2600	BODY	01/09/2020	21.8	20.2	0.100	1004	7410	5.480	54.800	54.800	0.00%
L	2600	BODY	01/11/2020	22.3	21.2	0.100	1004	7410	5.530	54.800	55.300	0.91%
L	2600	BODY	01/13/2020	22.7	21.9	0.100	1004	7410	5.340	54.800	53.400	-2.55%
D	3500	BODY	12/16/2019	20.4	19.5	0.100	1059	3914	6.500	65.100	65.000	-0.15%
D	3700	BODY	12/16/2019	20.4	19.5	0.100	1018	3914	6.590	64.300	65.900	2.49%
G	5250	BODY	01/13/2020	23.2	22.4	0.050	1191	7409	3.720	77.000	74.400	-3.38%
G	5600	BODY	01/13/2020	23.2	22.4	0.050	1191	7409	4.040	78.600	80.800	2.80%
G	5750	BODY	01/13/2020	23.2	22.4	0.050	1191	7409	3.810	76.900	76.200	-0.91%

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Table 10-6
System Verification Results – 10g

System Verification TARGET & MEASURED												
SAR System #	Tissue Frequency (MHz)	Tissue Type	Date	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Source SN	Probe SN	Measured SAR _{10g} (W/kg)	1 W Target SAR _{10g} (W/kg)	1 W Normalized SAR _{10g} (W/kg)	Deviation _{10g} (%)
I	1750	BODY	12/25/2019	21.2	20.5	0.100	1150	7357	2.010	19.400	20.100	3.61%
I	1750	BODY	01/15/2020	22.7	21.1	0.100	1008	7357	2.080	19.900	20.800	4.52%
P	1900	BODY	01/03/2020	23.3	22.1	0.100	5d148	7551	2.110	20.500	21.100	2.93%
P	1900	BODY	01/06/2020	21.9	22.0	0.100	5d080	7551	2.090	20.600	20.900	1.46%
P	1900	BODY	01/11/2020	21.9	21.8	0.100	5d149	7551	2.140	20.700	21.400	3.38%
L	2450	BODY	01/11/2020	22.3	21.2	0.100	719	7410	2.520	24.000	25.200	5.00%
L	2600	BODY	01/11/2020	22.3	21.2	0.100	1004	7410	2.440	24.700	24.400	-1.21%
D	3500	BODY	01/18/2020	21.9	21.5	0.100	1059	3914	2.400	24.200	24.000	-0.83%
D	3500	BODY	01/21/2020	21.6	21.0	0.100	1059	3914	2.340	24.200	23.400	-3.31%
D	3700	BODY	01/18/2020	21.9	21.5	0.100	1018	3914	2.360	23.100	23.600	2.16%
G	5250	BODY	01/13/2020	23.2	22.4	0.050	1191	7409	1.030	21.400	20.600	-3.74%
G	5600	BODY	01/13/2020	23.2	22.4	0.050	1191	7409	1.110	21.900	22.200	1.37%
G	5750	BODY	01/13/2020	23.2	22.4	0.050	1191	7409	1.040	21.300	20.800	-2.35%
G	5250	BODY	01/19/2020	23.9	22.0	0.050	1191	7409	0.977	21.400	19.540	-8.69%
G	5600	BODY	01/19/2020	23.9	22.0	0.050	1191	7409	1.100	21.900	22.000	0.46%

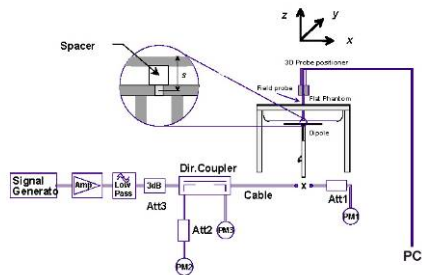


Figure 10-1
System Verification Setup Diagram



Figure 10-2
System Verification Setup Photo

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11 SAR DATA SUMMARY

11.1 Standalone Head SAR Data

Table 11-1
CDMA BC10 (\$90S) 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)	
820.10	564	CDMA BC10 (S90S)	RC3 / SO55	25.5	25.35	0.16	Right	Cheek	03218	1:1	0.135	1.035	0.140	
820.10	564	CDMA BC10 (S90S)	RC3 / SO55	25.5	25.35	0.03	Right	Tilt	03218	1:1	0.090	1.035	0.093	
820.10	564	CDMA BC10 (S90S)	RC3 / SO55	25.5	25.35	0.02	Left	Cheek	03218	1:1	0.158	1.035	0.164	A1
820.10	564	CDMA BC10 (S90S)	RC3 / SO55	25.5	25.35	0.06	Left	Tilt	03218	1:1	0.086	1.035	0.089	
820.10	564	CDMA BC10 (S90S)	EVDO Rev. A	25.5	25.36	0.17	Right	Cheek	03218	1:1	0.063	1.033	0.065	
820.10	564	CDMA BC10 (S90S)	EVDO Rev. A	25.5	25.36	0.10	Right	Tilt	03218	1:1	0.052	1.033	0.054	
820.10	564	CDMA BC10 (S90S)	EVDO Rev. A	25.5	25.36	0.13	Left	Cheek	03218	1:1	0.084	1.033	0.087	
820.10	564	CDMA BC10 (S90S)	EVDO Rev. A	25.5	25.36	0.06	Left	Tilt	03218	1:1	0.045	1.033	0.046	
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
CDMA BC0 (\$22H) Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
836.52	384	CDMA BC0 (\$22H)	RC3 / SO55	25.5	25.29	0.07	Right	Cheek	03218	1:1	0.167	1.050	0.175	
836.52	384	CDMA BC0 (\$22H)	RC3 / SO55	25.5	25.29	0.07	Right	Tilt	03218	1:1	0.105	1.050	0.110	
836.52	384	CDMA BC0 (\$22H)	RC3 / SO55	25.5	25.29	0.04	Left	Cheek	03218	1:1	0.168	1.050	0.176	A2
836.52	384	CDMA BC0 (\$22H)	RC3 / SO55	25.5	25.29	0.07	Left	Tilt	03218	1:1	0.096	1.050	0.101	
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. A	25.5	25.31	0.15	Right	Cheek	03218	1:1	0.088	1.045	0.092	
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. A	25.5	25.31	0.11	Right	Tilt	03218	1:1	0.064	1.045	0.067	
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. A	25.5	25.31	0.06	Left	Cheek	03218	1:1	0.101	1.045	0.106	
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. A	25.5	25.31	0.06	Left	Tilt	03218	1:1	0.057	1.045	0.060	
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
PCS CDMA Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1880.00	600	PCS CDMA	RC3 / SO55	25.2	24.93	0.11	Right	Cheek	03218	1:1	0.052	1.064	0.055	
1880.00	600	PCS CDMA	RC3 / SO55	25.2	24.93	-0.08	Right	Tilt	03218	1:1	0.060	1.064	0.064	
1880.00	600	PCS CDMA	RC3 / SO55	25.2	24.93	-0.04	Left	Cheek	03218	1:1	0.079	1.064	0.084	
1880.00	600	PCS CDMA	RC3 / SO55	25.2	24.93	0.03	Left	Tilt	03218	1:1	0.056	1.064	0.060	
1880.00	600	PCS CDMA	EVDO Rev. A	25.2	24.82	-0.05	Right	Cheek	03218	1:1	0.053	1.091	0.058	
1880.00	600	PCS CDMA	EVDO Rev. A	25.2	24.82	0.06	Right	Tilt	03218	1:1	0.059	1.091	0.064	
1880.00	600	PCS CDMA	EVDO Rev. A	25.2	24.82	0.02	Left	Cheek	03218	1:1	0.091	1.091	0.099	A3
1880.00	600	PCS CDMA	EVDO Rev. A	25.2	24.82	0.03	Left	Tilt	03218	1:1	0.058	1.091	0.063	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-4
GSM 850 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	# of Time Slots	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
836.60	190	GSM 850	GSM	33.4	32.99	0.18	Right	Cheek	03218	1	1:8.3	0.092	1.099	0.101	
836.60	190	GSM 850	GSM	33.4	32.99	0.08	Right	Tilt	03218	1	1:8.3	0.061	1.099	0.067	
836.60	190	GSM 850	GSM	33.4	32.99	0.15	Left	Cheek	03218	1	1:8.3	0.112	1.099	0.123	
836.60	190	GSM 850	GSM	33.4	32.99	0.01	Left	Tilt	03218	1	1:8.3	0.056	1.099	0.062	
836.60	190	GSM 850	GPRS	29.2	28.68	0.11	Right	Cheek	03218	4	1:2.076	0.132	1.127	0.149	
836.60	190	GSM 850	GPRS	29.2	28.68	0.12	Right	Tilt	03218	4	1:2.076	0.082	1.127	0.092	
836.60	190	GSM 850	GPRS	29.2	28.68	0.12	Left	Cheek	03218	4	1:2.076	0.144	1.127	0.162	A4
836.60	190	GSM 850	GPRS	29.2	28.68	0.05	Left	Tilt	03218	4	1:2.076	0.077	1.127	0.087	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram							

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Table 11-5
GSM 1900 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	# of Time Slots	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1880.00	661	GSM 1900	GSM	30.2	29.80	0.05	Right	Cheek	03218	1	1:8.3	0.020	1.096	0.022	
1880.00	661	GSM 1900	GSM	30.2	29.80	0.07	Right	Tilt	03218	1	1:8.3	0.025	1.096	0.027	
1880.00	661	GSM 1900	GSM	30.2	29.80	0.18	Left	Cheek	03218	1	1:8.3	0.046	1.096	0.050	
1880.00	661	GSM 1900	GSM	30.2	29.80	0.02	Left	Tilt	03218	1	1:8.3	0.025	1.096	0.027	
1880.00	661	GSM 1900	GPRS	27.2	27.18	0.09	Right	Cheek	03218	3	1:2.76	0.024	1.005	0.024	
1880.00	661	GSM 1900	GPRS	27.2	27.18	-0.12	Right	Tilt	03218	3	1:2.76	0.035	1.005	0.035	
1880.00	661	GSM 1900	GPRS	27.2	27.18	-0.06	Left	Cheek	03218	3	1:2.76	0.050	1.005	0.050	A5
1880.00	661	GSM 1900	GPRS	27.2	27.18	0.09	Left	Tilt	03218	3	1:2.76	0.030	1.005	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 11-6
UMTS 850 Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
836.60	4183	UMTS 850	RMC	25.5	25.33	0.09	Right	Cheek	03218	1:1	0.155	1.040	0.161	
836.60	4183	UMTS 850	RMC	25.5	25.33	0.06	Right	Tilt	03218	1:1	0.102	1.040	0.106	
836.60	4183	UMTS 850	RMC	25.5	25.33	0.08	Left	Cheek	03218	1:1	0.168	1.040	0.175	A6
836.60	4183	UMTS 850	RMC	25.5	25.33	0.04	Left	Tilt	03218	1:1	0.092	1.040	0.096	
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 1750 Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1732.40	1412	UMTS 1750	RMC	25.2	25.06	0.18	Right	Cheek	03226	1:1	0.064	1.033	0.066	
1732.40	1412	UMTS 1750	RMC	25.2	25.06	-0.16	Right	Tilt	03226	1:1	0.053	1.033	0.055	
1732.40	1412	UMTS 1750	RMC	25.2	25.06	0.12	Left	Cheek	03226	1:1	0.083	1.033	0.086	A7
1732.40	1412	UMTS 1750	RMC	25.2	25.06	0.05	Left	Tilt	03226	1:1	0.038	1.033	0.039	
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
UMTS 1900 Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1880.00	9400	UMTS 1900	RMC	25.2	24.97	0.07	Right	Cheek	03226	1:1	0.076	1.054	0.080	
1880.00	9400	UMTS 1900	RMC	25.2	24.97	0.09	Right	Tilt	03226	1:1	0.079	1.054	0.083	
1880.00	9400	UMTS 1900	RMC	25.2	24.97	0.06	Left	Cheek	03226	1:1	0.124	1.054	0.131	A8
1880.00	9400	UMTS 1900	RMC	25.2	24.97	-0.06	Left	Tilt	03226	1:1	0.097	1.054	0.102	
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 71 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)		
680.50	133297	Mid	LTE Band 71	20	25.5	25.34	0.13	0	Right	Cheek	QPSK	1	99	03234	1:1	0.142	1.038	0.147	A9
680.50	133297	Mid	LTE Band 71	20	24.5	24.41	0.06	1	Right	Cheek	QPSK	50	25	03234	1:1	0.110	1.021	0.112	
680.50	133297	Mid	LTE Band 71	20	25.5	25.34	0.08	0	Right	Tilt	QPSK	1	99	03234	1:1	0.066	1.038	0.069	
680.50	133297	Mid	LTE Band 71	20	24.5	24.41	0.05	1	Right	Tilt	QPSK	50	25	03234	1:1	0.051	1.021	0.052	
680.50	133297	Mid	LTE Band 71	20	25.5	25.34	-0.01	0	Left	Cheek	QPSK	1	99	03234	1:1	0.127	1.038	0.132	
680.50	133297	Mid	LTE Band 71	20	24.5	24.41	0.01	1	Left	Cheek	QPSK	50	25	03234	1:1	0.093	1.021	0.095	
680.50	133297	Mid	LTE Band 71	20	25.5	25.34	0.04	0	Left	Tilt	QPSK	1	99	03234	1:1	0.047	1.038	0.049	
680.50	133297	Mid	LTE Band 71	20	24.5	24.41	0.16	1	Left	Tilt	QPSK	50	25	03234	1:1	0.030	1.021	0.031	
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 12 Head SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.														(W/kg)		(W/kg)		
707.50	23095	Mid	LTE Band 12	10	25.5	25.16	0.19	0	Right	Cheek	QPSK	1	49	03234	1:1	0.095	1.081	0.103	
707.50	23095	Mid	LTE Band 12	10	24.5	24.28	0.09	1	Right	Cheek	QPSK	25	12	03234	1:1	0.077	1.052	0.081	
707.50	23095	Mid	LTE Band 12	10	25.5	25.16	-0.02	0	Right	Tilt	QPSK	1	49	03234	1:1	0.062	1.081	0.067	
707.50	23095	Mid	LTE Band 12	10	24.5	24.28	0.02	1	Right	Tilt	QPSK	25	12	03234	1:1	0.043	1.052	0.045	
707.50	23095	Mid	LTE Band 12	10	25.5	25.16	0.04	0	Left	Cheek	QPSK	1	49	03234	1:1	0.118	1.081	0.128	A10
707.50	23095	Mid	LTE Band 12	10	24.5	24.28	0.08	1	Left	Cheek	QPSK	25	12	03234	1:1	0.083	1.052	0.087	
707.50	23095	Mid	LTE Band 12	10	25.5	25.16	0.00	0	Left	Tilt	QPSK	1	49	03234	1:1	0.052	1.081	0.056	
707.50	23095	Mid	LTE Band 12	10	24.5	24.28	0.16	1	Left	Tilt	QPSK	25	12	03234	1:1	0.038	1.052	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 11-11
LTE Band 13 Head SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.	(W/kg)														(W/kg)			
782.00	23230	Mid	LTE Band 13	10	25.5	25.18	0.09	0	Right	Cheek	QPSK	1	0	03234	1:1	0.092	1.076	0.099	
782.00	23230	Mid	LTE Band 13	10	24.5	24.49	0.13	1	Right	Cheek	QPSK	25	25	03234	1:1	0.088	1.002	0.088	
782.00	23230	Mid	LTE Band 13	10	25.5	25.18	0.05	0	Right	Tilt	QPSK	1	0	03234	1:1	0.061	1.076	0.066	
782.00	23230	Mid	LTE Band 13	10	24.5	24.49	0.14	1	Right	Tilt	QPSK	25	25	03234	1:1	0.059	1.002	0.059	
782.00	23230	Mid	LTE Band 13	10	25.5	25.18	-0.14	0	Left	Cheek	QPSK	1	0	03234	1:1	0.105	1.076	0.113	A11
782.00	23230	Mid	LTE Band 13	10	24.5	24.49	0.18	1	Left	Cheek	QPSK	25	25	03234	1:1	0.083	1.002	0.083	
782.00	23230	Mid	LTE Band 13	10	25.5	25.18	0.07	0	Left	Tilt	QPSK	1	0	03234	1:1	0.052	1.076	0.056	
782.00	23230	Mid	LTE Band 13	10	24.5	24.49	0.02	1	Left	Tilt	QPSK	25	25	03234	1:1	0.042	1.002	0.042	
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 26 (Cell) 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)		
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	25.29	0.16	0	Right	Cheek	QPSK	1	74	03234	1:1	0.101	1.050	0.106	A12
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.36	0.13	1	Right	Cheek	QPSK	36	37	03234	1:1	0.076	1.033	0.079	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	25.29	-0.05	0	Right	Tilt	QPSK	1	74	03234	1:1	0.075	1.050	0.079	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.36	0.10	1	Right	Tilt	QPSK	36	37	03234	1:1	0.056	1.033	0.058	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	25.29	0.14	0	Left	Cheek	QPSK	1	74	03234	1:1	0.082	1.050	0.086	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.36	0.18	1	Left	Cheek	QPSK	36	37	03234	1:1	0.079	1.033	0.082	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	25.29	0.13	0	Left	Tilt	QPSK	1	74	03234	1:1	0.053	1.050	0.056	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.36	0.13	1	Left	Tilt	QPSK	36	37	03234	1:1	0.049	1.033	0.051	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-13
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	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.														(W/kg)		(W/kg)		
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.2	24.90	0.03	0	Right	Cheek	QPSK	1	50	03242	1:1	0.077	1.072	0.083	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.2	23.98	0.03	1	Right	Cheek	QPSK	50	50	03242	1:1	0.059	1.052	0.062	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.2	24.90	0.18	0	Right	Tilt	QPSK	1	50	03242	1:1	0.070	1.072	0.075	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.2	23.98	0.01	1	Right	Tilt	QPSK	50	50	03242	1:1	0.051	1.052	0.054	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.2	24.90	-0.13	0	Left	Cheek	QPSK	1	50	03242	1:1	0.101	1.072	0.108	A13
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.2	23.98	0.11	1	Left	Cheek	QPSK	50	50	03242	1:1	0.083	1.052	0.087	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.2	24.90	0.03	0	Left	Tilt	QPSK	1	50	03242	1:1	0.033	1.072	0.035	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.2	23.98	0.02	1	Left	Tilt	QPSK	50	50	03242	1:1	0.028	1.052	0.029	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram										

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Table 11-14
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	25.2	24.92	-0.01	0	Right	Cheek	QPSK	1	0	03234	1:1	0.109	1.067	0.116	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.2	24.04	-0.09	1	Right	Cheek	QPSK	50	25	03234	1:1	0.067	1.038	0.070	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.2	24.92	-0.02	0	Right	Tilt	QPSK	1	0	03234	1:1	0.057	1.067	0.061	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.2	24.04	-0.09	1	Right	Tilt	QPSK	50	25	03234	1:1	0.050	1.038	0.052	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.2	24.92	0.03	0	Left	Cheek	QPSK	1	0	03234	1:1	0.126	1.067	0.134	A14
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.2	24.04	0.03	1	Left	Cheek	QPSK	50	25	03234	1:1	0.090	1.038	0.093	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.2	24.92	-0.09	0	Left	Tilt	QPSK	1	0	03234	1:1	0.081	1.067	0.086	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.2	24.04	0.02	1	Left	Tilt	QPSK	50	25	03234	1:1	0.057	1.038	0.059	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-15
LTE Band 30 Head SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.														(W/kg)		(W/kg)		
2310.00	27710	Mid	LTE Band 30	10	22.7	22.23	0.04	0	Right	Cheek	QPSK	1	25	03242	1:1	0.018	1.114	0.020	
2310.00	27710	Mid	LTE Band 30	10	21.7	21.35	0.01	1	Right	Cheek	QPSK	25	12	03242	1:1	0.017	1.084	0.018	
2310.00	27710	Mid	LTE Band 30	10	22.7	22.23	0.03	0	Right	Tilt	QPSK	1	25	03242	1:1	0.012	1.114	0.013	
2310.00	27710	Mid	LTE Band 30	10	21.7	21.35	0.07	1	Right	Tilt	QPSK	25	12	03242	1:1	0.010	1.084	0.011	
2310.00	27710	Mid	LTE Band 30	10	22.7	22.23	0.08	0	Left	Cheek	QPSK	1	25	03242	1:1	0.033	1.114	0.037	A15
2310.00	27710	Mid	LTE Band 30	10	21.7	21.35	0.04	1	Left	Cheek	QPSK	25	12	03242	1:1	0.027	1.084	0.029	
2310.00	27710	Mid	LTE Band 30	10	22.7	22.23	0.07	0	Left	Tilt	QPSK	1	25	03242	1:1	0.015	1.114	0.017	
2310.00	27710	Mid	LTE Band 30	10	21.7	21.35	0.09	1	Left	Tilt	QPSK	25	12	03242	1:1	0.011	1.084	0.012	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-16
LTE Band 7 Head SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.														(W/kg)		(W/kg)		
2535.00	21100	Mid	LTE Band 7	20	23.7	23.39	0.08	0	Right	Cheek	QPSK	1	99	03234	1:1	0.022	1.074	0.024	
2535.00	21100	Mid	LTE Band 7	20	22.7	22.53	0.10	1	Right	Cheek	QPSK	50	50	03234	1:1	0.019	1.040	0.020	
2535.00	21100	Mid	LTE Band 7	20	23.7	23.39	0.12	0	Right	Tilt	QPSK	1	99	03234	1:1	0.015	1.074	0.016	
2535.00	21100	Mid	LTE Band 7	20	22.7	22.53	0.08	1	Right	Tilt	QPSK	50	50	03234	1:1	0.012	1.040	0.012	
2535.00	21100	Mid	LTE Band 7	20	23.7	23.39	0.08	0	Left	Cheek	QPSK	1	99	03234	1:1	0.035	1.074	0.038	A16
2535.00	21100	Mid	LTE Band 7	20	22.7	22.53	0.06	1	Left	Cheek	QPSK	50	50	03234	1:1	0.025	1.040	0.026	
2535.00	21100	Mid	LTE Band 7	20	23.7	23.39	0.14	0	Left	Tilt	QPSK	1	99	03234	1:1	0.008	1.074	0.009	
2535.00	21100	Mid	LTE Band 7	20	22.7	22.53	0.13	1	Left	Tilt	QPSK	50	50	03234	1:1	0.004	1.040	0.004	
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 11-17
LTE Band 48 Head SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.	(W/kg)														(W/kg)			
3646.70	56207	Mid-High	LTE Band 48	20	23.7	23.61	0.03	0	Right	Cheek	QPSK	1	99	03242	1:1.58	0.134	1.021	0.137	A17
3646.70	56207	Mid-High	LTE Band 48	20	22.7	22.48	-0.02	1	Right	Cheek	QPSK	50	25	03242	1:1.58	0.082	1.052	0.086	
3646.70	56207	Mid-High	LTE Band 48	20	23.7	23.61	0.09	0	Right	Tilt	QPSK	1	99	03242	1:1.58	0.014	1.021	0.014	
3646.70	56207	Mid-High	LTE Band 48	20	22.7	22.48	-0.19	1	Right	Tilt	QPSK	50	25	03242	1:1.58	0.009	1.052	0.009	
3646.70	56207	Mid-High	LTE Band 48	20	23.7	23.61	-0.03	0	Left	Cheek	QPSK	1	99	03242	1:1.58	0.034	1.021	0.035	
3646.70	56207	Mid-High	LTE Band 48	20	22.7	22.48	0.05	1	Left	Cheek	QPSK	50	25	03242	1:1.58	0.024	1.052	0.025	
3646.70	56207	Mid-High	LTE Band 48	20	23.7	23.61	0.04	0	Left	Tilt	QPSK	1	99	03242	1:1.58	0.033	1.021	0.034	
3646.70	56207	Mid-High	LTE Band 48	20	22.7	22.48	0.09	1	Left	Tilt	QPSK	50	25	03242	1:1.58	0.023	1.052	0.024	
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 11-18
LTE Band 41 Head SAR

MEASUREMENT RESULTS																					
1 CC Uplink 2 CC Uplink, Power Class	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
		MHz	Ch.	(W/kg)														(W/kg)			
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	25.2	24.99	0.06	0	Right	Cheek	QPSK	1	0	03242	1:1.58	0.070	1.050	0.074	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	25.2	24.89	0.03	0	Right	Cheek	QPSK	1	99	03242	1:1.58	0.054	1.074	0.058	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	24.2	24.07	0.18	1	Right	Cheek	QPSK	50	25	03242	1:1.58	0.048	1.030	0.049	
1 CC Uplink - Power Class 2	N/A	2506.00	39750	Low	LTE Band 41	20	27.7	27.35	0.04	0	Right	Cheek	QPSK	1	0	03242	1:2.31	0.087	1.084	0.094	A18
1 CC Uplink - Power Class 2	N/A	2506.00	39750	Low	LTE Band 41	20	27.7	27.38	0.03	0	Right	Cheek	QPSK	1	99	03242	1:2.31	0.072	1.076	0.077	
2 CC Uplink - Power Class 3	PCC	2506.00	39750	Low	LTE Band 41	20	25.2	25.20	0.12	0	Right	Cheek	QPSK	1	99	03242	1:1.58	0.060	1.000	0.060	
	SCC	2525.80	39948												0						
2 CC Uplink - Power Class 2	PCC	2506.00	39750	Low	LTE Band 41	20	27.7	27.24	0.09	0	Right	Cheek	QPSK	1	99	03242	1:2.31	0.063	1.112	0.070	
	SCC	2525.80	39948												0						
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	25.2	24.99	0.13	0	Right	Tilt	QPSK	1	0	03242	1:1.58	0.037	1.050	0.039	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	24.2	24.07	0.04	1	Right	Tilt	QPSK	50	25	03242	1:1.58	0.027	1.030	0.028	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	25.2	24.99	0.05	0	Left	Cheek	QPSK	1	0	03242	1:1.58	0.066	1.050	0.069	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	24.2	24.07	0.05	1	Left	Cheek	QPSK	50	25	03242	1:1.58	0.055	1.030	0.057	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	25.2	24.99	0.04	0	Left	Tilt	QPSK	1	0	03242	1:1.58	0.030	1.050	0.032	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	24.2	24.07	0.08	1	Left	Tilt	QPSK	50	25	03242	1:1.58	0.024	1.030	0.025	
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 71 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)	
680.50	136100	Mid	NR Band n71	20	25.5	25.22	0.05	0	Right	Cheek	DFT-S-OFDM QPSK	1	1	03275	1:1	0.030	1.067	0.032	A19
680.50	136100	Mid	NR Band n71	20	25.5	25.18	-0.09	0	Right	Cheek	DFT-S-OFDM QPSK	50	0	03275	1:1	0.028	1.076	0.030	
680.50	136100	Mid	NR Band n71	20	25.5	24.93	0.11	0	Right	Cheek	CP-OFDM QPSK	1	1	03275	1:1	0.022	1.140	0.025	
680.50	136100	Mid	NR Band n71	20	25.5	25.22	0.06	0	Right	Tilt	DFT-S-OFDM QPSK	1	1	03275	1:1	0.015	1.067	0.016	
680.50	136100	Mid	NR Band n71	20	25.5	25.18	0.05	0	Right	Tilt	DFT-S-OFDM QPSK	50	0	03275	1:1	0.015	1.076	0.016	
680.50	136100	Mid	NR Band n71	20	25.5	25.22	0.02	0	Left	Cheek	DFT-S-OFDM QPSK	1	1	03275	1:1	0.024	1.067	0.026	
680.50	136100	Mid	NR Band n71	20	25.5	25.18	0.03	0	Left	Cheek	DFT-S-OFDM QPSK	50	0	03275	1:1	0.023	1.076	0.025	
680.50	136100	Mid	NR Band n71	20	25.5	25.22	0.03	0	Left	Tilt	DFT-S-OFDM QPSK	1	1	03275	1:1	0.012	1.067	0.013	
680.50	136100	Mid	NR Band n71	20	25.5	25.18	0.06	0	Left	Tilt	DFT-S-OFDM QPSK	50	0	03275	1:1	0.010	1.076	0.011	
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 66 Head SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.														(W/kg)		(W/kg)		
1770.00	354000	High	NR Band n66 (AWS)	20	23.4	23.36	0.05	0	Right	Cheek	DFT-S-OFDM QPSK	1	104	03275	1:1	0.162	1.009	0.163	A20
1770.00	354000	High	NR Band n66 (AWS)	20	23.4	23.34	-0.01	0	Right	Cheek	DFT-S-OFDM QPSK	50	56	03275	1:1	0.164	1.014	0.166	
1770.00	354000	High	NR Band n66 (AWS)	20	23.4	23.26	0.07	0	Right	Cheek	CP-OFDM QPSK	1	1	03275	1:1	0.142	1.033	0.147	
1770.00	354000	High	NR Band n66 (AWS)	20	23.4	23.36	0.17	0	Right	Tilt	DFT-S-OFDM QPSK	1	104	03275	1:1	0.046	1.009	0.046	
1770.00	354000	High	NR Band n66 (AWS)	20	23.4	23.34	0.08	0	Right	Tilt	DFT-S-OFDM QPSK	50	56	03275	1:1	0.041	1.014	0.042	
1770.00	354000	High	NR Band n66 (AWS)	20	23.4	23.36	0.06	0	Left	Cheek	DFT-S-OFDM QPSK	1	104	03275	1:1	0.071	1.009	0.072	
1770.00	354000	High	NR Band n66 (AWS)	20	23.4	23.34	0.00	0	Left	Cheek	DFT-S-OFDM QPSK	50	56	03275	1:1	0.069	1.014	0.070	
1770.00	354000	High	NR Band n66 (AWS)	20	23.4	23.36	0.07	0	Left	Tilt	DFT-S-OFDM QPSK	1	104	03275	1:1	0.053	1.009	0.053	
1770.00	354000	High	NR Band n66 (AWS)	20	23.4	23.34	0.09	0	Left	Tilt	DFT-S-OFDM QPSK	50	56	03275	1:1	0.054	1.014	0.055	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram									

Table 11-21
NR Band 25 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)		
1905.00	381000	High	NR Band n25 (PCS)	20	23.4	23.07	0.13	0	Right	Cheek	DFT-S-OFDM QPSK	1	104	03275	1:1	0.324	1.079	0.350	A21
1905.00	381000	High	NR Band n25 (PCS)	20	23.4	23.06	0.05	0	Right	Cheek	DFT-S-OFDM QPSK	50	28	03275	1:1	0.324	1.081	0.350	
1905.00	381000	High	NR Band n25 (PCS)	20	23.4	22.94	-0.09	0	Right	Cheek	CP-OFDM QPSK	1	1	03275	1:1	0.362	1.112	0.403	
1905.00	381000	High	NR Band n25 (PCS)	20	23.4	23.07	-0.02	0	Right	Tilt	DFT-S-OFDM QPSK	1	104	03275	1:1	0.114	1.079	0.123	
1905.00	381000	High	NR Band n25 (PCS)	20	23.4	23.06	0.10	0	Right	Tilt	DFT-S-OFDM QPSK	50	28	03275	1:1	0.117	1.081	0.126	
1905.00	381000	High	NR Band n25 (PCS)	20	23.4	23.07	0.14	0	Left	Cheek	DFT-S-OFDM QPSK	1	104	03275	1:1	0.158	1.079	0.170	
1905.00	381000	High	NR Band n25 (PCS)	20	23.4	23.06	0.09	0	Left	Cheek	DFT-S-OFDM QPSK	50	28	03275	1:1	0.143	1.081	0.155	
1905.00	381000	High	NR Band n25 (PCS)	20	23.4	23.07	0.18	0	Left	Tilt	DFT-S-OFDM QPSK	1	104	03275	1:1	0.089	1.079	0.096	
1905.00	381000	High	NR Band n25 (PCS)	20	23.4	23.06	0.13	0	Left	Tilt	DFT-S-OFDM QPSK	50	28	03275	1:1	0.097	1.081	0.105	
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 11-22
NR Band 41 Head SAR

MEASUREMENT RESULTS																				
Power Class	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)		
Power Class 2	2592.99	518598	Mid	NR Band n41	100	27.7	27.19	-0.16	0	Right	Cheek	DFT-S-OFDM QPSK	1	1	03275	1:4	0.064	1.125	0.072	A22
Power Class 2	2592.99	518598	Mid	NR Band n41	100	27.7	27.39	0.16	0	Right	Cheek	DFT-S-OFDM QPSK	135	0	03275	1:4	0.069	1.074	0.074	
Power Class 2	2592.99	518598	Mid	NR Band n41	100	26.7	26.24	-0.07	1	Right	Cheek	CP-OFDM QPSK	1	1	03275	1:4	0.062	1.112	0.069	
Power Class 2	2592.99	518598	Mid	NR Band n41	100	27.7	27.19	0.07	0	Right	Tilt	DFT-S-OFDM QPSK	1	1	03275	1:4	0.011	1.125	0.012	
Power Class 2	2592.99	518598	Mid	NR Band n41	100	27.7	27.39	0.11	0	Right	Tilt	DFT-S-OFDM QPSK	135	0	03275	1:4	0.013	1.074	0.014	
Power Class 2	2592.99	518598	Mid	NR Band n41	100	27.7	27.19	0.05	0	Left	Cheek	DFT-S-OFDM QPSK	1	1	03275	1:4	0.019	1.125	0.021	
Power Class 2	2592.99	518598	Mid	NR Band n41	100	27.7	27.39	-0.03	0	Left	Cheek	DFT-S-OFDM QPSK	135	0	03275	1:4	0.025	1.074	0.027	
Power Class 2	2592.99	518598	Mid	NR Band n41	100	27.7	27.19	0.02	0	Left	Tilt	DFT-S-OFDM QPSK	1	1	03275	1:4	0.018	1.125	0.020	
Power Class 2	2592.99	518598	Mid	NR Band n41	100	27.7	27.39	-0.17	0	Left	Tilt	DFT-S-OFDM QPSK	135	0	03275	1:4	0.020	1.074	0.021	
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 11-23
DTS Head SAR**

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
2437	6	802.11b	DSSS	22	15.5	15.39	-0.04	Right	Cheek	1	03192	1	99.6	0.706	0.569	1.026	1.004	0.586	A23
2437	6	802.11b	DSSS	22	15.5	15.39	0.03	Right	Tilt	1	03192	1	99.6	0.279	0.173	1.026	1.004	0.178	
2437	6	802.11b	DSSS	22	15.5	15.39	0.05	Left	Cheek	1	03192	1	99.6	0.187	-	1.026	1.004	-	
2437	6	802.11b	DSSS	22	15.5	15.39	0.03	Left	Tilt	1	03192	1	99.6	0.156	-	1.026	1.004	-	
2437	6	802.11b	DSSS	22	15.5	15.49	0.07	Right	Cheek	2	03192	1	99.4	0.318	0.185	1.002	1.006	0.186	
2437	6	802.11b	DSSS	22	15.5	15.49	0.11	Right	Tilt	2	03192	1	99.4	0.359	0.243	1.002	1.006	0.245	
2437	6	802.11b	DSSS	22	15.5	15.49	0.06	Left	Cheek	2	03192	1	99.4	0.237	-	1.002	1.006	-	
2437	6	802.11b	DSSS	22	15.5	15.49	0.03	Left	Tilt	2	03192	1	99.4	0.277	-	1.002	1.006	-	
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 11-24
NII Head SAR**

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5280	56	802.11a	OFDM	20	18.0	17.26	0.18	Right	Cheek	1	03192	6	99.5	0.701	0.420	1.186	1.005	0.501	
5280	56	802.11a	OFDM	20	18.0	17.26	0.13	Right	Tilt	1	03192	6	99.5	0.539	0.282	1.186	1.005	0.336	
5280	56	802.11a	OFDM	20	18.0	17.26	0.04	Left	Cheek	1	03192	6	99.5	0.206	-	1.186	1.005	-	
5280	56	802.11a	OFDM	20	18.0	17.26	0.17	Left	Tilt	1	03192	6	99.5	0.227	-	1.186	1.005	-	
5280	56	802.11a	OFDM	20	18.0	17.16	0.05	Right	Cheek	2	03192	6	99.6	0.397	0.136	1.213	1.004	0.166	
5280	56	802.11a	OFDM	20	18.0	17.16	0.04	Right	Tilt	2	03192	6	99.6	0.277	-	1.213	1.004	-	
5280	56	802.11a	OFDM	20	18.0	17.16	0.12	Left	Cheek	2	03192	6	99.6	0.208	-	1.213	1.004	-	
5280	56	802.11a	OFDM	20	18.0	17.16	0.09	Left	Tilt	2	03192	6	99.6	0.312	-	1.213	1.004	-	
5500	100	802.11a	OFDM	20	17.0	16.48	-0.05	Right	Cheek	1	03192	6	99.5	0.832	0.439	1.127	1.005	0.497	A24
5500	100	802.11a	OFDM	20	17.0	16.48	0.05	Right	Tilt	1	03192	6	99.5	0.885	0.360	1.127	1.005	0.408	
5500	100	802.11a	OFDM	20	17.0	16.48	0.05	Left	Cheek	1	03192	6	99.5	0.370	-	1.127	1.005	-	
5500	100	802.11a	OFDM	20	17.0	16.48	0.15	Left	Tilt	1	03192	6	99.5	0.431	-	1.127	1.005	-	
5600	120	802.11a	OFDM	20	17.0	16.89	0.07	Right	Cheek	2	03192	6	99.6	0.254	-	1.026	1.004	-	
5600	120	802.11a	OFDM	20	17.0	16.89	0.09	Right	Tilt	2	03192	6	99.6	0.378	0.176	1.026	1.004	0.181	
5600	120	802.11a	OFDM	20	17.0	16.89	0.02	Left	Cheek	2	03192	6	99.6	0.233	-	1.026	1.004	-	
5600	120	802.11a	OFDM	20	17.0	16.89	0.05	Left	Tilt	2	03192	6	99.6	0.362	-	1.026	1.004	-	
5785	157	802.11a	OFDM	20	18.0	17.36	0.08	Right	Cheek	1	03192	6	99.5	0.776	0.343	1.159	1.005	0.400	
5785	157	802.11a	OFDM	20	18.0	17.36	0.09	Right	Tilt	1	03192	6	99.5	0.816	0.428	1.159	1.005	0.499	
5785	157	802.11a	OFDM	20	18.0	17.36	0.07	Left	Cheek	1	03192	6	99.5	0.305	-	1.159	1.005	-	
5785	157	802.11a	OFDM	20	18.0	17.36	0.11	Left	Tilt	1	03192	6	99.5	0.561	-	1.159	1.005	-	
5825	165	802.11a	OFDM	20	18.0	17.41	0.06	Right	Cheek	2	03192	6	99.6	0.248	-	1.146	1.004	-	
5825	165	802.11a	OFDM	20	18.0	17.41	0.04	Right	Tilt	2	03192	6	99.6	0.418	0.142	1.146	1.004	0.163	
5825	165	802.11a	OFDM	20	18.0	17.41	0.09	Left	Cheek	2	03192	6	99.6	0.286	-	1.146	1.004	-	
5825	165	802.11a	OFDM	20	18.0	17.41	0.08	Left	Tilt	2	03192	6	99.6	0.416	-	1.146	1.004	-	
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Table 11-25
NII MIMO Head SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)				
5270	54	802.11n	OFDM	40	15.0	14.99	15.0	14.67	-0.07	Right	Cheek	MIMO	03192	27	99.9	0.645	0.303	1.079	1.001	0.327	
5270	54	802.11n	OFDM	40	15.0	14.99	15.0	14.67	0.02	Right	Tilt	MIMO	03192	27	99.9	0.448	-	1.079	1.001	-	
5270	54	802.11n	OFDM	40	15.0	14.99	15.0	14.67	0.08	Left	Cheek	MIMO	03192	27	99.9	0.229	-	1.079	1.001	-	
5270	54	802.11n	OFDM	40	15.0	14.99	15.0	14.67	0.13	Left	Tilt	MIMO	03192	27	99.9	0.213	-	1.079	1.001	-	
5630	126	802.11n	OFDM	40	15.0	14.98	15.0	14.89	0.14	Right	Cheek	MIMO	03192	27	99.9	0.755	0.355	1.026	1.001	0.365	
5630	126	802.11n	OFDM	40	15.0	14.98	15.0	14.89	0.13	Right	Tilt	MIMO	03192	27	99.9	0.661	-	1.026	1.001	-	
5630	126	802.11n	OFDM	40	15.0	14.98	15.0	14.89	0.08	Left	Cheek	MIMO	03192	27	99.9	0.374	-	1.026	1.001	-	
5630	126	802.11n	OFDM	40	15.0	14.98	15.0	14.89	0.04	Left	Tilt	MIMO	03192	27	99.9	0.375	-	1.026	1.001	-	
5795	159	802.11n	OFDM	40	15.0	14.99	15.0	14.72	0.12	Right	Cheek	MIMO	03192	27	99.9	0.535	0.266	1.067	1.001	0.284	
5795	159	802.11n	OFDM	40	15.0	14.99	15.0	14.72	0.03	Right	Tilt	MIMO	03192	27	99.9	0.489	-	1.067	1.001	-	
5795	159	802.11n	OFDM	40	15.0	14.99	15.0	14.72	0.05	Left	Cheek	MIMO	03192	27	99.9	0.259	-	1.067	1.001	-	
5795	159	802.11n	OFDM	40	15.0	14.99	15.0	14.72	0.04	Left	Tilt	MIMO	03192	27	99.9	0.195	-	1.067	1.001	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram											

Note: NII MIMO was additionally evaluated at the maximum allowed output power during operations with Simultaneous 2.4 GHz and 5 GHz WLAN. 2.4 GHz WIFI was not transmitting during the above evaluations.

