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SAR EVALUATION REPORT

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

Date of Testing:
11/11/19 - 01/27/20
Test Site/Location:
PCTEST, Columbia, MD, USA
Document Serial No.:
1M1911010179-01-R1.A3L

FCC ID: **A3LSMG986W**

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

DUT Type: Portable Handset
Application Type: Certification
FCC Rule Part(s): CFR §2.1093
Model: SM-G986W

Equipment Class	Band & Mode	Tx Frequency	SAR			
			1g Head (W/kg)	1g Body-Worn (W/kg)	1g Hotspot (W/kg)	10g Phablet (W/kg)
PCE	Cell. CDMA/EVDO	824.70 - 848.31 MHz	0.24	0.29	0.77	N/A
PCE	GSM/GPRS/EDGE 850	824.20 - 848.80 MHz	0.18	0.16	0.49	N/A
PCE	GSM/GPRS/EDGE 1900	1850.20 - 1909.80 MHz	< 0.1	0.30	0.94	2.27
PCE	UMTS 850	826.40 - 846.60 MHz	0.20	0.22	0.56	N/A
PCE	UMTS 1750	1712.4 - 1752.6 MHz	0.14	0.80	0.97	2.24
PCE	UMTS 1900	1852.4 - 1907.6 MHz	0.11	0.78	1.17	2.18
PCE	LTE Band 71	665.5 - 695.5 MHz	0.18	0.19	0.25	N/A
PCE	LTE Band 12	699.7 - 715.3 MHz	0.21	0.27	0.35	N/A
PCE	LTE Band 13	779.5 - 784.5 MHz	0.19	0.31	0.39	N/A
PCE	LTE Band 5 (Cell)	824.7 - 848.3 MHz	0.21	0.25	0.58	N/A
PCE	LTE Band 66 (AWS)	1710.7 - 1779.3 MHz	0.14	1.18	1.25	3.15
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	0.11	0.70	1.05	2.09
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	0.57	1.16	2.20
PCE	LTE Band 7	2502.5 - 2567.5 MHz	0.16	0.44	1.01	1.69
PCE	LTE Band 41	2498.5 - 2687.5 MHz	0.11	0.36	0.74	2.12
PCE	LTE Band 38	2572.5 - 2617.5 MHz	N/A	N/A	N/A	N/A
PCE	NR Band n71	665.5 - 695.5 MHz	0.11	0.17	0.21	N/A
PCE	NR Band n66 (AWS)	1712.5 - 1777.5 MHz	0.15	1.06	1.22	3.13
PCE	NR Band n41	2506.02 - 2679.99 MHz	1.10	0.17	0.58	N/A
DTS	2.4 GHz WLAN	2412 - 2462 MHz	0.52	0.10	0.32	N/A
NII	U-NII-1	5180 - 5240 MHz	N/A	N/A	N/A	N/A
NII	U-NII-2A	5260 - 5320 MHz	0.16	0.30	N/A	1.71
NII	U-NII-2C	5500 - 5720 MHz	0.12	0.27	N/A	0.98
NII	U-NII-3	5745 - 5825 MHz	0.14	0.39	0.67	N/A
DSS/DTS	Bluetooth	2402 - 2480 MHz	0.31	< 0.1	< 0.1	N/A
Simultaneous SAR per KDB 690783 D01v01r03:			1.56	1.59	1.58	3.98

Note: This revised Test Report (S/N: 1M1911010179-01-R1.A3L) supersedes and replaces the previously issued test report on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.

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

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

Randy Ortanez
President

The SAR Tick is an initiative of the Mobile & Wireless Forum (MWF). While a product may be considered eligible, use of the SAR Tick logo requires an agreement with the MWF. Further details can be obtained by emailing: sartick@mwfai.info.

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1 DEVICE UNDER TEST

1.1 Device Overview

Band & Mode	Operating Modes	Tx Frequency
Cell. CDMA/EVDO	Voice/Data	824.70 - 848.31 MHz
GSM/GPRS/EDGE 850	Voice/Data	824.20 - 848.80 MHz
GSM/GPRS/EDGE 1900	Voice/Data	1850.20 - 1909.80 MHz
UMTS 850	Voice/Data	826.40 - 846.60 MHz
UMTS 1750	Voice/Data	1712.4 - 1752.6 MHz
UMTS 1900	Voice/Data	1852.4 - 1907.6 MHz
LTE Band 71	Voice/Data	665.5 - 695.5 MHz
LTE Band 12	Voice/Data	699.7 - 715.3 MHz
LTE Band 13	Voice/Data	779.5 - 784.5 MHz
LTE Band 5 (Cell)	Voice/Data	824.7 - 848.3 MHz
LTE Band 66 (AWS)	Voice/Data	1710.7 - 1779.3 MHz
LTE Band 4 (AWS)	Voice/Data	1710.7 - 1754.3 MHz
LTE Band 25 (PCS)	Voice/Data	1850.7 - 1914.3 MHz
LTE Band 2 (PCS)	Voice/Data	1850.7 - 1909.3 MHz
LTE Band 30	Voice/Data	2307.5 - 2312.5 MHz
LTE Band 7	Voice/Data	2502.5 - 2567.5 MHz
LTE Band 41	Voice/Data	2498.5 - 2687.5 MHz
LTE Band 38	Voice/Data	2572.5 - 2617.5 MHz
NR Band n71	Data	665.5 - 695.5 MHz
NR Band n66	Data	1712.5 - 1777.5 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
ANT+	Data	2402 - 2480 MHz
MST	Data	555 Hz - 8.33 kHz

1.2 Time-Averaging Algorithm for RF Exposure Compliance

The equipment under test (EUT) contains:

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

b. Qualcomm® SDX55M modem supporting 5G NR

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

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Note that WLAN operations are not enabled with Smart Transmit.

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

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

Exposure Scenario:		Body-Worn	Phablet	Phablet	Head	Hotspot	Phablet	Maximum Tune-up Output Power*
Averaging Volume:		1g	10g	10g	1g	1g	10g	
Spacing:		15 mm	6, 8, 11 mm	0 mm	0 mm	10 mm	0 mm	
DSI:		0	0	1	2	3	4	
Technology/Band	Antenna	**Plimit corresponding to 1mW/g (SAR_design_target)**						
GSM/GPRS/EDGE 850 MHz	A	31.3	31.3	26.1	31.3	26.1	26.1	24.8
GSM/GPRS/EDGE 1900 MHz	A	26.0	26.0	18.8	33.9	18.8	18.8	21.3
UMTS B5	A	31.5	31.5	26.0	31.9	26.0	26.0	24
UMTS B4	A	25.6	25.6	19.0	33.2	19.0	19.0	23.5
UMTS B2	A	25.8	25.8	18.5	34.2	18.5	18.5	23.5
CDMA/EVDO BC0	A	31.1	31.1	26.2	32.1	26.2	26.2	24.8
LTE FDD B71	A	32.7	32.7	29.8	32.9	29.8	29.8	24.5
LTE FDD B12	A	31.4	31.4	29.6	32.6	29.6	29.6	24.8
LTE FDD B13	A	30.9	30.9	27.2	32.9	27.2	27.2	24.8
LTE FDD B5	A	31.8	31.8	26.1	32.6	26.1	26.1	24.8
LTE FDD B4	A	24.3	24.3	19.3	33.7	19.3	19.3	23.7
LTE FDD B66	A	24.3	24.3	19.3	33.7	19.3	19.3	24
LTE FDD B25/2	A	26.7	26.7	18.5	33.9	18.5	18.5	23.5
LTE FDD B30	A	25.5	25.5	20.5	34.3	18.2	20.5	22
LTE FDD B7	B	27.6	27.6	20.5	32.0	19.5	20.5	23
LTE TDD B38	B	27.5	27.5	19.0	28.0	19.0	19.0	22
LTE TDD B41	B	27.5	27.5	21.5	32.6	19.0	21.5	22
NR FDD n71	A	32.1	32.1	29.4	34.2	29.4	29.4	24.5
NR FDD n66	A	24.7	24.7	19.8	33.1	19.8	19.8	24
NR TDD n41	F	22.9	22.9	22.9	18.1	20.9	22.9	17.5

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

*Maximum tune up output power P_{max} is used to configure EUT during RF tune up procedure. The maximum allowed output power is equal to maximum Tune up output power + 1dB device design uncertainty.

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

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

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

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1.3 Power Reduction for SAR

This device uses an independent fixed level power reduction mechanism for WLAN operations when 5G NR is active and also during all voice or VoIP held to ear scenarios. Per FCC Guidance, the held-to-ear exposure conditions were evaluated at reduced power according to the head SAR positions described in IEEE 1528-2013. Detailed descriptions of the power reduction mechanism are included in the operational description.

1.4 Nominal and Maximum Output Power Specifications

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

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

CDMA BC0 (835 MHz)				
Power Level	Mode / Band	Modulated Average Output Power (in dBm)		
		1x-RTT	EVDO Rev 0	EVDO Rev A
Max (DSI = 0 - 4)	Max allowed power	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8

GSM/GPRS/EDGE 850										
Power Level	Mode / Band	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
Max (DSI = 0 - 4)	Max allowed power	33.0	33.0	32.0	30.0	28.0	27.5	25.5	23.5	22.5
	Nominal	32.0	32.0	31.0	29.0	27.0	26.5	24.5	22.5	21.5
GSM/GPRS/EDGE 1900										
Power Level	Mode / Band	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
Max (DSI = 0 or 2)	Max allowed power	30.0	30.0	28.5	26.5	24.5	26.5	24.0	22.0	21.0
	Nominal	29.0	29.0	27.5	25.5	23.5	25.5	23.0	21.0	20.0
Earjack Active (DSI = 4)	Max allowed power	29.0	29.0	26.0	24.2	23.0	26.5	24.0	22.0	21.0
	Nominal	28.0	28.0	25.0	23.2	22.0	25.5	23.0	21.0	20.0
Hotspot Mode Active (DSI = 3)	Max allowed power	N/A	29.0	26.0	24.2	23.0	26.5	24.0	22.0	21.0
	Nominal	N/A	28.0	25.0	23.2	22.0	25.5	23.0	21.0	20.0
Proximity Sensor (DSI = 1)	Max allowed power	29.0	29.0	26.0	24.2	23.0	26.5	24.0	22.0	21.0
	Nominal	28.0	28.0	25.0	23.2	22.0	25.5	23.0	21.0	20.0

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

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UMTS Band 5 (850 MHz)					
Power Level	Mode / Band	Modulated Average Output Power (in dBm)			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
Max (DSI = 0 - 4)	Max allowed power	25.0	24.0	24.0	24.0
	Nominal	24.0	23.0	23.0	23.0
UMTS Band 4 (1750 MHz)					
Power Level	Mode / Band	Modulated Average Output Power (in dBm)			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
Max (DSI = 0 or 2)	Max allowed power	24.5	23.5	23.5	23.5
	Nominal	23.5	22.5	22.5	22.5
Earjack Active (DSI = 4)	Max allowed power	20.0	19.0	19.0	19.0
	Nominal	19.0	18.0	18.0	18.0
Hotspot Mode Active (DSI = 3)	Max allowed power	20.0	19.0	19.0	19.0
	Nominal	19.0	18.0	18.0	18.0
Proximity Sensor (DSI = 1)	Max allowed power	20.0	19.0	19.0	19.0
	Nominal	19.0	18.0	18.0	18.0
UMTS Band 2 (1900 MHz)					
Power Level	Mode / Band	Modulated Average Output Power (in dBm)			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
Max (DSI = 0 or 2)	Max allowed power	24.5	23.5	23.5	23.5
	Nominal	23.5	22.5	22.5	22.5
Earjack Active (DSI = 4)	Max allowed power	19.5	18.5	18.5	18.5
	Nominal	18.5	17.5	17.5	17.5
Hotspot Mode Active (DSI = 3)	Max allowed power	19.5	18.5	18.5	18.5
	Nominal	18.5	17.5	17.5	17.5
Proximity Sensor (DSI = 1)	Max allowed power	19.5	18.5	18.5	18.5
	Nominal	18.5	17.5	17.5	17.5

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Mode / Band		Modulated Average Output Power (in dBm)			
		Max (DSI = 0 or 2)	Hotspot Mode Active (DSI = 3)	Earjack Active (DSI = 4)	Proximity Sensor Active (DSI = 1)
LTE FDD Band 71	Max allowed power	25.5	25.5	25.5	25.5
	Nominal	24.5	24.5	24.5	24.5
LTE FDD Band 12	Max allowed power	25.8	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8	24.8
LTE FDD Band 13	Max allowed power	25.8	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8	24.8
LTE FDD Band 5	Max allowed power	25.8	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8	24.8
LTE FDD Band 66	Max allowed power	25.0	20.3	20.3	20.3
	Nominal	24.0	19.3	19.3	19.3
LTE FDD Band 4	Max allowed power	24.7	20.3	20.3	20.3
	Nominal	23.7	19.3	19.3	19.3
LTE FDD Band 2	Max allowed power	24.5	19.5	19.5	19.5
	Nominal	23.5	18.5	18.5	18.5
LTE FDD Band 25	Max allowed power	24.5	19.5	19.5	19.5
	Nominal	23.5	18.5	18.5	18.5
LTE FDD Band 7	Max allowed power	24.0	20.5	21.5	21.5
	Nominal	23.0	19.5	20.5	20.5
LTE FDD Band 30	Max allowed power	23.0	19.2	21.5	21.5
	Nominal	22.0	18.2	20.5	20.5
LTE TDD Band 38	Max allowed power	25.0	22.0	22.0	22.0
	Nominal	24.0	21.0	21.0	21.0
LTE TDD Band 41 (PC3)	Max allowed power	25.0	22.0	24.5	24.5
	Nominal	24.0	21.0	23.5	23.5

Mode / Band		Modulated Average Output Power (in dBm)			
		Max (DSI = 0 or 2)	Hotspot Mode Active (DSI = 3)	Earjack Active (DSI = 4)	Proximity Sensor Active (DSI = 1)
NR FDD Band n71	Max allowed power	25.5	25.5	25.5	25.5
	Nominal	24.5	24.5	24.5	24.5
NR FDD Band n66	Max allowed power	25.0	20.8	20.8	20.8
	Nominal	24.0	19.8	19.8	19.8
NR TDD Band n41	Max allowed power	24.5	24.5	24.5	24.5
	Nominal	23.5	23.5	23.5	23.5

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

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1.4.2 2.4 GHz Maximum Bluetooth and SISO/MIMO WLAN Output Power