Table 11-26
DSS Head SAR

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	SAR (1g)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g) (W/kg)	Plot #
MHz	Ch.											(W/kg)				
2441.00	39	Bluetooth	FHSS	12.5	12.49	0.15	Right	Cheek	03192	1	76.8	0.157	1.002	1.302	0.205	A25
2441.00	39	Bluetooth	FHSS	12.5	12.49	-0.08	Right	Tilt	03192	1	76.8	0.044	1.002	1.302	0.057	
2441.00	39	Bluetooth	FHSS	12.5	12.49	-0.06	Left	Cheek	03192	1	76.8	0.023	1.002	1.302	0.030	
2441.00	39	Bluetooth	FHSS	12.5	12.49	-0.02	Left	Tilt	03192	1	76.8	0.023	1.002	1.302	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								

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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	Device Serial Number	# of Time Slots	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g) (W/kg)	Plot #
MHz	Ch.											(W/kg)			
820.10	564	CDMA BC10 (\$90S)	TDSO / SO32	25.5	25.33	0.03	10 mm	03226	N/A	1:1	back	0.479	1.040	0.498	A26
836.52	384	CDMA BC0 (\$22H)	TDSO / SO32	25.5	25.31	-0.02	10 mm	03226	N/A	1:1	back	0.529	1.045	0.553	A28
1851.25	25	PCS CDMA	TDSO / SO32	25.2	24.96	-0.01	10 mm	03218	N/A	1:1	back	0.627	1.057	0.663	
1880.00	600	PCS CDMA	TDSO / SO32	25.2	24.90	0.02	10 mm	03218	N/A	1:1	back	0.707	1.072	0.758	
1908.75	1175	PCS CDMA	TDSO / SO32	25.2	24.95	0.01	10 mm	03218	N/A	1:1	back	0.742	1.059	0.786	A30
836.60	190	GSM 850	GSM	33.4	32.99	-0.01	10 mm	03226	1	1:8.3	back	0.314	1.099	0.345	
836.60	190	GSM 850	GPRS	29.2	28.68	-0.17	10 mm	03226	4	1:2.076	back	0.457	1.127	0.515	A32
1880.00	661	GSM 1900	GSM	30.2	29.80	-0.02	10 mm	03259	1	1:8.3	back	0.281	1.096	0.308	
1880.00	661	GSM 1900	GPRS	27.2	27.18	-0.07	10 mm	03259	3	1:2.76	back	0.359	1.005	0.361	A33
836.60	4183	UMTS 850	RMC	25.5	25.33	0.00	10 mm	03226	N/A	1:1	back	0.546	1.040	0.568	A35
1732.40	1412	UMTS 1750	RMC	25.2	25.06	0.06	10 mm	03226	N/A	1:1	back	0.551	1.033	0.569	A36
1852.40	9262	UMTS 1900	RMC	25.2	25.01	-0.02	10 mm	03218	N/A	1:1	back	0.599	1.045	0.626	
1880.00	9400	UMTS 1900	RMC	25.2	24.97	0.00	10 mm	03218	N/A	1:1	back	0.686	1.054	0.723	
1907.60	9538	UMTS 1900	RMC	25.2	24.98	-0.07	10 mm	03218	N/A	1:1	back	0.700	1.052	0.736	A38
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]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Accessory	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	25.34	0.04	0	-	03234	QPSK	1	99	10 mm	back	1:1	0.257	1.038	0.267	A40
680.50	133297	Mid	LTE Band 71	20	24.5	24.41	0.04	1	-	03234	QPSK	50	25	10 mm	back	1:1	0.204	1.021	0.208	
707.50	23095	Mid	LTE Band 12	10	25.5	25.16	-0.06	0	-	03234	QPSK	1	49	10 mm	back	1:1	0.242	1.081	0.262	A42
707.50	23095	Mid	LTE Band 12	10	24.5	24.28	-0.03	1	-	03234	QPSK	25	12	10 mm	back	1:1	0.199	1.052	0.209	
782.00	23230	Mid	LTE Band 13	10	25.5	25.18	-0.02	0	-	03234	QPSK	1	0	10 mm	back	1:1	0.338	1.076	0.364	A44
782.00	23230	Mid	LTE Band 13	10	24.5	24.49	0.02	1	-	03234	QPSK	25	25	10 mm	back	1:1	0.266	1.002	0.267	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	25.29	-0.13	0	-	03234	QPSK	1	74	10 mm	back	1:1	0.385	1.050	0.404	A45
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.36	0.14	1	-	03234	QPSK	36	37	10 mm	back	1:1	0.299	1.033	0.309	
1720.00	132072	Low	LTE Band 66 (AWS)	20	25.2	24.56	0.05	0	-	03242	QPSK	1	50	10 mm	back	1:1	0.613	1.159	0.710	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.2	24.90	0.04	0	-	03242	QPSK	1	50	10 mm	back	1:1	0.638	1.072	0.684	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.2	24.89	0.02	0	-	03242	QPSK	1	0	10 mm	back	1:1	0.692	1.074	0.743	A46
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.2	23.98	0.10	1	-	03242	QPSK	50	50	10 mm	back	1:1	0.518	1.052	0.545	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.2	24.88	0.05	0	-	03234	QPSK	1	0	10 mm	back	1:1	0.697	1.076	0.750	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.2	24.92	-0.06	0	-	03234	QPSK	1	0	10 mm	back	1:1	0.799	1.067	0.853	
1905.00	26590	High	LTE Band 25 (PCS)	20	25.2	24.90	-0.01	0	-	03234	QPSK	1	0	10 mm	back	1:1	0.825	1.072	0.884	A48
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.2	24.04	0.00	1	-	03234	QPSK	50	25	10 mm	back	1:1	0.621	1.038	0.645	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.2	23.92	-0.04	1	-	03234	QPSK	100	0	10 mm	back	1:1	0.593	1.067	0.633	
1905.00	26590	High	LTE Band 25 (PCS)	20	25.2	24.90	-0.02	0	-	03234	QPSK	1	0	10 mm	back	1:1	0.786	1.072	0.843	
2310.00	27710	Mid	LTE Band 30	10	22.7	22.23	0.03	0	-	03234	QPSK	1	25	10 mm	back	1:1	0.200	1.114	0.223	A50
2310.00	27710	Mid	LTE Band 30	10	21.7	21.35	0.03	1	-	03234	QPSK	25	12	10 mm	back	1:1	0.159	1.084	0.172	
2535.00	21100	Mid	LTE Band 7	20	23.7	23.39	-0.05	0	-	03234	QPSK	1	99	10 mm	back	1:1	0.299	1.074	0.321	A52
2535.00	21100	Mid	LTE Band 7	20	22.7	22.53	-0.05	1	-	03234	QPSK	50	50	10 mm	back	1:1	0.245	1.040	0.255	
3560.00	55340	Low	LTE Band 48	20	23.7	23.60	-0.01	0	-	03242	QPSK	1	99	10 mm	back	1:1.58	1.060	1.023	1.084	
3603.30	55773	Low-Md	LTE Band 48	20	23.7	23.43	-0.11	0	-	03242	QPSK	1	99	10 mm	back	1:1.58	1.180	1.064	1.256	A54
3603.30	55773	Low-Md	LTE Band 48	20	23.7	23.43	0.01	0	Headphones	03242	QPSK	1	99	10 mm	back	1:1.58	1.130	1.064	1.202	
3646.70	56207	Mid-High	LTE Band 48	20	23.7	23.61	-0.09	0	-	03242	QPSK	1	99	10 mm	back	1:1.58	1.130	1.021	1.154	
3690.00	56640	High	LTE Band 48	20	23.7	23.47	-0.13	0	-	03242	QPSK	1	0	10 mm	back	1:1.58	1.110	1.054	1.170	
3560.00	55340	Low	LTE Band 48	20	22.7	22.38	-0.10	1	-	03242	QPSK	50	25	10 mm	back	1:1.58	0.788	1.076	0.848	
3603.30	55773	Low-Md	LTE Band 48	20	22.7	22.38	-0.11	1	-	03242	QPSK	50	25	10 mm	back	1:1.58	0.885	1.076	0.952	
3646.70	56207	Mid-High	LTE Band 48	20	22.7	22.48	-0.03	1	-	03242	QPSK	50	25	10 mm	back	1:1.58	0.870	1.052	0.915	
3690.00	56640	High	LTE Band 48	20	22.7	22.32	-0.08	1	-	03242	QPSK	50	25	10 mm	back	1:1.58	0.861	1.091	0.939	
3646.70	56207	Mid-High	LTE Band 48	20	22.7	22.39	-0.07	1	-	03242	QPSK	100	0	10 mm	back	1:1.58	0.855	1.074	0.918	
3560.00	55340	Low	LTE Band 48	20	23.7	23.60	-0.10	0	-	03242	QPSK	1	99	10 mm	back	1:1.58	0.996	1.023	1.019	
3603.30	55773	Low-Md	LTE Band 48	20	23.7	23.43	-0.11	0	-	03242	QPSK	1	99	10 mm	back	1:1.58	1.160	1.064	1.234	
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 entries represent variability measurements.

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Table 11-29
LTE Band 41 Body-Worn SAR

MEASUREMENT RESULTS																					
1 CC Uplink / 2 CC Uplink, Power Class	Component Carrier	FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
		MHz	Ch.														(W/kg)		(W/kg)		
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	25.2	24.99	-0.02	0	03242	QPSK	1	0	10 mm	back	1:1.58	0.298	1.050	0.313	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	25.2	24.89	0.03	0	03242	QPSK	1	99	10 mm	back	1:1.58	0.300	1.074	0.322	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	24.2	24.07	0.03	1	03242	QPSK	50	25	10 mm	back	1:1.58	0.264	1.030	0.272	
1 CC Uplink - Power Class 2	N/A	2506.00	39750	Low	LTE Band 41	20	27.7	27.35	-0.09	0	03242	QPSK	1	0	10 mm	back	1:2.31	0.317	1.084	0.344	
1 CC Uplink - Power Class 2	N/A	2506.00	39750	Low	LTE Band 41	20	27.7	27.38	-0.04	0	03242	QPSK	1	99	10 mm	back	1:2.31	0.334	1.076	0.359	
2 CC Uplink - Power Class 3	PCC	2506.00	39750	Low	LTE Band 41	20	25.2	25.20	0.16	0	03242	QPSK	1	99	10 mm	back	1:1.58	0.338	1.000	0.338	
	SCC	2525.80	39948											0							
2 CC Uplink - Power Class 2	PCC	2506.00	39750	Low	LTE Band 41	20	27.7	27.24	-0.02	0	03242	QPSK	1	99	10 mm	back	1:2.31	0.339	1.112	0.377	A55
	SCC	2525.80	39948											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											

Table 11-30
NR Body-Worn SAR

MEASUREMENT RESULTS																				
Power Class	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 (lg)	Scaling Factor	Reported SAR (lg)	Plot #	
	MHz	Ch.														(W/kg)		(W/kg)		
N/A	680.50	136100	Mid	NR Band n71	20	25.5	25.22	-0.02	0	03267	DFT-S-OFDM QPSK	1	1	10 mm	back	1:1	0.105	1.067	0.112	A57
N/A	680.50	136100	Mid	NR Band n71	20	25.5	25.18	0.03	0	03267	DFT-S-OFDM QPSK	50	0	10 mm	back	1:1	0.083	1.076	0.089	
N/A	680.50	136100	Mid	NR Band n71	20	25.5	24.93	0.03	0	03267	CP-OFDM QPSK	1	1	10 mm	back	1:1	0.071	1.140	0.081	
N/A	1770.00	354000	High	NR Band n66 (AWS)	20	23.4	23.36	0.04	0	03267	DFT-S-OFDM QPSK	1	104	10 mm	back	1:1	0.275	1.009	0.277	
N/A	1770.00	354000	High	NR Band n66 (AWS)	20	23.4	23.34	0.05	0	03267	DFT-S-OFDM QPSK	50	56	10 mm	back	1:1	0.271	1.014	0.275	
N/A	1770.00	354000	High	NR Band n66 (AWS)	20	23.4	23.26	0.01	0	03267	CP-OFDM QPSK	1	1	10 mm	back	1:1	0.279	1.033	0.288	A59
N/A	1905.00	381000	High	NR Band n25 (PCS)	20	23.4	23.07	-0.03	0	03267	DFT-S-OFDM QPSK	1	104	10 mm	back	1:1	0.317	1.079	0.342	
N/A	1905.00	381000	High	NR Band n25 (PCS)	20	23.4	23.06	-0.02	0	03267	DFT-S-OFDM QPSK	50	28	10 mm	back	1:1	0.330	1.081	0.357	A61
N/A	1905.00	381000	High	NR Band n25 (PCS)	20	23.4	22.94	-0.07	0	03267	CP-OFDM QPSK	1	1	10 mm	back	1:1	0.315	1.112	0.350	
Power Class 2	2592.99	518598	Mid	NR Band n41	100	27.7	27.19	0.00	0	03192	DFT-S-OFDM QPSK	1	1	10 mm	back	1:4	0.096	1.125	0.108	
Power Class 2	2592.99	518598	Mid	NR Band n41	100	27.7	27.39	0.03	0	03192	DFT-S-OFDM QPSK	135	0	10 mm	back	1:4	0.101	1.074	0.108	A63
Power Class 2	2592.99	518598	Mid	NR Band n41	100	26.7	26.24	-0.05	1	03192	CP-OFDM QPSK	1	1	10 mm	back	1:4	0.090	1.112	0.100	
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 11-31
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)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
2462	11	802.11b	DSSS	22	20.5	19.97	0.15	10 mm	1	03192	1	back	99.6	0.290	0.159	1.130	1.004	0.180	A65
2412	1	802.11b	DSSS	22	20.5	20.12	0.15	10 mm	2	03192	1	back	99.4	0.141	0.086	1.091	1.006	0.094	
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
DTS Body-Worn SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)	(Power)	(Duty Cycle)	(W/kg)	
2437	6	802.11n	OFDM	20	15.5	14.91	15.5	15.04	0.05	10 mm	MIMO	03192	13	back	99.1	0.102	0.067	1.146	1.009	0.077	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT																					
Spatial Peak																					
Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram											

Note: DTS MIMO was additionally evaluated at the maximum allowed output power during operations with Simultaneous 2.4 GHz and 5 GHz WLAN. 5 GHz WIFI was not transmitting during the above evaluations.

Table 11-33
NII Body-Worn SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5280	56	802.11a	OFDM	20	18.0	17.26	-0.02	10 mm	1	03192	6	back	99.5	0.450	0.234	1.186	1.005	0.279	
5280	56	802.11a	OFDM	20	18.0	17.16	0.04	10 mm	2	03192	6	back	99.6	0.523	0.256	1.213	1.004	0.312	
5500	100	802.11a	OFDM	20	17.0	16.48	0.03	10 mm	1	03192	6	back	99.5	0.355	0.170	1.127	1.005	0.193	
5600	120	802.11a	OFDM	20	17.0	16.89	0.03	10 mm	2	03192	6	back	99.6	0.513	0.238	1.026	1.004	0.245	
5785	157	802.11a	OFDM	20	18.0	17.36	0.01	10 mm	1	03192	6	back	99.5	0.266	0.111	1.159	1.005	0.129	
5825	165	802.11a	OFDM	20	18.0	17.41	0.03	10 mm	2	03192	6	back	99.6	0.468	0.365	1.146	1.004	0.420	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram											

Table 11-34
NII MIMO Body-Worn SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)	(W/kg)			
5280	56	802.11n	OFDM	20	18.0	17.54	18.0	17.43	0.05	10 mm	MIMO	03192	13	back	99.9	0.743	0.352	1.140	1.001	0.402	
5620	124	802.11n	OFDM	20	17.0	16.67	17.0	16.84	0.18	10 mm	MIMO	03192	13	back	99.9	0.712	0.310	1.079	1.001	0.335	
5825	165	802.11n	OFDM	20	18.0	17.57	18.0	17.65	0.12	10 mm	MIMO	03192	13	back	99.9	1.004	0.449	1.104	1.001	0.496	A67
ANSI / IEEE C95.1 1992 - SAFETY LIMIT										Body 1.6 W/kg (mW/g) averaged over 1 gram											
Spatial Peak Uncontrolled Exposure/General Population																					

Note: For channel 56 and 165 to achieve the 21.0 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 18.0 dBm. For channel 124 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.

Table 11-35
NII MIMO Body-Worn SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [Ant 1] [dBm]	Conducted Power [Ant 1] [dBm]	Maximum Allowed Power [Ant 2] [dBm]	Conducted Power [Ant 2] [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate [Mbps]	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR [g]	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR [g]	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5270	54	802.11n	OFDM	40	15.0	14.99	15.0	14.67	0.02	10 mm	MIMO	03192	27	back	99.9	0.302	0.147	1.079	1.001	0.159	
5630	126	802.11n	OFDM	40	15.0	14.98	15.0	14.89	0.04	10 mm	MIMO	03192	27	back	99.9	0.415	0.190	1.026	1.001	0.195	
5795	159	802.11n	OFDM	40	15.0	14.99	15.0	14.72	0.03	10 mm	MIMO	03192	27	back	99.9	0.390	0.166	1.067	1.001	0.177	
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: NII MIMO was additionally evaluated at the maximum allowed output power during operations with Simultaneous 2.4 GHz and 5 GHz WLAN. 2.4 GHz WIFI was not transmitting during the above evaluations.

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**Table 11-36
DSS Body-Worn SAR**

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	SAR (1g)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)			(W/kg)	
2441	39	Bluetooth	FHSS	12.5	12.49	-0.08	10 mm	03192	1	back	76.8	0.021	1.002	1.302	0.027	A68
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram									

11.3 Standalone Hotspot SAR Data

**Table 11-37
CDMA Hotspot SAR Data**

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. 0	25.5	25.34	-0.01	10 mm	03226	1:1	back	0.329	1.038	0.342	A27
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. 0	25.5	25.34	-0.01	10 mm	03226	1:1	front	0.291	1.038	0.302	
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. 0	25.5	25.34	0.07	10 mm	03226	1:1	bottom	0.103	1.038	0.107	
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. 0	25.5	25.34	-0.01	10 mm	03226	1:1	right	0.123	1.038	0.128	
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. 0	25.5	25.32	0.02	10 mm	03226	1:1	back	0.394	1.042	0.411	A29
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. 0	25.5	25.32	0.16	10 mm	03226	1:1	front	0.317	1.042	0.330	
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. 0	25.5	25.32	-0.04	10 mm	03226	1:1	bottom	0.128	1.042	0.133	
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. 0	25.5	25.32	0.03	10 mm	03226	1:1	right	0.121	1.042	0.126	
1880.00	600	PCS CDMA	EVDO Rev. 0	22.7	22.25	0.02	10 mm	03234	1:1	back	0.414	1.109	0.459	
1880.00	600	PCS CDMA	EVDO Rev. 0	22.7	22.25	0.03	10 mm	03234	1:1	front	0.420	1.109	0.466	
1851.25	25	PCS CDMA	EVDO Rev. 0	22.7	22.36	-0.07	10 mm	03234	1:1	bottom	0.562	1.081	0.608	
1880.00	600	PCS CDMA	EVDO Rev. 0	22.7	22.25	0.02	10 mm	03234	1:1	bottom	0.635	1.109	0.704	
1908.75	1175	PCS CDMA	EVDO Rev. 0	22.7	22.41	-0.04	10 mm	03234	1:1	bottom	0.655	1.069	0.700	A31
1880.00	600	PCS CDMA	EVDO Rev. 0	22.7	22.25	0.04	10 mm	03234	1:1	left	0.129	1.109	0.143	
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
GPRS Hotspot SAR Data

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	# of Time Slots	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
836.60	190	GSM 850	GPRS	29.2	28.68	-0.17	10 mm	03226	4	1:2.076	back	0.457	1.127	0.515	A32
836.60	190	GSM 850	GPRS	29.2	28.68	-0.11	10 mm	03226	4	1:2.076	front	0.407	1.127	0.459	
836.60	190	GSM 850	GPRS	29.2	28.68	0.09	10 mm	03226	4	1:2.076	bottom	0.157	1.127	0.177	
836.60	190	GSM 850	GPRS	29.2	28.68	0.00	10 mm	03226	4	1:2.076	right	0.118	1.127	0.133	
1880.00	661	GSM 1900	GPRS	27.2	27.18	-0.07	10 mm	03259	3	1:2.76	back	0.359	1.005	0.361	
1880.00	661	GSM 1900	GPRS	27.2	27.18	-0.02	10 mm	03259	3	1:2.76	front	0.360	1.005	0.362	
1880.00	661	GSM 1900	GPRS	27.2	27.18	-0.08	10 mm	03259	3	1:2.76	bottom	0.596	1.005	0.599	A34
1880.00	661	GSM 1900	GPRS	27.2	27.18	0.00	10 mm	03259	3	1:2.76	left	0.099	1.005	0.099	
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
UMTS Hotspot SAR Data

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
836.60	4183	UMTS 850	RMC	25.5	25.33	0.00	10 mm	03226	1:1	back	0.546	1.040	0.568	A35
836.60	4183	UMTS 850	RMC	25.5	25.33	-0.03	10 mm	03226	1:1	front	0.542	1.040	0.564	
836.60	4183	UMTS 850	RMC	25.5	25.33	0.00	10 mm	03226	1:1	bottom	0.171	1.040	0.178	
836.60	4183	UMTS 850	RMC	25.5	25.33	0.00	10 mm	03226	1:1	right	0.221	1.040	0.230	
1732.40	1412	UMTS 1750	RMC	22.7	22.42	0.08	10 mm	03242	1:1	back	0.351	1.067	0.375	
1732.40	1412	UMTS 1750	RMC	22.7	22.42	0.11	10 mm	03242	1:1	front	0.291	1.067	0.310	
1712.40	1312	UMTS 1750	RMC	22.7	22.44	0.00	10 mm	03242	1:1	bottom	0.603	1.062	0.640	
1732.40	1412	UMTS 1750	RMC	22.7	22.42	-0.03	10 mm	03242	1:1	bottom	0.671	1.067	0.716	
1752.60	1513	UMTS 1750	RMC	22.7	22.43	0.01	10 mm	03242	1:1	bottom	0.691	1.064	0.735	A37
1732.40	1412	UMTS 1750	RMC	22.7	22.42	0.07	10 mm	03242	1:1	left	0.115	1.067	0.123	
1880.00	9400	UMTS 1900	RMC	22.7	22.42	0.00	10 mm	03259	1:1	back	0.425	1.067	0.453	
1880.00	9400	UMTS 1900	RMC	22.7	22.42	0.00	10 mm	03259	1:1	front	0.367	1.067	0.392	
1852.40	9262	UMTS 1900	RMC	22.7	22.40	-0.04	10 mm	03259	1:1	bottom	0.624	1.072	0.669	
1880.00	9400	UMTS 1900	RMC	22.7	22.42	-0.05	10 mm	03259	1:1	bottom	0.689	1.067	0.735	
1907.60	9538	UMTS 1900	RMC	22.7	22.45	0.00	10 mm	03259	1:1	bottom	0.788	1.059	0.834	A39
1880.00	9400	UMTS 1900	RMC	22.7	22.42	-0.01	10 mm	03259	1:1	left	0.123	1.067	0.131	
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Table 11-40
LTE Band 71 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)		
680.50	133297	Mid	LTE Band 71	20	25.5	25.34	0.04	0	03234	QPSK	1	99	10 mm	back	1:1	0.257	1.038	0.267	
680.50	133297	Mid	LTE Band 71	20	24.5	24.41	0.04	1	03234	QPSK	50	25	10 mm	back	1:1	0.204	1.021	0.208	
680.50	133297	Mid	LTE Band 71	20	25.5	25.34	0.01	0	03234	QPSK	1	99	10 mm	front	1:1	0.251	1.038	0.261	
680.50	133297	Mid	LTE Band 71	20	24.5	24.41	0.02	1	03234	QPSK	50	25	10 mm	front	1:1	0.196	1.021	0.200	
680.50	133297	Mid	LTE Band 71	20	25.5	25.34	-0.08	0	03234	QPSK	1	99	10 mm	bottom	1:1	0.070	1.038	0.073	
680.50	133297	Mid	LTE Band 71	20	24.5	24.41	-0.02	1	03234	QPSK	50	25	10 mm	bottom	1:1	0.059	1.021	0.060	
680.50	133297	Mid	LTE Band 71	20	25.5	25.34	0.01	0	03234	QPSK	1	99	10 mm	right	1:1	0.354	1.038	0.367	A41
680.50	133297	Mid	LTE Band 71	20	24.5	24.41	-0.06	1	03234	QPSK	50	25	10 mm	right	1:1	0.283	1.021	0.289	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram											

Table 11-41
LTE Band 12 Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.														(W/kg)		(W/kg)		
707.50	23095	Mid	LTE Band 12	10	25.5	25.16	-0.06	0	03234	QPSK	1	49	10 mm	back	1:1	0.242	1.081	0.262	
707.50	23095	Mid	LTE Band 12	10	24.5	24.28	-0.03	1	03234	QPSK	25	12	10 mm	back	1:1	0.199	1.052	0.209	
707.50	23095	Mid	LTE Band 12	10	25.5	25.16	0.02	0	03234	QPSK	1	49	10 mm	front	1:1	0.242	1.081	0.262	
707.50	23095	Mid	LTE Band 12	10	24.5	24.28	-0.04	1	03234	QPSK	25	12	10 mm	front	1:1	0.193	1.052	0.203	
707.50	23095	Mid	LTE Band 12	10	25.5	25.16	-0.03	0	03234	QPSK	1	49	10 mm	bottom	1:1	0.080	1.081	0.086	
707.50	23095	Mid	LTE Band 12	10	24.5	24.28	-0.09	1	03234	QPSK	25	12	10 mm	bottom	1:1	0.059	1.052	0.062	
707.50	23095	Mid	LTE Band 12	10	25.5	25.16	0.01	0	03234	QPSK	1	49	10 mm	right	1:1	0.312	1.081	0.337	A43
707.50	23095	Mid	LTE Band 12	10	24.5	24.28	0.01	1	03234	QPSK	25	12	10 mm	right	1:1	0.263	1.052	0.277	
								Body 1.6 W/kg (mW/g) averaged over 1 gram											

Table 11-42
LTE Band 13 Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.	(W/kg)														(W/kg)			
782.00	23230	Mid	LTE Band 13	10	25.5	25.18	-0.02	0	03234	QPSK	1	0	10 mm	back	1:1	0.338	1.076	0.364	A44
782.00	23230	Mid	LTE Band 13	10	24.5	24.49	0.02	1	03234	QPSK	25	25	10 mm	back	1:1	0.266	1.002	0.267	
782.00	23230	Mid	LTE Band 13	10	25.5	25.18	0.06	0	03234	QPSK	1	0	10 mm	front	1:1	0.295	1.076	0.317	
782.00	23230	Mid	LTE Band 13	10	24.5	24.49	0.02	1	03234	QPSK	25	25	10 mm	front	1:1	0.255	1.002	0.256	
782.00	23230	Mid	LTE Band 13	10	25.5	25.18	-0.06	0	03234	QPSK	1	0	10 mm	bottom	1:1	0.114	1.076	0.123	
782.00	23230	Mid	LTE Band 13	10	24.5	24.49	0.01	1	03234	QPSK	25	25	10 mm	bottom	1:1	0.083	1.002	0.083	
782.00	23230	Mid	LTE Band 13	10	25.5	25.18	-0.07	0	03234	QPSK	1	0	10 mm	right	1:1	0.230	1.076	0.247	
782.00	23230	Mid	LTE Band 13	10	24.5	24.49	-0.06	1	03234	QPSK	25	25	10 mm	right	1:1	0.180	1.002	0.180	
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 11-43
LTE Band 26 (Cell) 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)		
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	25.29	-0.13	0	03234	QPSK	1	74	10 mm	back	1:1	0.385	1.050	0.404	A45
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.36	0.14	1	03234	QPSK	36	37	10 mm	back	1:1	0.299	1.033	0.309	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	25.29	-0.03	0	03234	QPSK	1	74	10 mm	front	1:1	0.337	1.050	0.354	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.36	0.10	1	03234	QPSK	36	37	10 mm	front	1:1	0.272	1.033	0.281	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	25.29	-0.04	0	03234	QPSK	1	74	10 mm	bottom	1:1	0.113	1.050	0.119	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.36	-0.04	1	03234	QPSK	36	37	10 mm	bottom	1:1	0.090	1.033	0.093	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	25.29	-0.02	0	03234	QPSK	1	74	10 mm	right	1:1	0.122	1.050	0.128	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.36	-0.04	1	03234	QPSK	36	37	10 mm	right	1:1	0.099	1.033	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											

Table 11-44
LTE Band 66 (AWS) Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.														(W/kg)		(W/kg)		
1770.00	132572	High	LTE Band 66 (AWS)	20	22.7	22.45	-0.02	0	03218	QPSK	1	0	10 mm	back	1:1	0.354	1.059	0.375	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.7	22.54	-0.01	0	03218	QPSK	50	25	10 mm	back	1:1	0.335	1.038	0.348	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.7	22.45	0.02	0	03218	QPSK	1	0	10 mm	front	1:1	0.333	1.059	0.353	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.7	22.54	-0.01	0	03218	QPSK	50	25	10 mm	front	1:1	0.312	1.038	0.324	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.7	22.32	0.02	0	03218	QPSK	1	50	10 mm	bottom	1:1	0.592	1.091	0.646	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.7	22.36	0.00	0	03218	QPSK	1	50	10 mm	bottom	1:1	0.644	1.081	0.696	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.7	22.45	0.00	0	03218	QPSK	1	0	10 mm	bottom	1:1	0.670	1.059	0.710	A47
1770.00	132572	High	LTE Band 66 (AWS)	20	22.7	22.54	-0.01	0	03218	QPSK	50	25	10 mm	bottom	1:1	0.663	1.038	0.688	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.7	22.45	0.06	0	03218	QPSK	1	0	10 mm	left	1:1	0.112	1.059	0.119	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.7	22.54	0.00	0	03218	QPSK	50	25	10 mm	left	1:1	0.105	1.038	0.109	
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 11-45
LTE Band 25 (PCS) Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.														(W/kg)		(W/kg)		
1905.00	26590	High	LTE Band 25 (PCS)	20	22.7	22.60	-0.01	0	03226	QPSK	1	0	10 mm	back	1:1	0.362	1.023	0.370	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.7	22.69	0.00	0	03226	QPSK	50	25	10 mm	back	1:1	0.370	1.002	0.371	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.7	22.60	-0.01	0	03226	QPSK	1	0	10 mm	front	1:1	0.393	1.023	0.402	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.7	22.69	0.02	0	03226	QPSK	50	25	10 mm	front	1:1	0.404	1.002	0.405	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.7	22.41	0.00	0	03226	QPSK	1	99	10 mm	bottom	1:1	0.691	1.069	0.739	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.7	22.43	0.04	0	03226	QPSK	1	99	10 mm	bottom	1:1	0.706	1.064	0.751	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.7	22.60	0.01	0	03226	QPSK	1	0	10 mm	bottom	1:1	0.741	1.023	0.758	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.7	22.69	-0.01	0	03226	QPSK	50	25	10 mm	bottom	1:1	0.752	1.002	0.754	A49
1905.00	26590	High	LTE Band 25 (PCS)	20	22.7	22.60	0.03	0	03226	QPSK	1	0	10 mm	left	1:1	0.109	1.023	0.112	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.7	22.69	-0.06	0	03226	QPSK	50	25	10 mm	left	1:1	0.108	1.002	0.108	
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 11-46
LTE Band 30 Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.														(W/kg)		(W/kg)		
2310.00	27710	Mid	LTE Band 30	10	22.7	22.23	0.03	0	03234	QPSK	1	25	10 mm	back	1:1	0.200	1.114	0.223	
2310.00	27710	Mid	LTE Band 30	10	21.7	21.35	0.03	1	03234	QPSK	25	12	10 mm	back	1:1	0.159	1.084	0.172	
2310.00	27710	Mid	LTE Band 30	10	22.7	22.23	0.02	0	03234	QPSK	1	25	10 mm	front	1:1	0.192	1.114	0.214	
2310.00	27710	Mid	LTE Band 30	10	21.7	21.35	0.01	1	03234	QPSK	25	12	10 mm	front	1:1	0.154	1.084	0.167	
2310.00	27710	Mid	LTE Band 30	10	22.7	22.23	-0.06	0	03234	QPSK	1	25	10 mm	bottom	1:1	0.394	1.114	0.439	A51
2310.00	27710	Mid	LTE Band 30	10	21.7	21.35	0.18	1	03234	QPSK	25	12	10 mm	bottom	1:1	0.336	1.084	0.364	
2310.00	27710	Mid	LTE Band 30	10	22.7	22.23	0.04	0	03234	QPSK	1	25	10 mm	left	1:1	0.048	1.114	0.053	
2310.00	27710	Mid	LTE Band 30	10	21.7	21.35	-0.13	1	03234	QPSK	25	12	10 mm	left	1:1	0.038	1.084	0.041	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram											

Table 11-47
LTE Band 7 Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.	(W/kg)														(W/kg)			
2560.00	21350	High	LTE Band 7	20	21.7	21.44	0.04	0	03226	QPSK	1	0	10 mm	back	1:1	0.225	1.062	0.239	
2560.00	21350	High	LTE Band 7	20	21.7	21.50	-0.06	0	03226	QPSK	50	50	10 mm	back	1:1	0.207	1.047	0.217	
2560.00	21350	High	LTE Band 7	20	21.7	21.44	-0.08	0	03226	QPSK	1	0	10 mm	front	1:1	0.220	1.062	0.234	
2560.00	21350	High	LTE Band 7	20	21.7	21.50	-0.02	0	03226	QPSK	50	50	10 mm	front	1:1	0.213	1.047	0.223	
2560.00	21350	High	LTE Band 7	20	21.7	21.44	-0.01	0	03226	QPSK	1	0	10 mm	bottom	1:1	0.486	1.062	0.516	A53
2560.00	21350	High	LTE Band 7	20	21.7	21.50	-0.02	0	03226	QPSK	50	50	10 mm	bottom	1:1	0.457	1.047	0.478	
2560.00	21350	High	LTE Band 7	20	21.7	21.44	0.09	0	03226	QPSK	1	0	10 mm	left	1:1	0.041	1.062	0.044	
2560.00	21350	High	LTE Band 7	20	21.7	21.50	-0.10	0	03226	QPSK	50	50	10 mm	left	1:1	0.037	1.047	0.039	
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
LTE Band 48 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)			
3560.00	55340	Low	LTE Band 48	20	23.7	23.60	-0.01	0	03242	QPSK	1	99	10 mm	back	1:1.58	1.060	1.023	1.084	
3603.30	55773	Low-Mid	LTE Band 48	20	23.7	23.43	-0.11	0	03242	QPSK	1	99	10 mm	back	1:1.58	1.180	1.064	1.256	A54
3646.70	56207	Mid-High	LTE Band 48	20	23.7	23.61	-0.09	0	03242	QPSK	1	99	10 mm	back	1:1.58	1.130	1.021	1.154	
3690.00	56640	High	LTE Band 48	20	23.7	23.47	-0.13	0	03242	QPSK	1	0	10 mm	back	1:1.58	1.110	1.054	1.170	
3560.00	55340	Low	LTE Band 48	20	22.7	22.38	-0.10	1	03242	QPSK	50	25	10 mm	back	1:1.58	0.788	1.076	0.848	
3603.30	55773	Low-Mid	LTE Band 48	20	22.7	22.38	-0.11	1	03242	QPSK	50	25	10 mm	back	1:1.58	0.885	1.076	0.952	
3646.70	56207	Mid-High	LTE Band 48	20	22.7	22.48	-0.03	1	03242	QPSK	50	25	10 mm	back	1:1.58	0.870	1.052	0.915	
3690.00	56640	High	LTE Band 48	20	22.7	22.32	-0.08	1	03242	QPSK	50	25	10 mm	back	1:1.58	0.861	1.091	0.939	
3646.70	56207	Mid-High	LTE Band 48	20	22.7	22.39	-0.07	1	03242	QPSK	100	0	10 mm	back	1:1.58	0.855	1.074	0.918	
3646.70	56207	Mid-High	LTE Band 48	20	23.7	23.61	0.04	0	03242	QPSK	1	99	10 mm	front	1:1.58	0.029	1.021	0.030	
3646.70	56207	Mid-High	LTE Band 48	20	22.7	22.48	0.03	1	03242	QPSK	50	25	10 mm	front	1:1.58	0.025	1.052	0.026	
3646.70	56207	Mid-High	LTE Band 48	20	23.7	23.61	-0.01	0	03242	QPSK	1	99	10 mm	right	1:1.58	0.529	1.021	0.540	
3646.70	56207	Mid-High	LTE Band 48	20	22.7	22.48	0.07	1	03242	QPSK	50	25	10 mm	right	1:1.58	0.438	1.052	0.461	
3560.00	55340	Low	LTE Band 48	20	23.7	23.60	-0.10	0	03242	QPSK	1	99	10 mm	back	1:1.58	0.996	1.023	1.019	
3603.3	55773	Low-Mid	LTE Band 48	20	23.7	23.43	-0.11	0	03242	QPSK	1	99	10 mm	back	1:1.58	1.160	1.064	1.234	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram											

Note: Blue entries represent variability measurements.

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Table 11-49
LTE Band 41 Hotspot SAR

MEASUREMENT RESULTS																				
1 CC Uplink / 2 CC Uplink, Power Class	Component Carrier	FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
		MHz	Ch.														(W/kg)		(W/kg)	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	25.2	24.99	-0.02	0	03242	QPSK	1	0	10 mm	back	1:1.58	0.298	1.050	0.313
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	24.2	24.07	0.03	1	03242	QPSK	50	25	10 mm	back	1:1.58	0.264	1.030	0.272
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	25.2	24.99	0.05	0	03242	QPSK	1	0	10 mm	front	1:1.58	0.346	1.050	0.363
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	24.2	24.07	0.09	1	03242	QPSK	50	25	10 mm	front	1:1.58	0.268	1.030	0.276
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	25.2	24.99	-0.13	0	03242	QPSK	1	0	10 mm	bottom	1:1.58	0.791	1.050	0.831
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	25.2	24.89	-0.05	0	03242	QPSK	1	99	10 mm	bottom	1:1.58	0.696	1.074	0.748
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	25.2	24.94	-0.09	0	03242	QPSK	1	0	10 mm	bottom	1:1.58	0.688	1.062	0.731
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	25.2	24.85	-0.04	0	03242	QPSK	1	50	10 mm	bottom	1:1.58	0.543	1.084	0.589
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	25.2	24.74	-0.11	0	03242	QPSK	1	99	10 mm	bottom	1:1.58	0.453	1.112	0.504
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	25.2	24.81	-0.02	0	03242	QPSK	1	50	10 mm	bottom	1:1.58	0.599	1.094	0.655
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	24.2	24.07	-0.05	1	03242	QPSK	50	25	10 mm	bottom	1:1.58	0.609	1.030	0.627
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.2	24.00	-0.05	1	03242	QPSK	50	50	10 mm	bottom	1:1.58	0.537	1.047	0.562
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	24.2	23.97	-0.04	1	03242	QPSK	50	25	10 mm	bottom	1:1.58	0.437	1.054	0.461
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	24.2	23.80	-0.04	1	03242	QPSK	50	25	10 mm	bottom	1:1.58	0.412	1.096	0.452
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	24.2	24.02	-0.02	1	03242	QPSK	50	25	10 mm	bottom	1:1.58	0.477	1.042	0.497
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	24.2	23.98	-0.05	1	03242	QPSK	100	0	10 mm	bottom	1:1.58	0.602	1.052	0.633
1 CC Uplink - Power Class 2	N/A	2506.00	39750	Low	LTE Band 41	20	27.7	27.35	-0.17	0	03242	QPSK	1	0	10 mm	bottom	1:2.31	0.862	1.084	0.934
1 CC Uplink - Power Class 2	N/A	2506.00	39750	Low	LTE Band 41	20	27.7	27.38	-0.06	0	03242	QPSK	1	99	10 mm	bottom	1:2.31	0.778	1.076	0.837
2 CC Uplink - Power Class 3	PCC	2506.00	39750	Low	LTE Band 41	20	25.2	25.20	-0.14	0	03242	QPSK	1	99	10 mm	bottom	1:1.58	0.784	1.000	0.784
	SCC	2525.80	39948																	
2 CC Uplink - Power Class 2	PCC	2506.00	39750	Low	LTE Band 41	20	27.7	27.24	-0.12	0	03242	QPSK	1	99	10 mm	bottom	1:2.31	0.773	1.112	0.860
	SCC	2525.80	39948																	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	25.2	24.99	0.02	0	03242	QPSK	1	0	10 mm	left	1:1.58	0.095	1.050	0.100
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	24.2	24.07	0.17	1	03242	QPSK	50	25	10 mm	left	1:1.58	0.073	1.030	0.075
1 CC Uplink - Power Class 2	N/A	2506.00	39750	Low	LTE Band 41	20	27.7	27.35	-0.15	0	03242	QPSK	1	0	10 mm	bottom	1:2.31	0.839	1.084	0.909
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: Blue entry represents variability measurement.

Table 11-50
NR Band n71 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 (lg)	Scaling Factor	Reported SAR (lg)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
680.50	136100	Mid	NR Band n71	20	25.5	25.22	-0.02	0	03267	DFT-S-OFDM QPSK	1	1	10 mm	back	1:1	0.105	1.067	0.112	
680.50	136100	Mid	NR Band n71	20	25.5	25.18	0.03	0	03267	DFT-S-OFDM QPSK	50	0	10 mm	back	1:1	0.083	1.076	0.089	
680.50	136100	Mid	NR Band n71	20	25.5	25.22	0.03	0	03267	DFT-S-OFDM QPSK	1	1	10 mm	front	1:1	0.083	1.067	0.089	
680.50	136100	Mid	NR Band n71	20	25.5	25.18	0.03	0	03267	DFT-S-OFDM QPSK	50	0	10 mm	front	1:1	0.070	1.076	0.075	
680.50	136100	Mid	NR Band n71	20	25.5	25.22	0.05	0	03267	DFT-S-OFDM QPSK	1	1	10 mm	bottom	1:1	0.021	1.067	0.022	
680.50	136100	Mid	NR Band n71	20	25.5	25.18	0.14	0	03267	DFT-S-OFDM QPSK	50	0	10 mm	bottom	1:1	0.018	1.076	0.019	
680.50	136100	Mid	NR Band n71	20	25.5	25.22	-0.02	0	03267	DFT-S-OFDM QPSK	1	1	10 mm	right	1:1	0.164	1.067	0.175	A58
680.50	136100	Mid	NR Band n71	20	25.5	25.18	0.01	0	03267	DFT-S-OFDM QPSK	50	0	10 mm	right	1:1	0.154	1.076	0.166	
680.50	136100	Mid	NR Band n71	20	25.5	24.93	0.02	0	03267	CP-OFDM QPSK	1	1	10 mm	right	1:1	0.129	1.140	0.147	
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 11-51
NR Band n66 Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.	(W/kg)														(W/kg)			
1770.00	354000	High	NR Band n66 (AWS)	20	23.4	23.36	0.04	0	03267	DFT-S-OFDM QPSK	1	104	10 mm	back	1:1	0.275	1.009	0.277	
1770.00	354000	High	NR Band n66 (AWS)	20	23.4	23.34	0.05	0	03267	DFT-S-OFDM QPSK	50	56	10 mm	back	1:1	0.271	1.014	0.275	
1770.00	354000	High	NR Band n66 (AWS)	20	23.4	23.36	-0.03	0	03267	DFT-S-OFDM QPSK	1	104	10 mm	front	1:1	0.283	1.009	0.286	
1770.00	354000	High	NR Band n66 (AWS)	20	23.4	23.34	0.00	0	03267	DFT-S-OFDM QPSK	50	56	10 mm	front	1:1	0.272	1.014	0.276	
1770.00	354000	High	NR Band n66 (AWS)	20	23.4	23.36	0.18	0	03267	DFT-S-OFDM QPSK	1	104	10 mm	bottom	1:1	0.037	1.009	0.037	
1770.00	354000	High	NR Band n66 (AWS)	20	23.4	23.34	0.05	0	03267	DFT-S-OFDM QPSK	50	56	10 mm	bottom	1:1	0.040	1.014	0.041	
1770.00	354000	High	NR Band n66 (AWS)	20	23.4	23.36	-0.03	0	03267	DFT-S-OFDM QPSK	1	104	10 mm	right	1:1	0.426	1.009	0.430	
1770.00	354000	High	NR Band n66 (AWS)	20	23.4	23.34	-0.05	0	03267	DFT-S-OFDM QPSK	50	56	10 mm	right	1:1	0.430	1.014	0.436	
1770.00	354000	High	NR Band n66 (AWS)	20	23.4	23.26	0.01	0	03267	CP-OFDM QPSK	1	1	10 mm	right	1:1	0.431	1.033	0.445	A60
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Body 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-52
NR Band n25 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)		
1905.00	381000	High	NR Band n25 (PCS)	20	23.4	23.07	-0.03	0	03267	DFT-S-OFDM QPSK	1	104	10 mm	back	1:1	0.317	1.079	0.342	
1905.00	381000	High	NR Band n25 (PCS)	20	23.4	23.06	-0.02	0	03267	DFT-S-OFDM QPSK	50	28	10 mm	back	1:1	0.330	1.081	0.357	
1905.00	381000	High	NR Band n25 (PCS)	20	23.4	23.07	0.06	0	03267	DFT-S-OFDM QPSK	1	104	10 mm	front	1:1	0.380	1.079	0.410	
1905.00	381000	High	NR Band n25 (PCS)	20	23.4	23.06	0.03	0	03267	DFT-S-OFDM QPSK	50	28	10 mm	front	1:1	0.395	1.081	0.427	
1905.00	381000	High	NR Band n25 (PCS)	20	23.4	23.07	0.12	0	03267	DFT-S-OFDM QPSK	1	104	10 mm	bottom	1:1	0.073	1.079	0.079	
1905.00	381000	High	NR Band n25 (PCS)	20	23.4	23.06	-0.01	0	03267	DFT-S-OFDM QPSK	50	28	10 mm	bottom	1:1	0.076	1.081	0.082	
1860.00	372000	Low	NR Band n25 (PCS)	20	23.4	22.96	-0.04	0	03267	DFT-S-OFDM QPSK	1	104	10 mm	right	1:1	0.577	1.107	0.639	
1882.50	376500	Mid	NR Band n25 (PCS)	20	23.4	22.96	-0.12	0	03267	DFT-S-OFDM QPSK	1	104	10 mm	right	1:1	0.668	1.107	0.739	
1905.00	381000	High	NR Band n25 (PCS)	20	23.4	23.07	-0.06	0	03267	DFT-S-OFDM QPSK	1	104	10 mm	right	1:1	0.793	1.079	0.856	A62
1905.00	381000	High	NR Band n25 (PCS)	20	23.4	23.06	0.06	0	03267	DFT-S-OFDM QPSK	50	28	10 mm	right	1:1	0.739	1.081	0.799	
1905.00	381000	High	NR Band n25 (PCS)	20	23.4	22.94	-0.06	0	03267	CP-OFDM QPSK	1	1	10 mm	right	1:1	0.709	1.112	0.788	
1882.50	376500	Mid	NR Band n25 (PCS)	20	23.4	23.04	0.01	0	03267	DFT-S-OFDM QPSK	100	0	10 mm	right	1:1	0.625	1.086	0.679	
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 11-53
NR Band n41 Hotspot SAR

MEASUREMENT RESULTS																				
Power Class	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)		
Power Class 2	2592.99	518598	Mid	NR Band n41	100	27.7	27.19	0.00	0	03192	DFT-S-OFDM QPSK	1	1	10 mm	back	1:4	0.096	1.125	0.108	
Power Class 2	2592.99	518598	Mid	NR Band n41	100	27.7	27.39	0.03	0	03192	DFT-S-OFDM QPSK	135	0	10 mm	back	1:4	0.101	1.074	0.108	
Power Class 2	2592.99	518598	Mid	NR Band n41	100	27.7	27.19	-0.04	0	03192	DFT-S-OFDM QPSK	1	1	10 mm	front	1:4	0.118	1.125	0.133	
Power Class 2	2592.99	518598	Mid	NR Band n41	100	27.7	27.39	-0.02	0	03192	DFT-S-OFDM QPSK	135	0	10 mm	front	1:4	0.119	1.074	0.128	A64
Power Class 2	2592.99	518598	Mid	NR Band n41	100	26.7	26.24	-0.08	1	03192	CP-OFDM QPSK	1	1	10 mm	front	1:4	0.107	1.112	0.119	
Power Class 2	2592.99	518598	Mid	NR Band n41	100	27.7	27.19	0.10	0	03192	DFT-S-OFDM QPSK	1	1	10 mm	bottom	1:4	0.039	1.125	0.044	
Power Class 2	2592.99	518598	Mid	NR Band n41	100	27.7	27.39	0.03	0	03192	DFT-S-OFDM QPSK	135	0	10 mm	bottom	1:4	0.038	1.074	0.041	
Power Class 2	2592.99	518598	Mid	NR Band n41	100	27.7	27.19	0.05	0	03192	DFT-S-OFDM QPSK	1	1	10 mm	right	1:4	0.084	1.125	0.095	
Power Class 2	2592.99	518598	Mid	NR Band n41	100	27.7	27.39	0.02	0	03192	DFT-S-OFDM QPSK	135	0	10 mm	right	1:4	0.086	1.074	0.092	
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 11-54
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)	
2462	11	802.11b	DSSS	22	20.5	19.97	-0.05	10 mm	1	03192	1	back	99.6	0.290	0.159	1.130	1.004	0.180	
2462	11	802.11b	DSSS	22	20.5	19.97	-0.18	10 mm	1	03192	1	front	99.6	0.404	0.258	1.130	1.004	0.293	
2462	11	802.11b	DSSS	22	20.5	19.97	-0.13	10 mm	1	03192	1	top	99.6	0.205	-	1.130	1.004	-	
2462	11	802.11b	DSSS	22	20.5	19.97	-0.03	10 mm	1	03192	1	left	99.6	0.624	0.492	1.130	1.004	0.558	A66
2412	1	802.11b	DSSS	22	20.5	20.12	0.15	10 mm	2	03192	1	back	99.4	0.141	0.086	1.091	1.006	0.094	
2412	1	802.11b	DSSS	22	20.5	20.12	0.19	10 mm	2	03192	1	front	99.4	0.113	-	1.091	1.006	-	
2412	1	802.11b	DSSS	22	20.5	20.12	-0.11	10 mm	2	03192	1	top	99.4	0.316	0.199	1.091	1.006	0.218	
2412	1	802.11b	DSSS	22	20.5	20.12	0.06	10 mm	2	03192	1	left	99.4	0.027	-	1.091	1.006	-	
5200	40	802.11a	OFDM	20	18.0	17.46	-0.01	10 mm	1	03192	6	back	99.5	0.353	0.220	1.132	1.005	0.250	
5200	40	802.11a	OFDM	20	18.0	17.46	0.05	10 mm	1	03192	6	front	99.5	0.110	-	1.132	1.005	-	
5200	40	802.11a	OFDM	20	18.0	17.46	0.03	10 mm	1	03192	6	top	99.5	0.135	-	1.132	1.005	-	
5200	40	802.11a	OFDM	20	18.0	17.46	0.03	10 mm	1	03192	6	left	99.5	0.157	-	1.132	1.005	-	
5200	40	802.11a	OFDM	20	18.0	17.54	0.19	10 mm	2	03192	6	back	99.6	0.476	0.198	1.112	1.004	0.221	
5200	40	802.11a	OFDM	20	18.0	17.54	-0.03	10 mm	2	03192	6	front	99.6	0.035	-	1.112	1.004	-	
5200	40	802.11a	OFDM	20	18.0	17.54	0.03	10 mm	2	03192	6	top	99.6	0.387	-	1.112	1.004	-	
5200	40	802.11a	OFDM	20	18.0	17.54	-0.08	10 mm	2	03192	6	left	99.6	0.163	-	1.112	1.004	-	
5785	157	802.11a	OFDM	20	18.0	17.36	0.01	10 mm	1	03192	6	back	99.5	0.266	0.111	1.159	1.005	0.129	
5785	157	802.11a	OFDM	20	18.0	17.36	-0.11	10 mm	1	03192	6	front	99.5	0.094	-	1.159	1.005	-	
5785	157	802.11a	OFDM	20	18.0	17.36	0.03	10 mm	1	03192	6	top	99.5	0.078	-	1.159	1.005	-	
5785	157	802.11a	OFDM	20	18.0	17.36	0.18	10 mm	1	03192	6	left	99.5	0.148	-	1.159	1.005	-	
5825	165	802.11a	OFDM	20	18.0	17.41	0.03	10 mm	2	03192	6	back	99.6	0.468	0.365	1.146	1.004	0.420	
5825	165	802.11a	OFDM	20	18.0	17.41	0.15	10 mm	2	03192	6	front	99.6	0.032	-	1.146	1.004	-	
5825	165	802.11a	OFDM	20	18.0	17.41	0.11	10 mm	2	03192	6	top	99.6	0.274	0.132	1.146	1.004	0.152	
5825	165	802.11a	OFDM	20	18.0	17.41	-0.09	10 mm	2	03192	6	left	99.6	0.197	-	1.146	1.004	-	
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 11-55
DTS WLAN MIMO Hotspot SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)		(W/kg)		
2437	6	802.11n	OFDM	20	15.5	14.91	15.5	15.04	0.05	10 mm	MIMO	03192	13	back	99.1	0.102	0.067	1.146	1.009	0.077	
2437	6	802.11n	OFDM	20	15.5	14.91	15.5	15.04	0.05	10 mm	MIMO	03192	13	front	99.1	0.137	-	1.146	1.009	-	
2437	6	802.11n	OFDM	20	15.5	14.91	15.5	15.04	-0.05	10 mm	MIMO	03192	13	top	99.1	0.144	-	1.146	1.009	-	
2437	6	802.11n	OFDM	20	15.5	14.91	15.5	15.04	0.10	10 mm	MIMO	03192	13	left	99.1	0.221	0.127	1.146	1.009	0.147	
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: DTS MIMO was additionally evaluated at the maximum allowed output power during operations with Simultaneous 2.4 GHz and 5 GHz WLAN. 5 GHz WIFI was not transmitting during the above evaluations.

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Table 11-56
NII WLAN MIMO Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5200	40	802.11n	OFDM	20	18.0	17.62	18.0	17.68	0.08	10 mm	MIMO	03192	13	back	99.9	0.542	0.263	1.091	1.001	0.287	
5200	40	802.11n	OFDM	20	18.0	17.62	18.0	17.68	0.05	10 mm	MIMO	03192	13	front	99.9	0.164	-	1.091	1.001	-	
5200	40	802.11n	OFDM	20	18.0	17.62	18.0	17.68	0.03	10 mm	MIMO	03192	13	top	99.9	0.460	-	1.091	1.001	-	
5200	40	802.11n	OFDM	20	18.0	17.62	18.0	17.68	-0.06	10 mm	MIMO	03192	13	left	99.9	0.317	-	1.091	1.001	-	
5825	165	802.11n	OFDM	20	18.0	17.57	18.0	17.65	0.12	10 mm	MIMO	03192	13	back	99.9	1.004	0.449	1.104	1.001	0.496	A67
5825	165	802.11n	OFDM	20	18.0	17.57	18.0	17.65	0.08	10 mm	MIMO	03192	13	front	99.9	0.131	-	1.104	1.001	-	
5825	165	802.11n	OFDM	20	18.0	17.57	18.0	17.65	0.13	10 mm	MIMO	03192	13	top	99.9	0.879	0.420	1.104	1.001	0.464	
5825	165	802.11n	OFDM	20	18.0	17.57	18.0	17.65	0.05	10 mm	MIMO	03192	13	left	99.9	0.520	-	1.104	1.001	-	
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: For channel 40 and 165 to achieve the 21.0 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 18.0 dBm.

Table 11-57
NII MIMO Hotspot SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5230	46	802.11n	OFDM	40	15.0	14.98	15.0	14.67	0.04	10 mm	MIMO	03192	27	back	99.9	0.266	0.156	1.079	1.001	0.168	
5230	46	802.11n	OFDM	40	15.0	14.98	15.0	14.67	-0.03	10 mm	MIMO	03192	27	front	99.9	0.051	-	1.079	1.001	-	
5230	46	802.11n	OFDM	40	15.0	14.98	15.0	14.67	0.03	10 mm	MIMO	03192	27	top	99.9	0.206	-	1.079	1.001	-	
5230	46	802.11n	OFDM	40	15.0	14.98	15.0	14.67	0.05	10 mm	MIMO	03192	27	left	99.9	0.140	-	1.079	1.001	-	
5795	159	802.11n	OFDM	40	15.0	14.99	15.0	14.72	0.03	10 mm	MIMO	03192	27	back	99.9	0.390	0.166	1.067	1.001	0.177	
5795	159	802.11n	OFDM	40	15.0	14.99	15.0	14.72	0.06	10 mm	MIMO	03192	27	front	99.9	0.041	-	1.067	1.001	-	
5795	159	802.11n	OFDM	40	15.0	14.99	15.0	14.72	0.05	10 mm	MIMO	03192	27	top	99.9	0.258	-	1.067	1.001	-	
5795	159	802.11n	OFDM	40	15.0	14.99	15.0	14.72	0.12	10 mm	MIMO	03192	27	left	99.9	0.212	-	1.067	1.001	-	
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: NII MIMO was additionally evaluated at the maximum allowed output power during operations with Simultaneous 2.4 GHz and 5 GHz WLAN. 2.4 GHz WIFI was not transmitting during the above evaluations.

Table 11-58
DSS Hotspot SAR

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	SAR (1g)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)			(W/kg)	
2441	39	Bluetooth	FHSS	12.5	12.49	-0.08	10 mm	03192	1	back	76.8	0.021	1.002	1.302	0.027	
2441	39	Bluetooth	FHSS	12.5	12.49	0.07	10 mm	03192	1	front	76.8	0.021	1.002	1.302	0.027	
2441	39	Bluetooth	FHSS	12.5	12.49	0.05	10 mm	03192	1	top	76.8	0.017	1.002	1.302	0.022	
2441	39	Bluetooth	FHSS	12.5	12.49	0.19	10 mm	03192	1	left	76.8	0.046	1.002	1.302	0.060	A69
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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11.4 Standalone Phablet SAR Data

Table 11-59
CDMA Phablet SAR Data

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Duty Cycle	Side	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.2	24.86	-0.01	2 mm	03218	1:1	back	1.410	1.081	1.524	
1851.25	25	PCS CDMA	EVDO Rev. 0	25.2	24.90	0.02	1 mm	03218	1:1	front	2.100	1.072	2.251	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.2	24.86	0.01	1 mm	03218	1:1	front	2.230	1.081	2.411	
1908.75	1175	PCS CDMA	EVDO Rev. 0	25.2	24.85	0.01	1 mm	03218	1:1	front	2.370	1.084	2.569	A70
1880.00	600	PCS CDMA	EVDO Rev. 0	25.2	24.86	-0.05	3 mm	03218	1:1	bottom	1.680	1.081	1.816	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.2	24.86	0.05	0 mm	03218	1:1	left	0.577	1.081	0.624	
1880.00	600	PCS CDMA	EVDO Rev. 0	22.7	22.25	0.00	0 mm	03234	1:1	back	1.270	1.109	1.408	
1880.00	600	PCS CDMA	EVDO Rev. 0	22.7	22.25	-0.01	0 mm	03234	1:1	front	1.640	1.109	1.819	
1880.00	600	PCS CDMA	EVDO Rev. 0	22.7	22.25	0.00	0 mm	03234	1:1	bottom	1.790	1.109	1.985	
1908.75	1175	PCS CDMA	EVDO Rev. 0	25.2	24.85	0.03	1 mm	03218	1:1	front	2.280	1.084	2.472	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Phablet 4.0 W/kg (mW/g) averaged over 10 grams							

Note: Blue entry represents variability measurement.

Table 11-60
UMTS 1750 Phablet SAR Data

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Duty Cycle	Side	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1732.40	1412	UMTS 1750	RMC	25.2	25.06	-0.01	2 mm	03226	1:1	back	1.250	1.033	1.291	
1732.40	1412	UMTS 1750	RMC	25.2	25.06	-0.02	1 mm	03226	1:1	front	1.630	1.033	1.684	
1712.40	1312	UMTS 1750	RMC	25.2	25.03	-0.08	3 mm	03226	1:1	bottom	1.820	1.040	1.893	
1732.40	1412	UMTS 1750	RMC	25.2	25.06	-0.01	3 mm	03226	1:1	bottom	2.090	1.033	2.159	
1752.60	1513	UMTS 1750	RMC	25.2	25.08	0.01	3 mm	03226	1:1	bottom	2.100	1.028	2.159	
1732.40	1412	UMTS 1750	RMC	25.2	25.06	0.01	0 mm	03226	1:1	left	0.431	1.033	0.445	
1732.40	1412	UMTS 1750	RMC	22.7	22.42	-0.02	0 mm	03242	1:1	back	1.270	1.067	1.355	
1732.40	1412	UMTS 1750	RMC	22.7	22.42	0.01	0 mm	03242	1:1	front	1.610	1.067	1.718	
1712.40	1312	UMTS 1750	RMC	22.7	22.44	0.03	0 mm	03242	1:1	bottom	2.440	1.062	2.591	A71
1732.40	1412	UMTS 1750	RMC	22.7	22.42	0.02	0 mm	03242	1:1	bottom	2.350	1.067	2.507	
1752.60	1513	UMTS 1750	RMC	22.7	22.43	0.02	0 mm	03242	1:1	bottom	2.250	1.064	2.394	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Phablet 4.0 W/kg (mW/g) averaged over 10 grams							

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Table 11-61
UMTS 1900 Phablet SAR Data

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Duty Cycle	Side	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1880.00	9400	UMTS 1900	RMC	25.2	24.97	0.00	2 mm	03218	1:1	back	1.540	1.054	1.623	
1852.40	9262	UMTS 1900	RMC	25.2	25.01	-0.01	1 mm	03218	1:1	front	1.820	1.045	1.902	
1880.00	9400	UMTS 1900	RMC	25.2	24.97	0.00	1 mm	03218	1:1	front	1.990	1.054	2.097	
1907.60	9538	UMTS 1900	RMC	25.2	24.98	0.01	1 mm	03218	1:1	front	2.090	1.052	2.199	
1880.00	9400	UMTS 1900	RMC	25.2	24.97	-0.03	3 mm	03218	1:1	bottom	1.870	1.054	1.971	
1880.00	9400	UMTS 1900	RMC	25.2	24.97	0.04	0 mm	03218	1:1	left	0.586	1.054	0.618	
1880.00	9400	UMTS 1900	RMC	22.7	22.42	0.02	0 mm	03259	1:1	back	1.620	1.067	1.729	
1852.40	9262	UMTS 1900	RMC	22.7	22.40	0.00	0 mm	03259	1:1	front	1.840	1.072	1.972	
1880.00	9400	UMTS 1900	RMC	22.7	22.42	0.02	0 mm	03259	1:1	front	1.940	1.067	2.070	
1907.60	9538	UMTS 1900	RMC	22.7	22.45	0.03	0 mm	03259	1:1	front	2.050	1.059	2.171	
1852.40	9262	UMTS 1900	RMC	22.7	22.40	0.00	0 mm	03259	1:1	bottom	2.030	1.072	2.176	
1880.00	9400	UMTS 1900	RMC	22.7	22.42	0.01	0 mm	03259	1:1	bottom	2.130	1.067	2.273	
1907.60	9538	UMTS 1900	RMC	22.7	22.45	0.00	0 mm	03259	1:1	bottom	2.300	1.059	2.436	A72
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Phablet 4.0 W/kg (mW/g) averaged over 10 grams							

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Table 11-62
LTE Band 66 (AWS) Phablet SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #	
MHz	Ch.														(W/kg)		(W/kg)		
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.2	24.90	-0.05	0	03242	QPSK	1	50	2 mm	back	1:1	1.210	1.072	1.297	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.2	23.98	-0.09	1	03242	QPSK	50	50	2 mm	back	1:1	1.010	1.052	1.063	
1720.00	132072	Low	LTE Band 66 (AWS)	20	25.2	24.56	0.01	0	03242	QPSK	1	50	1 mm	front	1:1	2.050	1.159	2.376	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.2	24.90	0.05	0	03242	QPSK	1	50	1 mm	front	1:1	1.930	1.072	2.069	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.2	24.89	0.07	0	03242	QPSK	1	0	1 mm	front	1:1	2.280	1.074	2.449	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.2	23.98	0.00	1	03242	QPSK	50	50	1 mm	front	1:1	1.570	1.052	1.652	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.2	23.97	0.00	1	03242	QPSK	100	0	1 mm	front	1:1	1.730	1.054	1.823	
1720.00	132072	Low	LTE Band 66 (AWS)	20	25.2	24.56	-0.03	0	03242	QPSK	1	50	3 mm	bottom	1:1	2.160	1.159	2.503	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.2	24.90	0.03	0	03242	QPSK	1	50	3 mm	bottom	1:1	2.190	1.072	2.348	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.2	24.89	-0.05	0	03242	QPSK	1	0	3 mm	bottom	1:1	2.270	1.074	2.438	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.2	23.98	-0.03	1	03242	QPSK	50	50	3 mm	bottom	1:1	1.820	1.052	1.915	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.2	23.97	-0.03	1	03242	QPSK	100	0	3 mm	bottom	1:1	1.810	1.054	1.908	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.2	24.90	0.00	0	03242	QPSK	1	50	0 mm	left	1:1	0.563	1.072	0.604	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.2	23.98	0.00	1	03242	QPSK	50	50	0 mm	left	1:1	0.452	1.052	0.476	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.7	22.45	-0.10	0	03226	QPSK	1	0	0 mm	back	1:1	1.330	1.059	1.408	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.7	22.54	-0.02	0	03226	QPSK	50	25	0 mm	back	1:1	1.230	1.038	1.277	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.7	22.45	-0.09	0	03226	QPSK	1	0	0 mm	front	1:1	1.610	1.059	1.705	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.7	22.54	0.05	0	03226	QPSK	50	25	0 mm	front	1:1	1.540	1.038	1.599	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.7	22.32	-0.01	0	03226	QPSK	1	50	0 mm	bottom	1:1	2.370	1.091	2.586	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.7	22.36	-0.01	0	03226	QPSK	1	50	0 mm	bottom	1:1	2.340	1.081	2.530	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.7	22.45	0.06	0	03226	QPSK	1	0	0 mm	bottom	1:1	2.310	1.059	2.446	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.7	22.53	0.06	0	03226	QPSK	50	25	0 mm	bottom	1:1	2.760	1.040	2.870	A73
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.7	22.53	0.02	0	03226	QPSK	50	25	0 mm	bottom	1:1	2.430	1.040	2.527	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.7	22.54	-0.02	0	03226	QPSK	50	25	0 mm	bottom	1:1	2.330	1.038	2.419	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.7	22.44	-0.01	0	03226	QPSK	100	0	0 mm	bottom	1:1	2.280	1.062	2.421	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.7	22.53	0.06	0	03226	QPSK	50	25	0 mm	bottom	1:1	2.500	1.040	2.600	
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: Blue entry represents variability measurement.

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Table 11-63
LTE Band 25 (PCS) Phablet SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.2	24.92	-0.03	0	03259	QPSK	1	0	2 mm	back	1:1	1.670	1.067	1.782	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.2	24.04	-0.05	1	03259	QPSK	50	25	2 mm	back	1:1	1.350	1.038	1.401	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.2	24.88	-0.02	0	03259	QPSK	1	0	1 mm	front	1:1	1.790	1.076	1.926	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.2	24.92	-0.08	0	03259	QPSK	1	0	1 mm	front	1:1	1.950	1.067	2.081	
1905.00	26590	High	LTE Band 25 (PCS)	20	25.2	24.90	-0.03	0	03259	QPSK	1	0	1 mm	front	1:1	2.040	1.072	2.187	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.2	24.04	-0.08	1	03259	QPSK	50	25	1 mm	front	1:1	1.630	1.038	1.692	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.2	23.92	-0.08	1	03259	QPSK	100	0	1 mm	front	1:1	1.480	1.067	1.579	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.2	24.88	0.05	0	03259	QPSK	1	0	3 mm	bottom	1:1	2.030	1.076	2.184	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.2	24.92	-0.03	0	03259	QPSK	1	0	3 mm	bottom	1:1	2.070	1.067	2.209	
1905.00	26590	High	LTE Band 25 (PCS)	20	25.2	24.90	-0.02	0	03259	QPSK	1	0	3 mm	bottom	1:1	2.280	1.072	2.444	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.2	24.04	-0.03	1	03259	QPSK	50	25	3 mm	bottom	1:1	1.740	1.038	1.806	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.2	23.92	-0.01	1	03259	QPSK	100	0	3 mm	bottom	1:1	1.650	1.067	1.761	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.2	24.92	-0.06	0	03259	QPSK	1	0	0 mm	left	1:1	0.659	1.067	0.703	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.2	24.04	0.09	1	03259	QPSK	50	25	0 mm	left	1:1	0.556	1.038	0.577	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.7	22.60	0.03	0	03218	QPSK	1	0	0 mm	back	1:1	1.620	1.023	1.657	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.7	22.69	-0.02	0	03218	QPSK	50	25	0 mm	back	1:1	1.670	1.002	1.673	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.7	22.60	0.01	0	03218	QPSK	1	0	0 mm	front	1:1	1.920	1.023	1.964	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.7	22.69	-0.03	0	03218	QPSK	50	25	0 mm	front	1:1	1.950	1.002	1.954	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.7	22.41	0.02	0	03218	QPSK	1	99	0 mm	bottom	1:1	2.060	1.069	2.202	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.7	22.43	0.00	0	03218	QPSK	1	99	0 mm	bottom	1:1	2.160	1.064	2.298	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.7	22.60	-0.01	0	03218	QPSK	1	0	0 mm	bottom	1:1	2.230	1.023	2.281	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.7	22.51	0.01	0	03218	QPSK	50	25	0 mm	bottom	1:1	2.150	1.045	2.247	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.7	22.54	0.01	0	03218	QPSK	50	25	0 mm	bottom	1:1	2.240	1.038	2.325	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.7	22.69	-0.01	0	03218	QPSK	50	25	0 mm	bottom	1:1	2.300	1.002	2.305	A74
1905.00	26590	High	LTE Band 25 (PCS)	20	22.7	22.59	-0.01	0	03218	QPSK	100	0	0 mm	bottom	1:1	2.260	1.026	2.319	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT								Phablet											
Spatial Peak								4.0 W/kg (mW/g)											
Uncontrolled Exposure/General Population								averaged over 10 grams											

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Table 11-64
LTE Band 7 Phablet SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.	(W/kg)														(W/kg)			
2535.00	21100	Mid	LTE Band 7	20	23.7	23.39	0.05	0	03234	QPSK	1	99	2 mm	back	1:1	0.717	1.074	0.770	
2535.00	21100	Mid	LTE Band 7	20	22.7	22.53	0.02	1	03234	QPSK	50	50	2 mm	back	1:1	0.592	1.040	0.616	
2535.00	21100	Mid	LTE Band 7	20	23.7	23.39	0.01	0	03234	QPSK	1	99	1 mm	front	1:1	1.110	1.074	1.192	
2535.00	21100	Mid	LTE Band 7	20	22.7	22.53	-0.01	1	03234	QPSK	50	50	1 mm	front	1:1	0.924	1.040	0.961	
2535.00	21100	Mid	LTE Band 7	20	23.7	23.39	-0.09	0	03234	QPSK	1	99	3 mm	bottom	1:1	1.010	1.074	1.085	
2535.00	21100	Mid	LTE Band 7	20	22.7	22.53	-0.12	1	03234	QPSK	50	50	3 mm	bottom	1:1	0.852	1.040	0.886	
2535.00	21100	Mid	LTE Band 7	20	23.7	23.39	-0.01	0	03234	QPSK	1	99	0 mm	left	1:1	0.278	1.074	0.299	
2535.00	21100	Mid	LTE Band 7	20	22.7	22.53	0.03	1	03234	QPSK	50	50	0 mm	left	1:1	0.236	1.040	0.245	
2560.00	21350	High	LTE Band 7	20	21.7	21.44	-0.02	0	03226	QPSK	1	0	0 mm	back	1:1	1.070	1.062	1.136	
2560.00	21350	High	LTE Band 7	20	21.7	21.50	-0.03	0	03226	QPSK	50	50	0 mm	back	1:1	1.050	1.047	1.099	
2560.00	21350	High	LTE Band 7	20	21.7	21.44	-0.03	0	03226	QPSK	1	0	0 mm	front	1:1	1.140	1.062	1.211	
2560.00	21350	High	LTE Band 7	20	21.7	21.50	0.05	0	03226	QPSK	50	50	0 mm	front	1:1	1.130	1.047	1.183	
2560.00	21350	High	LTE Band 7	20	21.7	21.44	-0.02	0	03226	QPSK	1	0	0 mm	bottom	1:1	1.570	1.062	1.667	
2510.00	20850	Low	LTE Band 7	20	21.7	21.41	-0.01	0	03226	QPSK	50	25	0 mm	bottom	1:1	1.820	1.069	1.946	A75
2535.00	21100	Mid	LTE Band 7	20	21.7	21.37	0.02	0	03226	QPSK	50	50	0 mm	bottom	1:1	1.640	1.079	1.770	
2560.00	21350	High	LTE Band 7	20	21.7	21.50	-0.19	0	03226	QPSK	50	50	0 mm	bottom	1:1	1.650	1.047	1.728	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Phablet 4.0 W/kg (mW/g) averaged over 10 grams											

Table 11-65
LTE Band 48 Phablet SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.	(W/kg)														(W/kg)			
3560.00	55340	Low	LTE Band 48	20	23.7	23.60	-0.05	0	03242	QPSK	1	99	0 mm	back	1:1.58	2.790	1.023	2.854	A76
3603.30	55773	Low-Mid	LTE Band 48	20	23.7	23.43	-0.07	0	03242	QPSK	1	99	0 mm	back	1:1.58	2.600	1.064	2.766	
3646.70	56207	Mid-High	LTE Band 48	20	23.7	23.61	-0.10	0	03242	QPSK	1	99	0 mm	back	1:1.58	2.360	1.021	2.410	
3690.00	56640	High	LTE Band 48	20	23.7	23.47	-0.05	0	03242	QPSK	1	0	0 mm	back	1:1.58	2.190	1.054	2.308	
3560.00	55340	Low	LTE Band 48	20	22.7	22.38	-0.03	1	03242	QPSK	50	25	0 mm	back	1:1.58	2.450	1.076	2.636	
3603.30	55773	Low-Mid	LTE Band 48	20	22.7	22.38	-0.03	1	03242	QPSK	50	25	0 mm	back	1:1.58	2.240	1.076	2.410	
3646.70	56207	Mid-High	LTE Band 48	20	22.7	22.48	-0.08	1	03242	QPSK	50	25	0 mm	back	1:1.58	1.990	1.052	2.093	
3690.00	56640	High	LTE Band 48	20	22.7	22.32	-0.05	1	03242	QPSK	50	25	0 mm	back	1:1.58	1.760	1.091	1.920	
3646.70	56207	Mid-High	LTE Band 48	20	22.7	22.39	-0.10	1	03242	QPSK	100	0	0 mm	back	1:1.58	1.950	1.074	2.094	
3560.00	55340	Low	LTE Band 48	20	23.7	23.60	-0.04	0	03242	QPSK	1	99	0 mm	back	1:1.58	2.740	1.023	2.803	
3603.30	55773	Low-Mid	LTE Band 48	20	23.7	23.43	-0.04	0	03242	QPSK	1	99	0 mm	back	1:1.58	2.600	1.064	2.766	
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: Blue entries represent variability measurements.

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Table 11-66
WLAN Phablet SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (10g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (10g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5280	56	802.11a	OFDM	20	18.0	17.26	-0.10	0 mm	1	03192	6	back	99.5	7.736	0.884	1.186	1.005	1.054	
5280	56	802.11a	OFDM	20	18.0	17.26	-0.02	0 mm	1	03192	6	front	99.5	2.842	0.330	1.186	1.005	0.393	
5280	56	802.11a	OFDM	20	18.0	17.26	-0.05	0 mm	1	03192	6	top	99.5	0.996	-	1.186	1.005	-	
5280	56	802.11a	OFDM	20	18.0	17.26	0.09	0 mm	1	03192	6	left	99.5	2.238	-	1.186	1.005	-	
5280	56	802.11a	OFDM	20	18.0	17.16	-0.05	0 mm	2	03192	6	back	99.6	5.552	0.828	1.213	1.004	1.008	
5280	56	802.11a	OFDM	20	18.0	17.16	0.06	0 mm	2	03192	6	front	99.6	0.623	0.078	1.213	1.004	0.095	
5280	56	802.11a	OFDM	20	18.0	17.16	-0.03	0 mm	2	03192	6	top	99.6	5.021	0.399	1.213	1.004	0.486	
5280	56	802.11a	OFDM	20	18.0	17.16	-0.09	0 mm	2	03192	6	left	99.6	0.799	-	1.213	1.004	-	
5500	100	802.11a	OFDM	20	17.0	16.48	-0.02	0 mm	1	03192	6	back	99.5	5.707	0.723	1.127	1.005	0.819	
5500	100	802.11a	OFDM	20	17.0	16.48	-0.03	0 mm	1	03192	6	front	99.5	1.831	0.266	1.127	1.005	0.301	
5500	100	802.11a	OFDM	20	17.0	16.48	-0.15	0 mm	1	03192	6	top	99.5	1.151	-	1.127	1.005	-	
5500	100	802.11a	OFDM	20	17.0	16.48	-0.14	0 mm	1	03192	6	left	99.5	2.463	-	1.127	1.005	-	
5600	120	802.11a	OFDM	20	17.0	16.89	0.05	0 mm	2	03192	6	back	99.6	7.422	1.200	1.026	1.004	1.236	
5600	120	802.11a	OFDM	20	17.0	16.89	0.12	0 mm	2	03192	6	front	99.6	0.358	0.052	1.026	1.004	0.054	
5600	120	802.11a	OFDM	20	17.0	16.89	-0.15	0 mm	2	03192	6	top	99.6	6.017	0.447	1.026	1.004	0.460	
5600	120	802.11a	OFDM	20	17.0	16.89	0.00	0 mm	2	03192	6	left	99.6	0.941	-	1.026	1.004	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Phablet 4.0 W/kg (mW/g) averaged over 10 grams											

Table 11-67
WLAN MIMO Phablet SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (10g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (10g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5280	56	802.11n	OFDM	20	18.0	17.54	18.0	17.43	0.00	0 mm	MIMO	03192	13	back	99.9	8.675	1.490	1.140	1.001	1.700	
5280	56	802.11n	OFDM	20	18.0	17.54	18.0	17.43	0.02	0 mm	MIMO	03192	13	front	99.9	4.071	0.505	1.140	1.001	0.576	
5280	56	802.11n	OFDM	20	18.0	17.54	18.0	17.43	0.03	0 mm	MIMO	03192	13	top	99.9	5.244	0.477	1.140	1.001	0.544	
5280	56	802.11n	OFDM	20	18.0	17.54	18.0	17.43	0.03	0 mm	MIMO	03192	13	left	99.9	4.907	0.528	1.140	1.001	0.603	
5500	100	802.11n	OFDM	20	17.0	16.74	17.0	16.70	-0.02	0 mm	MIMO	03192	13	back	99.9	8.368	1.500	1.072	1.001	1.610	
5620	124	802.11n	OFDM	20	17.0	16.67	17.0	16.84	0.02	0 mm	MIMO	03192	13	back	99.9	12.150	1.570	1.079	1.001	1.696	A77
5720	144	802.11n	OFDM	20	17.0	16.67	17.0	16.63	-0.04	0 mm	MIMO	03192	13	back	99.9	8.851	1.310	1.089	1.001	1.428	
5620	124	802.11n	OFDM	20	17.0	16.67	17.0	16.84	-0.12	0 mm	MIMO	03192	13	front	99.9	2.107	0.265	1.079	1.001	0.286	
5620	124	802.11n	OFDM	20	17.0	16.67	17.0	16.84	0.06	0 mm	MIMO	03192	13	top	99.9	8.307	0.558	1.079	1.001	0.603	
5620	124	802.11n	OFDM	20	17.0	16.67	17.0	16.84	0.07	0 mm	MIMO	03192	13	left	99.9	2.923	0.312	1.079	1.001	0.337	
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: For channel 56 to achieve the 21.0 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 18.0 dBm. For channels 100, 124, and 144 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.