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

Mode / Band		Modulated Average - Single Tx Chain - Antenna 1 (dBm)	
	Channel	1 - 10	11
IEEE 802.11b (2.4 GHz)	Maximum	**21.0**	
	Nominal	**20.0**	
IEEE 802.11g (2.4 GHz)	Maximum	**18.0**	**17.0**
	Nominal	**17.0**	**16.0**
IEEE 802.11n (2.4 GHz)	Maximum	**18.0**	**17.0**
	Nominal	**17.0**	**16.0**
IEEE 802.11ax SU (2.4 GHz)	Maximum	**17.0**	**14.5**
	Nominal	**16.0**	**13.5**

Mode / Band		Modulated Average - Single Tx Chain - Antenna 2 (dBm)	
	Channel	1 - 10	11
IEEE 802.11b (2.4 GHz)	Maximum	**21.0**	**19.5**
	Nominal	**20.0**	**18.5**
IEEE 802.11g (2.4 GHz)	Maximum	**18.0**	**17.0**
	Nominal	**17.0**	**16.0**
IEEE 802.11n (2.4 GHz)	Maximum	**18.0**	**17.0**
	Nominal	**17.0**	**16.0**
IEEE 802.11ax SU (2.4 GHz)	Maximum	**17.0**	**14.5**
	Nominal	**16.0**	**13.5**

Mode / Band		Modulated Average - MIMO (dBm)	
		20 MHz Bandwidth	
	Channel	1 - 10	11
IEEE 802.11g (2.4 GHz)	Maximum	**21.0**	**20.0**
	Nominal	**20.0**	**19.0**
IEEE 802.11n (2.4 GHz)	Maximum	**21.0**	**20.0**
	Nominal	**20.0**	**19.0**
IEEE 802.11ax SU (2.4 GHz)	Maximum	**17.0**	**14.5**
	Nominal	**16.0**	**13.5**

Mode / Band		Modulated Average (dBm)
Bluetooth	Maximum	**15.0**
	Nominal	**14.0**
Bluetooth EDR	Maximum	**12.5**
	Nominal	**11.5**
Bluetooth LE (2 Mbps)	Maximum	**9.0**
	Nominal	**8.0**
Bluetooth LE (1 Mbps, 125/500 Kbps)	Maximum	**7.5**
	Nominal	**6.5**

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1.4.3 2.4 GHz Reduced WLAN Output Powers

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

The below table is applicable in the following conditions:

- Head Conditions
- Simultaneous conditions with 2.4 GHz WLAN and 5 GHz WLAN
- Simultaneous conditions with 5G NR and 2.4 GHz WLAN and/or 5 GHz WLAN

Mode / Band		Modulated Average - Single Tx Chain (dBm)	
	Channel	1 - 10	11
IEEE 802.11b (2.4 GHz)	Maximum	**17.0**	
	Nominal	**16.0**	
IEEE 802.11g (2.4 GHz)	Maximum	**17.0**	
	Nominal	**16.0**	
IEEE 802.11n (2.4 GHz)	Maximum	**17.0**	
	Nominal	**16.0**	
IEEE 802.11ax SU (2.4 GHz)	Maximum	**17.0**	**14.5**
	Nominal	**16.0**	**13.5**
Mode / Band		Modulated Average - MIMO (dBm)	
		20 MHz Bandwidth	
	Channel	1 - 10	11
IEEE 802.11g (2.4 GHz)	Maximum	**20.0**	
	Nominal	**19.0**	
IEEE 802.11n (2.4 GHz)	Maximum	**20.0**	
	Nominal	**19.0**	
IEEE 802.11ax SU (2.4 GHz)	Maximum	**17.0**	**14.5**
	Nominal	**16.0**	**13.5**

The below table is applicable in the following conditions:

- Head Conditions during simultaneous conditions with 2.4 GHz WLAN and 5 GHz WLAN
- Head Conditions during simultaneous conditions with 5G NR and 2.4 GHz WLAN and/or 5 GHz WLAN

Mode / Band		Modulated Average - Single Tx Chain (dBm)	
	Channel	1 - 11	
IEEE 802.11b (2.4 GHz)	Maximum	**14.0**	
	Nominal	**13.0**	
IEEE 802.11g (2.4 GHz)	Maximum	**14.0**	
	Nominal	**13.0**	
IEEE 802.11n (2.4 GHz)	Maximum	**14.0**	
	Nominal	**13.0**	
IEEE 802.11ax SU (2.4 GHz)	Maximum	**14.0**	
	Nominal	**13.0**	
Mode / Band		Modulated Average - MIMO (dBm)	
		20 MHz Bandwidth	
	Channel	1 - 10	11
IEEE 802.11g (2.4 GHz)	Maximum	**17.0**	
	Nominal	**16.0**	
IEEE 802.11n (2.4 GHz)	Maximum	**17.0**	
	Nominal	**16.0**	
IEEE 802.11ax SU (2.4 GHz)	Maximum	**17.0**	**14.5**
	Nominal	**16.0**	**13.5**

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1.4.1 5 GHz Maximum 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)												
		20 MHz Bandwidth				40 MHz Bandwidth					80 MHz Bandwidth			
	Channel	36	40 - 60	64 - 100	104 - 165	38	46 - 54	62	102	110 - 159	42	58	106	122 - 155
IEEE 802.11a (5 GHz)	Maximum	16.5	18.0	16.5	18.0									
	Nominal	15.5	17.0	15.5	17.0									
IEEE 802.11n (5 GHz)	Maximum	16.5	18.0	16.5	18.0	13.5	17.0	13.5	15.0	17.0				
	Nominal	15.5	17.0	15.5	17.0	12.5	16.0	12.5	14.0	16.0				
IEEE 802.11ac (5 GHz)	Maximum	16.5	18.0	16.5	18.0	13.5	17.0	13.5	15.0	17.0	13.5	12.0	13.0	16.0
	Nominal	15.5	17.0	15.5	17.0	12.5	16.0	12.5	14.0	16.0	12.5	11.0	12.0	15.0
IEEE 802.11ax SU (5 GHz)	Maximum	16.0				13.5	14.0				13.0			
	Nominal	15.0				12.5	13.0				12.0			

Mode / Band		Modulated Average - MIMO (dBm)												
		20 MHz Bandwidth				40 MHz Bandwidth					80 MHz Bandwidth			
	Channel	36	40 - 60	64 - 100	104 - 165	38	46 - 54	62	102	110 - 159	42	58	106	122 - 155
IEEE 802.11a (5 GHz)	Maximum	19.5	21.0	19.5	21.0									
	Nominal	18.5	20.0	18.5	20.0									
IEEE 802.11n (5 GHz)	Maximum	19.5	21.0	19.5	21.0	16.5	20.0	16.5	18.0	20.0				
	Nominal	18.5	20.0	18.5	20.0	15.5	19.0	15.5	17.0	19.0				
IEEE 802.11ac (5 GHz)	Maximum	19.5	21.0	19.5	21.0	16.5	20.0	16.5	18.0	20.0	16.5	15.0	16.0	19.0
	Nominal	18.5	20.0	18.5	20.0	15.5	19.0	15.5	17.0	19.0	15.5	14.0	15.0	18.0
IEEE 802.11ax SU (5 GHz)	Maximum	16.0				13.5	14.0				13.0			
	Nominal	15.0				12.5	13.0				12.0			

1.4.2 5 GHz Reduced WLAN Output Powers

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

The below table is applicable in the following conditions:

- Head Conditions
- Simultaneous conditions with 2.4 GHz WLAN and 5 GHz WLAN
- Simultaneous conditions with 5G NR and 2.4 GHz WLAN and/or 5 GHz WLAN
- Head Conditions during simultaneous conditions with 2.4 GHz WLAN and 5 GHz WLAN
- Head Conditions during simultaneous conditions with 5G NR and 2.4 GHz WLAN and/or 5 GHz WLAN

Mode / Band		Modulated Average - Single Tx Chain (dBm)										
		20 MHz Bandwidth		40 MHz Bandwidth				80 MHz Bandwidth			
	Channel	36 - 165		38	46 - 54	62	102 - 159	42	58	106	122 - 155
IEEE 802.11a (5 GHz)	Maximum	14.0									
	Nominal	13.0									
IEEE 802.11n (5 GHz)	Maximum	14.0		13.5	14.0	13.5	14.0				
	Nominal	13.0		12.5	13.0	12.5	13.0				
IEEE 802.11ac (5 GHz)	Maximum	14.0		13.5	14.0	13.5	14.0	13.5	12.0	13.0	14.0
	Nominal	13.0		12.5	13.0	12.5	13.0	12.5	11.0	12.0	13.0
IEEE 802.11ax SU (5 GHz)	Maximum	14.0		13.5	14.0			13.0			
	Nominal	13.0		12.5	13.0			12.0			

Mode / Band		Modulated Average - MIMO (dBm)									
		20 MHz Bandwidth		40 MHz Bandwidth				80 MHz Bandwidth			
	Channel	36 - 165		38	46 - 54	62	102 - 159	42	58	106	122 - 155
IEEE 802.11a (5 GHz)	Maximum	17.0									
	Nominal	16.0									
IEEE 802.11n (5 GHz)	Maximum	17.0		16.5	17.0	16.5	17.0				
	Nominal	16.0		15.5	16.0	15.5	16.0				
IEEE 802.11ac (5 GHz)	Maximum	17.0		16.5	17.0	16.5	17.0	16.5	15.0	16.0	17.0
	Nominal	16.0		15.5	16.0	15.5	16.0	15.5	14.0	15.0	16.0
IEEE 802.11ax SU (5 GHz)	Maximum	16.0		13.5	14.0			13.0			
	Nominal	15.0		12.5	13.0			12.0			

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1.5 DUT Antenna Locations

The overall dimensions of this device are > 9 x 5 cm. The overall diagonal dimension of the device is ≤160 mm and the diagonal display is ≤150 mm. A diagram showing the location of the device antennas can be found in Appendix E. Since the diagonal dimension of this device is > 160 mm and <200 mm, it is considered a "phablet."

Table 1-1
Device Edges/Sides for SAR Testing

Device Sides/Edges for SAR Testing						
Mode	Back	Front	Top	Bottom	Right	Left
Cell. EVDO	Yes	Yes	No	Yes	Yes	Yes
GPRS 850	Yes	Yes	No	Yes	Yes	Yes
GPRS 1900	Yes	Yes	No	Yes	Yes	Yes
UMTS 850	Yes	Yes	No	Yes	Yes	Yes
UMTS 1750	Yes	Yes	No	Yes	Yes	Yes
UMTS 1900	Yes	Yes	No	Yes	Yes	Yes
LTE Band 71	Yes	Yes	No	Yes	Yes	Yes
LTE Band 12	Yes	Yes	No	Yes	Yes	Yes
LTE Band 13	Yes	Yes	No	Yes	Yes	Yes
LTE Band 5 (Cell)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 66 (AWS)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 25 (PCS)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 30	Yes	Yes	No	Yes	Yes	Yes
LTE Band 7	Yes	Yes	No	Yes	No	Yes
LTE Band 41	Yes	Yes	No	Yes	No	Yes
NR Band n71	Yes	Yes	No	Yes	Yes	Yes
NR Band n66	Yes	Yes	No	Yes	Yes	Yes
NR Band n41	Yes	Yes	Yes	No	No	Yes
2.4 GHz WLAN Ant 1	Yes	Yes	Yes	No	No	Yes
2.4 GHz WLAN Ant 2	Yes	Yes	Yes	No	No	Yes
5 GHz WLAN Ant 1	Yes	Yes	Yes	No	No	Yes
5 GHz WLAN Ant 2	Yes	Yes	Yes	No	No	Yes
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-1, U-NII-2A, U-NII-2C operations are disabled.

1.6 Near Field Communications (NFC) Antenna

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

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1.7 Simultaneous Transmission Capabilities

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

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

Table 1-2
Simultaneous Transmission Scenarios

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

1. 2.4 GHz WLAN and 2.4 GHz Bluetooth share the same antenna path and cannot transmit simultaneously.
2. All licensed modes share the same antenna path and cannot transmit simultaneously.
3. When the user utilizes multiple services in UMTS 3G mode it uses multi-Radio Access Bearer or multi-RAB. The power control is based on a physical control channel (Dedicated Physical Control Channel [DPCCH]) and power control will be adjusted to meet the needs of both services. Therefore, the UMTS+WLAN scenario also represents the UMTS Voice/DATA + WLAN Hotspot scenario.
4. Per the manufacturer, WIFI Direct is not expected to be used in conjunction with a held-to-ear or body-worn accessory voice call. Therefore, there are no simultaneous transmission scenarios involving WIFI direct beyond that listed in the above table.

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5. 5 GHz Wireless Router is only supported for the U-NII-3 by S/W, therefore U-NII-1, U-NII2A, and U-NII2C were not evaluated for wireless router conditions.
6. This device supports 2x2 MIMO Tx for WLAN 802.11a/g/n/ac/ax. 802.11a/g/n/ac/ax supports CDD and STBC and 802.11n/ac/ax additionally supports SDM. Each WLAN antenna can transmit independently or together when operating with MIMO.
7. This device supports VoWIFI.
8. This device supports Bluetooth Tethering.
9. This device supports VoLTE.
10. LTE + 5G NR FR1 Scenarios are limited to LTE Anchor Bands, LTE B2/5/7/12/13/66.

1.8 Miscellaneous SAR Test Considerations

(A) WIFI/BT

Since U-NII-1 and U-NII-2A bands have the same maximum output power and the highest reported SAR for U-NII-2A is less than 1.2 W/kg for 1g and less than 3 W/kg for 10g, SAR is not required for U-NII-1 band according to FCC KDB Publication 248227 D01v02r02.

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

This device supports IEEE 802.11ax with the following features:

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

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

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

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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.

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. Phablet SAR was not evaluated for licensed technologies since wireless router 1g SAR was < 1.2 W/kg for these modes.

This device supports downlink 4x4 MIMO operations for some LTE Bands. Per May 2017 TCB Workshop Notes, SAR for 4x4 DL MIMO was not needed since the maximum average output power in 4x4 DL MIMO mode was not more than 0.25 dB higher than the maximum output power with 4x4 DL MIMO inactive. Additionally, SAR for 4x4 MIMO Downlink Carrier Aggregation was not needed since the maximum average output power in 4x4 MIMO Downlink Carrier Aggregation mode was not more than 0.25 dB higher than the maximum output power with 4x4 MIMO Downlink and downlink carrier aggregation inactive.