11.5 SAR Test Notes

General Notes:

1. The test data reported are the worst-case SAR values according to test procedures specified in IEEE 1528-2013, and FCC KDB Publication 447498 D01v06.
2. Batteries are fully charged at the beginning of the SAR measurements.
3. Liquid tissue depth was at least 15.0 cm for all frequencies.

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4. The orange highlights throughout the report represents the highest SAR per FCC Equipment Class reflected on the FCC Grant.
5. 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.
6. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D01v06.
7. 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.
8. 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.
9. 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.
10. 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).
11. Per FCC KDB Publication 648474 D04v01r03, this device is considered a "phablet" since the diagonal dimension is > 160 mm and < 200 mm. Therefore, phablet SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR > 1.2 W/kg. Additional SAR tests for phablet SAR were evaluated per KDB 616217 Section 6 (See Section 6.9 for more information)
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.

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.

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

UMTS Notes:

- 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.
- 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:

- 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.
- 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.
- 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).
- Per FCC KDB Publication 447498 D01v06, when the reported LTE Band 41 and LTE Band 48 SAR measured at the highest output power channel in a given a test configuration was > 0.6 W/kg for 1g evaluations, testing at the other channels was required for such test configurations.
- 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.
- 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.
- This device supports Power Class 2 and Power Class 3 operations for LTE Band 41. The highest available duty cycle for Power Class 2 operations is 43.3 % using UL-DL configuration 1. Per FCC Guidance, all SAR tests were performed using Power Class 3. SAR with power class 2 at the available duty factor was additionally performed for the power class 3 configuration with the highest SAR configuration for each exposure conditions. Please see Section 14 for linearity results.
- For LTE Band 41, 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.
- This device supports LTE Band 41 ULCA active with Power Class 2. Highest SAR test configuration for each exposure condition in Power Class 3 with ULCA active was repeated with Power Class 2 with ULCA active.

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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).
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.

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.
7. NR band n41 supports both PC2 and PC3 uplink operations. Per FCC guidance, since the maximum duty cycle is the same between PC2 and PC3 operations, only PC3 was required to be evaluated.

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

12.3 Head SAR Simultaneous Transmission Analysis

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

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Head SAR	CDMA/EVDO BC10 (\$90S)	0.164	0.586	0.245	0.750	0.409	0.995
	CDMA/EVDO BC0 (\$22H)	0.176	0.586	0.245	0.762	0.421	1.007
	PCS CDMA/EVDO	0.099	0.586	0.245	0.685	0.344	0.930
	GSM/GPRS 850	0.162	0.586	0.245	0.748	0.407	0.993
	GSM/GPRS 1900	0.050	0.586	0.245	0.636	0.295	0.881
	UMTS 850	0.175	0.586	0.245	0.761	0.420	1.006
	UMTS 1750	0.086	0.586	0.245	0.672	0.331	0.917
	UMTS 1900	0.131	0.586	0.245	0.717	0.376	0.962
	LTE Band 71	0.147	0.586	0.245	0.733	0.392	0.978
	LTE Band 12	0.128	0.586	0.245	0.714	0.373	0.959
	LTE Band 13	0.113	0.586	0.245	0.699	0.358	0.944
	LTE Band 26 (Cell)	0.106	0.586	0.245	0.692	0.351	0.937
	LTE Band 66 (AWS)	0.108	0.586	0.245	0.694	0.353	0.939
	LTE Band 25 (PCS)	0.134	0.586	0.245	0.720	0.379	0.965
	LTE Band 30	0.037	0.586	0.245	0.623	0.282	0.868
	LTE Band 7	0.038	0.586	0.245	0.624	0.283	0.869
	LTE Band 48	0.137	0.586	0.245	0.723	0.382	0.968
	LTE Band 41	0.094	0.586	0.245	0.680	0.339	0.925
	NR Band n71	0.032	0.586	0.245	0.618	0.277	0.863
	NR Band n66 (AWS)	0.166	0.586	0.245	0.752	0.411	0.997
	NR Band n25 (PCS)	0.403	0.586	0.245	0.989	0.648	1.234
	NR Band n41	0.074	0.586	0.245	0.660	0.319	0.905

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

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Head SAR	CDMA/EVDO BC10 (\$90S)	0.164	0.501	0.181	0.665	0.345	0.846
	CDMA/EVDO BC0 (\$22H)	0.176	0.501	0.181	0.677	0.357	0.858
	PCS CDMA/EVDO	0.099	0.501	0.181	0.600	0.280	0.781
	GSM/GPRS 850	0.162	0.501	0.181	0.663	0.343	0.844
	GSM/GPRS 1900	0.050	0.501	0.181	0.551	0.231	0.732
	UMTS 850	0.175	0.501	0.181	0.676	0.356	0.857
	UMTS 1750	0.086	0.501	0.181	0.587	0.267	0.768
	UMTS 1900	0.131	0.501	0.181	0.632	0.312	0.813
	LTE Band 71	0.147	0.501	0.181	0.648	0.328	0.829
	LTE Band 12	0.128	0.501	0.181	0.629	0.309	0.810
	LTE Band 13	0.113	0.501	0.181	0.614	0.294	0.795
	LTE Band 26 (Cell)	0.106	0.501	0.181	0.607	0.287	0.788
	LTE Band 66 (AWS)	0.108	0.501	0.181	0.609	0.289	0.790
	LTE Band 25 (PCS)	0.134	0.501	0.181	0.635	0.315	0.816
	LTE Band 30	0.037	0.501	0.181	0.538	0.218	0.719
	LTE Band 7	0.038	0.501	0.181	0.539	0.219	0.720
	LTE Band 48	0.137	0.501	0.181	0.638	0.318	0.819
	LTE Band 41	0.094	0.501	0.181	0.595	0.275	0.776
	NR Band n71	0.032	0.501	0.181	0.533	0.213	0.714
	NR Band n66 (AWS)	0.166	0.501	0.181	0.667	0.347	0.848
	NR Band n25 (PCS)	0.403	0.501	0.181	0.904	0.584	1.085
	NR Band n41	0.074	0.501	0.181	0.575	0.255	0.756

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

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN MIMO at 18 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	CDMA/EVDO BC10 (\$90S)	0.164	0.586	0.245	0.365	1.360
	CDMA/EVDO BC0 (\$22H)	0.176	0.586	0.245	0.365	1.372
	PCS CDMA/EVDO	0.099	0.586	0.245	0.365	1.295
	GSM/GPRS 850	0.162	0.586	0.245	0.365	1.358
	GSM/GPRS 1900	0.050	0.586	0.245	0.365	1.246
	UMTS 850	0.175	0.586	0.245	0.365	1.371
	UMTS 1750	0.086	0.586	0.245	0.365	1.282
	UMTS 1900	0.131	0.586	0.245	0.365	1.327
	LTE Band 71	0.147	0.586	0.245	0.365	1.343
	LTE Band 12	0.128	0.586	0.245	0.365	1.324
	LTE Band 13	0.113	0.586	0.245	0.365	1.309
	LTE Band 26 (Cell)	0.106	0.586	0.245	0.365	1.302
	LTE Band 66 (AWS)	0.108	0.586	0.245	0.365	1.304
	LTE Band 25 (PCS)	0.134	0.586	0.245	0.365	1.330
	LTE Band 30	0.037	0.586	0.245	0.365	1.233
	LTE Band 7	0.038	0.586	0.245	0.365	1.234
	LTE Band 48	0.137	0.586	0.245	0.365	1.333
	LTE Band 41	0.094	0.586	0.245	0.365	1.290
	NR Band n71	0.032	0.586	0.245	0.365	1.228
	NR Band n66 (AWS)	0.166	0.586	0.245	0.365	1.362
	NR Band n25 (PCS)	0.403	0.586	0.245	0.365	See Table Below
	NR Band n41	0.074	0.586	0.245	0.365	1.270

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)	5 GHz WLAN MIMO at 18 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	Right Cheek	0.403	0.586	0.186	0.365	1.540
	Right Tilt	0.126	0.178	0.245	0.365*	0.914
	Left Cheek	0.170	0.586*	0.245*	0.365*	1.366
	Left Tilt	0.105	0.586*	0.245*	0.365*	1.301

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

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Head SAR	CDMA/EVDO BC10 (\$90S)	0.164	0.205	0.369
	CDMA/EVDO BC0 (\$22H)	0.176	0.205	0.381
	PCS CDMA/EVDO	0.099	0.205	0.304
	GSM/GPRS 850	0.162	0.205	0.367
	GSM/GPRS 1900	0.050	0.205	0.255
	UMTS 850	0.175	0.205	0.380
	UMTS 1750	0.086	0.205	0.291
	UMTS 1900	0.131	0.205	0.336
	LTE Band 71	0.147	0.205	0.352
	LTE Band 12	0.128	0.205	0.333
	LTE Band 13	0.113	0.205	0.318
	LTE Band 26 (Cell)	0.106	0.205	0.311
	LTE Band 66 (AWS)	0.108	0.205	0.313
	LTE Band 25 (PCS)	0.134	0.205	0.339
	LTE Band 30	0.037	0.205	0.242
	LTE Band 7	0.038	0.205	0.243
	LTE Band 48	0.137	0.205	0.342
	LTE Band 41	0.094	0.205	0.299
	NR Band n71	0.032	0.205	0.237
	NR Band n66 (AWS)	0.166	0.205	0.371
	NR Band n25 (PCS)	0.403	0.205	0.608
	NR Band n41	0.074	0.205	0.279

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

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	CDMA/EVDO BC10 (\$90S)	0.164	0.205	0.245	0.614
	CDMA/EVDO BC0 (\$22H)	0.176	0.205	0.245	0.626
	PCS CDMA/EVDO	0.099	0.205	0.245	0.549
	GSM/GPRS 850	0.162	0.205	0.245	0.612
	GSM/GPRS 1900	0.050	0.205	0.245	0.500
	UMTS 850	0.175	0.205	0.245	0.625
	UMTS 1750	0.086	0.205	0.245	0.536
	UMTS 1900	0.131	0.205	0.245	0.581
	LTE Band 71	0.147	0.205	0.245	0.597
	LTE Band 12	0.128	0.205	0.245	0.578
	LTE Band 13	0.113	0.205	0.245	0.563
	LTE Band 26 (Cell)	0.106	0.205	0.245	0.556
	LTE Band 66 (AWS)	0.108	0.205	0.245	0.558
	LTE Band 25 (PCS)	0.134	0.205	0.245	0.584
	LTE Band 30	0.037	0.205	0.245	0.487
	LTE Band 7	0.038	0.205	0.245	0.488
	LTE Band 48	0.137	0.205	0.245	0.587
	LTE Band 41	0.094	0.205	0.245	0.544
	NR Band n71	0.032	0.205	0.245	0.482
	NR Band n66 (AWS)	0.166	0.205	0.245	0.616
	NR Band n25 (PCS)	0.403	0.205	0.245	0.853
	NR Band n41	0.074	0.205	0.245	0.524

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

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+3	1+2+4	1+2+3+4
Head SAR	CDMA/EVDO BC10 (\$90S)	0.164	0.205	0.501	0.181	0.870	0.550	1.051
	CDMA/EVDO BC0 (\$22H)	0.176	0.205	0.501	0.181	0.882	0.562	1.063
	PCS CDMA/EVDO	0.099	0.205	0.501	0.181	0.805	0.485	0.986
	GSM/GPRS 850	0.162	0.205	0.501	0.181	0.868	0.548	1.049
	GSM/GPRS 1900	0.050	0.205	0.501	0.181	0.756	0.436	0.937
	UMTS 850	0.175	0.205	0.501	0.181	0.881	0.561	1.062
	UMTS 1750	0.086	0.205	0.501	0.181	0.792	0.472	0.973
	UMTS 1900	0.131	0.205	0.501	0.181	0.837	0.517	1.018
	LTE Band 71	0.147	0.205	0.501	0.181	0.853	0.533	1.034
	LTE Band 12	0.128	0.205	0.501	0.181	0.834	0.514	1.015
	LTE Band 13	0.113	0.205	0.501	0.181	0.819	0.499	1.000
	LTE Band 26 (Cell)	0.106	0.205	0.501	0.181	0.812	0.492	0.993
	LTE Band 66 (AWS)	0.108	0.205	0.501	0.181	0.814	0.494	0.995
	LTE Band 25 (PCS)	0.134	0.205	0.501	0.181	0.840	0.520	1.021
	LTE Band 30	0.037	0.205	0.501	0.181	0.743	0.423	0.924
	LTE Band 7	0.038	0.205	0.501	0.181	0.744	0.424	0.925
	LTE Band 48	0.137	0.205	0.501	0.181	0.843	0.523	1.024
	LTE Band 41	0.094	0.205	0.501	0.181	0.800	0.480	0.981
	NR Band n71	0.032	0.205	0.501	0.181	0.738	0.418	0.919
	NR Band n66 (AWS)	0.166	0.205	0.501	0.181	0.872	0.552	1.053
	NR Band n25 (PCS)	0.403	0.205	0.501	0.181	1.109	0.789	1.290
	NR Band n41	0.074	0.205	0.501	0.181	0.780	0.460	0.961

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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)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body-Worn	CDMA BC10 (\$90S)	0.498	0.180	0.094	0.678	0.592	0.772
	CDMA BC0 (\$22H)	0.553	0.180	0.094	0.733	0.647	0.827
	PCS CDMA	0.786	0.180	0.094	0.966	0.880	1.060
	GSM/GPRS 850	0.515	0.180	0.094	0.695	0.609	0.789
	GSM/GPRS 1900	0.361	0.180	0.094	0.541	0.455	0.635
	UMTS 850	0.568	0.180	0.094	0.748	0.662	0.842
	UMTS 1750	0.569	0.180	0.094	0.749	0.663	0.843
	UMTS 1900	0.736	0.180	0.094	0.916	0.830	1.010
	LTE Band 71	0.267	0.180	0.094	0.447	0.361	0.541
	LTE Band 12	0.262	0.180	0.094	0.442	0.356	0.536
	LTE Band 13	0.364	0.180	0.094	0.544	0.458	0.638
	LTE Band 26 (Cell)	0.404	0.180	0.094	0.584	0.498	0.678
	LTE Band 66 (AWS)	0.743	0.180	0.094	0.923	0.837	1.017
	LTE Band 25 (PCS)	0.884	0.180	0.094	1.064	0.978	1.158
	LTE Band 30	0.223	0.180	0.094	0.403	0.317	0.497
	LTE Band 7	0.321	0.180	0.094	0.501	0.415	0.595
	LTE Band 48	1.256	0.180	0.094	1.436	1.350	1.530
	LTE Band 41	0.377	0.180	0.094	0.557	0.471	0.651
	NR Band n71	0.112	0.180	0.094	0.292	0.206	0.386
	NR Band n66 (AWS)	0.288	0.180	0.094	0.468	0.382	0.562
	NR Band n25 (PCS)	0.357	0.180	0.094	0.537	0.451	0.631
	NR Band n41	0.108	0.180	0.094	0.288	0.202	0.382

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

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		SPLSR
		1	2	3	1+2	1+3	
Body-Worn	CDMA BC10 (\$90S)	0.498	0.279	0.420	0.777	0.918	N/A
	CDMA BC0 (\$22H)	0.553	0.279	0.420	0.832	0.973	N/A
	PCS CDMA	0.786	0.279	0.420	1.065	1.206	N/A
	GSM/GPRS 850	0.515	0.279	0.420	0.794	0.935	N/A
	GSM/GPRS 1900	0.361	0.279	0.420	0.640	0.781	N/A
	UMTS 850	0.568	0.279	0.420	0.847	0.988	N/A
	UMTS 1750	0.569	0.279	0.420	0.848	0.989	N/A
	UMTS 1900	0.736	0.279	0.420	1.015	1.156	N/A
	LTE Band 71	0.267	0.279	0.420	0.546	0.687	N/A
	LTE Band 12	0.262	0.279	0.420	0.541	0.682	N/A
	LTE Band 13	0.364	0.279	0.420	0.643	0.784	N/A
	LTE Band 26 (Cell)	0.404	0.279	0.420	0.683	0.824	N/A
	LTE Band 66 (AWS)	0.743	0.279	0.420	1.022	1.163	N/A
	LTE Band 25 (PCS)	0.884	0.279	0.420	1.163	1.304	N/A
	LTE Band 30	0.223	0.279	0.420	0.502	0.643	N/A
	LTE Band 7	0.321	0.279	0.420	0.600	0.741	N/A
	LTE Band 48	1.256	0.279	0.420	1.535	See Note 1	0.03
	LTE Band 41	0.377	0.279	0.420	0.656	0.797	N/A
	NR Band n71	0.112	0.279	0.420	0.391	0.532	N/A
	NR Band n66 (AWS)	0.288	0.279	0.420	0.567	0.708	N/A
	NR Band n25 (PCS)	0.357	0.279	0.420	0.636	0.777	N/A
	NR Band n41	0.108	0.279	0.420	0.387	0.528	N/A

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

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Body-Worn	CDMA BC10 (\$90S)	0.498	0.496	0.994	N/A
	CDMA BC0 (\$22H)	0.553	0.496	1.049	N/A
	PCS CDMA	0.786	0.496	1.282	N/A
	GSM/GPRS 850	0.515	0.496	1.011	N/A
	GSM/GPRS 1900	0.361	0.496	0.857	N/A
	UMTS 850	0.568	0.496	1.064	N/A
	UMTS 1750	0.569	0.496	1.065	N/A
	UMTS 1900	0.736	0.496	1.232	N/A
	LTE Band 71	0.267	0.496	0.763	N/A
	LTE Band 12	0.262	0.496	0.758	N/A
	LTE Band 13	0.364	0.496	0.860	N/A
	LTE Band 26 (Cell)	0.404	0.496	0.900	N/A
	LTE Band 66 (AWS)	0.743	0.496	1.239	N/A
	LTE Band 25 (PCS)	0.884	0.496	1.380	N/A
	LTE Band 30	0.223	0.496	0.719	N/A
	LTE Band 7	0.321	0.496	0.817	N/A
	LTE Band 48	1.256	0.496	See Note 1	0.03
	LTE Band 41	0.377	0.496	0.873	N/A
	NR Band n71	0.112	0.496	0.608	N/A
	NR Band n66 (AWS)	0.288	0.496	0.784	N/A
	NR Band n25 (PCS)	0.357	0.496	0.853	N/A
	NR Band n41	0.108	0.496	0.604	N/A

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Table 12-10
Simultaneous Transmission Scenario with 2.4 GHz WLAN and 5 GHz WLAN (Body-Worn at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	2.4 GHz WLAN MIMO at 18.5 dBm SAR (W/kg)	5 GHz WLAN MIMO at 18 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body-Worn	CDMA BC10 (\$90S)	0.498	0.077	0.195	0.770
	CDMA BC0 (\$22H)	0.553	0.077	0.195	0.825
	PCS CDMA	0.786	0.077	0.195	1.058
	GSM/GPRS 850	0.515	0.077	0.195	0.787
	GSM/GPRS 1900	0.361	0.077	0.195	0.633
	UMTS 850	0.568	0.077	0.195	0.840
	UMTS 1750	0.569	0.077	0.195	0.841
	UMTS 1900	0.736	0.077	0.195	1.008
	LTE Band 71	0.267	0.077	0.195	0.539
	LTE Band 12	0.262	0.077	0.195	0.534
	LTE Band 13	0.364	0.077	0.195	0.636
	LTE Band 26 (Cell)	0.404	0.077	0.195	0.676
	LTE Band 66 (AWS)	0.743	0.077	0.195	1.015
	LTE Band 25 (PCS)	0.884	0.077	0.195	1.156
	LTE Band 30	0.223	0.077	0.195	0.495
	LTE Band 7	0.321	0.077	0.195	0.593
	LTE Band 48	1.256	0.077	0.195	1.528
	LTE Band 41	0.377	0.077	0.195	0.649
	NR Band n71	0.112	0.077	0.195	0.384
	NR Band n66 (AWS)	0.288	0.077	0.195	0.560
	NR Band n25 (PCS)	0.357	0.077	0.195	0.629
	NR Band n41	0.108	0.077	0.195	0.380

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Table 12-11
Simultaneous Transmission Scenario with Bluetooth (Body-Worn at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body-Worn	CDMA BC10 (\$90S)	0.498	0.027	0.525
	CDMA BC0 (\$22H)	0.553	0.027	0.580
	PCS CDMA	0.786	0.027	0.813
	GSM/GPRS 850	0.515	0.027	0.542
	GSM/GPRS 1900	0.361	0.027	0.388
	UMTS 850	0.568	0.027	0.595
	UMTS 1750	0.569	0.027	0.596
	UMTS 1900	0.736	0.027	0.763
	LTE Band 71	0.267	0.027	0.294
	LTE Band 12	0.262	0.027	0.289
	LTE Band 13	0.364	0.027	0.391
	LTE Band 26 (Cell)	0.404	0.027	0.431
	LTE Band 66 (AWS)	0.743	0.027	0.770
	LTE Band 25 (PCS)	0.884	0.027	0.911
	LTE Band 30	0.223	0.027	0.250
	LTE Band 7	0.321	0.027	0.348
	LTE Band 48	1.256	0.027	1.283
	LTE Band 41	0.377	0.027	0.404
	NR Band n71	0.112	0.027	0.139
	NR Band n66 (AWS)	0.288	0.027	0.315
	NR Band n25 (PCS)	0.357	0.027	0.384
	NR Band n41	0.108	0.027	0.135

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

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body-Worn	CDMA BC10 (\$90S)	0.498	0.027	0.094	0.619
	CDMA BC0 (\$22H)	0.553	0.027	0.094	0.674
	PCS CDMA	0.786	0.027	0.094	0.907
	GSM/GPRS 850	0.515	0.027	0.094	0.636
	GSM/GPRS 1900	0.361	0.027	0.094	0.482
	UMTS 850	0.568	0.027	0.094	0.689
	UMTS 1750	0.569	0.027	0.094	0.690
	UMTS 1900	0.736	0.027	0.094	0.857
	LTE Band 71	0.267	0.027	0.094	0.388
	LTE Band 12	0.262	0.027	0.094	0.383
	LTE Band 13	0.364	0.027	0.094	0.485
	LTE Band 26 (Cell)	0.404	0.027	0.094	0.525
	LTE Band 66 (AWS)	0.743	0.027	0.094	0.864
	LTE Band 25 (PCS)	0.884	0.027	0.094	1.005
	LTE Band 30	0.223	0.027	0.094	0.344
	LTE Band 7	0.321	0.027	0.094	0.442
	LTE Band 48	1.256	0.027	0.094	1.377
	LTE Band 41	0.377	0.027	0.094	0.498
	NR Band n71	0.112	0.027	0.094	0.233
	NR Band n66 (AWS)	0.288	0.027	0.094	0.409
	NR Band n25 (PCS)	0.357	0.027	0.094	0.478
	NR Band n41	0.108	0.027	0.094	0.229

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Table 12-13
Simultaneous Transmission Scenario with 5 GHz WLAN Antenna 1 and Bluetooth (Body-Worn at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body-Worn	CDMA BC10 (\$90S)	0.498	0.027	0.279	0.804
	CDMA BC0 (\$22H)	0.553	0.027	0.279	0.859
	PCS CDMA	0.786	0.027	0.279	1.092
	GSM/GPRS 850	0.515	0.027	0.279	0.821
	GSM/GPRS 1900	0.361	0.027	0.279	0.667
	UMTS 850	0.568	0.027	0.279	0.874
	UMTS 1750	0.569	0.027	0.279	0.875
	UMTS 1900	0.736	0.027	0.279	1.042
	LTE Band 71	0.267	0.027	0.279	0.573
	LTE Band 12	0.262	0.027	0.279	0.568
	LTE Band 13	0.364	0.027	0.279	0.670
	LTE Band 26 (Cell)	0.404	0.027	0.279	0.710
	LTE Band 66 (AWS)	0.743	0.027	0.279	1.049
	LTE Band 25 (PCS)	0.884	0.027	0.279	1.190
	LTE Band 30	0.223	0.027	0.279	0.529
	LTE Band 7	0.321	0.027	0.279	0.627
	LTE Band 48	1.256	0.027	0.279	1.562
	LTE Band 41	0.377	0.027	0.279	0.683
	NR Band n71	0.112	0.027	0.279	0.418
	NR Band n66 (AWS)	0.288	0.027	0.279	0.594
	NR Band n25 (PCS)	0.357	0.027	0.279	0.663
	NR Band n41	0.108	0.027	0.279	0.414

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Table 12-14

Simultaneous Transmission Scenario with 5 GHz WLAN Antenna 2 and Bluetooth (Body-Worn at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	SPLSR		
		1	2	3	1+2+3	1+2	1+3	2+3
Body-Worn	CDMA BC10 (\$90S)	0.498	0.027	0.420	0.945	N/A	N/A	N/A
	CDMA BC0 (\$22H)	0.553	0.027	0.420	1.000	N/A	N/A	N/A
	PCS CDMA	0.786	0.027	0.420	1.233	N/A	N/A	N/A
	GSM/GPRS 850	0.515	0.027	0.420	0.962	N/A	N/A	N/A
	GSM/GPRS 1900	0.361	0.027	0.420	0.808	N/A	N/A	N/A
	UMTS 850	0.568	0.027	0.420	1.015	N/A	N/A	N/A
	UMTS 1750	0.569	0.027	0.420	1.016	N/A	N/A	N/A
	UMTS 1900	0.736	0.027	0.420	1.183	N/A	N/A	N/A
	LTE Band 71	0.267	0.027	0.420	0.714	N/A	N/A	N/A
	LTE Band 12	0.262	0.027	0.420	0.709	N/A	N/A	N/A
	LTE Band 13	0.364	0.027	0.420	0.811	N/A	N/A	N/A
	LTE Band 26 (Cell)	0.404	0.027	0.420	0.851	N/A	N/A	N/A
	LTE Band 66 (AWS)	0.743	0.027	0.420	1.190	N/A	N/A	N/A
	LTE Band 25 (PCS)	0.884	0.027	0.420	1.331	N/A	N/A	N/A
	LTE Band 30	0.223	0.027	0.420	0.670	N/A	N/A	N/A
	LTE Band 7	0.321	0.027	0.420	0.768	N/A	N/A	N/A
	LTE Band 48	1.256	0.027	0.420	See Note 1	0.02	0.03	0.01
	LTE Band 41	0.377	0.027	0.420	0.824	N/A	N/A	N/A
	NR Band n71	0.112	0.027	0.420	0.559	N/A	N/A	N/A
	NR Band n66 (AWS)	0.288	0.027	0.420	0.735	N/A	N/A	N/A
	NR Band n25 (PCS)	0.357	0.027	0.420	0.804	N/A	N/A	N/A
	NR Band n41	0.108	0.027	0.420	0.555	N/A	N/A	N/A

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Table 12-15
Simultaneous Transmission Scenario with 5 GHz WLAN MIMO and Bluetooth (Body-Worn at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR		
		1	2	3	1+2+3	1+2	1+3	2+3
Body-Worn	CDMA BC10 (\$90S)	0.498	0.027	0.496	1.021	N/A	N/A	N/A
	CDMA BC0 (\$22H)	0.553	0.027	0.496	1.076	N/A	N/A	N/A
	PCS CDMA	0.786	0.027	0.496	1.309	N/A	N/A	N/A
	GSM/GPRS 850	0.515	0.027	0.496	1.038	N/A	N/A	N/A
	GSM/GPRS 1900	0.361	0.027	0.496	0.884	N/A	N/A	N/A
	UMTS 850	0.568	0.027	0.496	1.091	N/A	N/A	N/A
	UMTS 1750	0.569	0.027	0.496	1.092	N/A	N/A	N/A
	UMTS 1900	0.736	0.027	0.496	1.259	N/A	N/A	N/A
	LTE Band 71	0.267	0.027	0.496	0.790	N/A	N/A	N/A
	LTE Band 12	0.262	0.027	0.496	0.785	N/A	N/A	N/A
	LTE Band 13	0.364	0.027	0.496	0.887	N/A	N/A	N/A
	LTE Band 26 (Cell)	0.404	0.027	0.496	0.927	N/A	N/A	N/A
	LTE Band 66 (AWS)	0.743	0.027	0.496	1.266	N/A	N/A	N/A
	LTE Band 25 (PCS)	0.884	0.027	0.496	1.407	N/A	N/A	N/A
	LTE Band 30	0.223	0.027	0.496	0.746	N/A	N/A	N/A
	LTE Band 7	0.321	0.027	0.496	0.844	N/A	N/A	N/A
	LTE Band 48	1.256	0.027	0.496	See Note 1	0.02	0.03	0.01
	LTE Band 41	0.377	0.027	0.496	0.900	N/A	N/A	N/A
	NR Band n71	0.112	0.027	0.496	0.635	N/A	N/A	N/A
	NR Band n66 (AWS)	0.288	0.027	0.496	0.811	N/A	N/A	N/A
	NR Band n25 (PCS)	0.357	0.027	0.496	0.880	N/A	N/A	N/A
	NR Band n41	0.108	0.027	0.496	0.631	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.

12.5 Hotspot SAR Simultaneous Transmission Analysis

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

(*) 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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Table 12-16
Simultaneous Transmission Scenario with 2.4 GHz WLAN (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	EVDO BC10 (\$90S)	0.342	0.558	0.218	0.900	0.560	1.118
	EVDO BC0 (\$22H)	0.411	0.558	0.218	0.969	0.629	1.187
	PCS EVDO	0.704	0.558	0.218	1.262	0.922	1.480
	GPRS 850	0.515	0.558	0.218	1.073	0.733	1.291
	GPRS 1900	0.599	0.558	0.218	1.157	0.817	1.375
	UMTS 850	0.568	0.558	0.218	1.126	0.786	1.344
	UMTS 1750	0.735	0.558	0.218	1.293	0.953	1.511
	UMTS 1900	0.834	0.558	0.218	1.392	1.052	See Table Below
	LTE Band 71	0.367	0.558	0.218	0.925	0.585	1.143
	LTE Band 12	0.337	0.558	0.218	0.895	0.555	1.113
	LTE Band 13	0.364	0.558	0.218	0.922	0.582	1.140
	LTE Band 26 (Cell)	0.404	0.558	0.218	0.962	0.622	1.180
	LTE Band 66 (AWS)	0.710	0.558	0.218	1.268	0.928	1.486
	LTE Band 25 (PCS)	0.758	0.558	0.218	1.316	0.976	1.534
	LTE Band 30	0.439	0.558	0.218	0.997	0.657	1.215
	LTE Band 7	0.516	0.558	0.218	1.074	0.734	1.292
	LTE Band 48	1.256	0.558	0.218	See Table Below	1.474	See Table Below
	LTE Band 41	0.934	0.558	0.218	1.492	1.152	See Table Below
	NR Band n71	0.175	0.558	0.218	0.733	0.393	0.951
	NR Band n66 (AWS)	0.445	0.558	0.218	1.003	0.663	1.221
	NR Band n25 (PCS)	0.856	0.558	0.218	1.414	1.074	See Table Below
	NR Band n41	0.133	0.558	0.218	0.691	0.351	0.909

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 48 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2+3			1	2	3	1+2	1+2+3
Hotspot SAR	Back	0.453	0.180	0.094	0.727	Hotspot SAR	Back	1.256	0.180	0.094	1.436	1.530
	Front	0.392	0.293	0.218*	0.903		Front	0.030	0.293	0.218*	0.323	0.541
	Top	-	0.558*	0.218	0.776		Top	-	0.558*	0.218	0.558	0.776
	Bottom	0.834	-	-	0.834		Right	0.540	-	-	0.540	0.540
	Left	0.131	0.558	0.218*	0.907		Left	-	0.558	0.218*	0.558	0.776

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	NR Band 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+3			1	2	3	1+2+3	
Hotspot SAR	Back	0.313	0.180	0.094	0.587	Hotspot SAR	Back	0.357	0.180	0.094	0.631	
	Front	0.363	0.293	0.218*	0.874		Front	0.427	0.293	0.218*	0.938	
	Top	-	0.558*	0.218	0.776		Top	-	0.558*	0.218	0.776	
	Bottom	0.934	-	-	0.934		Bottom	0.082	-	-	0.082	
	Right	-	-	-	-		Right	0.856	-	-	0.856	
	Left	0.100	0.558	0.218*	0.876		Left	-	0.558	0.218*	0.776	

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Table 12-17
Simultaneous Transmission Scenario with 5 GHz WLAN (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Hotspot SAR	EVDO BC10 (\$90S)	0.342	0.250	0.420	0.592	0.762
	EVDO BC0 (\$22H)	0.411	0.250	0.420	0.661	0.831
	PCS EVDO	0.704	0.250	0.420	0.954	1.124
	GPRS 850	0.515	0.250	0.420	0.765	0.935
	GPRS 1900	0.599	0.250	0.420	0.849	1.019
	UMTS 850	0.568	0.250	0.420	0.818	0.988
	UMTS 1750	0.735	0.250	0.420	0.985	1.155
	UMTS 1900	0.834	0.250	0.420	1.084	1.254
	LTE Band 71	0.367	0.250	0.420	0.617	0.787
	LTE Band 12	0.337	0.250	0.420	0.587	0.757
	LTE Band 13	0.364	0.250	0.420	0.614	0.784
	LTE Band 26 (Cell)	0.404	0.250	0.420	0.654	0.824
	LTE Band 66 (AWS)	0.710	0.250	0.420	0.960	1.130
	LTE Band 25 (PCS)	0.758	0.250	0.420	1.008	1.178
	LTE Band 30	0.439	0.250	0.420	0.689	0.859
	LTE Band 7	0.516	0.250	0.420	0.766	0.936
	LTE Band 48	1.256	0.250	0.420	1.506	See Table Below
	LTE Band 41	0.934	0.250	0.420	1.184	1.354
	NR Band n71	0.175	0.250	0.420	0.425	0.595
	NR Band n66 (AWS)	0.445	0.250	0.420	0.695	0.865
	NR Band n25 (PCS)	0.856	0.250	0.420	1.106	1.276
	NR Band n41	0.133	0.250	0.420	0.383	0.553

Simult Tx	Configuration	LTE Band 48 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Hotspot SAR	Back	1.256	0.420	See Note 1	0.03
	Front	0.030	0.420*	0.450	N/A
	Top	-	0.152	0.152	N/A
	Right	0.540	-	0.540	N/A
	Left	-	0.420*	0.420	N/A

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

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	EVDO BC10 (§90S)	0.342	0.496	0.838
	EVDO BC0 (§22H)	0.411	0.496	0.907
	PCS EVDO	0.704	0.496	1.200
	GPRS 850	0.515	0.496	1.011
	GPRS 1900	0.599	0.496	1.095
	UMTS 850	0.568	0.496	1.064
	UMTS 1750	0.735	0.496	1.231
	UMTS 1900	0.834	0.496	1.330
	LTE Band 71	0.367	0.496	0.863
	LTE Band 12	0.337	0.496	0.833
	LTE Band 13	0.364	0.496	0.860
	LTE Band 26 (Cell)	0.404	0.496	0.900
	LTE Band 66 (AWS)	0.710	0.496	1.206
	LTE Band 25 (PCS)	0.758	0.496	1.254
	LTE Band 30	0.439	0.496	0.935
	LTE Band 7	0.516	0.496	1.012
	LTE Band 48	1.256	0.496	See Table Below
	LTE Band 41	0.934	0.496	1.430
	NR Band n71	0.175	0.496	0.671
	NR Band n66 (AWS)	0.445	0.496	0.941
	NR Band n25 (PCS)	0.856	0.496	1.352
	NR Band n41	0.133	0.496	0.629

Simult Tx	Configuration	LTE Band 48 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Hotspot SAR	Back	1.256	0.496	See Note 1	0.03
	Front	0.030	0.496*	0.526	N/A
	Top	-	0.464	0.464	N/A
	Right	0.540	-	0.540	N/A
	Left	-	0.496*	0.496	N/A

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Table 12-19
Simultaneous Transmission Scenario with 2.4 GHz WLAN and 5 GHz WLAN (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	2.4 GHz WLAN MIMO at 18.5 dBm SAR (W/kg)	5 GHz WLAN MIMO at 18 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	EVDO BC10 (\$90S)	0.342	0.147	0.177	0.666
	EVDO BC0 (\$22H)	0.411	0.147	0.177	0.735
	PCS EVDO	0.704	0.147	0.177	1.028
	GPRS 850	0.515	0.147	0.177	0.839
	GPRS 1900	0.599	0.147	0.177	0.923
	UMTS 850	0.568	0.147	0.177	0.892
	UMTS 1750	0.735	0.147	0.177	1.059
	UMTS 1900	0.834	0.147	0.177	1.158
	LTE Band 71	0.367	0.147	0.177	0.691
	LTE Band 12	0.337	0.147	0.177	0.661
	LTE Band 13	0.364	0.147	0.177	0.688
	LTE Band 26 (Cell)	0.404	0.147	0.177	0.728
	LTE Band 66 (AWS)	0.710	0.147	0.177	1.034
	LTE Band 25 (PCS)	0.758	0.147	0.177	1.082
	LTE Band 30	0.439	0.147	0.177	0.763
	LTE Band 7	0.516	0.147	0.177	0.840
	LTE Band 48	1.256	0.147	0.177	1.580
	LTE Band 41	0.934	0.147	0.177	1.258
	NR Band n71	0.175	0.147	0.177	0.499
	NR Band n66 (AWS)	0.445	0.147	0.177	0.769
	NR Band n25 (PCS)	0.856	0.147	0.177	1.180
	NR Band n41	0.133	0.147	0.177	0.457

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Table 12-20
Simultaneous Transmission Scenario with Bluetooth (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	EVDO BC10 (§90S)	0.342	0.060	0.402
	EVDO BC0 (§22H)	0.411	0.060	0.471
	PCS EVDO	0.704	0.060	0.764
	GPRS 850	0.515	0.060	0.575
	GPRS 1900	0.599	0.060	0.659
	UMTS 850	0.568	0.060	0.628
	UMTS 1750	0.735	0.060	0.795
	UMTS 1900	0.834	0.060	0.894
	LTE Band 71	0.367	0.060	0.427
	LTE Band 12	0.337	0.060	0.397
	LTE Band 13	0.364	0.060	0.424
	LTE Band 26 (Cell)	0.404	0.060	0.464
	LTE Band 66 (AWS)	0.710	0.060	0.770
	LTE Band 25 (PCS)	0.758	0.060	0.818
	LTE Band 30	0.439	0.060	0.499
	LTE Band 7	0.516	0.060	0.576
	LTE Band 48	1.256	0.060	1.316
	LTE Band 41	0.934	0.060	0.994
	NR Band n71	0.175	0.060	0.235
	NR Band n66 (AWS)	0.445	0.060	0.505
	NR Band n25 (PCS)	0.856	0.060	0.916
	NR Band n41	0.133	0.060	0.193