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

This device supports 64QAM and 256QAM on the uplink and 256QAM on the downlink for LTE Operations. Conducted powers for 64QAM and 256QAM uplink configurations were measured per Section 5.1 of FCC KDB Publication 941225D05v02r05. SAR was not required for 64QAM or 256QAM since the highest maximum output power for 64QAM and 256QAM is ≤ ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45W/kg, per Section 5.2.4 of FCC KDB Publication 941225 D05v02r05.

NR implementation of n71, n66, and n41 is limited to EN-DC operations only, with LTE Band 2/7/66/5/12/13 acting as the anchor band. Per FCC Guidance, SAR tests were performed separately for NR Bands and LTE Anchor Bands. Please see Section 11 for more details.

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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 4x4 Downlink MIMO)
- April 2018 TCB Workshop Notes (LTE Carrier Aggregation)
- April 2019 TCB Workshop Notes (IEEE 802.11ax, Dynamic Antenna Tuning)

1.10 Device Serial Numbers

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

1.11 Bibliography

Report Type	Report Serial Number
RF Exposure Part 0 Test Report	1M1911010179-17-R1.A3L
RF Exposure Part 2 Test Report	80-W5681-8 Rev. C
RF Exposure Compliance Summary Report	1M1911010179-18.A3L

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2 LTE AND NR INFORMATION

LTE Information					
Form Factor	Portable Handset				
Frequency Range of each LTE transmission band	LTE Band 71 (665.5 - 695.5 MHz)				
	LTE Band 12 (699.7 - 715.3 MHz)				
	LTE Band 13 (779.5 - 784.5 MHz)				
	LTE Band 5 (Cell) (824.7 - 848.3 MHz)				
	LTE Band 66 (AWS) (1710.7 - 1779.3 MHz)				
	LTE Band 4 (AWS) (1710.7 - 1754.3 MHz)				
	LTE Band 25 (PCS) (1850.7 - 1914.3 MHz)				
	LTE Band 2 (PCS) (1850.7 - 1909.3 MHz)				
	LTE Band 30 (2307.5 - 2312.5 MHz)				
	LTE Band 7 (2502.5 - 2567.5 MHz)				
	LTE Band 41 (2498.5 - 2687.5 MHz)				
	LTE Band 38 (2572.5 - 2617.5 MHz)				
Channel Bandwidths	LTE Band 71: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 12: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 13: 5 MHz, 10 MHz				
	LTE Band 5 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 66 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 4 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 25 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 2 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 30: 5 MHz, 10 MHz				
	LTE Band 7: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 41: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 38: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
Channel Numbers and Frequencies (MHz)	Low	Low-Mid	Mid	Mid-High	High
LTE Band 71: 5 MHz	665.5 (133147)		680.5 (133297)	695.5 (133447)	
LTE Band 71: 10 MHz	668 (133172)		680.5 (133297)	693 (133422)	
LTE Band 71: 15 MHz	670.5 (133197)		680.5 (133297)	690.5 (133397)	
LTE Band 71: 20 MHz	673 (133222)		680.5 (133297)	688 (133372)	
LTE Band 12: 1.4 MHz	699.7 (23017)		707.5 (23095)	715.3 (23173)	
LTE Band 12: 3 MHz	700.5 (23025)		707.5 (23095)	714.5 (23165)	
LTE Band 12: 5 MHz	701.5 (23035)		707.5 (23095)	713.5 (23155)	
LTE Band 12: 10 MHz	704 (23060)		707.5 (23095)	711 (23130)	
LTE Band 13: 5 MHz	779.5 (23205)		782 (23230)	784.5 (23255)	
LTE Band 13: 10 MHz	N/A		782 (23230)	N/A	
LTE Band 5 (Cell): 1.4 MHz	824.7 (20407)		836.5 (20525)	848.3 (20643)	
LTE Band 5 (Cell): 3 MHz	825.5 (20415)		836.5 (20525)	847.5 (20635)	
LTE Band 5 (Cell): 5 MHz	826.5 (20425)		836.5 (20525)	846.5 (20625)	
LTE Band 5 (Cell): 10 MHz	829 (20450)		836.5 (20525)	844 (20600)	
LTE Band 66 (AWS): 1.4 MHz	1710.7 (131979)		1745 (132322)	1779.3 (132665)	
LTE Band 66 (AWS): 3 MHz	1711.5 (131987)		1745 (132322)	1778.5 (132657)	
LTE Band 66 (AWS): 5 MHz	1712.5 (131997)		1745 (132322)	1777.5 (132647)	
LTE Band 66 (AWS): 10 MHz	1715 (132022)		1745 (132322)	1775 (132622)	
LTE Band 66 (AWS): 15 MHz	1717.5 (132047)		1745 (132322)	1772.5 (132597)	
LTE Band 66 (AWS): 20 MHz	1720 (132072)		1745 (132322)	1770 (132572)	
LTE Band 4 (AWS): 1.4 MHz	1710.7 (19957)		1732.5 (20175)	1754.3 (20393)	
LTE Band 4 (AWS): 3 MHz	1711.5 (19965)		1732.5 (20175)	1753.5 (20385)	
LTE Band 4 (AWS): 5 MHz	1712.5 (19975)		1732.5 (20175)	1752.5 (20375)	
LTE Band 4 (AWS): 10 MHz	1715 (20000)		1732.5 (20175)	1750 (20350)	
LTE Band 4 (AWS): 15 MHz	1717.5 (20025)		1732.5 (20175)	1747.5 (20325)	
LTE Band 4 (AWS): 20 MHz	1720 (20050)		1732.5 (20175)	1745 (20300)	
LTE Band 25 (PCS): 1.4 MHz	1850.7 (26047)		1882.5 (26365)	1914.3 (26683)	
LTE Band 25 (PCS): 3 MHz	1851.5 (26055)		1882.5 (26365)	1913.5 (26675)	
LTE Band 25 (PCS): 5 MHz	1852.5 (26065)		1882.5 (26365)	1912.5 (26665)	
LTE Band 25 (PCS): 10 MHz	1855 (26090)		1882.5 (26365)	1910 (26640)	
LTE Band 25 (PCS): 15 MHz	1857.5 (26115)		1882.5 (26365)	1907.5 (26615)	
LTE Band 25 (PCS): 20 MHz	1860 (26140)		1882.5 (26365)	1905 (26590)	
LTE Band 2 (PCS): 1.4 MHz	1850.7 (18607)		1880 (18900)	1909.3 (19193)	
LTE Band 2 (PCS): 3 MHz	1851.5 (18615)		1880 (18900)	1908.5 (19185)	
LTE Band 2 (PCS): 5 MHz	1852.5 (18625)		1880 (18900)	1907.5 (19175)	
LTE Band 2 (PCS): 10 MHz	1855 (18650)		1880 (18900)	1905 (19150)	
LTE Band 2 (PCS): 15 MHz	1857.5 (18675)		1880 (18900)	1902.5 (19125)	
LTE Band 2 (PCS): 20 MHz	1860 (18700)		1880 (18900)	1900 (19100)	
LTE Band 30: 5 MHz	2307.5 (27685)		2310 (27710)	2312.5 (27735)	
LTE Band 30: 10 MHz	N/A		2310 (27710)	N/A	
LTE Band 7: 5 MHz	2502.5 (20775)		2535 (21100)	2567.5 (21425)	
LTE Band 7: 10 MHz	2505 (20800)		2535 (21100)	2565 (21400)	
LTE Band 7: 15 MHz	2507.5 (20825)		2535 (21100)	2562.5 (21375)	
LTE Band 7: 20 MHz	2510 (20850)		2535 (21100)	2560 (21350)	
LTE Band 41: 5 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 10 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 15 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 20 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 38: 5 MHz	2572.5 (37775)		2595 (38000)	2617.5 (38225)	
LTE Band 38: 10 MHz	2575 (37800)		2595 (38000)	2615 (38200)	
LTE Band 38: 15 MHz	2577.5 (37825)		2595 (38000)	2612.5 (38175)	
LTE Band 38: 20 MHz	2580 (37850)		2595 (38000)	2610 (38150)	
UE Category	DL UE Cat 20, UL UE Cat 18				
Modulations Supported in UL	QPSK, 16QAM, 64QAM, 256QAM				
LTE MPR Permanently implemented per 3GPP TS	YES				
A-MPR (Additional MPR) disabled for SAR Testing?	YES				
LTE Carrier Aggregation Possible Combinations	The technical description includes all the possible carrier aggregation combinations				
LTE Additional Information	This device does not support full CA features on 3GPP Release 16. It supports carrier aggregation, downlink MIMO, LAA features as shown in Appendix F. All uplink communications are identical to the Release 8 Specifications. Uplink communications are done on the PCC. The following LTE Release 16 Features are not supported: Relay, HetNet, Enhanced MIMO, eICIC, eMBMS, Cross-Carrier Scheduling, Enhanced SC-FDMA.				

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NR Information					
Form Factor	Portable Handset				
Frequency Range of each NR transmission band	NR Band n71 (665.5 - 695.5 MHz)				
	NR Band n66 (1712.5 - 1777.5 MHz)				
	NR Band n41 (2506.02 - 2679.99 MHz)				
Channel Bandwidths	NR Band n71: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	NR Band n66: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	NR Band n41: 20 MHz, 40 MHz, 50 MHz, 60 MHz, 80 MHz, 90 MHz, 100 MHz				
Channel Numbers and Frequencies (MHz)	Low	Low-Mid	Mid	Mid-High	High
NR Band n71: 5 MHz	665.5 (133100)		680.5 (136100)	695.5 (139100)	
NR Band n71: 10 MHz	668 (133600)		680.5 (136100)	693 (138600)	
NR Band n71: 15 MHz	N/A		680.5 (136100)	N/A	
NR Band n71: 20 MHz	N/A		680.5 (136100)	N/A	
NR Band n66: 5 MHz	1712.5 (342500)	1734.1 (346820)	N/A	1755.8 (351160)	1777.5 (355500)
NR Band n66: 10 MHz	1715 (343000)	1735 (347000)	N/A	1755 (351000)	1775 (355000)
NR Band n66: 15 MHz	1717.5 (343500)	1735.8 (347160)	N/A	1754.1 (350820)	1772.5 (354500)
NR Band n66: 20 MHz	1720 (344000)		1745 (349000)	1770 (354000)	
NR Band n41: 20 MHz	2506.02 (501204)	2549.49 (509898)	2592.99 (518598)	2636.49 (527298)	2679.99 (535998)
NR Band n41: 40 MHz	2516.01 (503202)	2567.34 (513468)	N/A	2618.67 (523734)	2670 (534000)
NR Band n41: 50 MHz	2521.02 (504204)		2592.99 (518598)	2664.99 (532998)	
NR Band n41: 60 MHz	2526 (505200)		2592.99 (518598)	2659.98 (531996)	
NR Band n41: 80 MHz	2536.02 (507204)		N/A	2649.99 (529998)	
NR Band n41: 90 MHz	2541 (508200)		N/A	2644.98 (528996)	
NR Band n41: 100 MHz	N/A		2592.99 (518598)	N/A	
NR Band n71/n66 SCS	15 kHz				
NR Band n41 SCS	30 kHz				
Modulations Supported in UL	DFT-s-OFDM: QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM				
NR MPR Permanently implemented per 3GPP TS 36.101 section	YES				
A-MPR (Additional MPR) disabled for SAR Testing?	YES				
EN-DC Carrier Aggregation Possible Combinations	The technical description includes all the possible carrier aggregation combinations				
LTE Anchor Bands for NR Band n71	LTE Band 2, LTE Band 7, LTE Band 66				
LTE Anchor Bands for NR Band n66	LTE Band 2, LTE Band 66				
LTE Anchor Bands for NR Band n41	LTE Band 5, LTE Band 12, LTE Band 13				

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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/m^3)
E = Total RMS electric field strength (V/m)

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

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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:

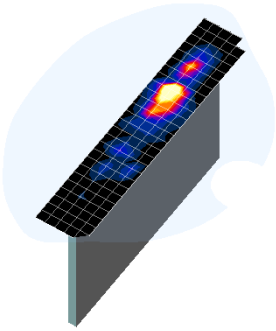

Figure 4-1
Sample SAR Area Scan

1. The SAR distribution at the exposed side of the head or body was measured at a distance no greater than 5.0 mm from the inner surface of the shell. The area covered the entire dimension of the device-head and body interface and the horizontal grid resolution was determined per FCC KDB Publication 865664 D01v01r04 (See Table 4-1) and IEEE 1528-2013.
2. The point SAR measurement was taken at the maximum SAR region determined from Step 1 to enable the monitoring of SAR fluctuations/drifts during the 1g/10g cube evaluation. SAR at this fixed point was measured and used as a reference value.
3. Based on the area scan data, the peak of the region with maximum SAR was determined by spline interpolation. Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB Publication 865664 D01v01r04 (See Table 4-1) and IEEE 1528-2013. On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure (see references or the DASY manual online for more details):
   a. SAR values at the inner surface of the phantom are extrapolated from the measured values along the line away from the surface with spacing no greater than that in Table 4-1. The extrapolation was based on a least-squares algorithm. A polynomial of the fourth order was calculated through the points in the z-axis (normal to the phantom shell).
   b. After the maximum interpolated values were calculated between the points in the cube, the SAR was averaged over the spatial volume (1g or 10g) using a 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the “Not a knot” condition (in x, y, and z directions). The volume was then integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were obtained through interpolation, in order to calculate the averaged SAR.
   c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.
4. The SAR reference value, at the same location as step 2, was re-measured after the zoom scan was complete to calculate the SAR drift. If the drift deviated by more than 5%, the SAR test and drift measurements were repeated.

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

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

*Also compliant to IEEE 1528-2013 Table 6

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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].

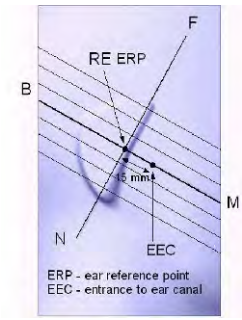

Figure 5-1
Close-Up Side view of ERP

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 than located at the same level as the center of the ear reference point. The test device was positioned so that the "vertical centerline" was bisecting the front surface of the handset at its top and bottom edges, positioning the "ear reference point" on the outer surface of the both the left and right head phantoms on the ear reference point.