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Table 12-21
Simultaneous Transmission Scenario with 2.4 GHz WLAN Antenna 2 and Bluetooth (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	EVDO BC10 (\$90S)	0.342	0.060	0.218	0.620
	EVDO BC0 (\$22H)	0.411	0.060	0.218	0.689
	PCS EVDO	0.704	0.060	0.218	0.982
	GPRS 850	0.515	0.060	0.218	0.793
	GPRS 1900	0.599	0.060	0.218	0.877
	UMTS 850	0.568	0.060	0.218	0.846
	UMTS 1750	0.735	0.060	0.218	1.013
	UMTS 1900	0.834	0.060	0.218	1.112
	LTE Band 71	0.367	0.060	0.218	0.645
	LTE Band 12	0.337	0.060	0.218	0.615
	LTE Band 13	0.364	0.060	0.218	0.642
	LTE Band 26 (Cell)	0.404	0.060	0.218	0.682
	LTE Band 66 (AWS)	0.710	0.060	0.218	0.988
	LTE Band 25 (PCS)	0.758	0.060	0.218	1.036
	LTE Band 30	0.439	0.060	0.218	0.717
	LTE Band 7	0.516	0.060	0.218	0.794
	LTE Band 48	1.256	0.060	0.218	1.534
	LTE Band 41	0.934	0.060	0.218	1.212
	NR Band n71	0.175	0.060	0.218	0.453
	NR Band n66 (AWS)	0.445	0.060	0.218	0.723
	NR Band n25 (PCS)	0.856	0.060	0.218	1.134
	NR Band n41	0.133	0.060	0.218	0.411

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Table 12-22
Simultaneous Transmission Scenario with 5 GHz WLAN Antenna 1 and Bluetooth (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	EVDO BC10 (\$90S)	0.342	0.060	0.250	0.652
	EVDO BC0 (\$22H)	0.411	0.060	0.250	0.721
	PCS EVDO	0.704	0.060	0.250	1.014
	GPRS 850	0.515	0.060	0.250	0.825
	GPRS 1900	0.599	0.060	0.250	0.909
	UMTS 850	0.568	0.060	0.250	0.878
	UMTS 1750	0.735	0.060	0.250	1.045
	UMTS 1900	0.834	0.060	0.250	1.144
	LTE Band 71	0.367	0.060	0.250	0.677
	LTE Band 12	0.337	0.060	0.250	0.647
	LTE Band 13	0.364	0.060	0.250	0.674
	LTE Band 26 (Cell)	0.404	0.060	0.250	0.714
	LTE Band 66 (AWS)	0.710	0.060	0.250	1.020
	LTE Band 25 (PCS)	0.758	0.060	0.250	1.068
	LTE Band 30	0.439	0.060	0.250	0.749
	LTE Band 7	0.516	0.060	0.250	0.826
	LTE Band 48	1.256	0.060	0.250	1.566
	LTE Band 41	0.934	0.060	0.250	1.244
	NR Band n71	0.175	0.060	0.250	0.485
	NR Band n66 (AWS)	0.445	0.060	0.250	0.755
	NR Band n25 (PCS)	0.856	0.060	0.250	1.166
	NR Band n41	0.133	0.060	0.250	0.443

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Table 12-23
Simultaneous Transmission Scenario with 5 GHz WLAN Antenna 2 and Bluetooth (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	EVDO BC10 (\$90S)	0.342	0.060	0.420	0.822
	EVDO BC0 (\$22H)	0.411	0.060	0.420	0.891
	PCS EVDO	0.704	0.060	0.420	1.184
	GPRS 850	0.515	0.060	0.420	0.995
	GPRS 1900	0.599	0.060	0.420	1.079
	UMTS 850	0.568	0.060	0.420	1.048
	UMTS 1750	0.735	0.060	0.420	1.215
	UMTS 1900	0.834	0.060	0.420	1.314
	LTE Band 71	0.367	0.060	0.420	0.847
	LTE Band 12	0.337	0.060	0.420	0.817
	LTE Band 13	0.364	0.060	0.420	0.844
	LTE Band 26 (Cell)	0.404	0.060	0.420	0.884
	LTE Band 66 (AWS)	0.710	0.060	0.420	1.190
	LTE Band 25 (PCS)	0.758	0.060	0.420	1.238
	LTE Band 30	0.439	0.060	0.420	0.919
	LTE Band 7	0.516	0.060	0.420	0.996
	LTE Band 48	1.256	0.060	0.420	See Table Below
	LTE Band 41	0.934	0.060	0.420	1.414
	NR Band n71	0.175	0.060	0.420	0.655
	NR Band n66 (AWS)	0.445	0.060	0.420	0.925
	NR Band n25 (PCS)	0.856	0.060	0.420	1.336
	NR Band n41	0.133	0.060	0.420	0.613

Simult Tx	Configuration	LTE Band 48 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	SPLSR		
		1	2	3	1+2+3	1+2	1+3	2+3
Hotspot SAR	Back	1.256	0.027	0.420	See Note 1	0.02	0.03	0.01
	Front	0.030	0.027	0.420*	0.477	N/A	N/A	N/A
	Top	-	0.022	0.152	0.174	N/A	N/A	N/A
	Right	0.540	-	-	0.540	N/A	N/A	N/A
	Left	-	0.060	0.420*	0.480	N/A	N/A	N/A

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Table 12-24
Simultaneous Transmission Scenario with 5 GHz WLAN MIMO and Bluetooth (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G/5G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	EVDO BC10 (§90S)	0.342	0.060	0.496	0.898
	EVDO BC0 (§22H)	0.411	0.060	0.496	0.967
	PCS EVDO	0.704	0.060	0.496	1.260
	GPRS 850	0.515	0.060	0.496	1.071
	GPRS 1900	0.599	0.060	0.496	1.155
	UMTS 850	0.568	0.060	0.496	1.124
	UMTS 1750	0.735	0.060	0.496	1.291
	UMTS 1900	0.834	0.060	0.496	1.390
	LTE Band 71	0.367	0.060	0.496	0.923
	LTE Band 12	0.337	0.060	0.496	0.893
	LTE Band 13	0.364	0.060	0.496	0.920
	LTE Band 26 (Cell)	0.404	0.060	0.496	0.960
	LTE Band 66 (AWS)	0.710	0.060	0.496	1.266
	LTE Band 25 (PCS)	0.758	0.060	0.496	1.314
	LTE Band 30	0.439	0.060	0.496	0.995
	LTE Band 7	0.516	0.060	0.496	1.072
	LTE Band 48	1.256	0.060	0.496	See Table Below
	LTE Band 41	0.934	0.060	0.496	1.490
	NR Band n71	0.175	0.060	0.496	0.731
	NR Band n66 (AWS)	0.445	0.060	0.496	1.001
	NR Band n25 (PCS)	0.856	0.060	0.496	1.412
	NR Band n41	0.133	0.060	0.496	0.689

Simult Tx	Configuration	LTE Band 48 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR		
		1	2	3	1+2+3	1+2	1+3	2+3
Hotspot SAR	Back	1.256	0.027	0.496	See Note 1	0.02	0.03	0.01
	Front	0.030	0.027	0.496*	0.553	N/A	N/A	N/A
	Top	-	0.022	0.464	0.486	N/A	N/A	N/A
	Right	0.540	-	-	0.540	N/A	N/A	N/A
	Left	-	0.060	0.496*	0.556	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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12.6 Phablet Simultaneous Transmission Analysis

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

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

Per FCC KDB Publication 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 12-25
Simultaneous Transmission Scenario with 5 GHz WLAN Antenna 1 (Phablet)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	PCS EVDO	2.569	1.054	3.623
	UMTS 1750	2.591	1.054	3.645
	UMTS 1900	2.436	1.054	3.490
	LTE Band 66 (AWS)	2.870	1.054	3.924
	LTE Band 25 (PCS)	2.444	1.054	3.498
	LTE Band 7	1.946	1.054	3.000
	LTE Band 48	2.854	1.054	3.908

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Table 12-26
Simultaneous Transmission Scenario with 5 GHz WLAN Antenna 2 (Phablet)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	PCS EVDO	2.569	1.236	3.805
	UMTS 1750	2.591	1.236	3.827
	UMTS 1900	2.436	1.236	3.672
	LTE Band 66 (AWS)	2.870	1.236	See Table Below
	LTE Band 25 (PCS)	2.444	1.236	3.680
	LTE Band 7	1.946	1.236	3.182
	LTE Band 48	2.854	1.236	See Table Below

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 48 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2			1	2	1+2
Phablet SAR	Back	1.408	1.236	2.644	Phablet SAR	Back	2.854	1.236	See Note 1
	Front	2.449	0.095	2.544					
	Top	-	0.486	0.486					
	Bottom	2.870	-	2.870					
	Left	0.604	1.236*	1.840					

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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 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.

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

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

12.7.1 Back Side SPLSR Evaluation and Analysis

Table 12-28
Peak SAR Locations for Body-worn/Hotspot Back Side

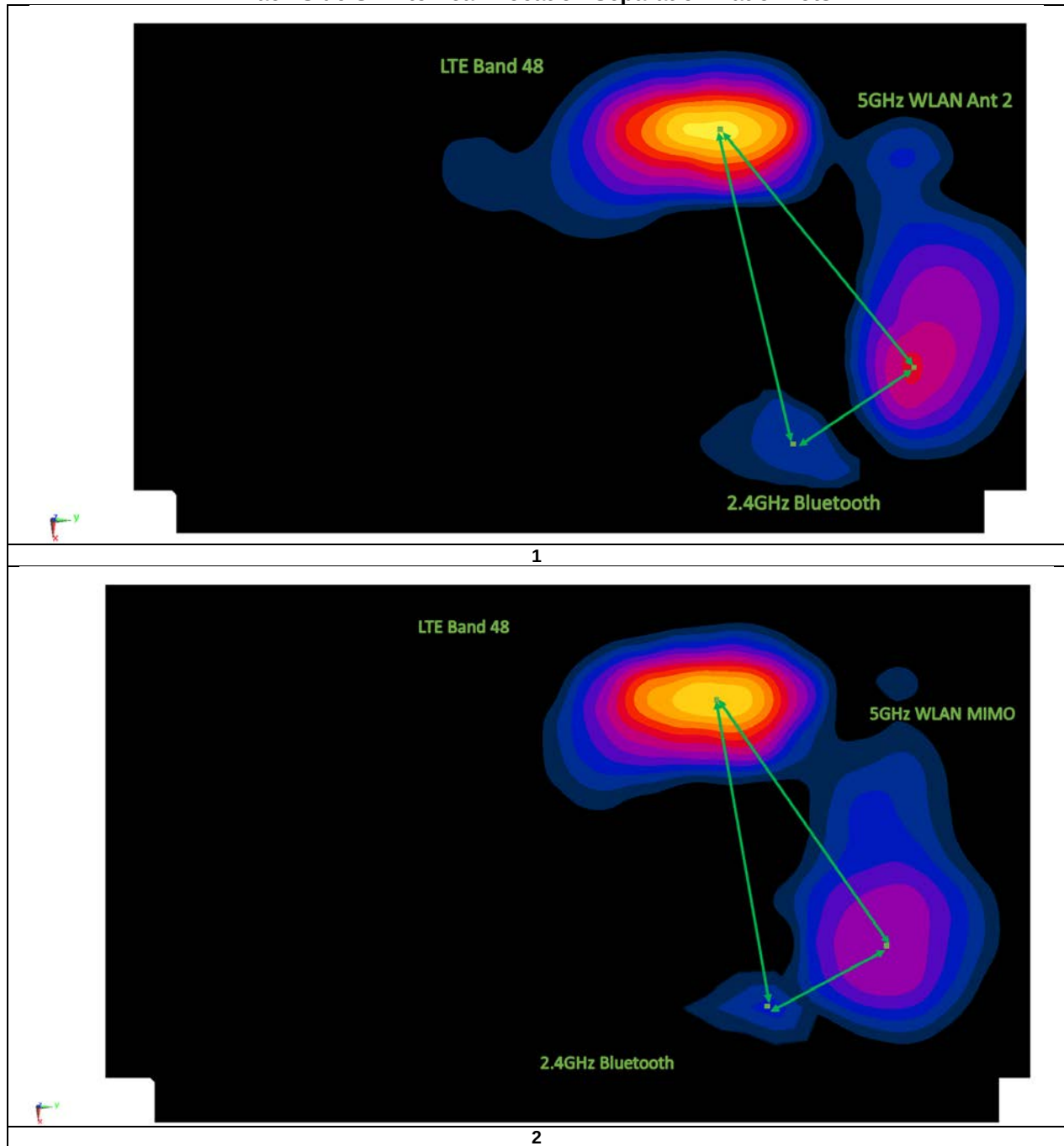
Mode/Band	x (mm)	y (mm)
2.4 GHz Bluetooth	11.00	45.60
5 GHz WLAN Ant 2	-4.00	71.00
5 GHz WLAN MIMO	-3.00	70.00
LTE Band 48	-59.80	32.40

Table 12-29
Body-worn/Hotspot Back Side SAR to Peak Location Separation Ratio Calculations

Antenna Pair		Standalone SAR (W/kg)		Standalone SAR Sum (W/kg)	Peak SAR Separation Distance (mm)	SPLS Ratio	Plot Number
Ant "a"	Ant "b"	a	b	a+b	D _{a-b}	(a+b) ^{1.5} /D _{a-b}	
LTE Band 48	5 GHz WLAN Ant 2	1.256	0.420	1.676	67.85	0.03	1
LTE Band 48	5 GHz WLAN MIMO	1.256	0.496	1.752	68.12	0.03	2
LTE Band 48	5 GHz WLAN Ant 2	1.256	0.420	1.676	67.85	0.03	1
LTE Band 48	2.4 GHz Bluetooth	1.256	0.027	1.283	72.02	0.02	
2.4 GHz Bluetooth	5 GHz WLAN Ant 2	0.027	0.420	0.447	29.50	0.01	
LTE Band 48	5 GHz WLAN MIMO	1.256	0.496	1.752	68.12	0.03	2
LTE Band 48	2.4 GHz Bluetooth	1.256	0.027	1.283	72.02	0.02	
2.4 GHz Bluetooth	5 GHz WLAN MIMO	0.027	0.496	0.523	28.13	0.01	

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Table 12-30
Back Side SAR to Peak Location Separation Ratio Plots



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12.8 Additional Simultaneous SAR Evaluation and Analysis for LTE Band 48 and 5 GHz WLAN Operations

Per KDB Publication 865664, when the sum of the transmitters potentially operating simultaneously is greater than 1.6 W/kg or 4.0 W/kg and the sum to peak SAR location separation ratio between any pair of transmitters is more than 0.04 for 1g or 0.1 for 10g, SAR tests are required for simultaneous transmission to determine the aggregate 1g or 10g SAR. When required, each transmitter is tested for simultaneous transmission in the configuration, channel and operating mode that resulted in the highest SAR during the stand-alone evaluation.

The Bluetooth and 5 GHz WLAN transmitters are spatially separated from the LTE B48 antenna. Therefore, simultaneous transmission SAR evaluations (Volumetric SAR Evaluations) were performed for the transmitters with the overlapping distributions - 5 GHz WIFI and LTE B48.

12.8.1 Volumetric SAR Evaluation and Analysis for LTE Band 48 and 5GHz WLAN Simultaneous Transmission

Table 12-31
Simultaneous Transmission SAR Analysis

Band/Mode	Configuration	Frequency [MHz]	Measured Standalone 1g SAR [W/kg]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 2) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Duty Cycle (%)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Volumetric 1g SAR [W/kg]	Scaled Volumetric 1g SAR [W/kg]	Volumetric SAR Plot Number
LTE B48	Back Side, Ch. 55340, 20MHz BW, QPSK 1 RB, 99 RB Offset, 0mm	3560	2.79	23.60	23.7	N/A	N/A	1:1.58	1.023	N/A	2.93	2.997	A78
5 GHz WLAN Ant 2	Back Side, IEEE 802.11a, 20 MHz, Ch. 120, 6 Mbps, 0mm	5600	1.2	16.89	17.0	N/A	N/A	99.6	1.026	1.004	1.22	1.257	A79
5 GHz WLAN MIMO	Back Side, IEEE 802.11n, 20 MHz, Ch. 56, 13 Mbps, 0mm	5280	1.49	17.54	18.0	17.43	18.0	99.9	1.140	1.001	1.59	1.814	A80
Simultaneous Transmission Bands/Modes				Configuration		Scaled Multi-Band SAR (W/kg)		Simultaneous SAR Plot Number					
LTE B48				5 GHz WLAN Ant 2		Phablet Back Side		2.95		A81			
LTE B48				5 GHz WLAN MIMO		Phablet Back Side		2.90		A82			

Note:

1. All volumetric zoom scans were performed with DASY52 SAR system version 52.10. Post processor SEMCAD X Versions 14.6.12 (7450) multiband combiner requires enlarged zoom scans to overlap but does not require measurement point resolutions within the volumes to be identical for interpolation and superposition.
2. Each antenna was evaluated independently using the channel/configuration that produced the highest measured SAR when the standalone SAR was tested.
3. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D01v05. The simultaneous transmission SAR results of the individual transmitters were scaled using SEMCAD X during processing.
4. The LTE Band 48 and 5 GHz WIFI SAR values above represent the aggregate distributions from the simultaneous transmission (volumetric) SAR evaluation.

12.9 Simultaneous Transmission Conclusion

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

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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	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	1905.00	26590	LTE Band 25 (PCS), 20 MHz Bandwidth	QPSK, 1 RB, 0 RB Offset	back	10 mm	0.825	0.786	1.05	N/A	N/A	N/A	N/A
2450	2506.00	39750	LTE Band 41 PC2, 20 MHz Bandwidth	QPSK, 1 RB, 0 RB Offset	bottom	10 mm	0.862	0.839	1.03	N/A	N/A	N/A	N/A
3500	3560.00	55340	LTE Band 48, 20 MHz Bandwidth	QPSK, 1 RB, 99 RB Offset	back	10 mm	1.060	0.996	1.06	N/A	N/A	N/A	N/A
3700	3603.30	55773	LTE Band 48, 20 MHz Bandwidth	QPSK, 1 RB, 99 RB Offset	back	10 mm	1.180	1.160	1.02	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	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	front	1 mm	2.370	2.280	1.04	N/A	N/A	N/A	N/A
1750	1720.00	132072	LTE Band 66 (AWS), 20 MHz Bandwidth	QPSK, 50 RB, 25 RB Offset	bottom	0 mm	2.760	2.500	1.10	N/A	N/A	N/A	N/A
3500	3560.00	55340	LTE Band 48, 20 MHz Bandwidth	QPSK, 1 RB, 99 RB Offset	back	0 mm	2.790	2.740	1.02	N/A	N/A	N/A	N/A
3700	3603.30	55773	LTE Band 48, 20 MHz Bandwidth	QPSK, 1 RB, 99 RB Offset	back	0 mm	2.600	2.600	1.00	N/A	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						Phablet 4.0 W/kg (mW/g) averaged over 10 grams							

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

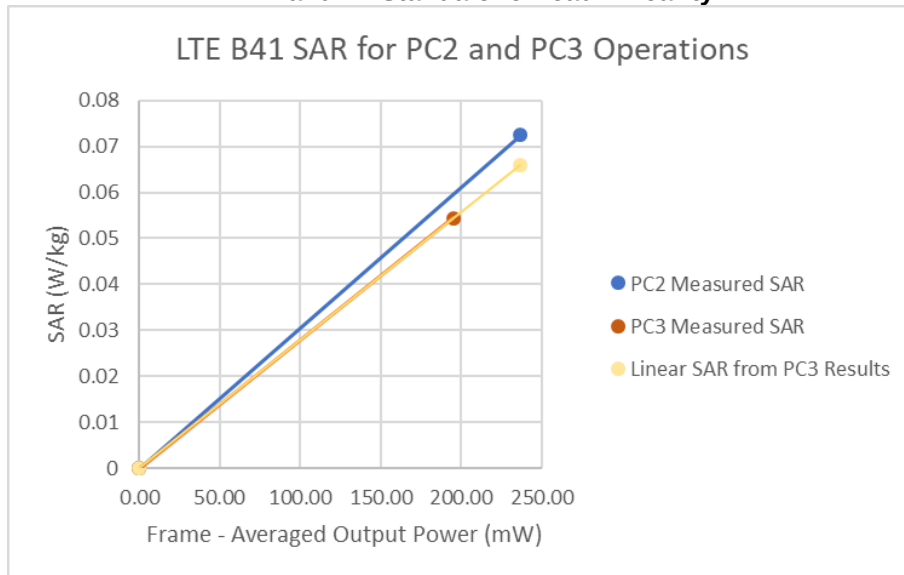
14.1 LTE Band 41 Power Class 2 and Power Class 3 Linearity

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

Table 14-1
LTE Band 41 Standalone Head Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	25.2	27.7
Measured Output Power (dBm)	24.89	27.38
Measured SAR (W/kg)	0.054	0.072
Measured Power (mW)	308.32	547.02
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	195.17	236.86
% deviation from expected linearity		9.66%

Figure 14-1
LTE Band 41 Standalone Head Linearity

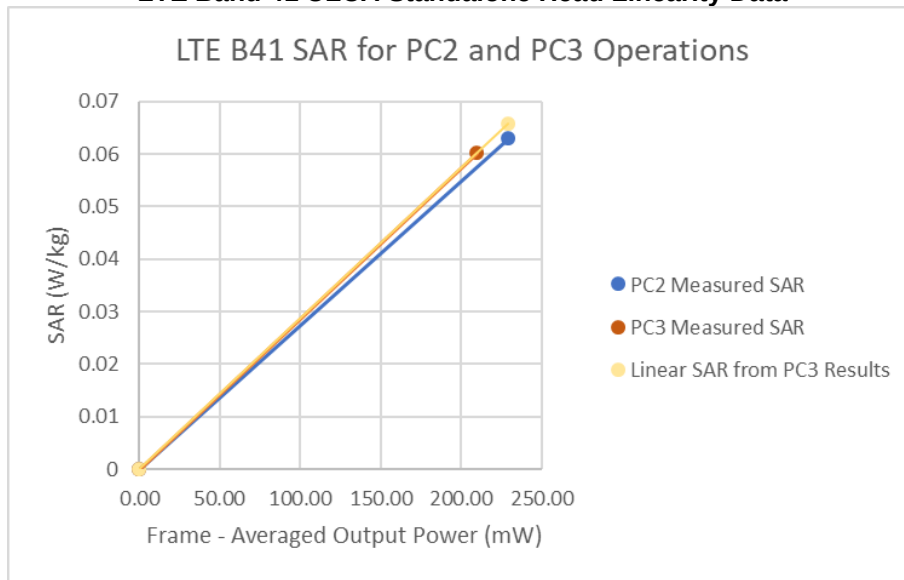


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Table 14-2
LTE Band 41 ULCA Standalone Head Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	25.2	27.7
Measured Output Power (dBm)	25.2	27.24
Measured SAR (W/kg)	0.0602	0.0630
Measured Power (mW)	331.13	529.66
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	209.61	229.34
% deviation from expected linearity		-4.36%

Figure 14-2
LTE Band 41 ULCA Standalone Head Linearity Data

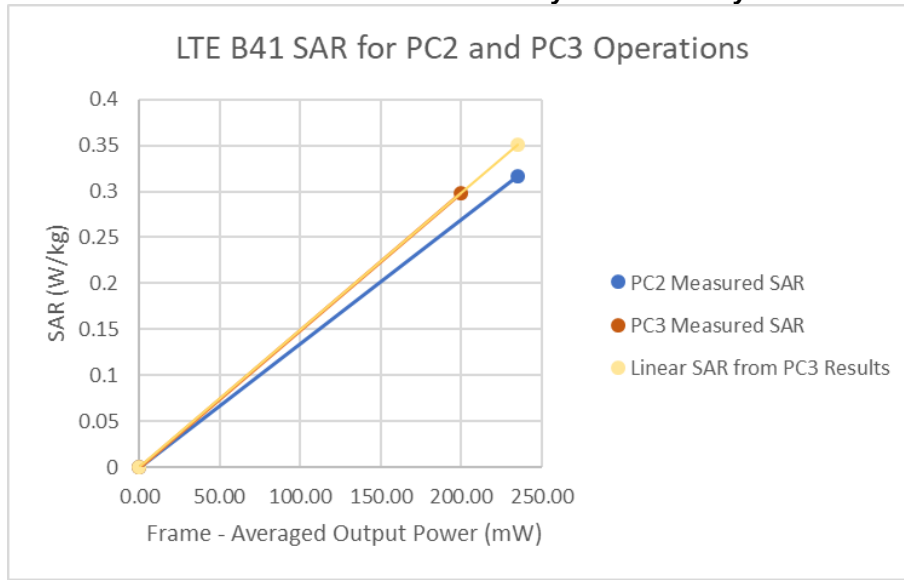


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Table 14-3
LTE Band 41 Standalone Bodyworn Linearity

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	25.2	27.7
Measured Output Power (dBm)	24.99	27.35
Measured SAR (W/kg)	0.298	0.317
Measured Power (mW)	315.50	543.25
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	199.71	235.23
% deviation from expected linearity		-9.69%

Figure 14-3
LTE Band 41 Standalone Bodyworn Linearity

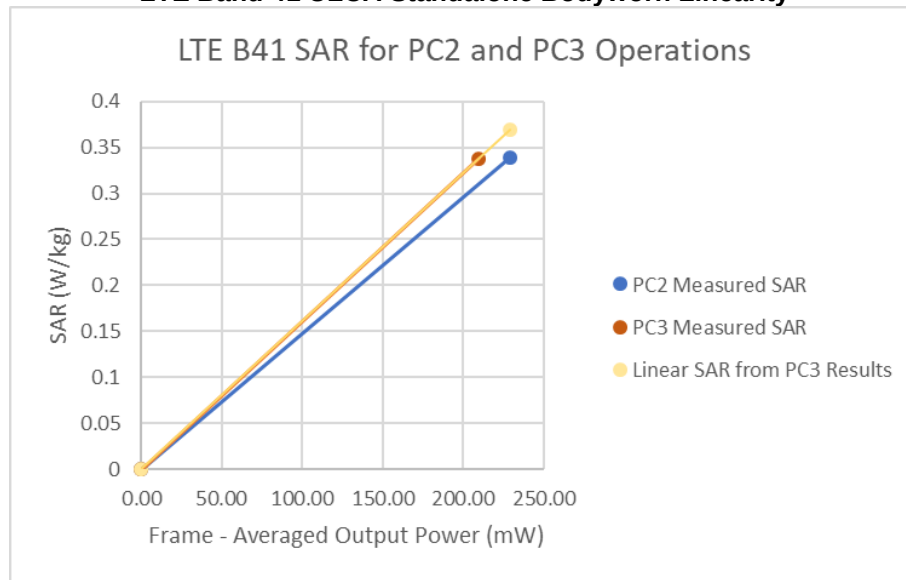


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Table 14-4
LTE Band 41 ULCA Standalone Bodyworn Linearity

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	25.2	27.7
Measured Output Power (dBm)	25.2	27.24
Measured SAR (W/kg)	0.338	0.339
Measured Power (mW)	331.13	529.66
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	209.61	229.34
% deviation from expected linearity		-8.34%

Figure 14-4
LTE Band 41 ULCA Standalone Bodyworn Linearity

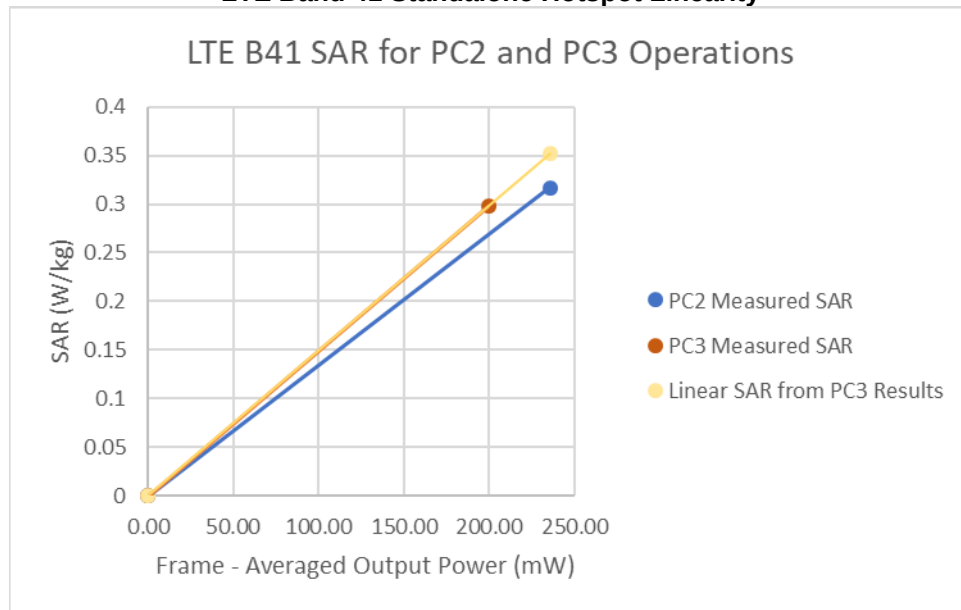


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Table 14-5
LTE Band 41 Standalone Hotspot Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	25.2	27.7
Measured Output Power (dBm)	24.99	27.35
Measured SAR (W/kg)	0.791	0.839
Measured Power (mW)	315.50	543.25
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	199.71	235.23
% deviation from expected linearity		-9.95%

Figure 14-5
LTE Band 41 Standalone Hotspot Linearity

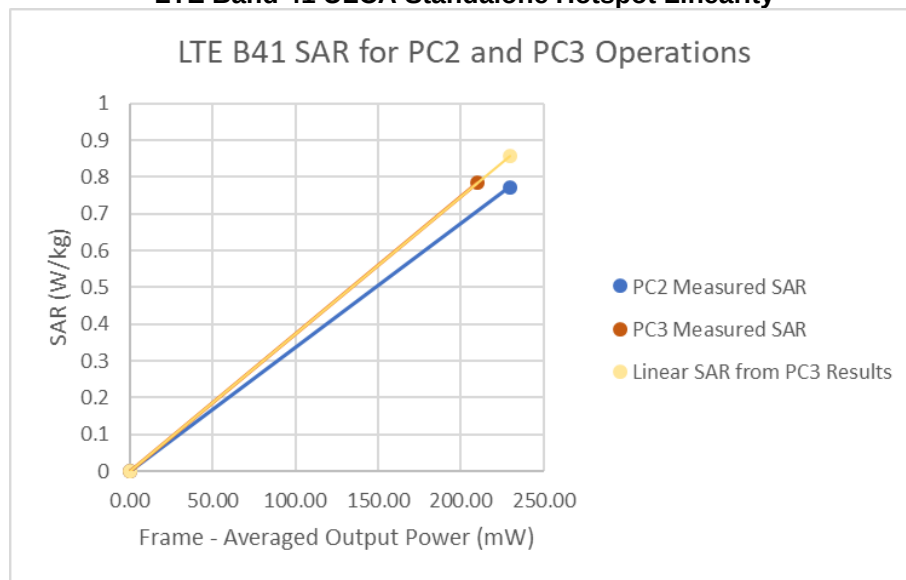


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Table 14-6
LTE Band 41 ULCA Standalone Hotspot Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	25.2	27.7
Measured Output Power (dBm)	25.2	27.24
Measured SAR (W/kg)	0.784	0.773
Measured Power (mW)	331.13	529.66
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	209.61	229.34
% deviation from expected linearity		-9.89%

Figure 14-6
LTE Band 41 ULCA Standalone Hotspot Linearity



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Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	8594A	(9kHz-2.9GHz) Spectrum Analyzer	N/A	N/A	N/A	3051400187
Agilent	E4438C	ESG Vector Signal Generator	3/8/2019	Biennial	3/8/2021	M142082385
Agilent	E4438C	ESG Vector Signal Generator	5/23/2019	Annual	5/23/2020	M142770002
Agilent	E4432B	ESG-D Series Signal Generator	7/14/2019	Annual	7/14/2020	US40053896
Agilent	N9020A	MXA Signal Analyzer	4/20/2019	Annual	4/20/2020	US46470561
Agilent	N5182A	MMW Vector Signal Generator	7/10/2019	Annual	7/10/2020	M147426800
Agilent	8753ES	S-Parameter Network Analyzer	8/26/2019	Annual	8/26/2020	M140000670
Agilent	8753ES	S-Parameter Network Analyzer	12/31/2019	Annual	12/31/2020	US39170122
Agilent	E5515C	Wireless Communications Test Set	9/25/2019	Annual	9/25/2020	GB43304278
Agilent	E5515C	Wireless Communications Test Set	6/26/2019	Annual	6/26/2020	M192061125
Agilent	N4010A	Wireless Connectivity Test Set	N/A	N/A	N/A	GB44450273
Agilent	N4010A	Wireless Connectivity Test Set	N/A	N/A	N/A	GB46170464
Amplifier Research	1551G6	Amplifier	N/A	N/A	N/A	433972
Amplifier Research	1551G6	Amplifier	N/A	N/A	N/A	433974
Amplifier Research	1551G6	Amplifier	N/A	N/A	N/A	433976
Anritsu	MA80002A	39GHz RF Converter	4/22/2019	Annual	4/22/2020	6261951702
Anritsu	MN8110B	I/O Adaptor	CBT	N/A	N/A	6261747881
Anritsu	ML2495A	Power Meter	12/17/2019	Annual	12/17/2020	941001
Anritsu	MA2411B	Pulse Power Sensor	12/14/2019	Annual	12/14/2020	1126066
Anritsu	MA2411B	Pulse Power Sensor	6/11/2019	Annual	6/11/2020	1207364
Anritsu	MT8820C	Radio Communication Analyzer	3/29/2019	Annual	3/29/2020	6201300731
Anritsu	MT8821C	Radio Communication Analyzer	1/25/2019	Annual	1/25/2020	6261895213
Anritsu	MT8821C	Radio Communication Analyzer	11/22/2019	Annual	11/22/2020	6262044715
Anritsu	MA24106A	USB Power Sensor	5/22/2019	Annual	5/22/2020	1231535
Anritsu	MA24106A	USB Power Sensor	5/6/2019	Annual	5/6/2020	1231538
Anritsu	MA24106A	USB Power Sensor	7/16/2019	Annual	7/16/2020	1520505
Anritsu	MT8862A	Wireless Connectivity Test Set	8/8/2019	Annual	8/8/2020	6261782395
Anritsu	MA180001A	285GHz RF Converter	4/5/2019	Annual	4/5/2020	6261922958
COMTECH	AR85729-S	Solid State Amplifier	CBT	N/A	N/A	M155400-009
COMTECH	AR85729-S7598	Solid State Amplifier	CBT	N/A	N/A	M201400-1001
Control Company	4352	Long Stem Thermometer	6/26/2019	Biennial	6/26/2021	192282739
Control Company	4352	Long Stem Thermometer	6/26/2019	Biennial	6/26/2021	192282753
Control Company	4040	Therm./Clock/Humidity Monitor	10/9/2018	Biennial	10/9/2020	181647802
Control Company	4040	Therm./Clock/Humidity Monitor	6/29/2019	Biennial	6/29/2021	192291470
Control Company	4352	Ultra Long Stem Thermometer	11/29/2018	Biennial	11/29/2020	181766777
Control Company	4352	Ultra Long Stem Thermometer	11/29/2018	Biennial	11/29/2020	181766817
Keysight	7720	Dual Directional Coupler	CBT	N/A	N/A	M152180215
Keysight Technologies	NE705B	DC Power Analyzer	4/27/2019	Biennial	4/27/2021	M193008059
Keysight Technologies	85031E	Standard Mechanical Calibration Kit (DC to 9GHz, 3.5x)	7/12/2019	Annual	7/12/2020	M153401181
MLCL	BW-N6W5+	6dB Attenuator	CBT	N/A	N/A	1139
MiniCircuits	SLP-2400+	Low Pass Filter	CBT	N/A	N/A	R8978500903
MiniCircuits	VLF-6000+	Low Pass Filter	CBT	N/A	N/A	N/A
Mini-Circuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	N/A	N/A
Mini-Circuits	NLP-1200+	Low Pass Filter DC to 1000 MHz	CBT	N/A	N/A	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT	N/A	N/A	N/A
Mini-Circuits	BW-N20W5	Power Attenuator	CBT	N/A	N/A	1226
Mitsutoyo	CD-6°CSX	Digital Caliper	4/18/2018	Biennial	4/18/2020	13264165
Narda	4014C-6	4 - 8 GHz SMA 6 dB Directional Coupler	CBT	N/A	N/A	N/A
Narda	4772-3	Attenuator (3dB)	CBT	N/A	N/A	9406
Narda	BW-53W2	Attenuator (3dB)	CBT	N/A	N/A	120
Pasternack	PE2209-10	Bidirectional Coupler	CBT	N/A	N/A	N/A
Pasternack	NC-100	Torque Wrench	5/23/2018	Biennial	5/23/2020	N/A
Rohde & Schwarz	CMW500	Radio Communication Tester	8/26/2019	Annual	8/26/2020	100976
Rohde & Schwarz	CMW500	Radio Communication Tester	10/4/2019	Annual	10/4/2020	166462
Rohde & Schwarz	CMW500	Radio Communication Tester	4/16/2019	Annual	4/16/2020	167286
Rohde & Schwarz	ZML6	Vector Network Analyzer	10/11/2019	Annual	10/11/2020	101307
Seskonk	NC-100	Torque Wrench (8" lb)	5/10/2018	Biennial	5/10/2020	21053
Seskonk	NC-100	Torque Wrench (8" lb)	5/23/2018	Biennial	5/23/2020	N/A
SPEAG	D1750V2	1750 MHz SAR Dipole	5/15/2019	Annual	5/15/2020	1148
SPEAG	D1750V2	1750 MHz SAR Dipole	10/22/2018	Biennial	10/22/2020	1150
SPEAG	D1765V2	1765 MHz SAR Dipole	5/23/2018	Biennial	5/23/2020	1008
SPEAG	D1900V2	1900 MHz SAR Dipole	10/23/2018	Biennial	10/23/2020	5080
SPEAG	D1900V2	1900 MHz SAR Dipole	2/21/2019	Annual	2/21/2020	50148
SPEAG	D1900V2	1900 MHz SAR Dipole	10/23/2018	Biennial	10/23/2020	50149
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	D2600V2	2600 MHz SAR Dipole	4/11/2018	Biennial	4/11/2020	1004
SPEAG	D2600V2	2600 MHz SAR Dipole	6/14/2019	Annual	6/14/2020	1064
SPEAG	D3500V2	3500 MHz SAR Dipole	1/11/2018	Triennial	1/11/2021	1059
SPEAG	D3700V2	3700 MHz SAR Dipole	1/11/2018	Triennial	1/11/2021	1018
SPEAG	D5GHV2	5 GHz SAR Dipole	9/17/2019	Annual	9/17/2020	1191
SPEAG	D750V3	750 MHz SAR Dipole	3/18/2019	Annual	3/18/2020	1054
SPEAG	D750V3	750 MHz SAR Dipole	1/15/2018	Biennial	1/15/2020	1003
SPEAG	D750V3	750 MHz SAR Dipole	10/19/2018	Biennial	10/19/2020	1161
SPEAG	D835V2	835 MHz SAR Dipole	3/13/2019	Annual	3/13/2020	4847
SPEAG	D835V2	835 MHz SAR Dipole	1/22/2019	Annual	1/22/2020	44132
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/13/2019	Annual	2/13/2020	665
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/8/2019	Annual	5/8/2020	728
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/14/2019	Annual	2/14/2020	1272
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/11/2019	Annual	7/11/2020	1322
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/11/2019	Annual	7/11/2020	1323
SPEAG	DAE4	Dasy Data Acquisition Electronics	9/17/2019	Annual	9/17/2020	1333
SPEAG	DAE4	Dasy Data Acquisition Electronics	6/20/2019	Annual	6/20/2020	1334
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/18/2019	Annual	4/18/2020	1407
SPEAG	DAE4	Dasy Data Acquisition Electronics	8/14/2019	Annual	8/14/2020	1450
SPEAG	DAK-3.5	Dielectric Assessment Kit	10/22/2019	Annual	10/22/2020	1091
SPEAG	EX3DV4	SAR Probe	1/25/2019	Annual	1/25/2020	3589
SPEAG	EX3DV4	SAR Probe	2/19/2019	Annual	2/19/2020	3914
SPEAG	EX3DV4	SAR Probe	8/16/2019	Annual	8/16/2020	7308
SPEAG	EX3DV4	SAR Probe	4/24/2019	Annual	4/24/2020	7357
SPEAG	EX3DV4	SAR Probe	5/16/2019	Annual	5/16/2020	7406
SPEAG	EX3DV4	SAR Probe	6/19/2019	Annual	6/19/2020	7409
SPEAG	EX3DV4	SAR Probe	7/16/2019	Annual	7/16/2020	7410
SPEAG	EX3DV4	SAR Probe	2/19/2019	Annual	2/19/2020	7417
SPEAG	EX3DV4	SAR Probe	7/15/2019	Annual	7/15/2020	7547
SPEAG	EX3DV4	SAR Probe	9/19/2019	Annual	9/19/2020	7551