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

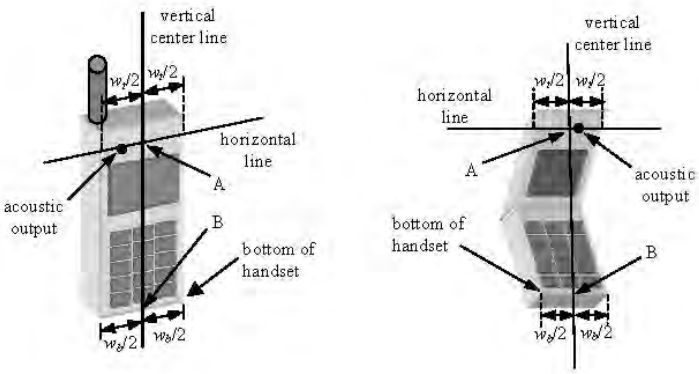

Figure 5-3
Handset Vertical Center & Horizontal Line Reference Points

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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 ε = 3 and loss tangent δ = 0.02.

6.2 Positioning for Cheek

1. The test device was positioned with the device close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom (see Figure 6-1), such that the plane defined by the vertical center line and the horizontal line of the phone is approximately parallel to the sagittal plane of the phantom.

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

2. The handset was translated towards the phantom along the line passing through RE & LE until the handset touches the pinna.
3. While maintaining the handset in this plane, the handset was rotated around the LE-RE line until the vertical centerline was in the reference plane.
4. The phone was then rotated around the vertical centerline until the phone (horizontal line) was symmetrical was respect to the line NF.
5. While maintaining the vertical centerline in the reference plane, keeping point A on the line passing through RE and LE, and maintaining the device contact with the ear, the device was rotated about the NF line until any point on the handset made contact with a phantom point below the ear (cheek) (See Figure 6-2).

6.3 Positioning for Ear / 15º Tilt

With the test device aligned in the "Cheek Position":

1. While maintaining the orientation of the phone, the phone was retracted parallel to the reference plane far enough to enable a rotation of the phone by 15degrees.
2. The phone was then rotated around the horizontal line by 15 degrees.
3. While maintaining the orientation of the phone, the phone was moved parallel to the reference plane until any part of the handset touched the head. (In this position, point A was located on the line RE-LE). The tilted position is obtained when the contact is on the pinna. If the contact was at any location other than the pinna, the angle of the phone would then be reduced. In this situation, the tilted position was obtained when any part of the phone was in contact of the ear as well as a second part of the phone was in contact with the head (see Figure 6-2).

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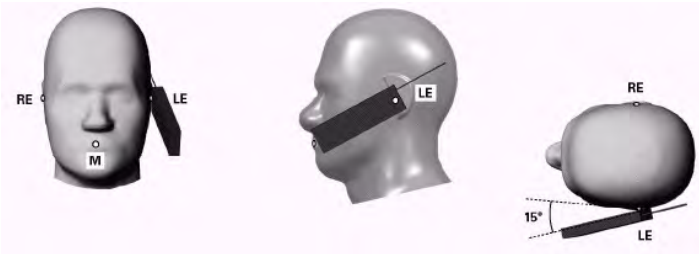

Figure 6-2 Front, Side and Top View of Ear/15º Tilt Position

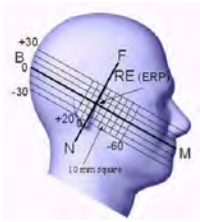

Figure 6-3
Side view w/ relevant markings

6.4 SAR Evaluations near the Mouth/Jaw Regions of the SAM Phantom

Antennas located near the bottom of a phone may require SAR measurements around the mouth and jaw regions of the SAM head phantom. This typically applies to clam-shell style phones that are generally longer in the unfolded normal use positions or to certain older style long rectangular phones. Per IEEE 1528-2013, a rotated SAM phantom is necessary to allow probe access to such regions. Both SAM heads of the TwinSAM-Chin20 are rotated 20 degrees around the NF line. Each head can be removed from the table for emptying and cleaning.

Under these circumstances, the following procedures apply, adopted from the FCC guidance on SAR handsets document FCC KDB Publication 648474 D04v01r03. The SAR required in these regions of SAM should be measured using a flat phantom. The phone should be positioned with a separation distance of 4 mm between the ear reference point (ERP) and the outer surface of the flat phantom shell. While maintaining this distance at the ERP location, the low (bottom) edge of the phone should be lowered from the phantom to establish the same separation distance between the peak SAR location identified by the truncated partial SAR distribution measured with the SAM phantom. The distance from the peak SAR location to the phone is determined by the straight line passing perpendicularly through the phantom surface. When it is not feasible to maintain 4 mm separation at the ERP while also establishing the required separation at the peak SAR location, the top edge of the phone will be allowed to touch the phantom with a separation < 4 mm at the ERP. The phone should not be tilted to the left or right while placed in this inclined position to the flat phantom.

6.5 Body-Worn Accessory Configurations

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 6-4). Per FCC KDB Publication 648474 D04v01r03, Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB Publication 447498 D01v06 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

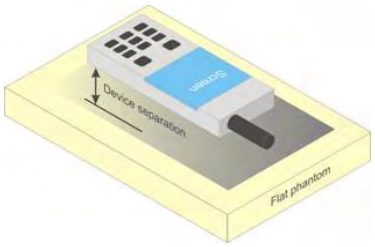

Figure 6-4
Sample Body-Worn Diagram

Accessories for Body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not

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contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are tested with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

Body-worn accessories may not always be supplied or available as options for some devices intended to be authorized for body-worn use. In this case, a test configuration with a separation distance between the back of the device and the flat phantom is used. Test position spacing was documented.
Transmitters that are designed to operate in front of a person's face, as in push-to-talk configurations, are tested for SAR compliance with the front of the device positioned to face the flat phantom in head fluid. For devices that are carried next to the body such as a shoulder, waist or chest-worn transmitters, SAR compliance is tested with the accessories, including headsets and microphones, attached to the device and positioned against a flat phantom in a normal use configuration.

6.6 Extremity Exposure Configurations

Devices that are designed or intended for use on extremities or mainly operated in extremity only exposure conditions; i.e., hands, wrists, feet and ankles, may require extremity SAR evaluation. When the device also operates in close proximity to the user's body, SAR compliance for the body is also required. The 1g body and 10g extremity SAR Exclusion Thresholds found in KDB Publication 447498 D01v06 should be applied to determine SAR test requirements.

Per KDB Publication 447498 D01v06, Cell phones (handsets) are not normally designed to be used on extremities or operated in extremity only exposure conditions. The maximum output power levels of handsets generally do not require extremity SAR testing to show compliance. Therefore, extremity SAR was not evaluated for this device.

6.7 Wireless Router Configurations

Some battery-operated handsets have the capability to transmit and receive user data through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06v02r01 where SAR test considerations for handsets (L x W ≥ 9 cm x 5 cm) are based on a composite test separation distance of 10 mm from the front, back and edges of the device containing transmitting antennas within 2.5 cm of their edges, determined from general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some body-worn accessory SAR tests.

When the user enables the personal wireless router functions for the handset, actual operations include simultaneous transmission of both the WIFI transmitter and another licensed transmitter. Both transmitters often do not transmit at the same transmitting frequency and thus cannot be evaluated for SAR under actual use conditions due to the limitations of the SAR assessment probes. Therefore, SAR must be evaluated for each frequency transmission and mode separately and spatially summed with the WIFI transmitter according to FCC KDB Publication 447498 D01v06 procedures. The "Portable Hotspot" feature on the handset was NOT activated during SAR assessments, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal at a time.

6.8 Phablet Configurations

For smart phones with a display diagonal dimension > 150 mm or an overall diagonal dimension > 160 mm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that

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support voice calls next to the ear, the phablets procedures outlined in KDB Publication 648474 D04v01r03 should be applied to evaluate SAR compliance. A device marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance. In addition to the normally required head and body-worn accessory SAR test procedures required for handsets, the UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna <=25 mm from that surface or edge, in direct contact with the phantom, for 10g SAR. The UMPC mini-tablet 1g SAR at 5 mm is not required. When hotspot mode applies, 10g SAR is required only for the surfaces and edges with hotspot mode 1g SAR > 1.2 W/kg.

6.9 Proximity Sensor Considerations

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

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

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

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

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

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

Table 8-1
Parameters for Max. Power for RC1

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

Table 8-2
Parameters for Max. Power for RC3

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

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

8.4.2 Head SAR Measurements

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

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

8.4.3 Body-worn SAR Measurements

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

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

8.4.4 Body-worn SAR Measurements for EVDO Devices

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

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

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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.

8.5 SAR Measurement Conditions for UMTS

8.5.1 Output Power Verification

Maximum output power is verified on the High, Middle and Low channels according to the general descriptions in section 5.2 of 3GPP TS 34.121, using the appropriate RMC with TPC (transmit power control) set to all "1s" or applying the required inner loop power control procedures to maintain maximum output power while HSUPA is active. Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes, HS-DPCCH etc) are tabulated in this test report. All configurations that are not supported by the DUT or cannot be measured due to technical or equipment limitations are identified.

8.5.2 Head SAR Measurements

SAR for next to the ear head exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's". The 3G SAR test reduction procedure is applied to AMR configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for 12.2 kbps AMR in 3.4 kbps SRB (signaling radio bearer) using the highest reported SAR configuration in 12.2 kbps RMC for head exposure.

8.5.3 Body SAR Measurements

SAR for body exposure configurations is measured using the 12.2 kbps RMC with the TPC bits all "1s". The 3G SAR test reduction procedure is applied to other spreading codes and multiple $DPDCH_n$ configurations supported by the handset with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured using an applicable RMC configuration with the corresponding spreading code or $DPDCH_n$, for the highest reported SAR configuration in 12.2 kbps RMC.

8.5.4 SAR Measurements with Rel 5 HSDPA

The 3G SAR test reduction procedure is applied to HSDPA body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSDPA is measured using an FRC with H-Set 1 in Sub-test 1 and a 12.2 kbps RMC configured in Test Loop Mode 1, for the highest reported SAR configuration in 12.2 kbps RMC without HSDPA. Handsets with both HSDPA and HSUPA are tested according to Release 6 HSPA test procedures.

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8.5.5 SAR Measurements with Rel 6 HSUPA

The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSPA is measured with E-DCH Sub-test 5, using H-Set 1 and QPSK for FRC and a 12.2 kbps RMC configured in Test Loop Mode 1 and power control algorithm 2, according to the highest reported body SAR configuration in 12.2 kbps RMC without HSPA.

When VOIP applies to head exposure, the 3G SAR test reduction procedure is applied with 12.2 kbps RMC as the primary mode; otherwise, the same HSPA configuration used for body SAR measurements are applied to head exposure testing.

8.5.6 SAR Measurement Conditions for DC-HSDPA

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

8.6 SAR Measurement Conditions for LTE

LTE modes are tested according to FCC KDB 941225 D05v02r04 publication. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. The R&S CMW500 or Anritsu MT8820C simulators are used for LTE output power measurements and SAR testing. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).

8.6.1 Spectrum Plots for RB Configurations

A properly configured base station simulator was used for SAR tests and power measurements. Therefore, spectrum plots for RB configurations were not required to be included in this report.

8.6.2 MPR

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

8.6.3 A-MPR

A-MPR (Additional MPR) has been disabled for all SAR tests by setting 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.

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ii. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required. Otherwise, SAR is required for the remaining required test channels using the RB offset configuration with highest output power for that channel.

iii. When the reported SAR for a required test channel is > 1.45 W/kg, SAR is required for all RB offset configurations for that channel.

b. Per Section 5.2.2, SAR is required for 50% RB allocation using the largest bandwidth following the same procedures outlined in Section 5.2.1.

c. Per Section 5.2.3, QPSK SAR is not required for the 100% allocation when the highest maximum output power for the 100% allocation is less than the highest maximum output power of the 1 RB and 50% RB allocations and the reported SAR for the 1 RB and 50% RB allocations is < 0.8 W/kg.

d. Per Section 5.2.4 and 5.3, SAR tests for higher order modulations and lower bandwidths configurations are not required when the conducted power of the required test configurations determined by Sections 5.2.1 through 5.2.3 is less than or equal to ½ dB higher than the equivalent configuration using QPSK modulation and when the QPSK SAR for those configurations is <1.45 W/kg.

8.6.5 TDD

LTE TDD testing is performed using the SAR test guidance provided in FCC KDB 941225 D05v02r04. TDD is tested at the highest duty factor using UL-DL configuration 0 with special subframe configuration 6 and applying the FDD LTE procedures in KDB 941225 D05v02r04. SAR testing is performed using the extended cyclic prefix listed in 3GPP TS 36.211 Section 4.

8.6.6 Downlink Only Carrier Aggregation

Conducted power measurements with LTE Carrier Aggregation (CA) (downlink only) active are made in accordance to KDB Publication 941225 D05Av01r02. The RRC connection is only handled by one cell, the primary component carrier (PCC) for downlink and uplink communications. After making a data connection to the PCC, the UE device adds secondary component carrier(s) (SCC) on the downlink only. All uplink communications and acknowledgements remain identical to specifications when downlink carrier aggregation is inactive on the PCC. Additional conducted output powers are measured with the downlink carrier aggregation active for the configuration with highest measured maximum conducted power with downlink carrier aggregation inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band. Per FCC KDB Publication 941225 D05Av01r02, no SAR measurements are required for downlink only carrier aggregation configurations when the average output power with downlink only carrier aggregation active is not more than 0.25 dB higher than the average output power with downlink only carrier aggregation inactive.

8.7 SAR Testing with 802.11 Transmitters

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

8.7.1 General Device Setup

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

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

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

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

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

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

8.7.4 Initial Test Position Procedure

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

8.7.5 2.4 GHz SAR Test Requirements

SAR is measured for 2.4 GHz 802.11b DSSS using either the fixed test position or, when applicable, the initial test position procedure. SAR test reduction is determined according to the following:

1) When the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.

2) When the reported SAR is > 0.8 W/kg, SAR is required for that position using the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel; i.e., all channels require testing.

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2.4 GHz 802.11 g/n/ax OFDM are additionally evaluated for SAR if the highest reported SAR for 802.11b, adjusted by the ratio of the OFDM to DSSS specified maximum output power, is > 1.2 W/kg. When SAR is required for OFDM modes in 2.4 GHz band, the Initial Test Configuration Procedures should be followed. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

8.7.6 OFDM Transmission Mode and SAR Test Channel Selection

When the same maximum output power was specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration with the largest channel bandwidth, lowest order modulation and lowest data rate. When the maximum output power of a channel is the same for equivalent OFDM configurations; for example, 802.11a, 802.11n and 802.11ac or 802.11g and 802.11n with the same channel bandwidth, modulation and data rate etc., the lower order 802.11 mode i.e., 802.11a, then 802.11n and 802.11ac or 802.11g then 802.11n, is used for SAR measurement. Per April 2019 TCB Workshop guidance, 802.11ax was considered the highest order 802.11 mode. When the maximum output power are the same for multiple test channels, either according to the default or additional power measurement requirements, SAR is measured using the channel closest to the middle of the frequency band or aggregated band. When there are multiple channels with the same maximum output power, SAR is measured using the higher number channel.