Note: Equipment was solely used during its calibration period

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

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16 MEASUREMENT UNCERTAINTIES

a	c	d	e= f(d,k)	f	g	h = c x f/e	i = c x g/e	k
Uncertainty Component	Tol. (± %)	Prob. Dist.	Div.	c _i 1gm	c _i 10 gms	1gm u _i (± %)	10gms u _i (± %)	v _i
Measurement System								
Probe Calibration	6.55	N	1	1.0	1.0	6.6	6.6	∞
Axial Isotropy	0.25	N	1	0.7	0.7	0.2	0.2	∞
Hemishperical Isotropy	1.3	N	1	0.7	0.7	0.9	0.9	∞
Boundary Effect	2.0	R	1.73	1.0	1.0	1.2	1.2	∞
Linearity	0.3	N	1	1.0	1.0	0.3	0.3	∞
System Detection Limits	0.25	R	1.73	1.0	1.0	0.1	0.1	∞
Readout Electronics	0.3	N	1	1.0	1.0	0.3	0.3	∞
Response Time	0.8	R	1.73	1.0	1.0	0.5	0.5	∞
Integration Time	2.6	R	1.73	1.0	1.0	1.5	1.5	∞
RF Ambient Conditions - Noise	3.0	R	1.73	1.0	1.0	1.7	1.7	∞
RF Ambient Conditions - Reflections	3.0	R	1.73	1.0	1.0	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	0.4	R	1.73	1.0	1.0	0.2	0.2	∞
Probe Positioning w/ respect to Phantom	6.7	R	1.73	1.0	1.0	3.9	3.9	∞
Extrapolation, Interpolation & Integration algorithms for Max. SAR Evaluation	4.0	R	1.73	1.0	1.0	2.3	2.3	∞
Test Sample Related								
Test Sample Positioning	2.7	N	1	1.0	1.0	2.7	2.7	35
Device Holder Uncertainty	1.67	N	1	1.0	1.0	1.7	1.7	5
Output Power Variation - SAR drift measurement	5.0	R	1.73	1.0	1.0	2.9	2.9	∞
SAR Scaling	0.0	R	1.73	1.0	1.0	0.0	0.0	∞
Phantom & Tissue Parameters								
Phantom Uncertainty (Shape & Thickness tolerances)	7.6	R	1.73	1.0	1.0	4.4	4.4	∞
Liquid Conductivity - measurement uncertainty	4.2	N	1	0.78	0.71	3.3	3.0	10
Liquid Permittivity - measurement uncertainty	4.1	N	1	0.23	0.26	1.0	1.1	10
Liquid Conductivity - Temperature Uncertainty	3.4	R	1.73	0.78	0.71	1.5	1.4	∞
Liquid Permittivity - Temperature 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	60
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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APPENDIX A: SAR TEST DATA

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03218

Communication System: UID 0, Cellular CDMA; Frequency: 820.1 MHz; Duty Cycle: 1:1

Medium: 835 Head; Medium parameters used (interpolated):

$f = 820.1 \text{ MHz}$; $\sigma = 0.878 \text{ S/m}$; $\epsilon_r = 41.931$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 01-13-2020; Ambient Temp: 22.0°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN3914; ConvF(9.5, 9.5, 9.5) @ 820.1 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 2/14/2019

Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1687

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Mode: Cell. CDMA, BC10, Left Head, Cheek, Mid.ch

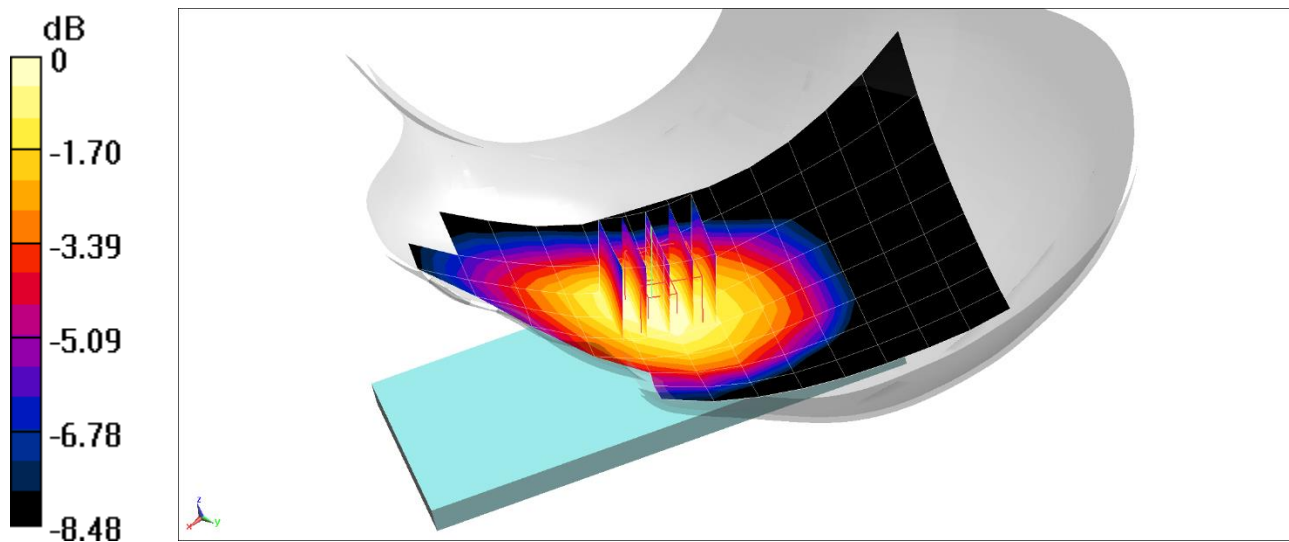
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 13.86 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.198 W/kg

SAR(1 g) = 0.158 W/kg



0 dB = 0.184 W/kg = -7.35 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03218

Communication System: UID 0, Cellular CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$; $\sigma = 0.895 \text{ S/m}$; $\epsilon_r = 41.715$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 01-13-2020; Ambient Temp: 22.0°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN3914; ConvF(9.5, 9.5, 9.5) @ 836.52 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 2/14/2019

Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1687

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Mode: Cell. CDMA, BC 0, Left Head, Cheek, Mid.ch

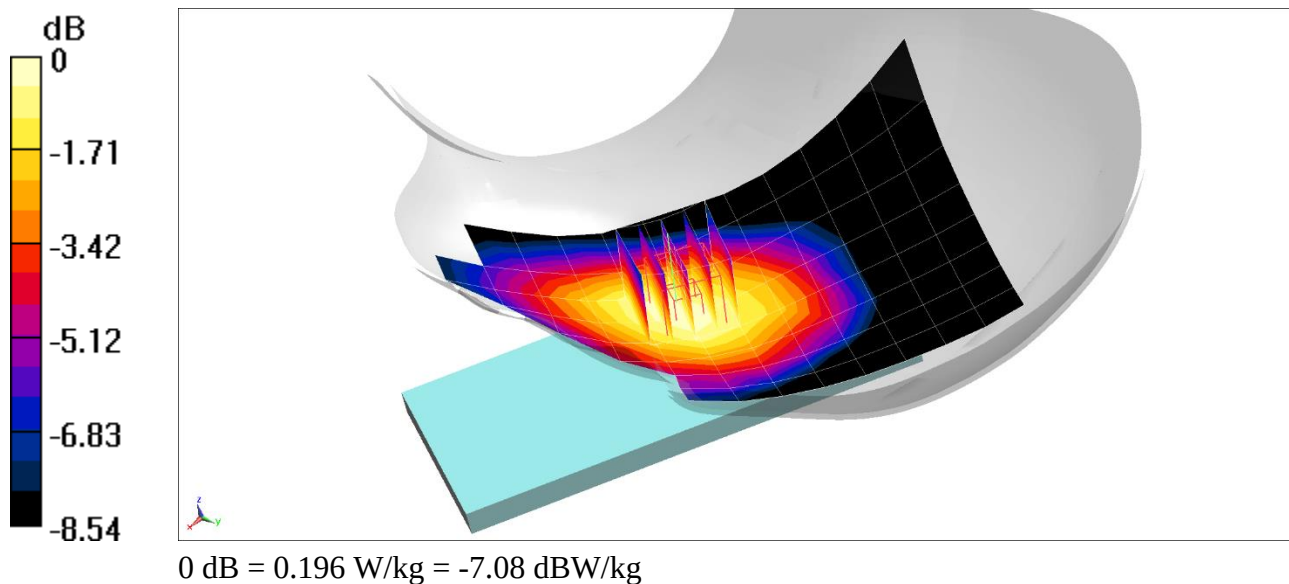
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 13.90 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.214 W/kg

SAR(1 g) = 0.168 W/kg



PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03218

Communication System: UID 0, PCS CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.444 \text{ S/m}$; $\epsilon_r = 40.488$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 01-02-2020; Ambient Temp: 21.9°C; Tissue Temp: 20.6°C

Probe: EX3DV4 - SN7410; ConvF(8.11, 8.11, 8.11) @ 1880 MHz; Calibrated: 7/16/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1322; Calibrated: 7/11/2019

Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1966

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Mode: PCS EVDO Rev. A, Left Head, Cheek, Mid.ch

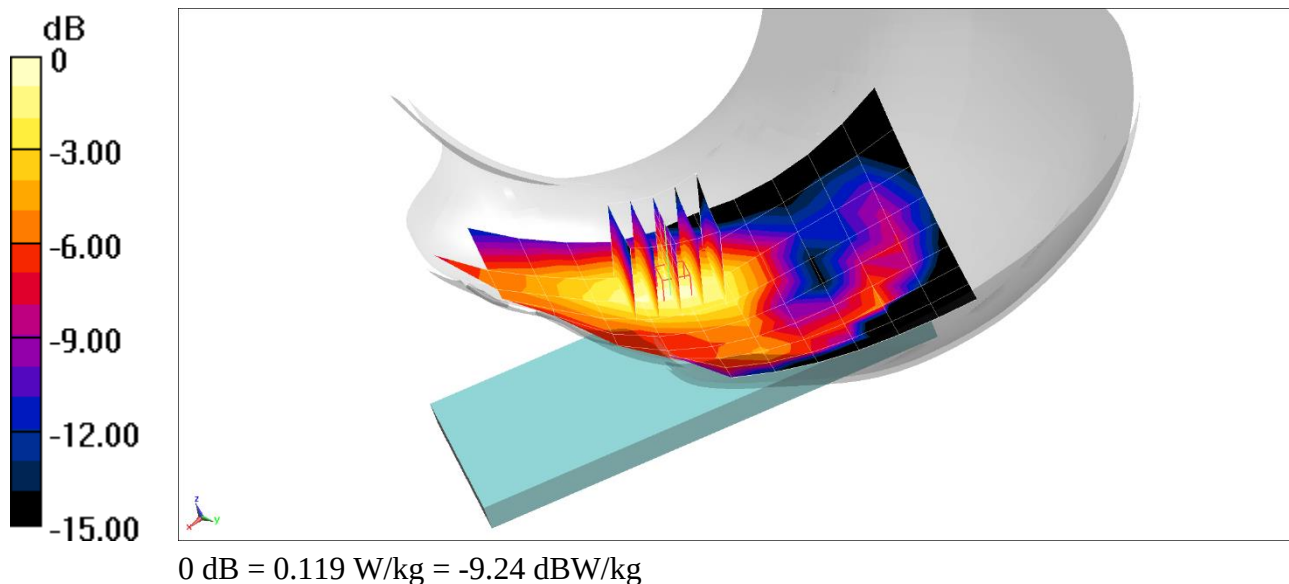
Area Scan (9x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 8.082 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.144 W/kg

SAR(1 g) = 0.091 W/kg



PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03218

Communication System: UID 0, GSM GPRS; 4 Tx slots; Frequency: 836.6 MHz; Duty Cycle: 1:2.076

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$; $\sigma = 0.895 \text{ S/m}$; $\epsilon_r = 41.714$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 01-13-2020; Ambient Temp: 22.0°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN3914; ConvF(9.5, 9.5, 9.5) @ 836.6 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 2/14/2019

Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1687

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Mode: GPRS 850, Left Head, Cheek, Mid.ch, 4 Tx slots

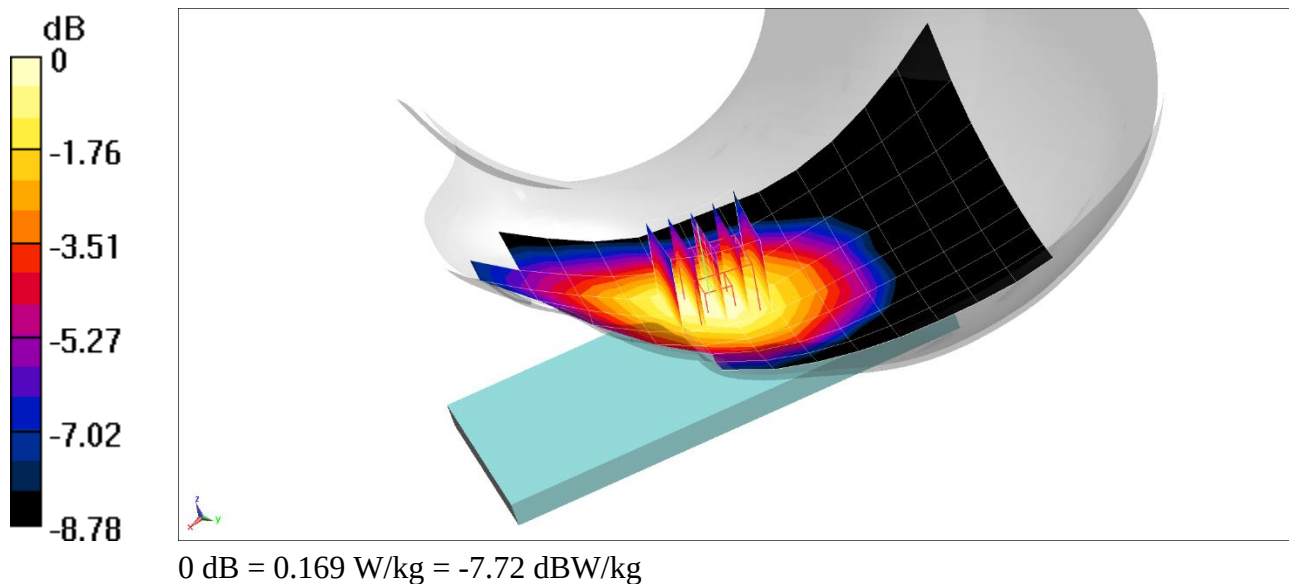
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 13.07 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.186 W/kg

SAR(1 g) = 0.144 W/kg



PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03218

Communication System: UID 0, GSM GPRS; 3 Tx slots; Frequency: 1880 MHz; Duty Cycle: 1:2.76

Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.444 \text{ S/m}$; $\epsilon_r = 40.488$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 01-02-2020; Ambient Temp: 21.9°C; Tissue Temp: 20.6°C

Probe: EX3DV4 - SN7410; ConvF(8.11, 8.11, 8.11) @ 1880 MHz; Calibrated: 7/16/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1322; Calibrated: 7/11/2019

Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1966

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Mode: GPRS 1900, Left Head, Cheek, Mid.ch, 3 Tx slots

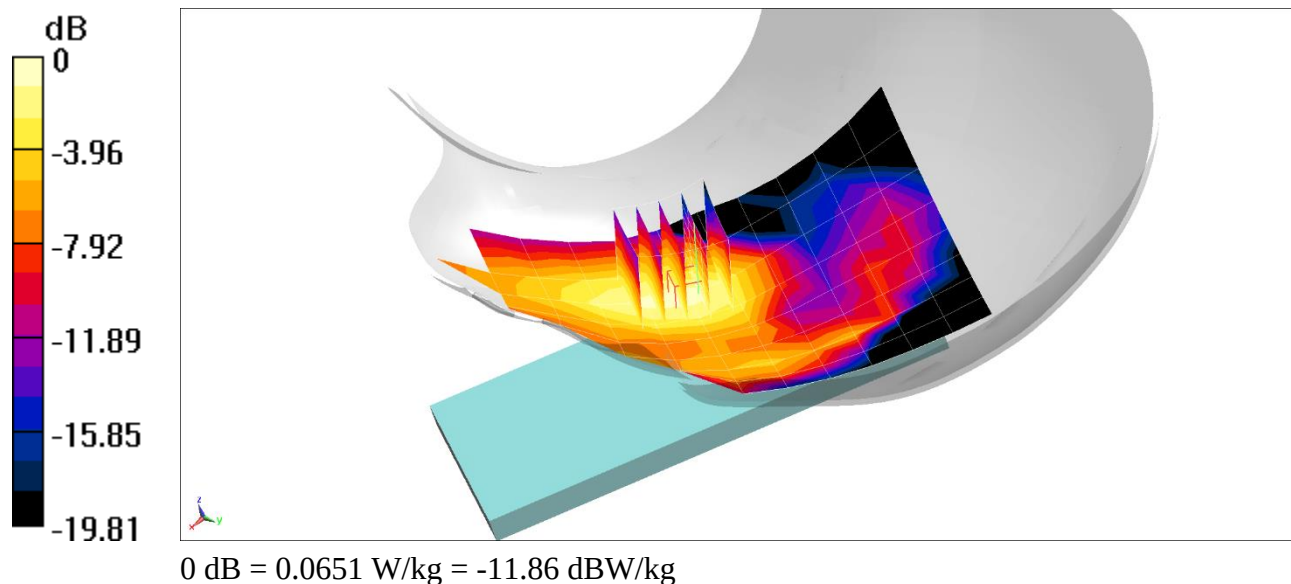
Area Scan (9x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 6.095 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.0750 W/kg

SAR(1 g) = 0.050 W/kg



PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03218

Communication System: UID 0, UMTS; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium: 835 Head; Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$; $\sigma = 0.895 \text{ S/m}$; $\epsilon_r = 41.714$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 01-13-2020; Ambient Temp: 22.0°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN3914; ConvF(9.5, 9.5, 9.5) @ 836.6 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 2/14/2019

Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1687

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: UMTS 850, Left Head, Cheek, Mid.ch

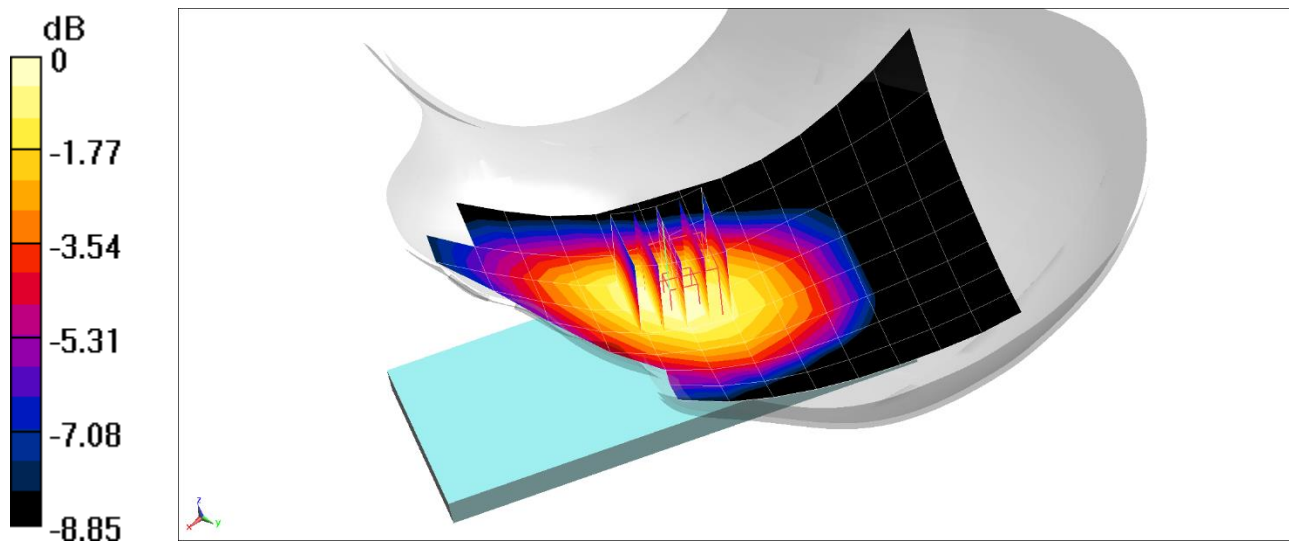
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 13.95 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.214 W/kg

SAR(1 g) = 0.168 W/kg



0 dB = 0.196 W/kg = -7.08 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03226

Communication System: UID 0, UMTS; Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: 1750 Head; Medium parameters used (interpolated):

$f = 1732.4 \text{ MHz}$; $\sigma = 1.367 \text{ S/m}$; $\epsilon_r = 39.17$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 12-02-2019; Ambient Temp: 23.7°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN7551; ConvF(8.34, 8.34, 8.34) @ 1732.4 MHz; Calibrated: 9/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1333; Calibrated: 9/17/2019

Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Mode: UMTS 1750, Left Head, Cheek, Mid.ch

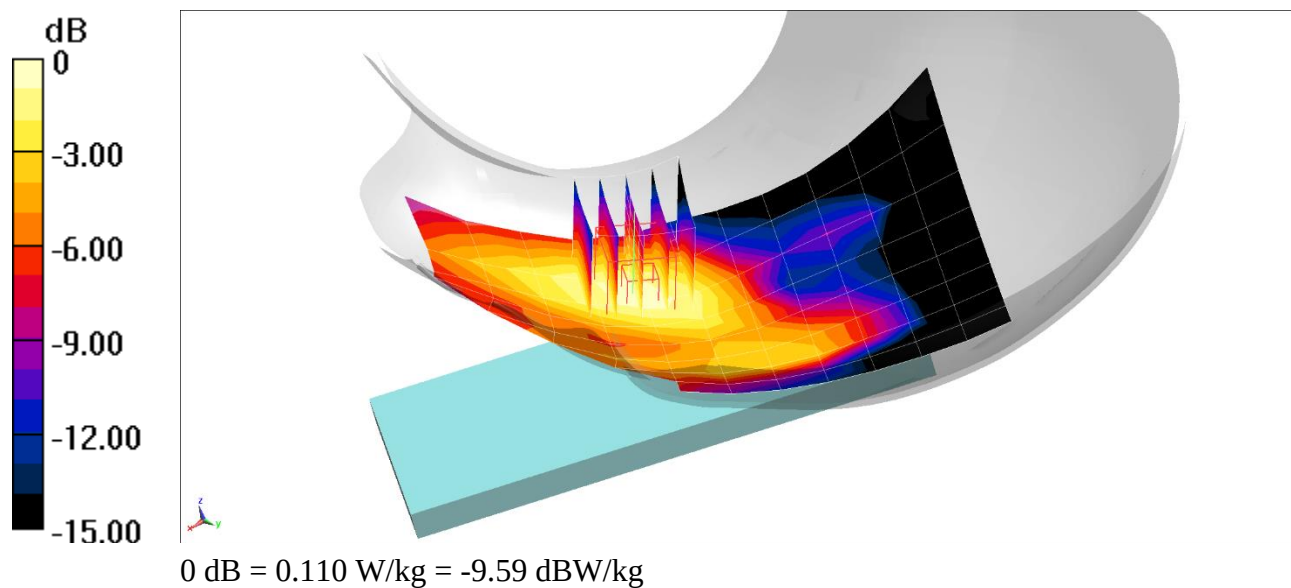
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 8.110 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.125 W/kg

SAR(1 g) = 0.083 W/kg



PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03226

Communication System: UID 0, UMTS; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Head; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.451 \text{ S/m}$; $\epsilon_r = 38.937$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 12-02-2019; Ambient Temp: 23.7°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN7551; ConvF(8.05, 8.05, 8.05) @ 1880 MHz; Calibrated: 9/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1333; Calibrated: 9/17/2019

Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: UMTS 1900, Left Head, Cheek, Mid.ch

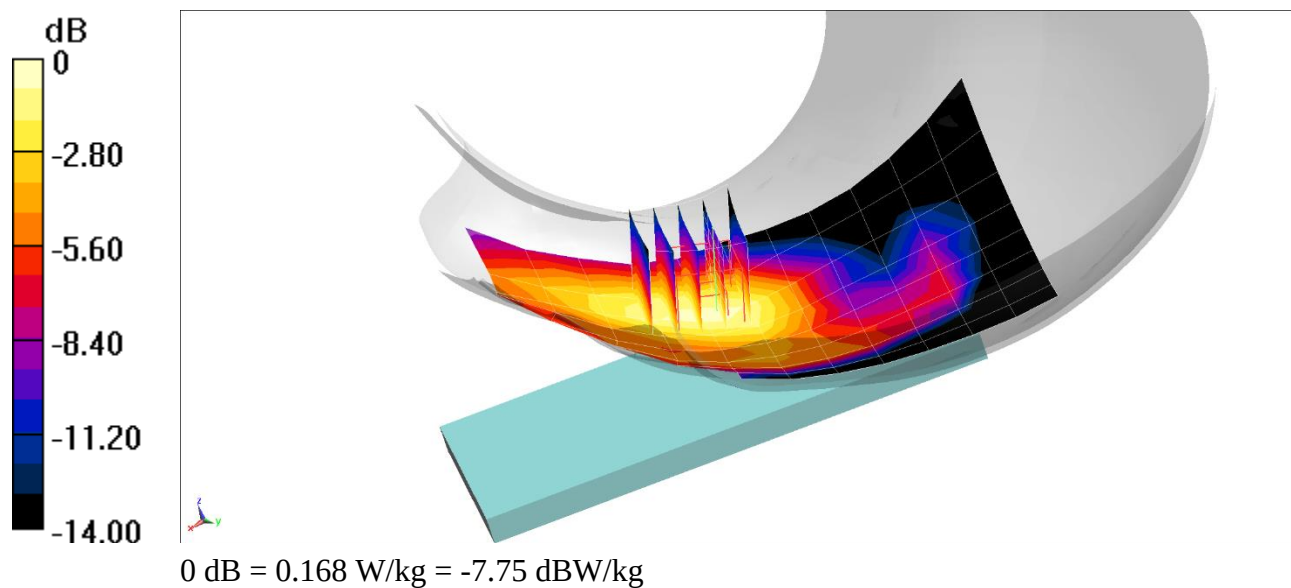
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 9.475 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.196 W/kg

SAR(1 g) = 0.124 W/kg



PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03234

Communication System: UID 0, LTE Band 71; Frequency: 680.5 MHz; Duty Cycle: 1:1

Medium: 750 Head; Medium parameters used (interpolated):

$f = 680.5 \text{ MHz}$; $\sigma = 0.873 \text{ S/m}$; $\epsilon_r = 41.963$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 12-29-2019; Ambient Temp: 22.3°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7410; ConvF(9.95, 9.95, 9.95) @ 680.5 MHz; Calibrated: 7/16/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1322; Calibrated: 7/11/2019

Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1966

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

**Mode: LTE Band 71, Right Head, Cheek, Mid.ch,
20 MHz Bandwidth, QPSK, 1 RB, 99 RB Offset**

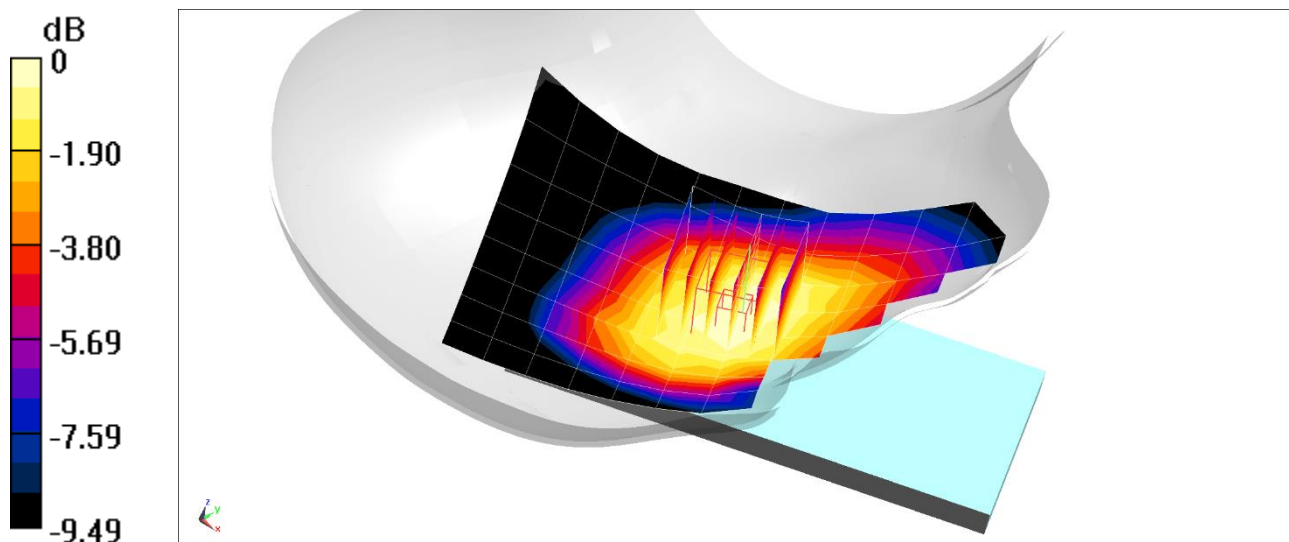
Area Scan (9x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (6x6x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 13.28 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.163 W/kg

SAR(1 g) = 0.142 W/kg



0 dB = 0.157 W/kg = -8.04 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03234

Communication System: UID 0, LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1

Medium: 750 Head; Medium parameters used (interpolated):

$f = 707.5 \text{ MHz}$; $\sigma = 0.877 \text{ S/m}$; $\epsilon_r = 42.188$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 12-23-2019; Ambient Temp: 23.1°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN7417; ConvF(10.36, 10.36, 10.36) @ 707.5 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/13/2019

Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

**Mode: LTE Band 12, Left Head, Cheek, Mid.ch, QPSK,
10 MHz Bandwidth, 1 RB, 49 RB Offset**

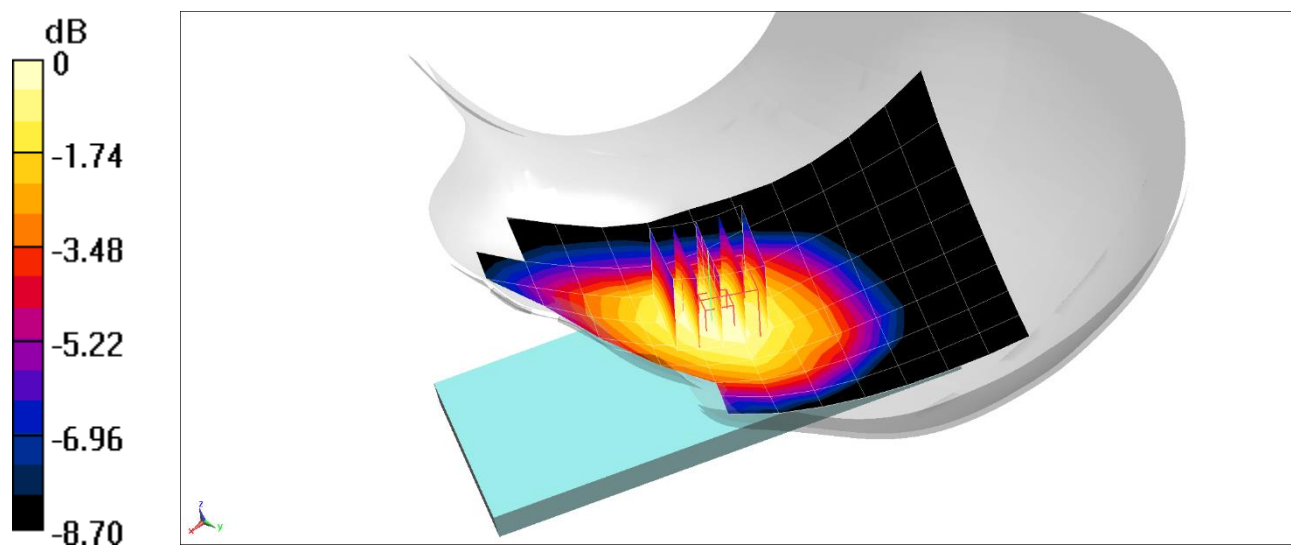
Area Scan (9x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 12.26 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.140 W/kg

SAR(1 g) = 0.118 W/kg



0 dB = 0.134 W/kg = -8.73 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03234

Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: 750 Head; Medium parameters used (interpolated):

$f = 782 \text{ MHz}$; $\sigma = 0.903 \text{ S/m}$; $\epsilon_r = 41.963$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 12-23-2019; Ambient Temp: 23.1°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN7417; ConvF(10.36, 10.36, 10.36) @ 782 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/13/2019

Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

**Mode: LTE Band 13, Left Head, Cheek, Mid.ch, QPSK,
10 MHz Bandwidth, 1 RB, 0 RB Offset**

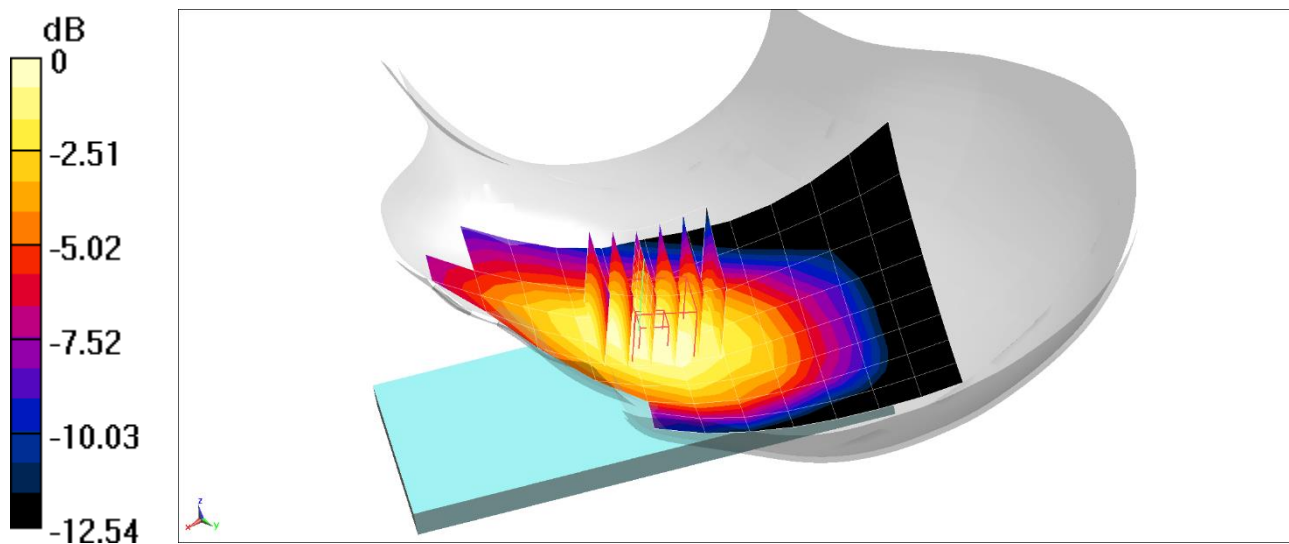
Area Scan (9x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (6x6x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 11.48 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 0.128 W/kg

SAR(1 g) = 0.105 W/kg



0 dB = 0.120 W/kg = -9.21 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03234

Communication System: UID 0, LTE Band 26; Frequency: 831.5 MHz; Duty Cycle: 1:1

Medium: 835 Head; Medium parameters used (interpolated):

$f = 831.5 \text{ MHz}$; $\sigma = 0.89 \text{ S/m}$; $\epsilon_r = 41.78$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 01-13-2020; Ambient Temp: 22.0°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN3914; ConvF(9.5, 9.5, 9.5) @ 831.5 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 2/14/2019

Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1687

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

**Mode: LTE Band 26 (Cell.), Right Head, Cheek, Mid.ch,
15 MHz Bandwidth, QPSK, 1 RB, 74 RB Offset**

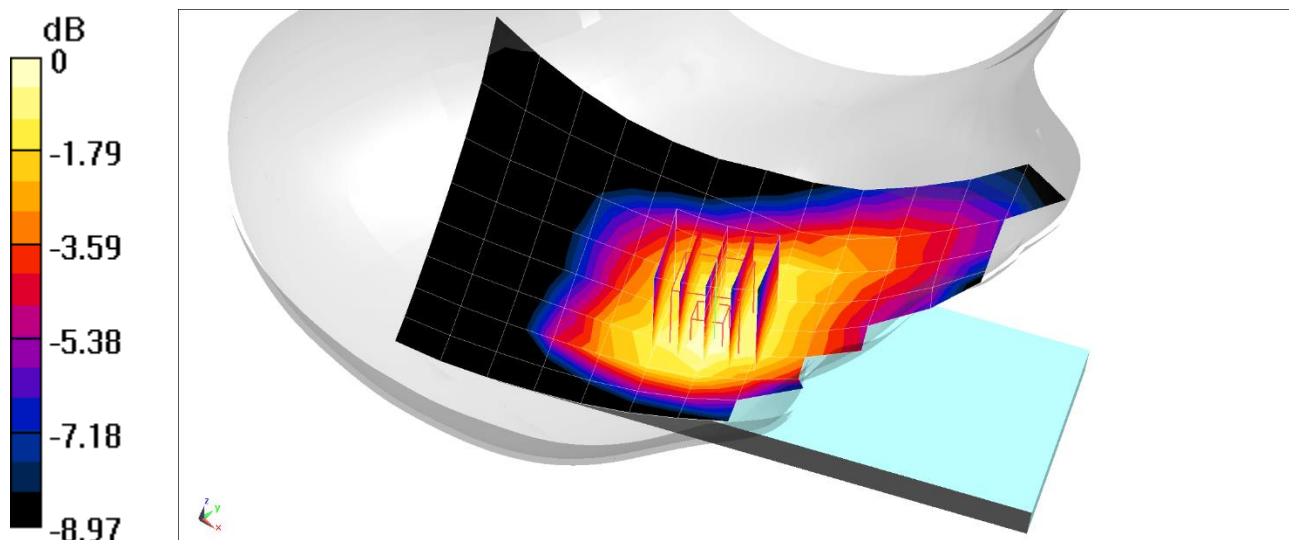
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.07 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.124 W/kg

SAR(1 g) = 0.101 W/kg



0 dB = 0.116 W/kg = -9.36 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03242

Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1745 MHz; Duty Cycle: 1:1

Medium: 1750 Head; Medium parameters used:

$f = 1745 \text{ MHz}$; $\sigma = 1.401 \text{ S/m}$; $\epsilon_r = 38.417$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 12-26-2019; Ambient Temp: 21.4°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7406; ConvF(8.57, 8.57, 8.57) @ 1745 MHz; Calibrated: 5/16/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 5/8/2019

Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1715

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

**Mode: LTE Band 66 (AWS), Left Head, Cheek, Mid.ch,
20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset**

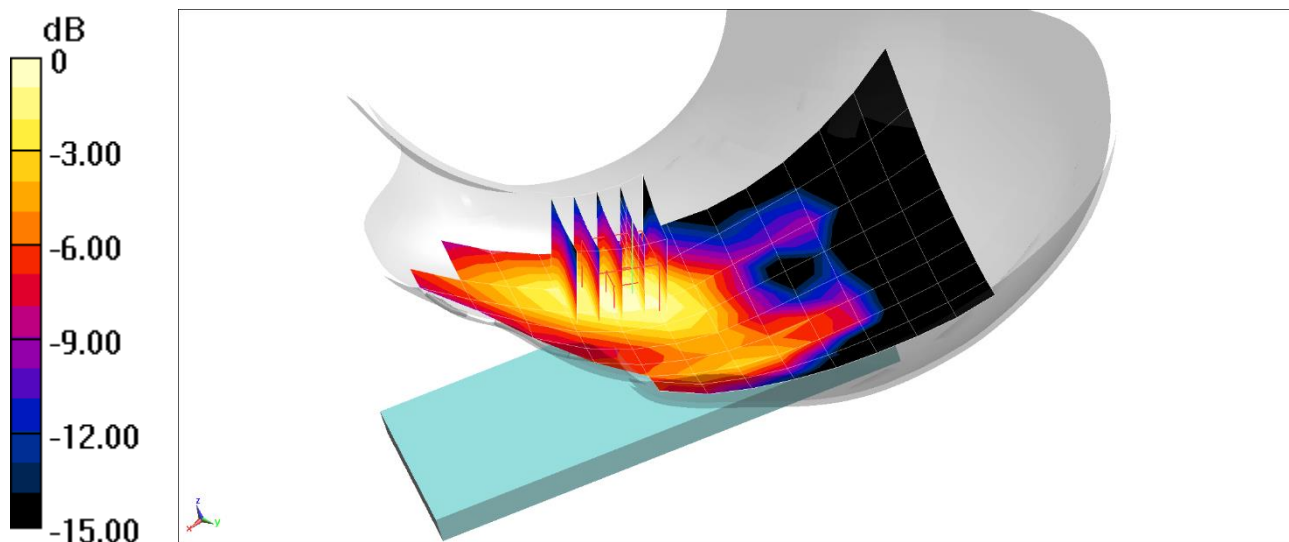
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.162 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 0.160 W/kg

SAR(1 g) = 0.101 W/kg



0 dB = 0.135 W/kg = -8.70 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03234

Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1882.5 MHz; Duty Cycle: 1:1

Medium: 1900 Head; Medium parameters used (interpolated):

$f = 1882.5 \text{ MHz}$; $\sigma = 1.423 \text{ S/m}$; $\epsilon_r = 39.303$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 12-31-2019; Ambient Temp: 22.6°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7410; ConvF(8.11, 8.11, 8.11) @ 1882.5 MHz; Calibrated: 7/16/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1322; Calibrated: 7/11/2019

Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1966

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

**Mode: LTE Band 25 (PCS), Left Head, Cheek, Mid.ch,
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

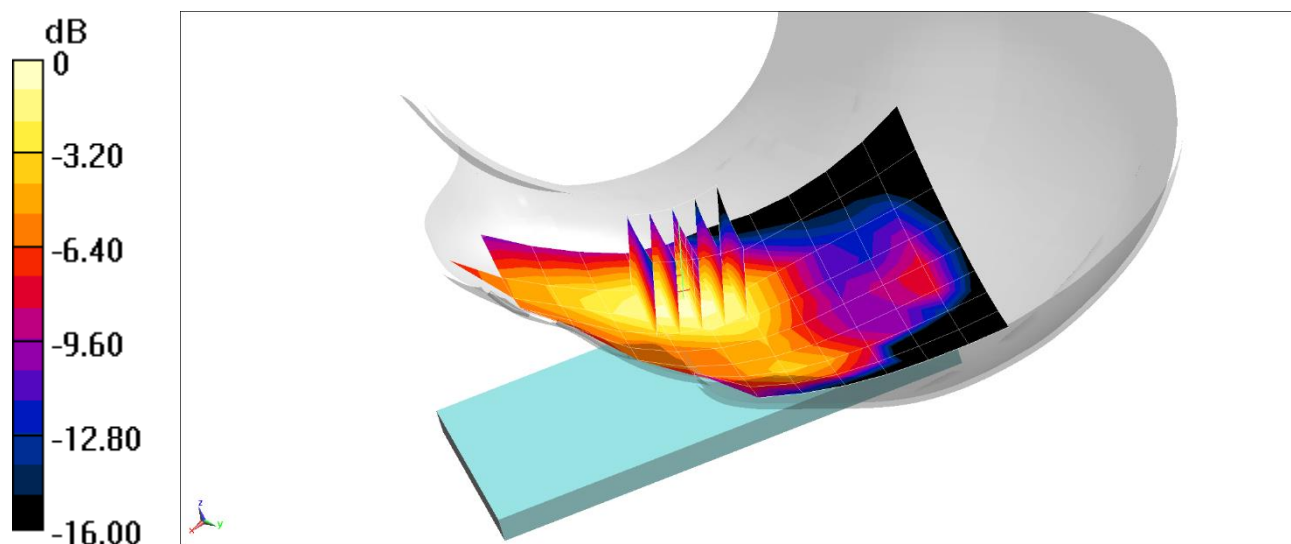
Area Scan (9x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 9.902 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.199 W/kg

SAR(1 g) = 0.126 W/kg



0 dB = 0.164 W/kg = -7.85 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03242

Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1

Medium: 2300 Head; Medium parameters used:

$f = 2310 \text{ MHz}$; $\sigma = 1.76 \text{ S/m}$; $\epsilon_r = 38.602$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 12-25-2019; Ambient Temp: 22.6°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7417; ConvF(7.73, 7.73, 7.73) @ 2310 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/13/2019

Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

**Mode: LTE Band 30, Left Head, Cheek, Mid.ch,
10 MHz Bandwidth, QPSK, 1 RB, 25 RB Offset**

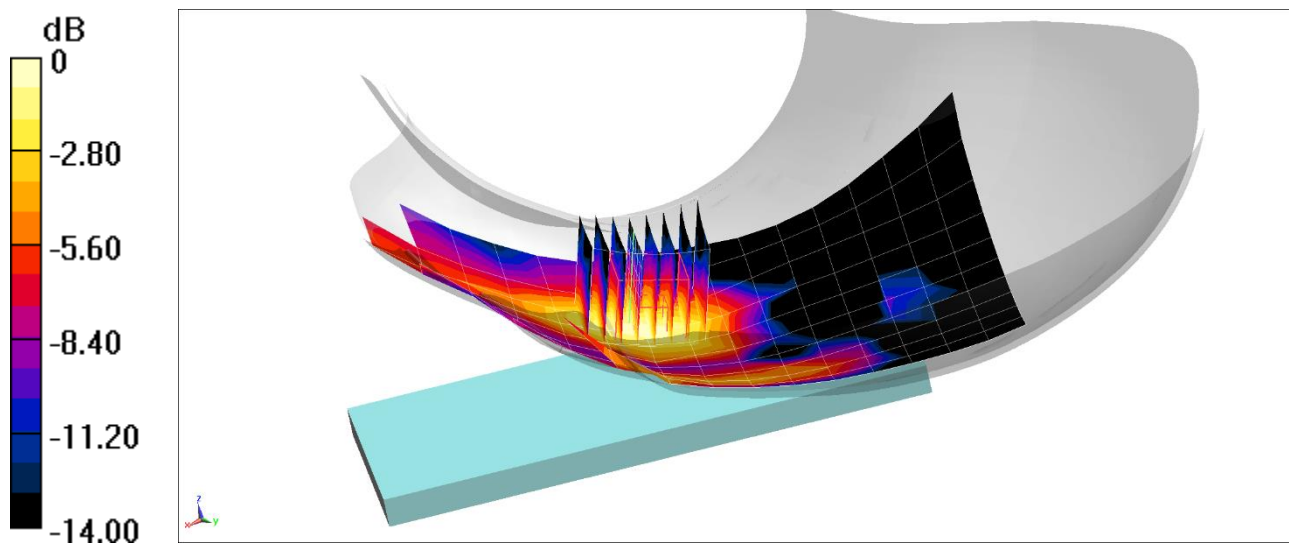
Area Scan (11x18x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x8x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 4.750 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.0590 W/kg

SAR(1 g) = 0.033 W/kg



0 dB = 0.0482 W/kg = -13.17 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03234

Communication System: UID 0, LTE Band 7; Frequency: 2535 MHz; Duty Cycle: 1:1

Medium: 2600 Head; Medium parameters used:

$f = 2535 \text{ MHz}$; $\sigma = 1.916 \text{ S/m}$; $\epsilon_r = 38.669$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 12-09-2019; Ambient Temp: 20.8°C; Tissue Temp: 19.8°C

Probe: EX3DV4 - SN7417; ConvF(7.17, 7.17, 7.17) @ 2535 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/13/2019

Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

**Mode: LTE Band 7, Left Head, Cheek, Mid.ch, QPSK,
20 MHz Bandwidth, 1 RB, 99 RB Offset**

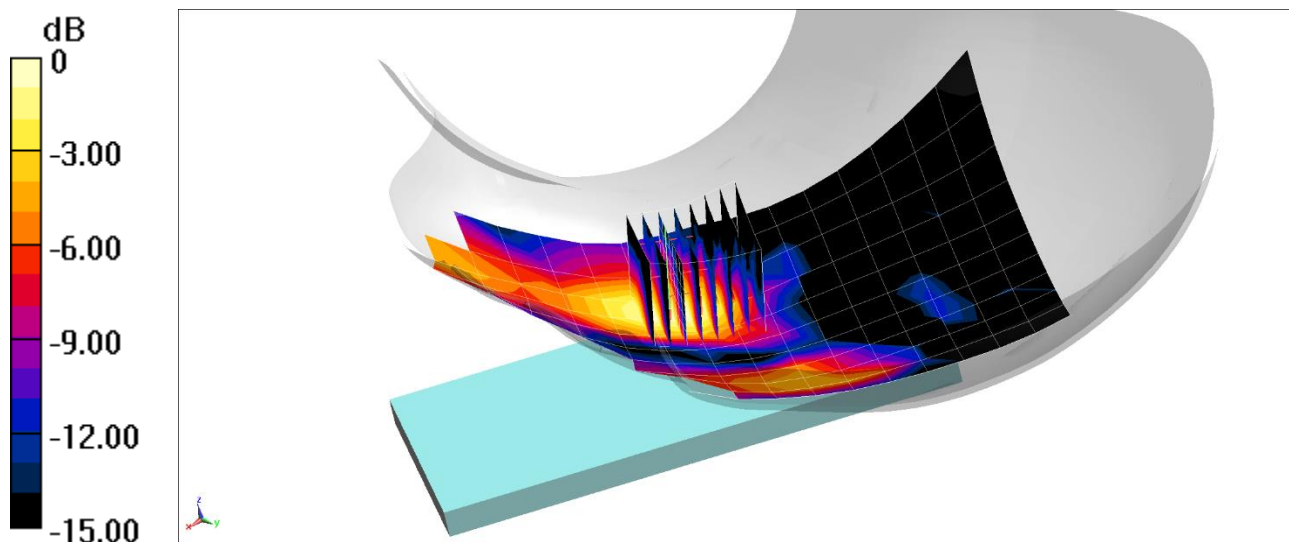
Area Scan (11x18x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (8x8x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 4.204 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.0780 W/kg

SAR(1 g) = 0.035 W/kg



0 dB = 0.0528 W/kg = -12.77 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03242

Communication System: UID 0, LTE Band 48; Frequency: 3646.7 MHz; Duty Cycle: 1:1.58

Medium: 3600 Head; Medium parameters used (interpolated):

$f = 3646.7$ MHz; $\sigma = 3.065$ S/m; $\epsilon_r = 36.691$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Test Date: 12-16-2019; Ambient Temp: 20.4°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN3589; ConvF(6.02, 6.02, 6.02) @ 3646.7 MHz; Calibrated: 1/25/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 5/8/2019

Phantom: Twin-SAM V5.0 Left 20; Type: QD 000 P40 CD; Serial: 1715

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

**Mode: LTE Band 48, Right Head, Cheek, Mid-High.ch,
20 MHz Bandwidth, QPSK, 1 RB, 99 RB Offset**

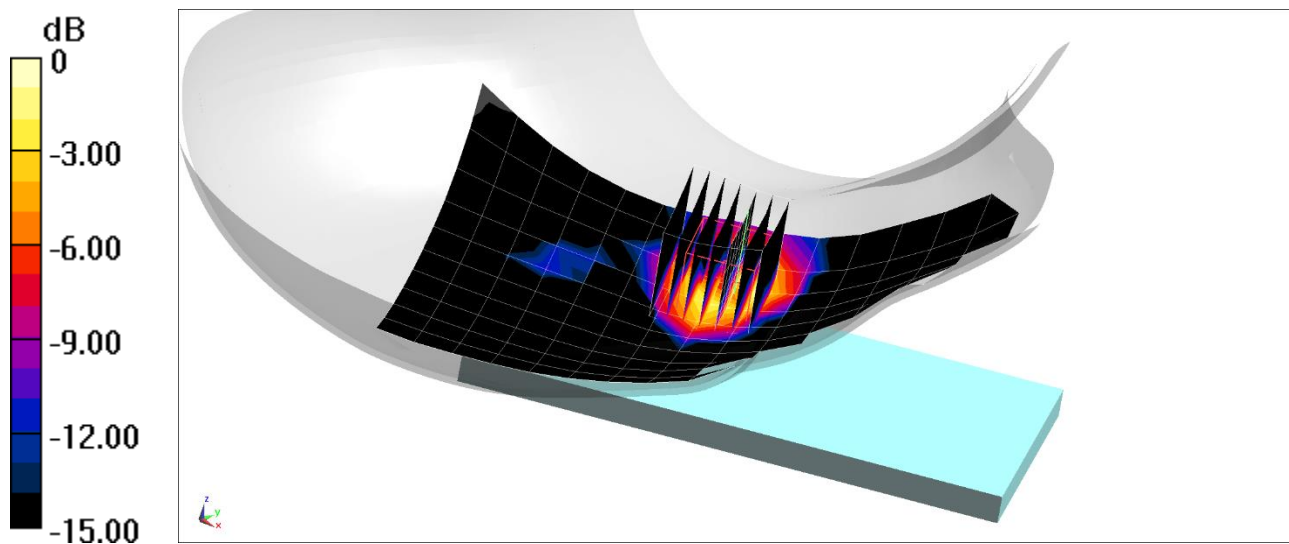
Area Scan (11x17x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (8x7x8)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=1.4mm; Graded Ratio: 1.4

Reference Value = 6.924 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.412 W/kg

SAR(1 g) = 0.134 W/kg



0 dB = 0.280 W/kg = -5.53 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03242

Communication System: UID 0, LTE Band 41 (Class 2); Frequency: 2506 MHz; Duty Cycle: 1:2.31

Medium: 2450 Head; Medium parameters used (interpolated):

$f = 2506$ MHz; $\sigma = 1.861$ S/m; $\epsilon_r = 38.229$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Test Date: 12-12-2019; Ambient Temp: 23.6°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN7417; ConvF(7.46, 7.46, 7.46) @ 2506 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/13/2019

Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

**Mode: LTE Band 41 PC2, Right Head, Cheek, Low.ch,
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

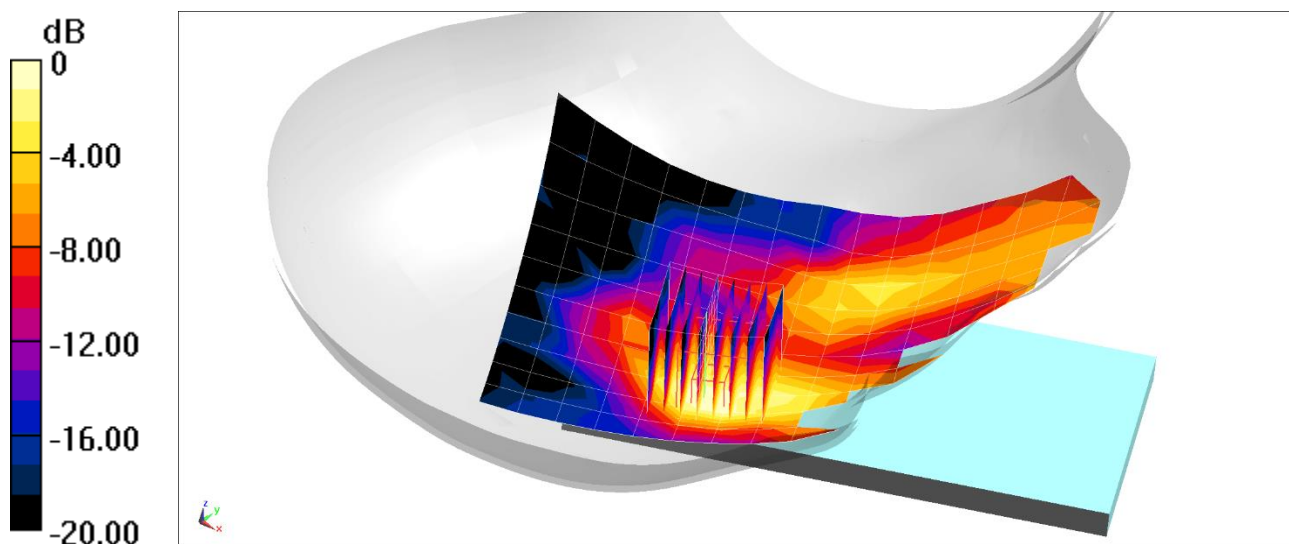
Area Scan (11x17x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.019 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.158 W/kg

SAR(1 g) = 0.087 W/kg



0 dB = 0.132 W/kg = -8.79 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03275

Communication System: UID 0, NR Band n71; Frequency: 680.5 MHz; Duty Cycle: 1:1

Medium: 750 Head; Medium parameters used (interpolated):

$f = 680.5 \text{ MHz}$; $\sigma = 0.867 \text{ S/m}$; $\epsilon_r = 40.506$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 01-13-2020; Ambient Temp: 23.4°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7417; ConvF(10.36, 10.36, 10.36) @ 680.5 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/13/2019

Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

**Mode: NR Band n71, Right Head, Cheek, 20 MHz Bandwidth,
DFT-s-OFDM QPSK, Ch. 136100, 1 RB, 1 RB Offset**

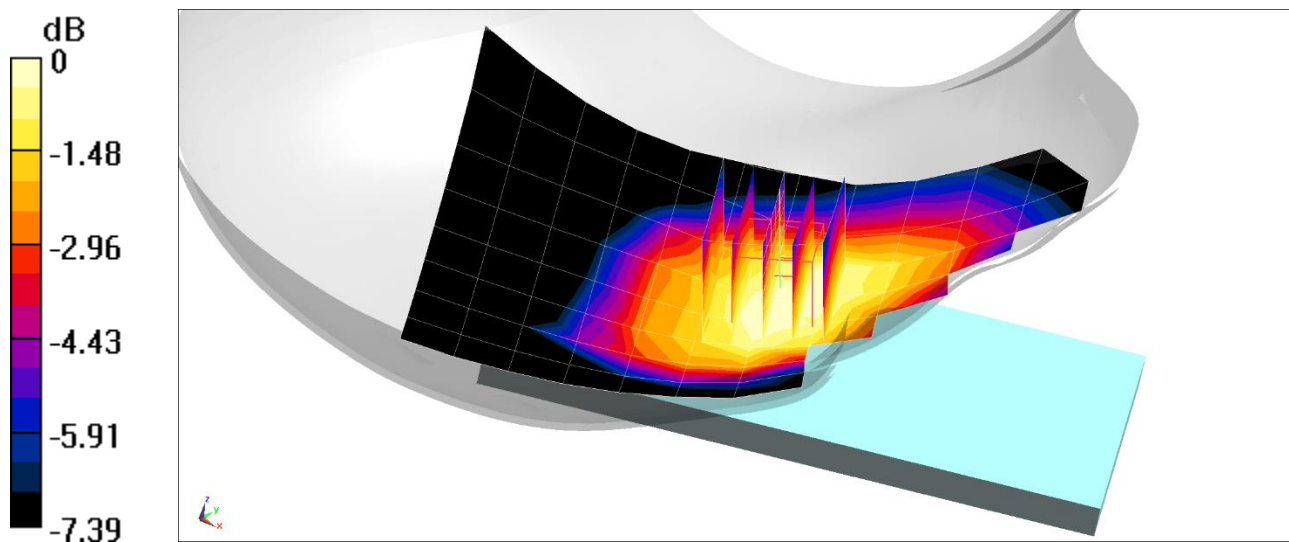
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (6x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 6.134 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.0360 W/kg

SAR(1 g) = 0.030 W/kg



0 dB = 0.0335 W/kg = -14.75 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03275

Communication System: UID 0, NR Band n66; Frequency: 1770 MHz; Duty Cycle: 1:1

Medium: 1750 Head; Medium parameters used:

$f = 1770 \text{ MHz}$; $\sigma = 1.357 \text{ S/m}$; $\epsilon_r = 39.492$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 01-01-2020; Ambient Temp: 22.1°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN7406; ConvF(8.57, 8.57, 8.57) @ 1770 MHz; Calibrated: 5/16/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 5/8/2019

Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1715

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

**Mode: NR Band n66, Right Head, Cheek, 20 MHz Bandwidth,
DFT-s-OFDM QPSK, Ch. 354000, 50 RB, 56 RB Offset**

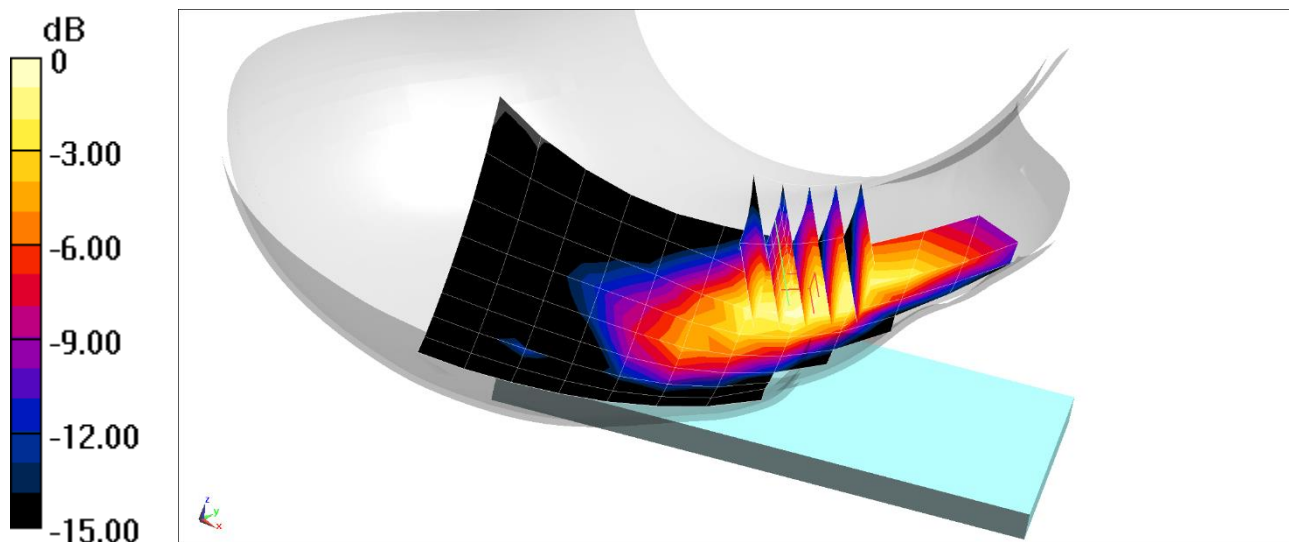
Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.89 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.269 W/kg

SAR(1 g) = 0.164 W/kg



0 dB = 0.231 W/kg = -6.36 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03275

Communication System: UID 0, NR Band n25; Frequency: 1905 MHz; Duty Cycle: 1:1

Medium: 1900 Head; Medium parameters used:

$f = 1905 \text{ MHz}$; $\sigma = 1.436 \text{ S/m}$; $\epsilon_r = 39.274$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 12-31-2019; Ambient Temp: 22.6°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7410; ConvF(8.11, 8.11, 8.11) @ 1905 MHz; Calibrated: 7/16/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1322; Calibrated: 7/11/2019

Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1966

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

**Mode: NR Band n25, Right Head, Cheek, 20 MHz Bandwidth,
CP-OFDM QPSK, Ch. 381000, 1 RB, 1 RB Offset**

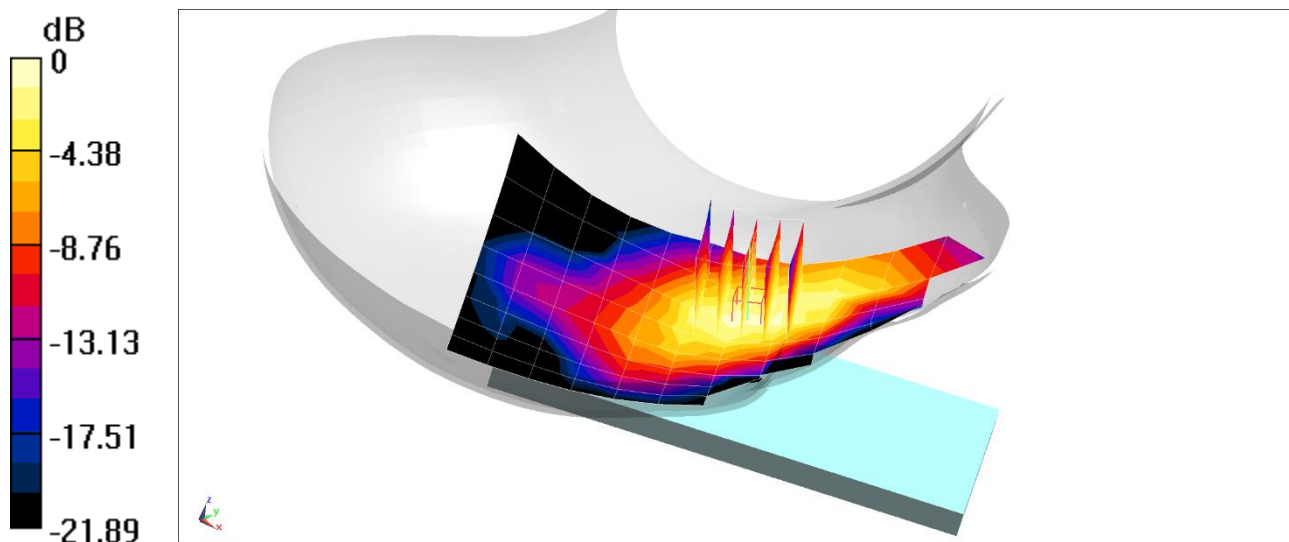
Area Scan (9x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 17.23 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.565 W/kg

SAR(1 g) = 0.362 W/kg



0 dB = 0.476 W/kg = -3.22 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03275

Communication System: UID 0, NR Band n41; Frequency: 2592.99 MHz; Duty Cycle: 1:4

Medium: 2600 Head; Medium parameters used (interpolated):

$f = 2592.99$ MHz; $\sigma = 1.925$ S/m; $\epsilon_r = 37.282$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Test Date: 01-10-2020; Ambient Temp: 23.1°C; Tissue Temp: 22.2°C

Probe: EX3DV4 - SN7417; ConvF(7.17, 7.17, 7.17) @ 2592.99 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/13/2019

Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

**Mode: NR Band n41 PC2, Right Head, Cheek, 100 MHz Bandwidth,
DFT-s-OFDM QPSK, Ch. 518598, 135 RB, 0 RB Offset**

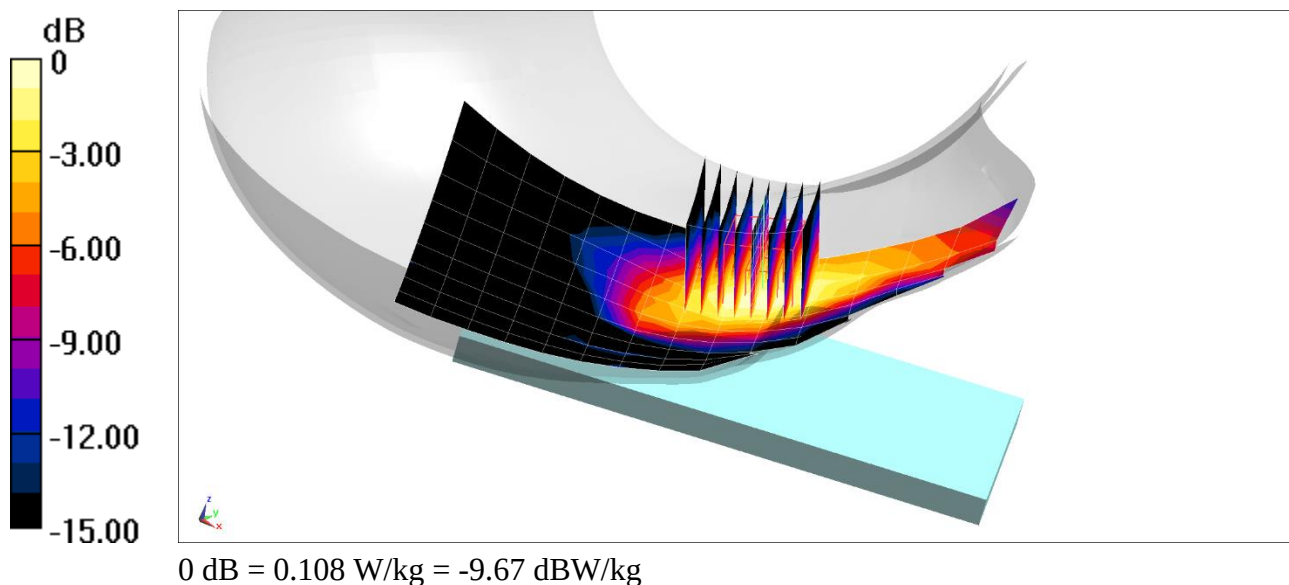
Area Scan (10x18x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.047 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.134 W/kg

SAR(1 g) = 0.069 W/kg



PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03192

Communication System: UID 0, IEEE 802.11b; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: 2450 Head; Medium parameters used (interpolated):

$f = 2437 \text{ MHz}$; $\sigma = 1.857 \text{ S/m}$; $\epsilon_r = 38.407$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 12-25-2019; Ambient Temp: 22.6°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7417; ConvF(7.46, 7.46, 7.46) @ 2437 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/13/2019

Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

**Mode: IEEE 802.11b, Antenna 1, 22 MHz Bandwidth,
Right Head, Cheek, Ch 6, 1 Mbps**

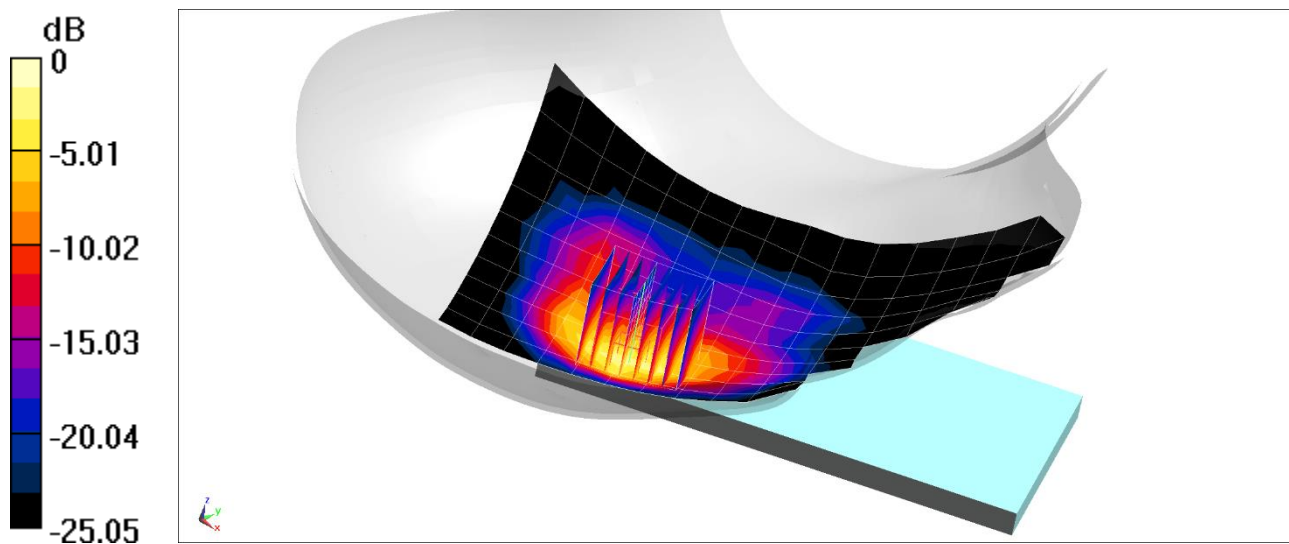
Area Scan (11x18x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x8x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 5.926 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 1.57 W/kg

SAR(1 g) = 0.569 W/kg



0 dB = 1.12 W/kg = 0.49 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03192

Communication System: UID 0, IEEE 802.11a; Frequency: 5500 MHz; Duty Cycle: 1:1

Medium: 5200-5800 Head; Medium parameters used:

$f = 5500 \text{ MHz}$; $\sigma = 4.855 \text{ S/m}$; $\epsilon_r = 34.787$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 12-17-2019; Ambient Temp: 22.1°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN7406; ConvF(4.94, 4.94, 4.94) @ 5500 MHz; Calibrated: 5/16/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 5/8/2019

Phantom: Twin-SAM V5.0 Left 20; Type: QD 000 P40 CD; Serial: 1715

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

**Mode: IEEE 802.11a, Antenna 1, U-NII-2C, 20 MHz Bandwidth,
Right Head, Cheek, Ch 100, 6 Mbps**

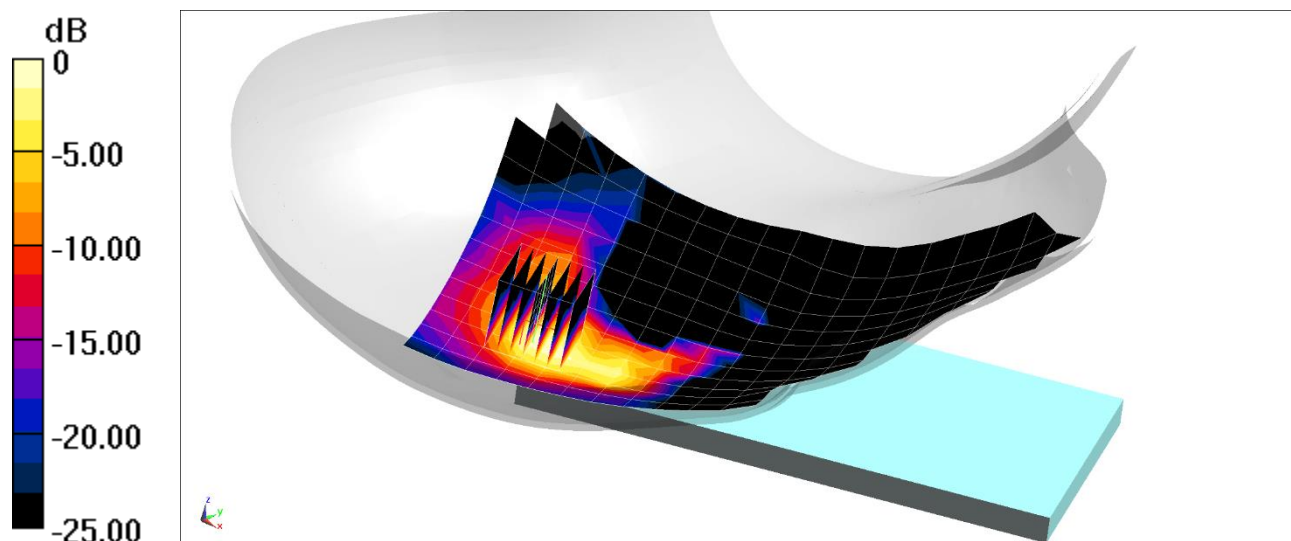
Area Scan (13x22x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=1.4\text{mm}$; Graded Ratio: 1.4

Reference Value = 5.239 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 1.90 W/kg

SAR(1 g) = 0.439 W/kg



0 dB = 1.04 W/kg = 0.17 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03192

Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.302

Medium: 2450 Head; Medium parameters used (interpolated):

$f = 2441 \text{ MHz}$; $\sigma = 1.844 \text{ S/m}$; $\epsilon_r = 37.551$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 12-29-2019; Ambient Temp: 22.1°C; Tissue Temp: 22.8°C

Probe: EX3DV4 - SN7417; ConvF(7.46, 7.46, 7.46) @ 2441 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/13/2019

Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Mode: Bluetooth, Right Head, Cheek, Ch 39, 1 Mbps

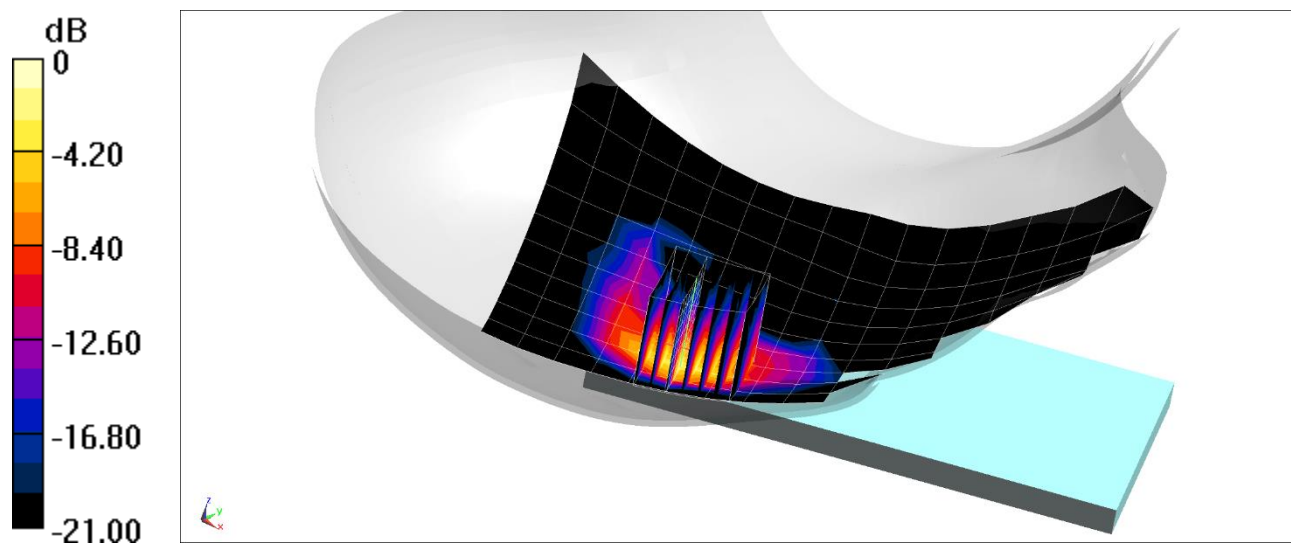
Area Scan (11x19x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (9x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 8.281 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.464 W/kg

SAR(1 g) = 0.157 W/kg



0 dB = 0.342 W/kg = -4.66 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03226

Communication System: UID 0, CDMA; Frequency: 820.1 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 820.1 \text{ MHz}$; $\sigma = 0.959 \text{ S/m}$; $\epsilon_r = 54.036$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12-20-2019; Ambient Temp: 20.3°C; Tissue Temp: 19.7°C

Probe: EX3DV4 - SN7410; ConvF(9.79, 9.79, 9.79) @ 820.1 MHz; Calibrated: 7/16/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1322; Calibrated: 7/11/2019

Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Mode: Cell. CDMA BC10, Body SAR, Back side, Mid.ch