8.7.7 Initial Test Configuration Procedure

For OFDM, an initial test configuration is determined for each frequency band and aggregated band, according to the transmission mode with the highest maximum output power specified for SAR measurements. When the same maximum output power is specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration(s) with the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order IEEE 802.11 mode. The channel of the transmission mode with the highest average RF output conducted power will be the initial test configuration.

When the reported SAR is ≤ 0.8 W/kg, no additional measurements on other test channels are required. Otherwise, SAR is evaluated using the subsequent highest average RF output channel until the reported SAR result is ≤ 1.2 W/kg or all channels are measured. When there are multiple untested channels having the same subsequent highest average RF output power, the channel with higher frequency from the lowest 802.11 mode is considered for SAR measurements (See Section 8.7.6). When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

8.7.8 Subsequent Test Configuration Procedures

For OFDM configurations in each frequency band and aggregated band, SAR is evaluated for initial test configuration using the fixed test position or the initial test position procedure. When the highest reported SAR (for the initial test configuration), adjusted by the ratio of the specified maximum output power of the subsequent test configuration to initial test configuration, is ≤ 1.2 W/kg, no additional SAR tests for the subsequent test configurations are required. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

8.7.9 MIMO SAR considerations

Per KDB Publication 248227 D01v02r02, the simultaneous SAR provisions in KDB Publication 447498 D01v06 should be applied to determine simultaneous transmission SAR test exclusion for WIFI MIMO. If the sum of 1g single transmission chain SAR measurements is <1.6 W/kg, no additional SAR measurements for MIMO are required. Alternatively, SAR for MIMO can be measured with all antennas transmitting simultaneously at the specified maximum output power of MIMO operation. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

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9 RF CONDUCTED POWERS

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

9.1 CDMA Conducted Powers

Table 9-1
Measured P_{max}

Band	Channel	Rule Part	Frequency	SO55 [dBm]	SO55 [dBm]	TDSO SO32 [dBm]	TDSO SO32 [dBm]	1x EvDO Rev. 0 [dBm]	1x EvDO Rev. A [dBm]
	F-RC		MHz	RC1	RC3	FCH+SCH	FCH	(RTAP)	(RETAP)
Cellular	1013	22H	824.7	25.08	25.16	25.12	25.07	25.20	25.19
	384	22H	836.52	25.02	25.07	24.98	24.96	25.09	25.06
	777	22H	848.31	24.85	24.87	25.03	24.99	24.97	24.89

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

Figure 9-1
Power Measurement Setup

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9.2 GSM Conducted Powers

Table 9-2
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	32.08	32.30	30.84	**28.73**	26.73	26.06	24.53	22.53	21.80
	190	32.10	32.38	31.00	**28.88**	26.81	26.11	24.69	22.54	21.59
	251	32.06	32.20	30.82	**28.81**	26.54	26.10	24.67	22.57	21.58
GSM 1900	512	28.95	29.12	27.57	**25.21**	23.21	24.50	23.11	20.97	19.56
	661	28.90	29.01	27.61	**25.61**	23.41	24.82	23.07	21.19	19.70
	810	28.97	29.15	27.30	**25.36**	23.36	24.72	23.03	20.65	19.22

Calculated Maximum Frame-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 850	128	23.05	23.27	24.82	**24.47**	23.72	17.03	18.51	18.27	18.79
	190	23.07	23.35	24.98	**24.62**	23.80	17.08	18.67	18.28	18.58
	251	23.03	23.17	24.80	**24.55**	23.53	17.07	18.65	18.31	18.57
GSM 1900	512	19.92	20.09	21.55	**20.95**	20.20	15.47	17.09	16.71	16.55
	661	19.87	19.98	21.59	**21.35**	20.40	15.79	17.05	16.93	16.69
	810	19.94	20.12	21.28	**21.10**	20.35	15.69	17.01	16.39	16.21

GSM 850	**Frame Avg.Targets:**	22.80	22.80	24.81	**24.57**	23.82	17.30	18.31	18.07	18.32
GSM 1900		19.80	19.80	21.31	**21.07**	20.32	16.30	16.81	16.57	16.82

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Table 9-3
Measured P_{limit} for DSI = 3 (Hotspot mode)

Maximum Burst-Averaged Output Power									
		GPRS/EDGE Data (GMSK)				*EDGE Data (8-PSK)*			
Band	**Channel**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 1900	512	28.51	25.41	23.31	**21.95**	24.50	23.11	20.97	19.56
	661	28.99	25.62	23.68	**22.43**	24.82	23.07	21.19	19.70
	810	28.09	25.09	23.29	**22.16**	24.72	23.03	20.65	19.22

Calculated Maximum Frame-Averaged Output Power									
		GPRS/EDGE Data (GMSK)				*EDGE Data (8-PSK)*			
Band	**Channel**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 1900	512	19.31	19.22	18.88	**18.77**	15.30	16.92	16.54	16.38
	661	19.79	19.43	19.25	**19.25**	15.62	16.88	16.76	16.52
	810	18.89	18.90	18.86	**18.98**	15.52	16.84	16.22	16.04

GSM 1900	**Frame Avg.Targets:**	18.80	18.81	18.77	**18.82**	16.47	16.98	16.74	16.99

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

Maximum Burst-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 1900	512	28.48	28.51	25.41	23.31	**21.95**	24.50	23.11	20.97	19.56
	661	29.00	28.99	25.62	23.68	**22.43**	24.82	23.07	21.19	19.70
	810	28.80	28.09	25.09	23.29	**22.16**	24.72	23.03	20.65	19.22

Calculated Maximum Frame-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 1900	512	19.28	19.31	19.22	18.88	**18.77**	15.30	16.92	16.54	16.38
	661	19.80	19.79	19.43	19.25	**19.25**	15.62	16.88	16.76	16.52
	810	19.60	18.89	18.90	18.86	**18.98**	15.52	16.84	16.22	16.04
GSM 1900	**Frame Avg.Targets:**	18.80	18.80	18.81	18.77	**18.82**	16.47	16.98	16.74	16.99

Note:

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

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

Figure 9-2
Power Measurement Setup

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9.3 UMTS Conducted Powers

Table 9-5
Measured P_{max}

3GPP Release Version	Mode	3GPP 34.121 Subtest	Cellular Band [dBm]			AWS Band [dBm]			PCS Band [dBm]			3GPP MPR [dB]
			4132	4183	4233	1312	1412	1513	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	24.27	24.21	24.15	23.97	24.16	24.12	23.92	24.02	23.89	-
99		12.2 kbps AMR	24.31	24.20	24.17	24.05	24.30	24.28	24.05	24.04	23.86	-
6	HSDPA	Subtest 1	23.28	23.23	23.15	22.94	23.10	23.06	22.95	22.96	22.80	0
6		Subtest 2	23.29	23.24	23.15	22.96	23.12	23.09	22.92	22.97	22.79	0
6		Subtest 3	22.77	22.75	22.66	22.44	22.61	22.57	22.45	22.48	22.30	0.5
6		Subtest 4	22.78	22.74	22.65	22.45	22.61	22.57	22.41	22.47	22.27	0.5
6	HSUPA	Subtest 1	23.33	23.25	23.24	23.12	23.25	23.20	23.06	23.12	23.00	0
6		Subtest 2	21.33	21.22	21.25	21.10	21.23	21.20	21.05	21.09	20.88	2
6		Subtest 3	22.28	22.22	22.16	21.96	22.10	22.09	21.90	21.96	21.73	1
6		Subtest 4	21.32	21.24	21.19	21.02	21.17	21.14	20.97	21.03	20.74	2
6		Subtest 5	23.34	23.28	23.23	23.09	23.23	23.20	23.02	23.08	22.87	0
8	DC-HSDPA	Subtest 1	23.27	23.22	23.18	22.95	23.12	23.04	22.92	22.95	22.80	0
8		Subtest 2	23.28	23.21	23.17	22.95	23.12	23.06	22.90	22.96	22.83	0
8		Subtest 3	22.79	22.72	22.67	22.46	22.60	22.54	22.41	22.47	22.33	0.5
8		Subtest 4	22.78	22.72	22.67	22.45	22.60	22.54	22.39	22.45	22.31	0.5

Table 9-6
Measured P_{limit} for DSI = 3 (Hotspot mode), DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active)

3GPP Release Version	Mode	3GPP 34.121 Subtest	AWS Band [dBm]			PCS Band [dBm]			3GPP MPR [dB]
			1312	1412	1513	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	19.87	19.85	20.00	18.44	18.54	18.24	-
99		12.2 kbps AMR	19.71	19.99	19.95	18.48	18.51	18.26	-
6	HSDPA	Subtest 1	18.65	18.79	18.76	17.53	17.57	17.42	0
6		Subtest 2	18.79	18.97	18.92	17.60	17.59	17.45	0
6		Subtest 3	18.30	18.45	18.46	16.98	16.91	16.88	0.5
6		Subtest 4	18.24	18.29	18.38	16.95	16.90	16.87	0.5
6	HSUPA	Subtest 1	18.79	18.85	18.79	17.24	17.32	17.34	0
6		Subtest 2	16.82	16.94	16.94	15.60	15.61	15.58	2
6		Subtest 3	17.78	17.88	17.85	16.37	16.44	16.31	1
6		Subtest 4	16.79	16.89	16.91	15.64	15.61	15.60	2
6		Subtest 5	18.80	18.90	18.76	17.26	17.28	17.24	0
8	DC-HSDPA	Subtest 1	18.75	18.87	18.88	17.51	17.55	17.50	0
8		Subtest 2	18.84	18.86	18.85	17.66	17.48	17.40	0
8		Subtest 3	18.30	18.33	18.35	16.92	16.88	16.84	0.5
8		Subtest 4	18.21	18.38	18.40	16.70	16.74	16.78	0.5

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DC-HSDPA considerations

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

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

Figure 9-3
Power Measurement Setup

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9.4 LTE Conducted Powers

9.4.1 LTE Band 71

Table 9-7
LTE Band 71 Measured P_{max} for all DSI - 20 MHz Bandwidth

LTE Band 71 20 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 133297 (680.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	24.32	0	0
	1	50	**24.79**		0
	1	99	24.31		0
	50	0	23.64	0-1	1
	50	25	**23.77**		1
	50	50	23.54		1
	100	0	23.42		1
16QAM	1	0	23.27	0-1	1
	1	50	23.46		1
	1	99	23.48		1
	50	0	22.50	0-2	2
	50	25	22.64		2
	50	50	22.45		2
	100	0	22.37		2
64QAM	1	0	21.83	0-2	2
	1	50	22.20		2
	1	99	21.83		2
	50	0	20.91	0-3	3
	50	25	21.01		3
	50	50	20.86		3
	100	0	20.89		3
256QAM	1	0	19.52	0-5	5
	1	50	19.68		5
	1	99	19.81		5
	50	0	19.64		5
	50	25	19.75		5
	50	50	19.59		5
	100	0	19.69		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 9-8
LTE Band 71 Measured P_{max} for all DSI - 15 MHz Bandwidth

LTE Band 71 15 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 133297 (680.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	24.72	0	0
	1	36	24.62		0
	1	74	24.74		0
	36	0	23.71	0-1	1
	36	18	23.78		1
	36	37	23.68		1
	75	0	23.71		1
16QAM	1	0	24.20	0-1	1
	1	36	23.95		1
	1	74	23.82		1
	36	0	22.78	0-2	2
	36	18	22.78		2
	36	37	22.69		2
	75	0	22.72		2
64QAM	1	0	22.61	0-2	2
	1	36	23.09		2
	1	74	22.53		2
	36	0	21.54	0-3	3
	36	18	21.77		3
	36	37	21.67		3
	75	0	21.68		3
256QAM	1	0	19.72	0-5	5
	1	36	19.78		5
	1	74	19.76		5
	36	0	19.62		5
	36	18	19.80		5
	36	37	19.74		5
	75	0	19.71		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 9-9
LTE Band 71 Measured P_{max} for all DSI - 10 MHz Bandwidth

LTE Band 71 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 133172 (668.0 MHz)	Mid Channel 133297 (680.5 MHz)	High Channel 133422 (693.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.54	24.47	24.50	0	0
	1	25	24.61	24.40	24.37		0
	1	49	24.52	24.29	24.24		0
	25	0	23.64	23.50	23.44	0-1	1
	25	12	23.72	23.58	23.41		1
	25	25	23.58	23.53	23.46		1
	50	0	23.64	23.50	23.27		1
16QAM	1	0	24.02	23.85	23.82	0-1	1
	1	25	23.95	23.75	23.76		1
	1	49	23.97	23.50	23.72		1
	25	0	22.88	22.49	22.39	0-2	2
	25	12	22.76	22.50	22.38		2
	25	25	22.64	22.46	22.43		2
	50	0	22.62	22.42	22.22		2
64QAM	1	0	22.11	22.72	22.59	0-2	2
	1	25	22.50	22.45	22.59		2
	1	49	22.30	22.75	22.35		2
	25	0	21.30	21.55	21.46	0-3	3
	25	12	21.35	21.60	21.51		3
	25	25	21.04	21.53	21.43		3
	50	0	21.09	21.55	21.41		3
256QAM	1	0	19.77	19.43	19.25	0-5	5
	1	25	19.83	19.63	19.44		5
	1	49	19.54	19.44	19.27		5
	25	0	19.62	19.39	19.36		5
	25	12	19.79	19.59	19.37		5
	25	25	19.70	19.46	19.32		5
	50	0	19.73	19.53	19.38		5

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Table 9-10
LTE Band 71 Measured P_{max} for all DSI - 5 MHz Bandwidth

LTE Band 71 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 133147 (665.5 MHz)	Mid Channel 133297 (680.5 MHz)	High Channel 133447 (695.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.76	24.30	24.25	0	0
	1	12	24.65	24.44	24.33		0
	1	24	24.65	24.38	24.20		0
	12	0	23.76	23.37	23.38	0-1	1
	12	6	23.82	23.44	23.40		1
	12	13	23.76	23.49	23.47		1
	25	0	23.78	23.40	23.36		1
16QAM	1	0	24.07	23.41	23.56	0-1	1
	1	12	23.75	23.59	23.68		1
	1	24	23.79	23.89	23.69		1
	12	0	22.81	22.56	22.33	0-2	2
	12	6	22.84	22.50	22.45		2
	12	13	22.81	22.52	22.52		2
	25	0	22.77	22.43	22.39		2
64QAM	1	0	22.25	22.41	22.46	0-2	2
	1	12	22.95	22.84	22.35		2
	1	24	22.71	22.61	21.89		2
	12	0	21.36	21.45	21.37	0-3	3
	12	6	21.66	21.61	21.44		3
	12	13	21.72	21.51	21.26		3
	25	0	21.42	21.41	21.29		3
256QAM	1	0	19.81	19.48	19.37	0-5	5
	1	12	19.88	19.50	19.55		5
	1	24	19.75	19.49	19.51		5
	12	0	19.75	19.41	19.25		5
	12	6	19.82	19.46	19.38		5
	12	13	19.75	19.45	19.41		5
	25	0	19.70	19.42	19.34		5

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9.4.2 LTE Band 12

Table 9-11
LTE Band 12 Measured P_{max} for all DSI - 10 MHz Bandwidth

LTE Band 12 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23095 (707.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	24.76	0	0
	1	25	24.74		0
	1	49	**24.77**		0
	25	0	23.76	0-1	1
	25	12	**23.81**		1
	25	25	23.71		1
	50	0	23.80		1
16QAM	1	0	24.08	0-1	1
	1	25	24.01		1
	1	49	23.95		1
	25	0	22.79	0-2	2
	25	12	22.94		2
	25	25	22.84		2
	50	0	22.87		2
64QAM	1	0	22.88	0-2	2
	1	25	22.72		2
	1	49	22.50		2
	25	0	21.61	0-3	3
	25	12	21.62		3
	25	25	21.30		3
	50	0	21.37		3
256QAM	1	0	19.96	0-5	5
	1	25	20.21		5
	1	49	20.29		5
	25	0	19.85		5
	25	12	19.92		5
	25	25	19.86		5
	50	0	19.81		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.

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

LTE Band 12 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23035 (701.5 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23155 (713.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.64	24.67	24.57	0	0
	1	12	24.74	24.64	24.52		0
	1	24	24.65	24.65	24.64		0
	12	0	23.89	23.87	23.76	0-1	1
	12	6	23.89	23.85	23.76		1
	12	13	23.87	23.82	23.80		1
	25	0	23.88	23.86	23.77		1
16QAM	1	0	24.08	24.28	23.95	0-1	1
	1	12	24.24	24.31	23.93		1
	1	24	24.05	24.27	23.97		1
	12	0	22.85	22.94	22.81	0-2	2
	12	6	22.89	22.93	22.82		2
	12	13	22.86	22.89	22.84		2
	25	0	22.97	22.82	22.77		2
64QAM	1	0	23.45	23.43	23.18	0-2	2
	1	12	23.42	23.40	23.20		2
	1	24	23.43	23.45	22.98		2
	12	0	21.94	22.00	21.83	0-3	3
	12	6	21.98	21.99	21.83		3
	12	13	21.94	21.93	21.85		3
	25	0	21.95	21.85	21.73		3
256QAM	1	0	19.85	19.84	20.39	0-5	5
	1	12	19.75	19.85	20.43		5
	1	24	19.86	19.83	20.38		5
	12	0	19.89	19.92	19.77		5
	12	6	19.93	19.97	19.73		5
	12	13	19.99	19.92	19.86		5
	25	0	19.86	19.87	19.64		5

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Table 9-13
LTE Band 12 Measured P_{max} for all DSI - 3 MHz Bandwidth

LTE Band 12 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23025 (700.5 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23165 (714.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.73	24.71	24.60	0	0
	1	7	24.75	24.67	24.67		0
	1	14	24.74	24.69	24.58		0
	8	0	23.80	23.81	23.75	0-1	1
	8	4	23.93	23.87	23.80		1
	8	7	23.84	23.83	23.78		1
	15	0	23.81	23.89	23.83		1
16QAM	1	0	24.73	24.53	24.22	0-1	1
	1	7	24.59	24.45	24.13		1
	1	14	24.61	24.49	24.16		1
	8	0	22.93	22.86	22.86	0-2	2
	8	4	23.02	22.81	22.93		2
	8	7	22.94	22.81	22.92		2
	15	0	22.94	23.03	22.90		2
64QAM	1	0	23.17	23.48	22.75	0-2	2
	1	7	23.23	23.47	22.76		2
	1	14	23.14	23.44	22.43		2
	8	0	21.80	22.10	21.83	0-3	3
	8	4	21.83	22.07	21.89		3
	8	7	21.82	22.07	21.83		3
	15	0	21.84	21.89	21.78		3
256QAM	1	0	20.60	19.84	19.77	0-5	5
	1	7	20.48	19.93	19.83		5
	1	14	20.58	19.87	19.72		5
	8	0	19.97	19.93	19.82		5
	8	4	19.88	19.95	19.87		5
	8	7	19.94	19.95	19.84		5
	15	0	19.94	19.90	19.82		5

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Table 9-14
LTE Band 12 Measured P_{max} for all DSI - 1.4 MHz Bandwidth

LTE Band 12 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23017 (699.7 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23173 (715.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.61	24.61	24.63	0	0
	1	2	24.68	24.66	24.69		0
	1	5	24.67	24.63	24.64		0
	3	0	24.71	24.67	24.61		0
	3	2	24.74	24.71	24.66		0
	3	3	24.70	24.68	24.60		0
	6	0	23.81	23.76	23.66	0-1	1
16QAM	1	0	23.57	24.05	23.92	0-1	1
	1	2	23.79	24.05	23.92		1
	1	5	23.71	24.02	23.83		1
	3	0	23.79	23.65	23.90		1
	3	2	23.80	23.68	23.91		1
	3	3	23.79	23.66	23.86		1
	6	0	22.81	22.61	22.86	0-2	2
64QAM	1	0	22.90	23.21	23.44	0-2	2
	1	2	22.92	23.22	23.27		2
	1	5	22.91	23.20	22.99		2
	3	0	22.95	22.87	22.72		2
	3	2	22.99	22.91	22.53		2
	3	3	22.96	22.89	22.58		2
	6	0	21.93	21.77	21.68	0-3	3
256QAM	1	0	19.84	19.69	19.65	0-5	5
	1	2	19.84	19.76	19.71		5
	1	5	19.88	19.73	19.62		5
	3	0	19.73	19.51	19.86		5
	3	2	19.85	19.54	19.81		5
	3	3	19.78	19.55	19.74		5
	6	0	19.91	19.61	19.87		5

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9.4.3 LTE Band 13

Table 9-15
LTE Band 13 Measured P_{max} for all DSI - 10 MHz Bandwidth

LTE Band 13 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23230 (782.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**25.04**	0	0
	1	25	24.77		0
	1	49	24.86		0
	25	0	**24.06**	0-1	1
	25	12	24.02		1
	25	25	24.02		1
	50	0	24.04		1
16QAM	1	0	24.44	0-1	1
	1	25	24.30		1
	1	49	24.28		1
	25	0	23.04	0-2	2
	25	12	23.03		2
	25	25	23.05		2
	50	0	23.04		2
64QAM	1	0	23.34	0-2	2
	1	25	23.23		2
	1	49	23.31		2
	25	0	22.04	0-3	3
	25	12	22.08		3
	25	25	22.06		3
	50	0	22.00		3
256QAM	1	0	19.80	0-5	5
	1	25	20.02		5
	1	49	19.80		5
	25	0	20.00		5
	25	12	20.03		5
	25	25	20.02		5
	50	0	20.04		5

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Table 9-16
LTE Band 13 Measured P_{max} for all DSI - 5 MHz Bandwidth

LTE Band 13 5 MHz Bandwidth					
Modulation	**RB Size**	**RB Offset**	**Mid Channel** **23230** **(782.0 MHz)** **Conducted Power [dBm]**	**MPR Allowed per 3GPP [dB]**	**MPR [dB]**
QPSK	1	0	25.19	0	0
	1	12	25.27		0
	1	24	25.32		0
	12	0	24.46	0-1	1
	12	6	24.39		1
	12	13	24.42		1
	25	0	24.39		1
16QAM	1	0	24.77	0-1	1
	1	12	24.70		1
	1	24	24.80		1
	12	0	23.33	0-2	2
	12	6	23.45		2
	12	13	23.46		2
	25	0	23.32		2
64QAM	1	0	23.45	0-2	2
	1	12	23.46		2
	1	24	23.54		2
	12	0	22.24	0-3	3
	12	6	22.31		3
	12	13	22.35		3
	25	0	22.47		3
256QAM	1	0	20.29	0-5	5
	1	12	20.35		5
	1	24	20.39		5
	12	0	20.39		5
	12	6	20.46		5
	12	13	20.48		5
	25	0	20.44		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 5 (Cell)

Table 9-17
LTE Band 5 (Cell) Measured P_{max} for all DSI - 10 MHz Bandwidth

LTE Band 5 (Cell) 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 20525 (836.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**25.06**	0	0
	1	25	24.67		0
	1	49	24.47		0
	25	0	**23.81**	0-1	1
	25	12	23.69		1
	25	25	23.55		1
	50	0	23.62		1
16QAM	1	0	24.25	0-1	1
	1	25	23.92		1
	1	49	23.67		1
	25	0	22.80	0-2	2
	25	12	22.68		2
	25	25	22.50		2
	50	0	22.56		2
64QAM	1	0	22.85	0-2	2
	1	25	22.78		2
	1	49	22.64		2
	25	0	21.85	0-3	3
	25	12	21.87		3
	25	25	21.77		3
	50	0	21.76		3
256QAM	1	0	20.32	0-5	5
	1	25	20.42		5
	1	49	20.28		5
	25	0	19.86		5
	25	12	20.01		5
	25	25	19.93		5
	50	0	19.88		5

Note: LTE Band 5 (Cell) at 10 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

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

LTE Band 5 (Cell) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20425 (826.5 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20625 (846.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.70	24.72	24.60	0	0
	1	12	24.81	24.82	24.66		0
	1	24	24.78	24.80	24.48		0
	12	0	23.91	23.90	23.84	0-1	1
	12	6	24.01	23.88	23.90		1
	12	13	23.96	23.94	23.88		1
	25	0	23.97	23.86	23.82		1
16QAM	1	0	24.13	24.31	23.97	0-1	1
	1	12	24.28	24.43	24.07		1
	1	24	24.20	24.39	24.03		1
	12	0	22.90	22.95	22.90	0-2	2
	12	6	23.01	22.94	22.92		2
	12	13	22.96	22.98	22.94		2
	25	0	23.04	22.84	22.88		2
64QAM	1	0	23.44	23.48	23.13	0-2	2
	1	12	23.56	23.46	23.23		2
	1	24	23.56	23.49	22.88		2
	12	0	21.95	21.88	21.68	0-3	3
	12	6	22.12	21.99	21.75		3
	12	13	22.05	21.99	21.94		3
	25	0	22.04	21.88	21.61		3
256QAM	1	0	20.45	20.44	20.25	0-5	5
	1	12	20.54	20.54	20.34		5
	1	24	20.56	20.53	19.97		5
	12	0	19.97	19.89	19.71		5
	12	6	20.08	20.00	19.76		5
	12	13	20.03	20.01	19.79		5
	25	0	19.99	19.88	19.65		5

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Table 9-19
LTE Band 5 (Cell) Measured P_{max} for all DSI - 3 MHz Bandwidth

LTE Band 5 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20415 (825.5 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20635 (847.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.75	24.76	24.71	0	0
	1	7	24.75	24.81	24.70		0
	1	14	24.82	24.83	24.76		0
	8	0	23.93	23.86	23.86	0-1	1
	8	4	23.98	23.89	23.92		1
	8	7	23.94	23.92	23.89		1
	15	0	24.00	23.90	23.92		1
16QAM	1	0	24.35	24.13	24.54	0-1	1
	1	7	24.39	24.18	24.47		1
	1	14	24.40	24.20	24.57		1
	8	0	23.11	22.79	22.80	0-2	2
	8	4	23.11	22.86	22.87		2
	8	7	23.10	22.86	22.88		2
	15	0	23.04	22.94	23.05		2
64QAM	1	0	22.92	22.95	23.39	0-2	2
	1	7	23.01	22.92	23.44		2
	1	14	23.01	23.07	23.59		2
	8	0	22.06	21.60	22.06	0-3	3
	8	4	22.09	21.69	22.13		3
	8	7	22.04	21.74	22.11		3
	15	0	22.00	21.66	21.93		3
256QAM	1	0	19.89	19.99	20.44	0-5	5
	1	7	20.03	19.97	20.49		5
	1	14	20.00	19.98	20.54		5
	8	0	20.06	19.59	20.01		5
	8	4	20.09	19.71	20.10		5
	8	7	20.04	19.72	20.09		5
	15	0	20.01	19.65	19.93		5

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Table 9-20
LTE Band 5 (Cell) Measured P_{max} for all DSI - 1.4 MHz Bandwidth

LTE Band 5 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20407 (824.7 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20643 (848.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.71	24.70	24.78	0	0
	1	2	24.82	24.80	24.82		0
	1	5	24.76	24.73	24.77		0
	3	0	24.78	24.78	24.77		0
	3	2	24.82	24.88	24.77		0
	3	3	24.80	24.82	24.77		0
	6	0	23.88	23.83	23.84	0-1	1
16QAM	1	0	24.28	24.13	24.05	0-1	1
	1	2	24.39	24.22	24.10		1
	1	5	24.36	24.17	24.05		1
	3	0	24.11	23.73	24.07		1
	3	2	24.10	23.84	24.06		1
	3	3	24.08	23.76	24.03		1
	6	0	23.11	22.69	22.97	0-2	2
64QAM	1	0	22.89	23.30	23.60	0-2	2
	1	2	23.02	23.40	23.65		2
	1	5	22.95	23.35	23.55		2
	3	0	23.09	22.98	22.93		2
	3	2	23.13	23.06	23.02		2
	3	3	23.13	23.04	22.95		2
	6	0	22.10	21.86	22.06	0-3	3
256QAM	1	0	19.87	20.24	20.60	0-5	5
	1	2	20.03	20.34	20.64		5
	1	5	19.96	20.31	20.56		5
	3	0	20.10	19.97	19.96		5
	3	2	20.13	20.08	20.02		5
	3	3	20.13	20.05	19.95		5
	6	0	20.11	19.84	20.07		5

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9.4.5 LTE Band 66 (AWS)

Table 9-21
LTE Band 66 (AWS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 20 MHz Bandwidth