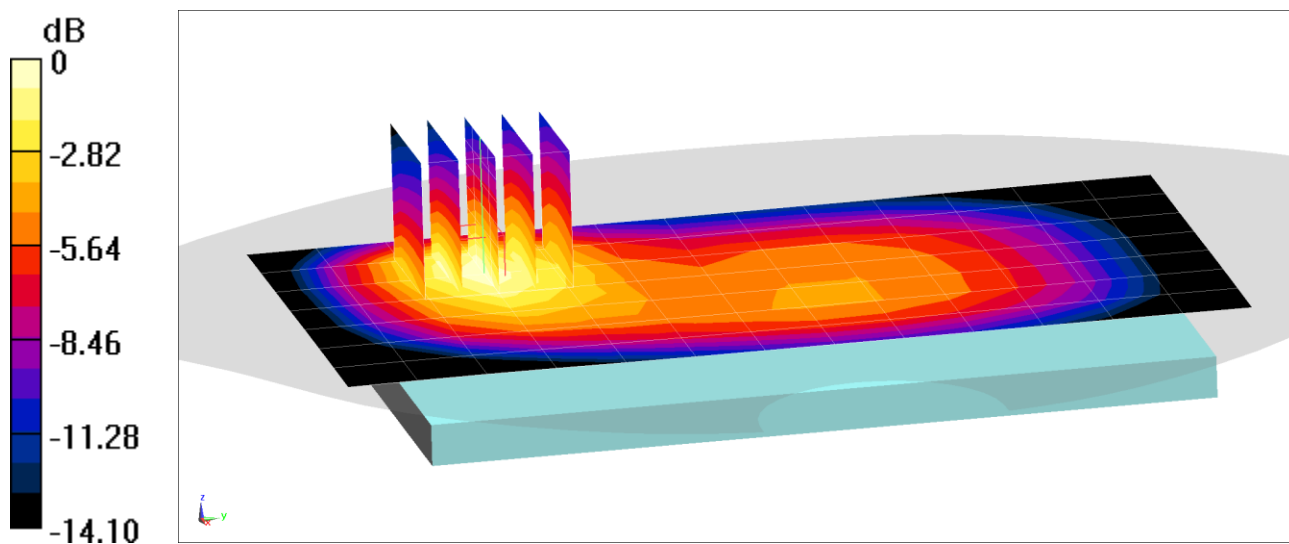
Area Scan (8x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 23.18 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.782 W/kg

SAR(1 g) = 0.479 W/kg



0 dB = 0.649 W/kg = -1.88 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03226

Communication System: UID 0, CDMA; Frequency: 820.1 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 820.1 \text{ MHz}$; $\sigma = 0.98 \text{ S/m}$; $\epsilon_r = 53.69$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12-03-2019; Ambient Temp: 23.5°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7410; ConvF(9.79, 9.79, 9.79) @ 820.1 MHz; Calibrated: 7/16/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1322; Calibrated: 7/11/2019

Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Mode: Cell. EVDO Rev.0, BC10, Body SAR, Back side, Mid.ch

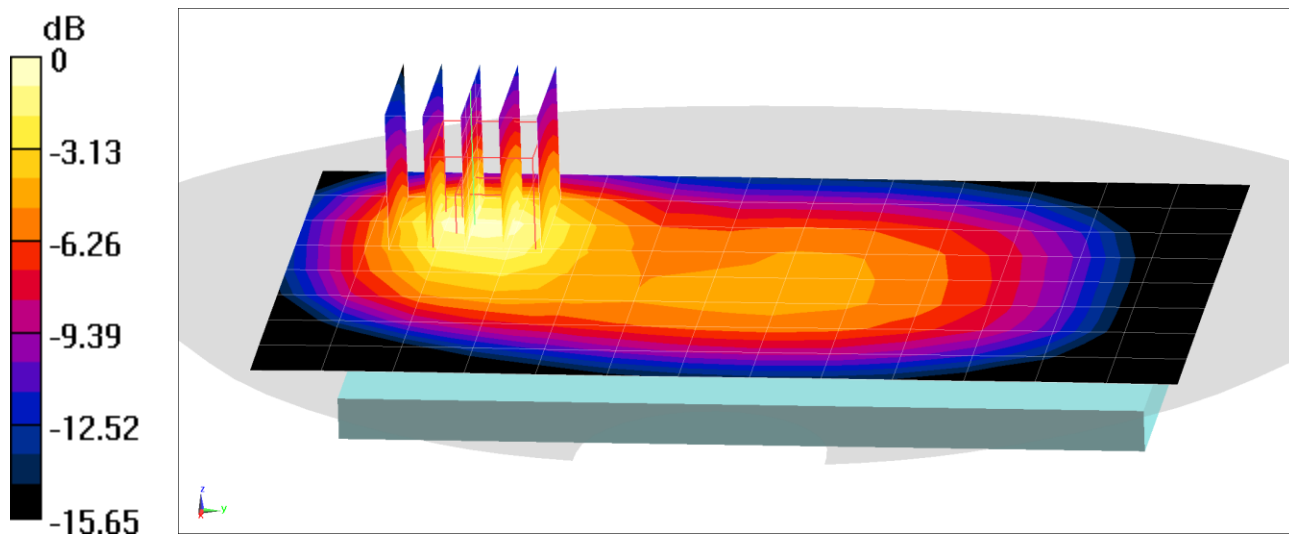
Area Scan (9x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 19.13 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.529 W/kg

SAR(1 g) = 0.329 W/kg



PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03226

Communication System: UID 0, CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$; $\sigma = 0.986 \text{ S/m}$; $\epsilon_r = 53.639$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12-03-2019; Ambient Temp: 23.5°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7410; ConvF(9.79, 9.79, 9.79) @ 836.52 MHz; Calibrated: 7/16/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1322; Calibrated: 7/11/2019

Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Mode: Cell. CDMA, BC0, Body SAR, Back side, Mid.ch

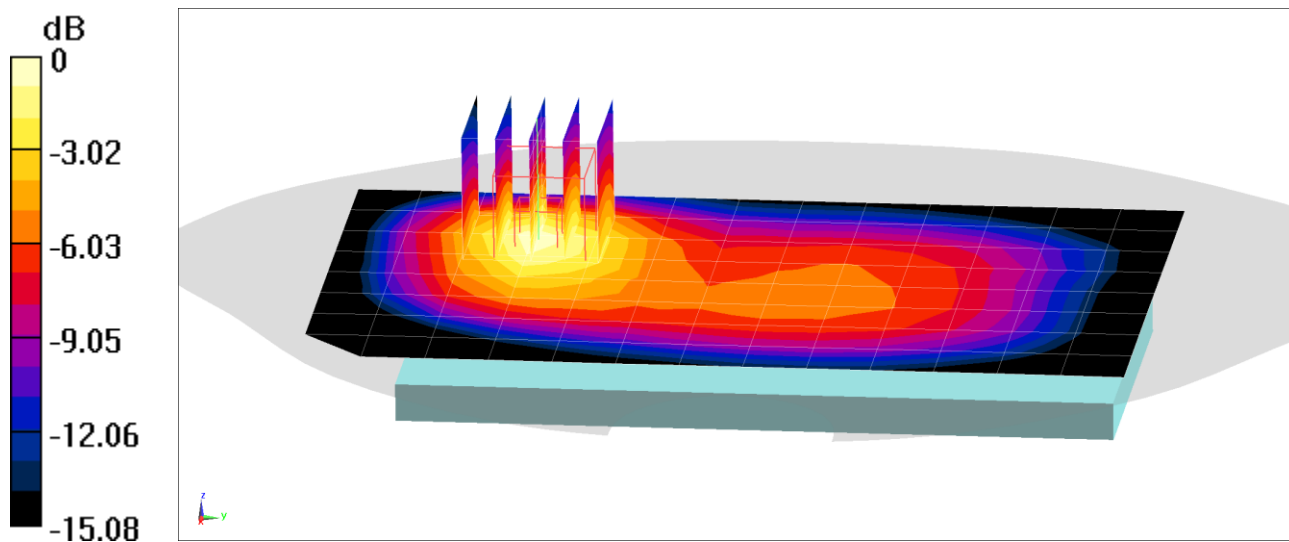
Area Scan (9x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 24.21 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.855 W/kg

SAR(1 g) = 0.529 W/kg



0 dB = 0.743 W/kg = -1.29 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03226

Communication System: UID 0, CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$; $\sigma = 0.986 \text{ S/m}$; $\epsilon_r = 53.639$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12-03-2019; Ambient Temp: 23.5°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7410; ConvF(9.79, 9.79, 9.79) @ 836.52 MHz; Calibrated: 7/16/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1322; Calibrated: 7/11/2019

Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Mode: Cell. EVDO Rev.0, BC0, Body SAR, Back side, Mid.ch

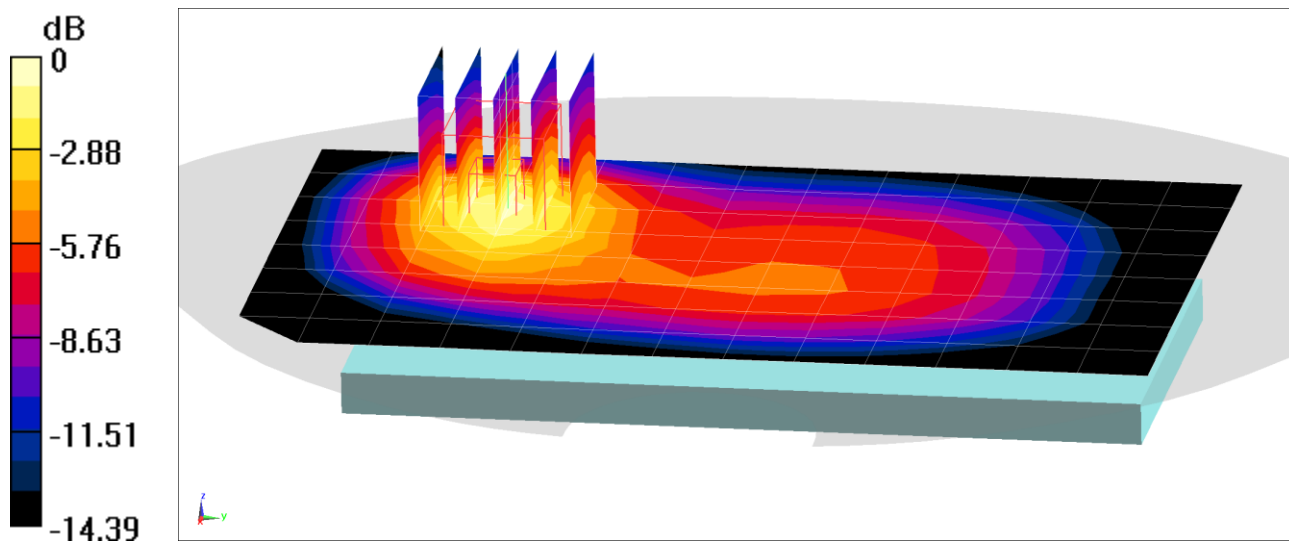
Area Scan (9x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 19.80 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.647 W/kg

SAR(1 g) = 0.394 W/kg



0 dB = 0.529 W/kg = -2.77 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03218

Communication System: UID 0, CDMA; Frequency: 1908.75 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used (interpolated):

$f = 1908.75 \text{ MHz}$; $\sigma = 1.588 \text{ S/m}$; $\epsilon_r = 50.899$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Date: 01-08-2020; Ambient Temp: 21.9°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN7551; ConvF(7.69, 7.69, 7.69) @ 1908.75 MHz; Calibrated: 9/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1333; Calibrated: 9/17/2019

Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Mode: PCS CDMA, Body SAR, Back side, High.ch

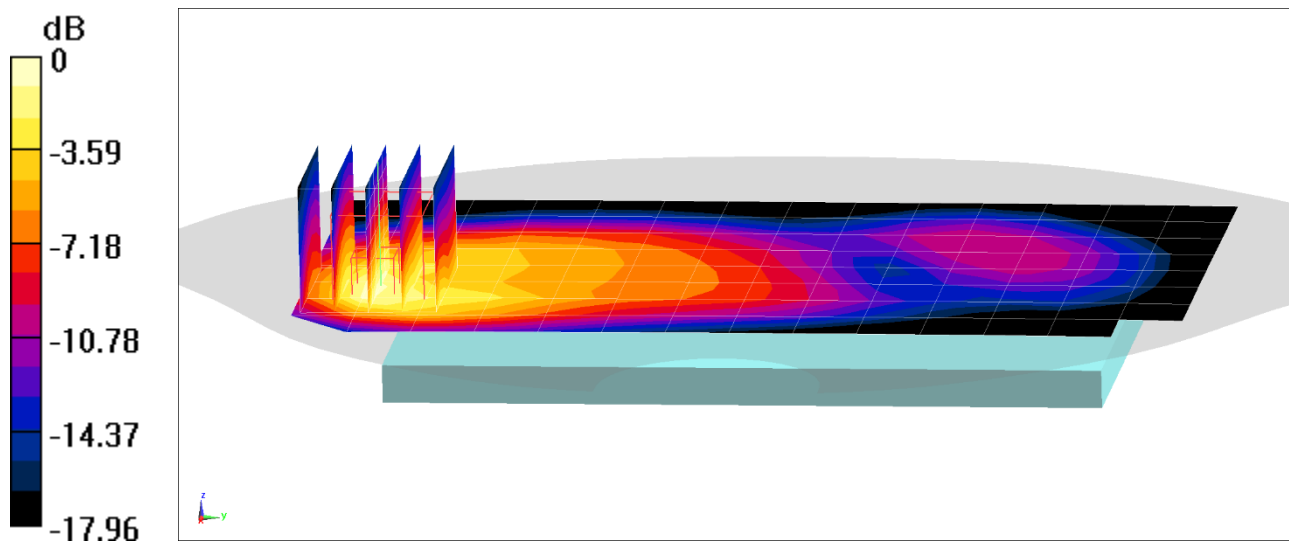
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (6x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 22.56 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.35 W/kg

SAR(1 g) = 0.742 W/kg



0 dB = 1.13 W/kg = 0.53 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03234

Communication System: UID 0, CDMA; Frequency: 1908.75 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used (interpolated):

$f = 1908.75 \text{ MHz}$; $\sigma = 1.589 \text{ S/m}$; $\epsilon_r = 51.193$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-11-2020; Ambient Temp: 21.9°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN7551; ConvF(7.69, 7.69, 7.69) @ 1908.75 MHz; Calibrated: 9/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1333; Calibrated: 9/17/2019

Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: PCS EVDO Rev.0, Body SAR, Bottom Edge, High.ch

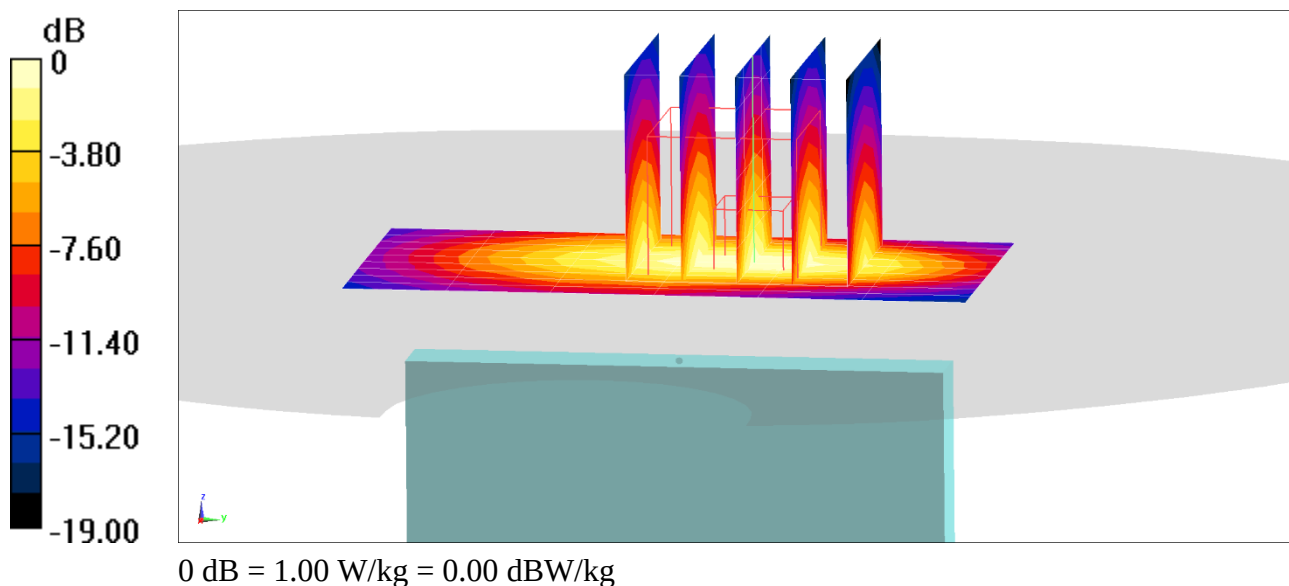
Area Scan (10x7x1): Measurement grid: $dx=5\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 21.57 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 1.19 W/kg

SAR(1 g) = 0.655 W/kg



PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03226

Communication System: UID 0, GSM GPRS; 4 Tx slots; Frequency: 836.6 MHz; Duty Cycle: 1:2.076

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$; $\sigma = 0.986 \text{ S/m}$; $\epsilon_r = 53.639$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12-03-2019; Ambient Temp: 23.5°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7410; ConvF(9.79, 9.79, 9.79) @ 836.6 MHz; Calibrated: 7/16/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1322; Calibrated: 7/11/2019

Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Mode: GPRS 850, Body SAR, Back side, Mid.ch, 4 Tx Slots

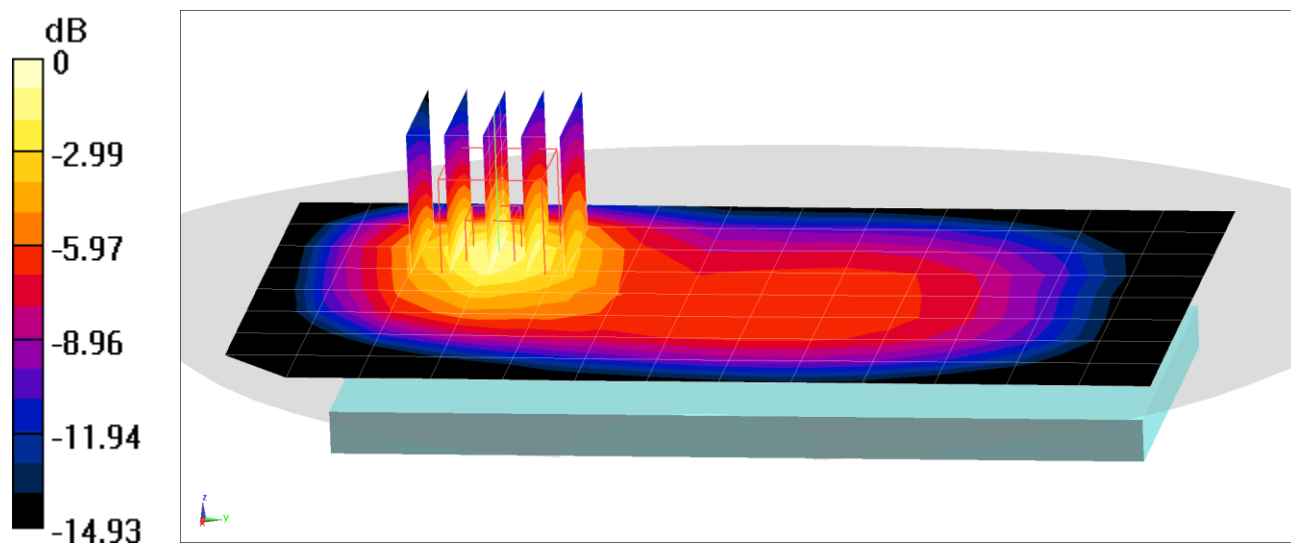
Area Scan (9x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 22.66 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 0.735 W/kg

SAR(1 g) = 0.457 W/kg



0 dB = 0.635 W/kg = -1.97 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03259

Communication System: UID 0, GSM GPRS; 3 Tx slots; Frequency: 1880 MHz; Duty Cycle: 1:2.76

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.557 \text{ S/m}$; $\epsilon_r = 51.004$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-08-2020; Ambient Temp: 21.9°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN7551; ConvF(7.69, 7.69, 7.69) @ 1880 MHz; Calibrated: 9/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1333; Calibrated: 9/17/2019

Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Mode: GPRS 1900, Body SAR, Back side, Mid.ch, 3 Tx Slots

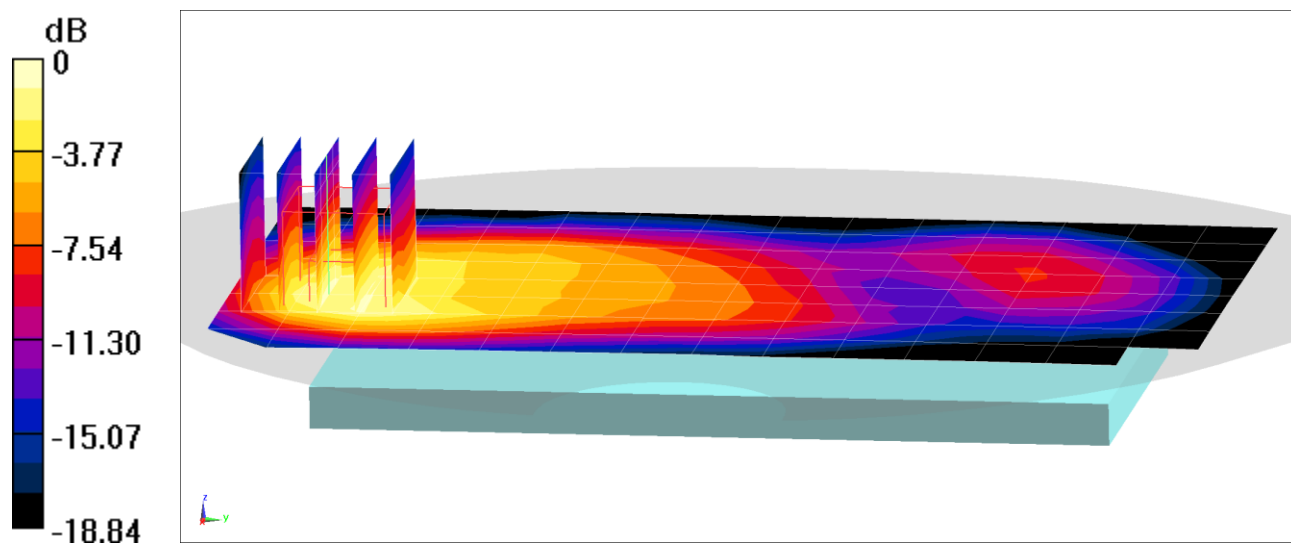
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 16.12 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.648 W/kg

SAR(1 g) = 0.359 W/kg



0 dB = 0.539 W/kg = -2.68 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03259

Communication System: UID 0, GSM GPRS; 3 Tx slots; Frequency: 1880 MHz; Duty Cycle: 1:2.76

Medium: 1900 Body; Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.556 \text{ S/m}$; $\epsilon_r = 51.313$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-11-2020; Ambient Temp: 21.9°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN7551; ConvF(7.69, 7.69, 7.69) @ 1880 MHz; Calibrated: 9/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1333; Calibrated: 9/17/2019

Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Mode: GPRS 1900, Body SAR, Bottom Edge, Mid.ch, 3 Tx Slots

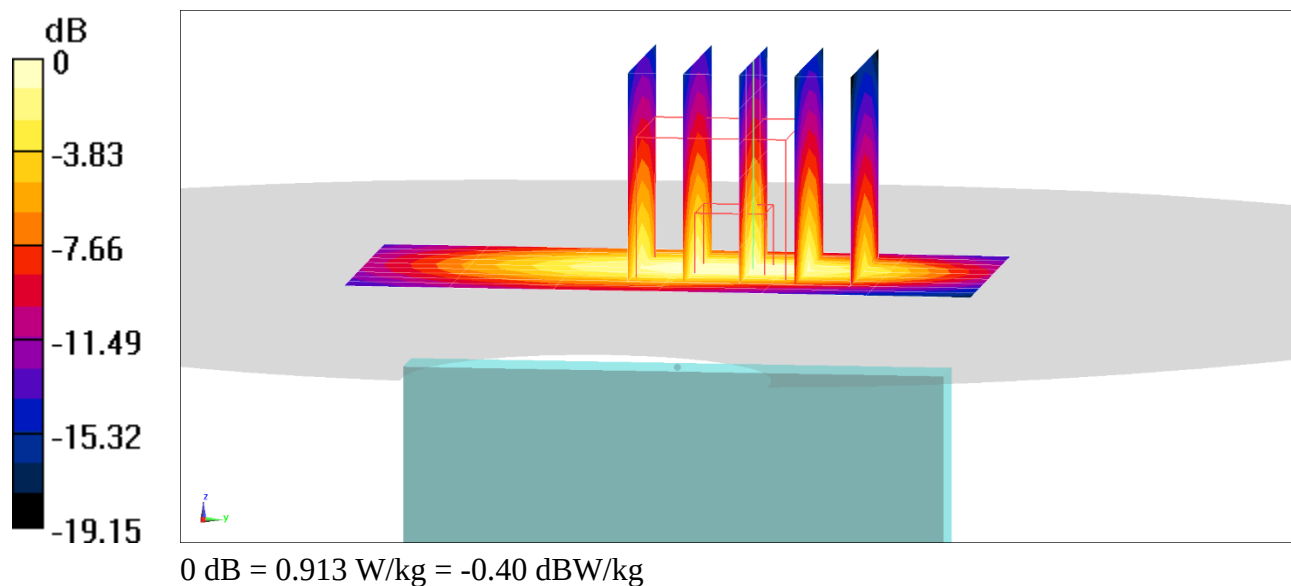
Area Scan (10x7x1): Measurement grid: $dx=5\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 20.77 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 1.08 W/kg

SAR(1 g) = 0.596 W/kg



PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03226

Communication System: UID 0, UMTS; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium: 835 Body; Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$; $\sigma = 0.966 \text{ S/m}$; $\epsilon_r = 54.027$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11-25-2019; Ambient Temp: 21.4°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN3914; ConvF(9.46, 9.46, 9.46) @ 836.6 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 2/14/2019

Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1687

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Mode: UMTS 850, Body SAR, Back side, Mid.ch

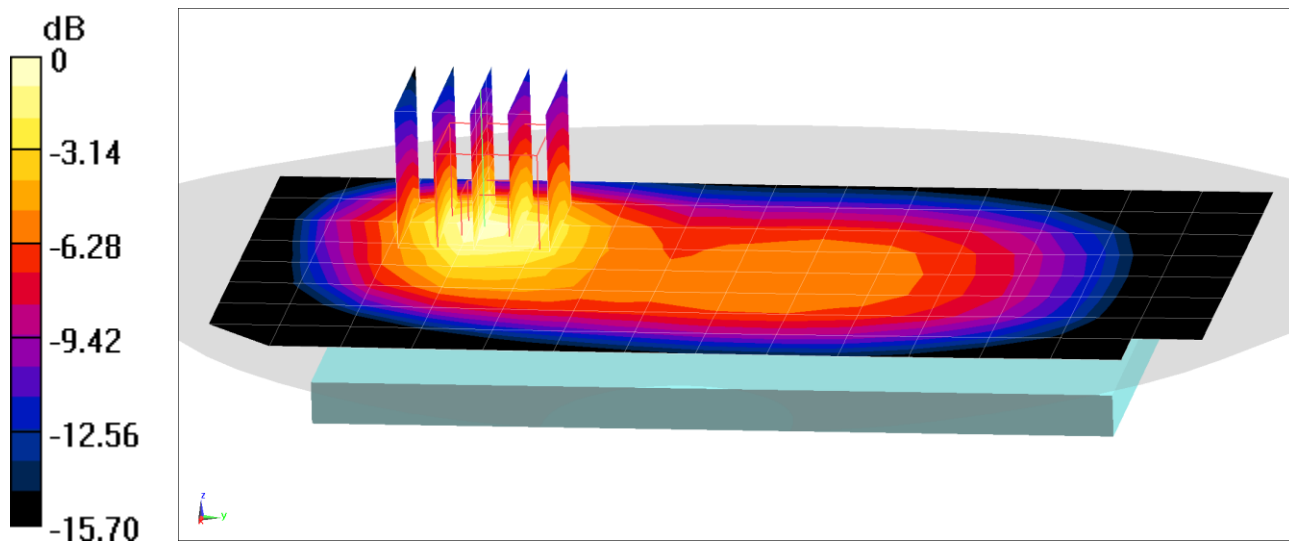
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 24.79 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.933 W/kg

SAR(1 g) = 0.546 W/kg



0 dB = 0.786 W/kg = -1.05 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03226

Communication System: UID 0, UMTS; Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: 1750 Body; Medium parameters used (interpolated):

$f = 1732.4 \text{ MHz}$; $\sigma = 1.513 \text{ S/m}$; $\epsilon_r = 52.499$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12-22-2019; Ambient Temp: 20.6°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7357; ConvF(8.26, 8.26, 8.26) @ 1732.4 MHz; Calibrated: 4/24/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/18/2019

Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Mode: UMTS 1750, Body SAR, Back side, Mid.ch

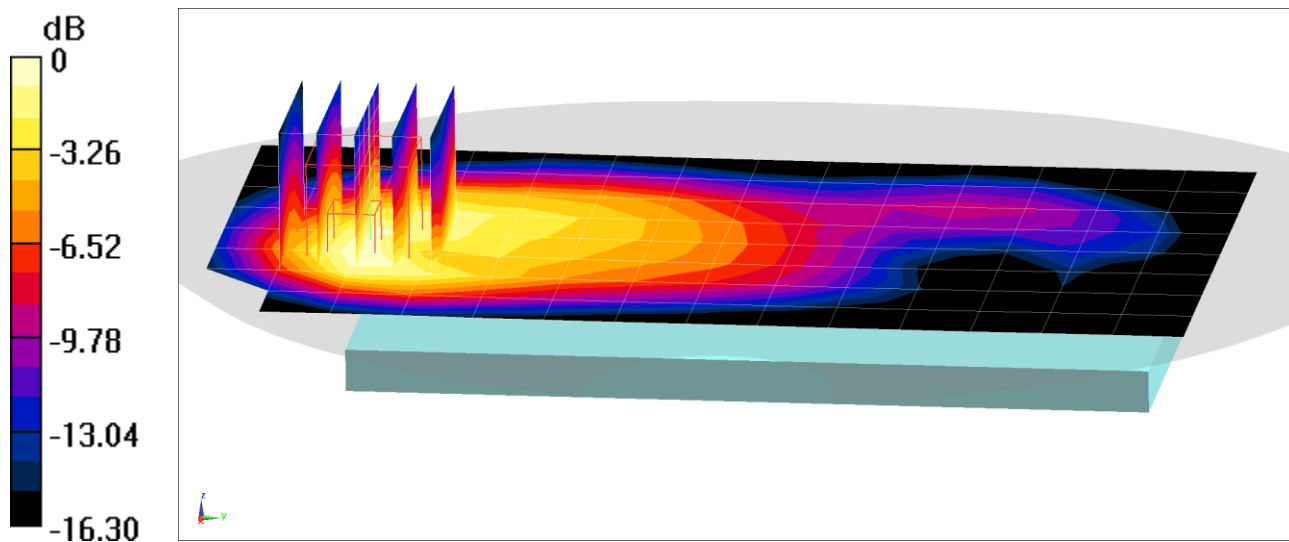
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (6x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 19.52 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.933 W/kg

SAR(1 g) = 0.551 W/kg



0 dB = 0.781 W/kg = -1.07 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03242

Communication System: UID 0, UMTS; Frequency: 1752.6 MHz; Duty Cycle: 1:1

Medium: 1750 Body; Medium parameters used (interpolated):

$f = 1752.6 \text{ MHz}$; $\sigma = 1.537 \text{ S/m}$; $\epsilon_r = 52.415$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12-22-2019; Ambient Temp: 20.6°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7357; ConvF(8.26, 8.26, 8.26) @ 1752.6 MHz; Calibrated: 4/24/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/18/2019

Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Mode: UMTS 1750, Body SAR, Bottom Edge, High.ch

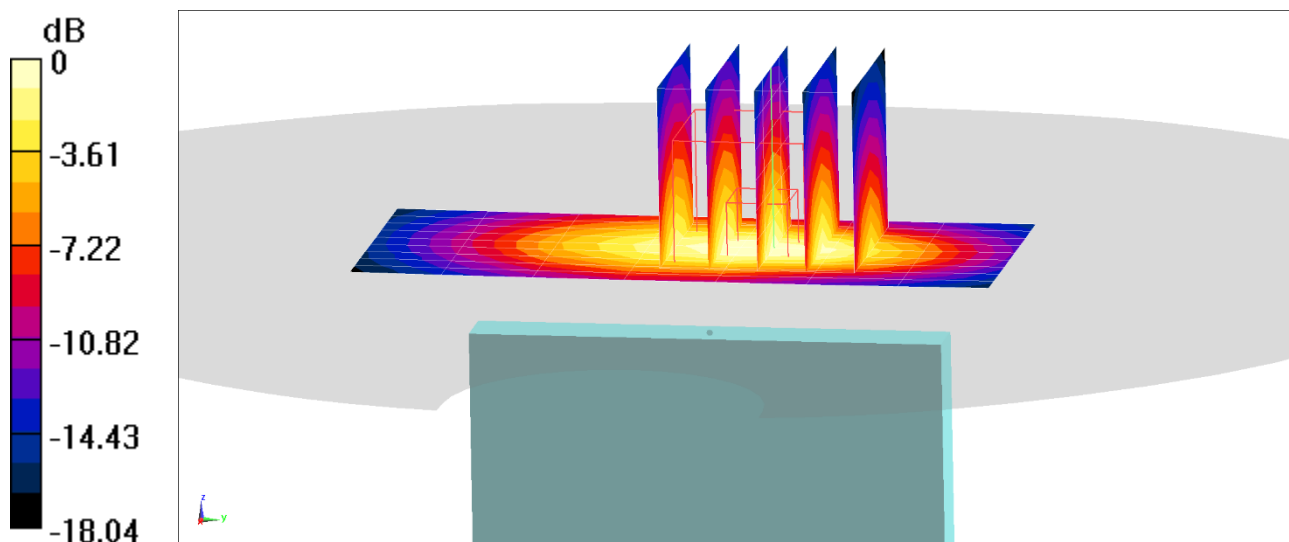
Area Scan (10x8x1): Measurement grid: dx=5mm, dy=15mm

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 22.40 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.24 W/kg

SAR(1 g) = 0.691 W/kg



0 dB = 1.04 W/kg = 0.17 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03218

Communication System: UID 0, UMTS; Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used (interpolated):

$f = 1907.6$ MHz; $\sigma = 1.58$ S/m; $\epsilon_r = 51.414$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12-09-2019; Ambient Temp: 23.7°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN7551; ConvF(7.69, 7.69, 7.69) @ 1907.6 MHz; Calibrated: 9/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1333; Calibrated: 9/17/2019

Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Mode: UMTS 1900, Body SAR, Back side, High.ch

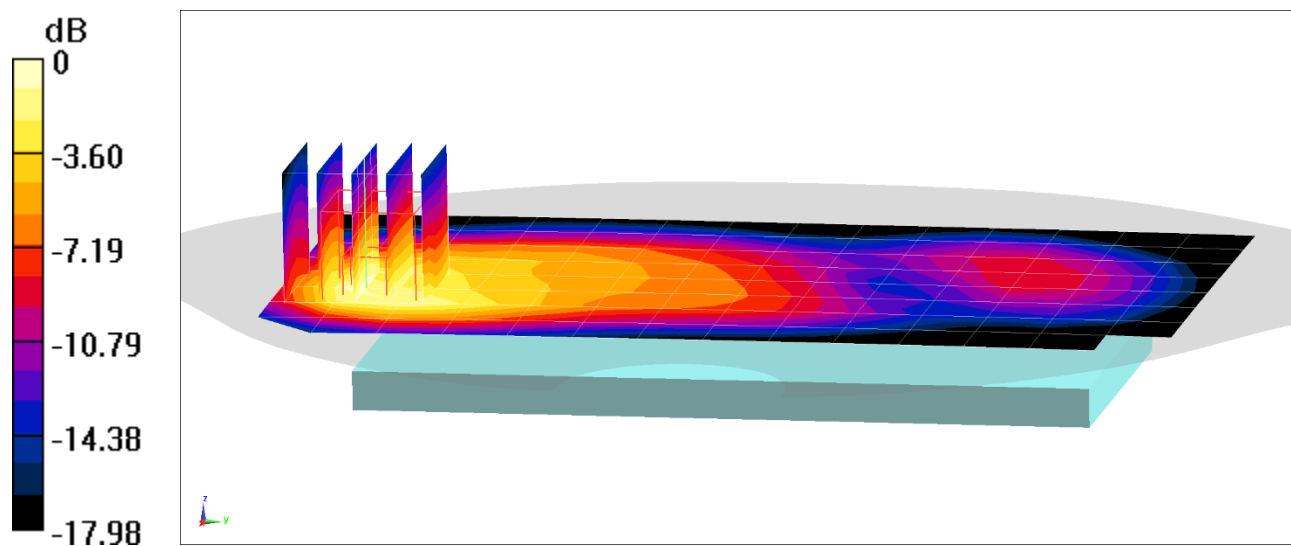
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 22.40 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 1.24 W/kg

SAR(1 g) = 0.700 W/kg



0 dB = 1.05 W/kg = 0.21 dBW/kg

PCTEST

DUT: ZNFV600TM; Type: Portable Handset; Serial: 03259

Communication System: UID 0, UMTS; Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium: 1900 Body; Medium parameters used (interpolated):

$f = 1907.6 \text{ MHz}$; $\sigma = 1.586 \text{ S/m}$; $\epsilon_r = 51.651$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-05-2020; Ambient Temp: 20.7°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7551; ConvF(7.69, 7.69, 7.69) @ 1907.6 MHz; Calibrated: 9/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1333; Calibrated: 9/17/2019

Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: UMTS 1900, Body SAR, Bottom Edge, High.ch

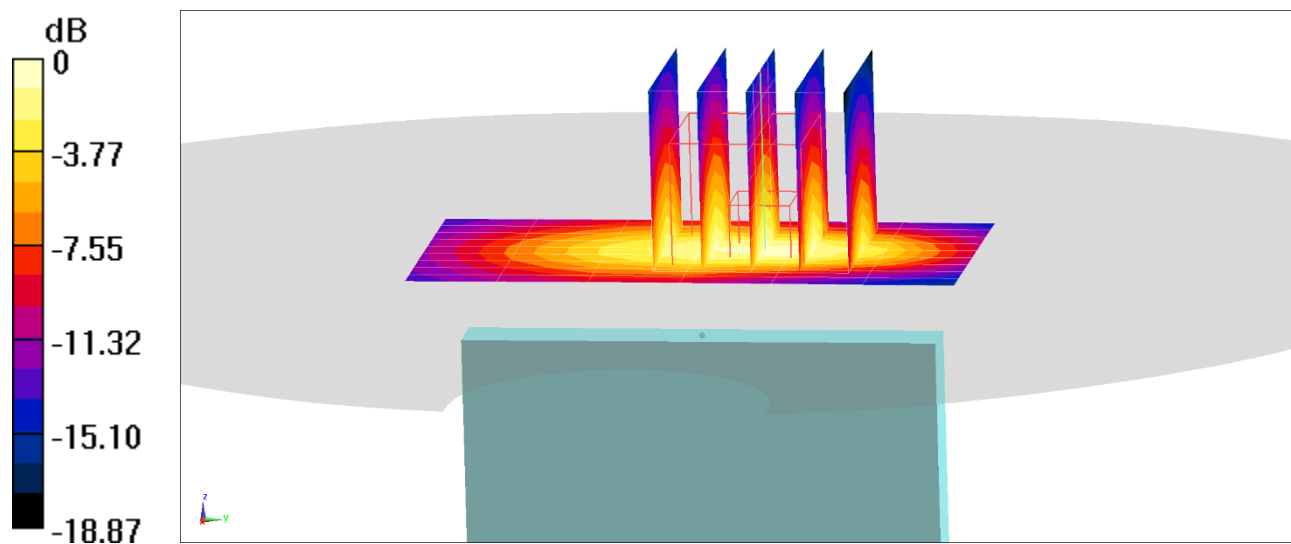
Area Scan (10x7x1): Measurement grid: dx=5mm, dy=15mm

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.53 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 1.43 W/kg

SAR(1 g) = 0.788 W/kg



0 dB = 1.20 W/kg = 0.79 dBW/kg