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132072 (1720.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132572 (1770.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.02	24.12	24.23	0	0
	1	50	24.24	24.23	**24.28**		0
	1	99	24.04	24.17	24.25		0
	50	0	23.35	23.40	23.15	0-1	1
	50	25	23.49	23.31	**23.52**		1
	50	50	23.39	23.29	23.22		1
	100	0	22.98	23.42	23.06		1
16QAM	1	0	23.19	23.12	22.71	0-1	1
	1	50	23.22	23.47	23.32		1
	1	99	23.36	23.41	23.50		1
	50	0	22.32	22.40	21.61	0-2	2
	50	25	22.06	22.48	22.33		2
	50	50	22.43	22.37	22.35		2
	100	0	22.04	22.42	22.03		2
64QAM	1	0	22.30	21.72	21.57	0-2	2
	1	50	22.50	22.38	22.23		2
	1	99	22.49	22.01	22.24		2
	50	0	21.40	21.25	20.52	0-3	3
	50	25	21.50	21.27	21.03		3
	50	50	21.44	21.23	21.22		3
	100	0	21.34	21.20	20.80		3
256QAM	1	0	19.03	19.11	19.05	0-5	5
	1	50	19.33	19.29	19.29		5
	1	99	19.10	19.17	19.12		5
	50	0	19.53	19.26	19.18		5
	50	25	19.40	19.23	19.34		5
	50	50	19.34	19.14	19.22		5
	100	0	19.41	19.26	19.29		5

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Table 9-22
LTE Band 66 (AWS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 15 MHz Bandwidth

LTE Band 66 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132047 (1717.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132597 (1772.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.28	24.44	24.60	0	0
	1	36	24.44	24.64	24.65		0
	1	74	24.20	24.40	24.56		0
	36	0	23.66	23.73	23.80	0-1	1
	36	18	23.75	23.74	23.90		1
	36	37	23.72	23.76	23.82		1
	75	0	23.71	23.67	23.82		1
16QAM	1	0	23.68	23.79	24.00	0-1	1
	1	36	23.84	24.00	23.99		1
	1	74	23.60	23.79	23.94		1
	36	0	22.73	22.80	22.85	0-2	2
	36	18	22.83	22.81	22.94		2
	36	37	22.72	22.81	22.86		2
	75	0	22.69	22.73	22.85		2
64QAM	1	0	22.96	22.81	22.83	0-2	2
	1	36	22.97	22.89	22.94		2
	1	74	22.47	22.81	22.91		2
	36	0	21.56	21.86	21.85	0-3	3
	36	18	21.56	21.87	21.95		3
	36	37	21.40	21.85	21.90		3
	75	0	21.44	21.77	21.81		3
256QAM	1	0	19.95	20.00	20.00	0-5	5
	1	36	19.98	19.97	19.97		5
	1	74	19.96	20.00	19.99		5
	36	0	19.26	19.54	19.55		5
	36	18	19.28	19.56	19.64		5
	36	37	19.09	19.55	19.58		5
	75	0	19.13	19.45	19.51		5

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Table 9-23
LTE Band 66 (AWS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 10 MHz Bandwidth

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132022 (1715.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132622 (1775.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.15	24.17	24.23	0	0
	1	25	24.30	24.39	24.47		0
	1	49	24.11	24.23	24.29		0
	25	0	23.38	23.45	23.51	0-1	1
	25	12	23.53	23.50	23.58		1
	25	25	23.42	23.52	23.55		1
	50	0	23.45	23.44	23.53		1
16QAM	1	0	23.85	23.56	23.84	0-1	1
	1	25	24.00	23.89	23.00		1
	1	49	23.74	23.68	23.90		1
	25	0	22.38	22.47	22.53	0-2	2
	25	12	22.54	22.54	22.60		2
	25	25	22.42	22.53	22.61		2
	50	0	22.48	22.49	22.51		2
64QAM	1	0	22.07	22.65	22.94	0-2	2
	1	25	22.35	22.98	23.00		2
	1	49	22.00	22.71	22.99		2
	25	0	21.44	21.63	21.54	0-3	3
	25	12	21.51	21.63	21.65		3
	25	25	21.36	21.63	21.58		3
	50	0	21.32	21.54	21.59		3
256QAM	1	0	19.24	19.77	19.84	0-5	5
	1	25	19.48	20.00	19.34		5
	1	49	19.13	19.87	20.00		5
	25	0	19.32	19.47	19.44		5
	25	12	19.37	19.51	19.50		5
	25	25	19.18	19.49	19.47		5
	50	0	19.16	19.41	19.45		5

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Table 9-24
LTE Band 66 (AWS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 5 MHz Bandwidth

LTE Band 66 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131997 (1712.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132647 (1777.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.26	24.34	24.34	0	0
	1	12	24.31	24.39	24.39		0
	1	24	24.27	24.34	24.35		0
	12	0	23.50	23.51	23.67	0-1	1
	12	6	23.56	23.52	23.66		1
	12	13	23.49	23.46	23.59		1
	25	0	23.50	23.52	23.60		1
16QAM	1	0	23.78	23.82	23.75	0-1	1
	1	12	23.89	23.87	23.78		1
	1	24	23.72	23.99	23.75		1
	12	0	22.46	22.60	22.69	0-2	2
	12	6	22.53	22.59	22.68		2
	12	13	22.47	22.53	22.56		2
	25	0	22.59	22.49	22.64		2
64QAM	1	0	22.89	22.95	22.84	0-2	2
	1	12	22.81	22.91	22.89		2
	1	24	22.88	22.89	22.82		2
	12	0	21.50	21.61	21.70	0-3	3
	12	6	21.53	21.60	21.67		3
	12	13	21.48	21.61	21.61		3
	25	0	21.46	21.47	21.53		3
256QAM	1	0	19.93	19.94	19.84	0-5	5
	1	12	20.00	19.93	19.87		5
	1	24	19.93	19.83	19.88		5
	12	0	19.26	19.42	19.47		5
	12	6	19.31	19.38	19.49		5
	12	13	19.27	19.42	19.37		5
	25	0	19.25	19.29	19.34		5

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Table 9-25
LTE Band 66 (AWS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 3 MHz Bandwidth

LTE Band 66 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131987 (1711.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132657 (1778.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.27	24.32	24.37	0	0
	1	7	24.26	24.34	24.38		0
	1	14	24.23	24.31	24.37		0
	8	0	23.48	23.45	23.49	0-1	1
	8	4	23.45	23.50	23.49		1
	8	7	23.41	23.42	23.45		1
	15	0	23.40	23.42	23.45		1
16QAM	1	0	23.88	23.71	24.00	0-1	1
	1	7	23.85	23.70	23.97		1
	1	14	23.83	23.69	23.93		1
	8	0	22.58	22.36	22.46	0-2	2
	8	4	22.59	22.40	22.48		2
	8	7	22.53	22.39	22.46		2
	15	0	22.48	22.50	22.64		2
64QAM	1	0	22.42	22.88	22.81	0-2	2
	1	7	22.43	22.83	22.65		2
	1	14	22.39	22.85	22.59		2
	8	0	21.52	21.58	21.40	0-3	3
	8	4	21.53	21.63	21.33		3
	8	7	21.48	21.51	21.30		3
	15	0	21.45	21.50	21.17		3
256QAM	1	0	19.17	19.67	19.58	0-5	5
	1	7	19.20	19.63	19.44		5
	1	14	19.18	19.63	19.38		5
	8	0	19.72	19.75	19.61		5
	8	4	19.72	19.79	19.52		5
	8	7	19.67	19.70	19.47		5
	15	0	19.61	19.69	19.34		5

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Table 9-26
LTE Band 66 (AWS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 1.4 MHz Bandwidth

LTE Band 66 (AWS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131979 (1710.7 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132665 (1779.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.15	24.24	24.39	0	0
	1	2	24.26	24.37	24.42		0
	1	5	24.18	24.23	24.26		0
	3	0	24.23	24.39	24.34		0
	3	2	24.26	24.38	24.30		0
	3	3	24.24	24.34	24.25		0
	6	0	23.34	23.39	23.37	0-1	1
16QAM	1	0	23.79	23.72	23.62	0-1	1
	1	2	23.84	23.75	23.62		1
	1	5	23.76	23.67	23.53		1
	3	0	23.55	23.31	23.68		1
	3	2	23.54	23.39	23.66		1
	3	3	23.49	23.29	23.58		1
	6	0	22.55	22.26	22.63	0-2	2
64QAM	1	0	22.42	22.90	23.00	0-2	2
	1	2	22.45	22.89	22.71		2
	1	5	22.39	22.84	22.67		2
	3	0	22.53	22.54	22.15		2
	3	2	22.53	22.58	22.12		2
	3	3	22.49	22.55	22.06		2
	6	0	21.56	21.42	21.16	0-3	3
256QAM	1	0	19.12	19.56	19.45	0-5	5
	1	2	19.15	19.62	19.46		5
	1	5	19.06	19.56	19.36		5
	3	0	19.78	19.79	19.38		5
	3	2	19.75	19.82	19.35		5
	3	3	19.73	19.80	19.26		5
	6	0	19.79	19.66	19.49		5

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Table 9-27
LTE Band 66 (AWS) Measured Plimit for DSI = 3 (Hotspot mode), DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 20 MHz Bandwidth

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132072 (1720.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132572 (1770.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.46	19.40	19.48	0	0
	1	50	**20.05**	19.78	19.75		0
	1	99	19.49	19.40	19.59		0
	50	0	19.78	19.74	19.76	0-1	0
	50	25	**20.07**	19.85	19.87		0
	50	50	19.86	19.83	20.05		0
	100	0	19.92	19.95	20.04		0
16QAM	1	0	20.02	19.73	19.93	0-1	0
	1	50	20.04	20.22	20.15		0
	1	99	19.63	19.89	19.88		0
	50	0	19.71	19.80	19.78	0-2	0
	50	25	19.96	19.88	19.99		0
	50	50	19.86	19.79	19.83		0
	100	0	19.79	19.77	19.88		0
64QAM	1	0	19.72	19.75	19.73	0-2	0
	1	50	20.11	20.02	20.11		0
	1	99	19.87	19.81	19.89		0
	50	0	19.70	19.84	19.90	0-3	0
	50	25	19.94	19.89	20.02		0
	50	50	19.84	19.82	19.80		0
	100	0	19.82	19.79	19.92		0
256QAM	1	0	19.16	19.09	19.20	0-5	0.3
	1	50	19.36	19.39	19.42		0.3
	1	99	19.15	19.26	19.17		0.3
	50	0	19.28	19.23	19.33		0.3
	50	25	19.36	19.31	19.47		0.3
	50	50	19.21	19.36	19.37		0.3
	100	0	19.20	19.22	19.40		0.3

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Table 9-28
LTE Band 66 (AWS) Measured Plimit for DSI = 3 (Hotspot mode), DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 15 MHz Bandwidth

LTE Band 66 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132047 (1717.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132597 (1772.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.86	19.73	19.85	0	0
	1	36	20.04	19.91	19.91		0
	1	74	19.84	19.65	19.68		0
	36	0	20.03	20.04	19.96	0-1	0
	36	18	20.15	20.07	20.06		0
	36	37	20.06	20.04	19.95		0
	75	0	20.07	20.01	19.99		0
16QAM	1	0	20.12	20.25	20.23	0-1	0
	1	36	20.16	20.30	20.23		0
	1	74	20.10	20.21	20.12		0
	36	0	20.09	20.04	20.03	0-2	0
	36	18	20.18	20.02	20.10		0
	36	37	20.11	20.01	20.02		0
	75	0	20.06	19.99	20.02		0
64QAM	1	0	19.95	20.13	20.03	0-2	0
	1	36	20.14	20.20	20.15		0
	1	74	19.86	20.12	20.04		0
	36	0	20.09	19.99	20.00	0-3	0
	36	18	20.16	19.99	20.09		0
	36	37	20.09	19.94	19.95		0
	75	0	20.10	20.04	19.99		0
256QAM	1	0	19.41	19.47	19.40	0-5	0.3
	1	36	19.68	19.68	19.64		0.3
	1	74	19.39	19.64	19.42		0.3
	36	0	19.46	19.54	19.49		0.3
	36	18	19.58	19.58	19.57		0.3
	36	37	19.59	19.63	19.53		0.3
	75	0	19.51	19.55	19.59		0.3

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Table 9-29
LTE Band 66 (AWS) Measured Plimit for DSI = 3 (Hotspot mode), DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 10 MHz Bandwidth

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132022 (1715.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132622 (1775.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.62	19.48	19.41	0	0
	1	25	19.80	19.69	19.62		0
	1	49	19.64	19.47	19.44		0
	25	0	19.75	19.78	19.67	0-1	0
	25	12	19.90	19.82	19.75		0
	25	25	19.80	19.78	19.69		0
	50	0	19.81	19.79	19.69		0
16QAM	1	0	19.96	20.23	20.04	0-1	0
	1	25	20.17	20.20	20.22		0
	1	49	20.07	20.23	19.98		0
	25	0	19.85	19.80	19.72	0-2	0
	25	12	19.97	19.83	19.76		0
	25	25	19.85	19.77	19.73		0
	50	0	19.87	19.78	19.68		0
64QAM	1	0	19.93	19.93	19.60	0-2	0
	1	25	20.24	20.24	19.91		0
	1	49	19.97	20.01	19.61		0
	25	0	19.77	19.76	19.80	0-3	0
	25	12	19.95	19.80	19.83		0
	25	25	19.84	19.76	19.78		0
	50	0	19.84	19.76	19.72		0
256QAM	1	0	19.08	19.54	19.07	0-5	0.3
	1	25	19.46	19.56	19.46		0.3
	1	49	19.31	19.33	19.19		0.3
	25	0	19.24	19.36	19.19		0.3
	25	12	19.43	19.36	19.30		0.3
	25	25	19.35	19.34	19.25		0.3
	50	0	19.29	19.29	19.19		0.3

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Table 9-30
LTE Band 66 (AWS) Measured Plimit for DSI = 3 (Hotspot mode), DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 5 MHz Bandwidth

LTE Band 66 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131997 (1712.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132647 (1777.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.58	19.71	19.63	0	0
	1	12	19.62	19.74	19.61		0
	1	24	19.56	19.65	19.57		0
	12	0	19.85	19.87	19.80	0-1	0
	12	6	19.91	19.87	19.80		0
	12	13	19.80	19.83	19.74		0
	25	0	19.86	19.85	19.79		0
16QAM	1	0	20.05	19.97	19.68	0-1	0
	1	12	20.09	19.97	19.66		0
	1	24	20.06	19.94	19.58		0
	12	0	19.95	19.95	19.88	0-2	0
	12	6	20.01	19.98	19.91		0
	12	13	19.95	19.96	19.79		0
	25	0	19.83	19.90	19.80		0
64QAM	1	0	20.20	20.19	20.14	0-2	0
	1	12	20.18	20.18	20.16		0
	1	24	20.14	20.13	20.08		0
	12	0	19.89	19.87	19.91	0-3	0
	12	6	19.93	19.89	19.90		0
	12	13	19.90	19.81	19.82		0
	25	0	19.81	19.82	19.77		0
256QAM	1	0	19.40	19.41	19.36	0-5	0.3
	1	12	19.41	19.58	19.28		0.3
	1	24	19.36	19.44	19.41		0.3
	12	0	19.34	19.41	19.38		0.3
	12	6	19.43	19.42	19.39		0.3
	12	13	19.34	19.39	19.32		0.3
	25	0	19.32	19.34	19.32		0.3

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Table 9-31
LTE Band 66 (AWS) Measured Plimit for DSI = 3 (Hotspot mode), DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 3 MHz Bandwidth

LTE Band 66 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131987 (1711.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132657 (1778.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.85	19.76	19.61	0	0
	1	7	19.80	19.74	19.66		0
	1	14	19.77	19.72	19.57		0
	8	0	19.88	19.91	19.75	0-1	0
	8	4	19.91	19.97	19.70		0
	8	7	19.84	19.87	19.71		0
	15	0	19.89	19.89	19.72		0
16QAM	1	0	20.14	20.15	20.21	0-1	0
	1	7	20.10	20.16	20.18		0
	1	14	20.08	20.15	20.18		0
	8	0	20.01	19.75	19.83	0-2	0
	8	4	19.97	19.79	19.77		0
	8	7	19.96	19.76	19.81		0
	15	0	19.74	19.84	19.80		0
64QAM	1	0	20.27	20.16	19.94	0-2	0
	1	7	20.22	20.12	19.76		0
	1	14	20.23	20.29	19.77		0
	8	0	19.96	19.77	19.75	0-3	0
	8	4	19.95	19.82	19.73		0
	8	7	19.90	19.76	19.76		0
	15	0	19.89	19.82	19.75		0
256QAM	1	0	19.41	19.47	19.45	0-5	0.3
	1	7	19.42	19.48	19.43		0.3
	1	14	19.40	19.49	19.37		0.3
	8	0	19.39	19.42	19.34		0.3
	8	4	19.40	19.43	19.37		0.3
	8	7	19.39	19.41	19.34		0.3
	15	0	19.38	19.45	19.36		0.3

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Table 9-32
LTE Band 66 (AWS) Measured Plimit for DSI = 3 (Hotspot mode), DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) – 1.4 MHz Bandwidth

LTE Band 66 (AWS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131979 (1710.7 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132665 (1779.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.62	19.78	19.73	0	0
	1	2	19.65	19.85	19.73		0
	1	5	19.62	19.76	19.64		0
	3	0	19.68	19.65	19.57		0
	3	2	19.68	19.69	19.60		0
	3	3	19.67	19.62	19.54		0
	6	0	19.79	19.83	19.66	0-1	0
16QAM	1	0	20.10	20.12	20.19	0-1	0
	1	2	20.11	20.17	20.17		0
	1	5	20.03	20.27	20.09		0
	3	0	19.76	19.92	19.84		0
	3	2	19.76	19.91	19.85		0
	3	3	19.75	19.89	19.80		0
	6	0	19.66	19.81	19.59	0-2	0
64QAM	1	0	20.18	20.23	20.20	0-2	0
	1	2	20.23	20.11	20.15		0
	1	5	20.12	20.20	20.17		0
	3	0	19.81	20.06	19.95		0
	3	2	19.85	20.09	19.94		0
	3	3	19.81	20.01	19.91		0
	6	0	19.88	19.86	19.53	0-3	0
256QAM	1	0	19.42	19.48	19.40	0-5	0.3
	1	2	19.48	19.58	19.48		0.3
	1	5	19.31	19.50	19.34		0.3
	3	0	19.42	19.53	19.42		0.3
	3	2	19.44	19.52	19.47		0.3
	3	3	19.43	19.49	19.37		0.3
	6	0	19.29	19.41	19.31		0.3

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9.4.6 LTE Band 25 (PCS)

Table 9-33
LTE Band 25 (PCS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 20 MHz Bandwidth

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26140 (1860.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26590 (1905.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.05	24.35	24.32	0	0
	1	50	23.88	24.22	24.25		0
	1	99	23.90	**24.36**	24.01		0
	50	0	23.28	23.32	23.47	0-1	1
	50	25	23.03	23.46	23.26		1
	50	50	22.84	**23.48**	22.61		1
	100	0	22.86	23.40	23.01		1
16QAM	1	0	23.28	23.50	23.50	0-1	1
	1	50	23.19	23.44	23.45		1
	1	99	23.17	23.42	23.25		1
	50	0	22.26	22.39	22.50	0-2	2
	50	25	21.99	22.37	22.32		2
	50	50	21.80	22.44	21.68		2
	100	0	21.93	22.39	22.00		2
64QAM	1	0	21.43	21.71	21.96	0-2	2
	1	50	21.57	22.00	22.04		2
	1	99	21.51	21.91	22.14		2
	50	0	20.82	20.93	21.06	0-3	3
	50	25	20.65	21.08	21.02		3
	50	50	20.47	20.88	21.03		3
	100	0	20.44	20.81	20.79		3
256QAM	1	0	18.44	18.70	18.52	0-5	5
	1	50	19.41	18.89	19.13		5
	1	99	19.25	18.77	18.71		5
	50	0	18.92	18.86	18.78		5
	50	25	19.10	18.94	19.08		5
	50	50	18.98	19.00	18.94		5
	100	0	18.84	18.94	18.85		5

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Table 9-34
LTE Band 25 (PCS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 15 MHz Bandwidth

LTE Band 25 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26115 (1857.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26615 (1907.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.76	24.07	24.00	0	0
	1	36	24.07	24.16	24.10		0
	1	74	23.87	24.12	24.03		0
	36	0	23.22	23.11	23.10	0-1	1
	36	18	23.35	23.23	23.22		1
	36	37	23.32	23.30	23.25		1
	75	0	23.22	23.14	23.17		1
16QAM	1	0	23.16	23.47	23.50	0-1	1
	1	36	23.49	23.33	23.49		1
	1	74	23.29	23.47	23.48		1
	36	0	22.30	22.18	22.17	0-2	2
	36	18	22.42	22.31	22.30		2
	36	37	22.38	22.35	22.31		2
	75	0	22.26	22.19	22.22		2
64QAM	1	0	22.40	22.43	22.50	0-2	2
	1	36	22.50	22.50	22.50		2
	1	74	22.46	22.46	22.45		2
	36	0	21.23	21.26	21.22	0-3	3
	36	18	21.35	21.37	21.30		3
	36	37	21.31	21.39	21.36		3
	75	0	21.27	21.24	21.13		3
256QAM	1	0	19.41	19.47	19.50	0-5	5
	1	36	19.50	19.50	19.46		5
	1	74	19.42	19.50	19.49		5
	36	0	19.15	19.14	19.14		5
	36	18	19.25	19.29	19.24		5
	36	37	19.21	19.31	19.27		5
	75	0	19.17	19.15	19.09		5

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Table 9-35
LTE Band 25 (PCS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 10 MHz Bandwidth

LTE Band 25 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26090 (1855.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26640 (1910.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.70	23.65	23.79	0	0
	1	25	23.90	23.87	23.81		0
	1	49	23.71	23.72	23.85		0
	25	0	23.04	22.90	22.80	0-1	1
	25	12	23.11	22.99	22.92		1
	25	25	23.07	23.03	22.95		1
	50	0	23.02	22.96	22.86		1
16QAM	1	0	23.39	23.04	23.41	0-1	1
	1	25	23.46	23.28	23.47		1
	1	49	23.38	23.14	23.50		1
	25	0	22.07	21.90	21.84	0-2	2
	25	12	22.14	21.99	21.99		2
	25	25	22.04	22.05	21.96		2
	50	0	22.08	21.97	21.87		2
64QAM	1	0	21.84	22.18	22.33	0-2	2
	1	25	22.11	22.39	22.36		2
	1	49	21.87	22.17	22.36		2
	25	0	21.09	21.05	20.90	0-3	3
	25	12	21.20	21.13	20.95		3
	25	25	21.15	21.16	21.01		3
	50	0	21.08	21.02	20.93		3
256QAM	1	0	19.17	19.40	19.50	0-5	5
	1	25	19.42	19.50	19.50		5
	1	49	19.16	19.48	19.44		5
	25	0	18.98	18.94	18.79		5
	25	12	19.09	19.02	18.87		5
	25	25	19.01	19.02	18.89		5
	50	0	18.94	18.90	18.84		5

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Table 9-36
LTE Band 25 (PCS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 5 MHz Bandwidth

LTE Band 25 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26065 (1852.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26665 (1912.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.82	23.74	23.75	0	0
	1	12	23.91	23.88	23.69		0
	1	24	23.92	23.90	23.80		0
	12	0	23.04	22.92	22.96	0-1	1
	12	6	23.08	22.95	22.98		1
	12	13	23.08	23.03	22.96		1
	25	0	23.09	22.97	22.95		1
16QAM	1	0	23.33	23.41	23.13	0-1	1
	1	12	23.37	23.50	23.12		1
	1	24	23.38	23.50	23.15		1
	12	0	22.05	21.98	21.98	0-2	2
	12	6	22.11	22.04	22.02		2
	12	13	22.07	22.09	22.01		2
	25	0	22.18	21.95	21.98		2
64QAM	1	0	22.43	22.34	22.39	0-2	2
	1	12	22.45	22.37	22.47		2
	1	24	22.49	22.43	22.38		2
	12	0	21.14	21.02	20.94	0-3	3
	12	6	21.18	21.04	20.98		3
	12	13	21.18	21.10	20.99		3
	25	0	21.15	20.93	20.88		3
256QAM	1	0	18.92	18.85	18.71	0-5	5
	1	12	18.94	18.84	18.69		5
	1	24	19.00	18.98	18.72		5
	12	0	19.10	18.94	18.91		5
	12	6	19.17	18.99	19.00		5
	12	13	19.14	19.04	18.99		5
	25	0	19.10	18.92	18.85		5

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Table 9-37
LTE Band 25 (PCS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 3 MHz Bandwidth

LTE Band 25 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26055 (1851.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26675 (1913.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.83	23.80	23.73	0	0
	1	7	23.93	23.88	23.79		0
	1	14	23.88	23.98	23.89		0
	8	0	23.06	22.91	22.90	0-1	1
	8	4	23.11	23.04	22.89		1
	8	7	23.05	23.05	22.99		1
	15	0	23.07	22.98	22.93		1
16QAM	1	0	22.96	23.22	23.37	0-1	1
	1	7	23.06	23.24	23.40		1
	1	14	23.03	23.34	23.47		1
	8	0	22.17	21.87	21.89	0-2	2
	8	4	22.19	21.97	21.89		2
	8	7	22.17	21.98	21.97		2
	15	0	22.18	22.06	22.07		2
64QAM	1	0	22.17	22.43	22.32	0-2	2
	1	7	22.18	22.39	22.37		2
	1	14	22.17	22.31	22.32		2
	8	0	21.15	21.08	21.10	0-3	3
	8	4	21.23	21.12	21.14		3
	8	7	21.21	21.13	21.16		3
	15	0	21.18	21.10	20.97		3
256QAM	1	0	19.09	19.25	19.38	0-5	5
	1	7	19.07	19.28	19.43		5
	1	14	19.09	19.37	19.44		5
	8	0	19.20	18.91	18.85		5
	8	4	19.21	18.99	18.97		5
	8	7	19.18	19.03	18.99		5
	15	0	19.21	19.02	18.79		5

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Table 9-38
LTE Band 25 (PCS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 1.4 MHz Bandwidth

LTE Band 25 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26047 (1850.7 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26683 (1914.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.91	23.81	23.69	0	0
	1	2	23.96	23.86	23.67		0
	1	5	23.93	23.83	23.66		0
	3	0	23.93	23.90	23.61		0
	3	2	23.98	23.95	23.67		0
	3	3	23.93	23.92	23.63		0
	6	0	23.05	22.98	22.73	0-1	1
16QAM	1	0	23.47	23.21	22.94	0-1	1
	1	2	23.50	23.29	22.98		1
	1	5	23.50	23.26	22.91		1
	3	0	23.23	22.84	22.96		1
	3	2	23.28	22.92	22.99		1
	3	3	23.24	22.87	22.96		1
	6	0	22.25	21.80	21.96	0-2	2
64QAM	1	0	22.06	22.40	22.05	0-2	2
	1	2	22.14	22.46	22.07		2
	1	5	22.08	22.39	22.04		2
	3	0	22.19	22.07	21.44		2
	3	2	22.23	22.10	21.47		2
	3	3	22.23	22.08	21.39		2
	6	0	21.25	20.96	20.52	0-3	3
256QAM	1	0	18.93	19.23	18.91	0-5	5
	1	2	19.02	19.31	18.97		5
	1	5	18.94	19.29	18.85		5
	3	0	19.07	18.97	18.30		5
	3	2	19.15	18.99	18.34		5
	3	3	19.09	18.97	18.30		5
	6	0	19.50	19.40	19.01		5

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Table 9-39
LTE Band 25 (PCS) Measured Plimit for DSI = 3 (Hotspot mode), DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 20 MHz Bandwidth

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26140 (1860.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26590 (1905.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	18.93	18.90	18.88	0	0
	1	50	18.89	18.85	18.91		0
	1	99	**19.20**	18.99	18.86		0
	50	0	19.08	18.93	19.02	0-1	0
	50	25	**19.19**	18.91	19.12		0
	50	50	19.08	18.95	19.13		0
	100	0	19.04	18.82	19.18		0
16QAM	1	0	19.28	18.89	19.50	0-1	0
	1	50	19.31	19.22	19.34		0
	1	99	19.27	19.17	19.49		0
	50	0	19.14	18.89	19.14	0-2	0
	50	25	19.12	18.93	19.38		0
	50	50	19.06	19.01	19.22		0
	100	0	19.06	18.89	19.14		0
64QAM	1	0	19.24	19.20	19.33	0-2	0
	1	50	19.28	19.31	19.35		0
	1	99	19.23	19.26	19.36		0
	50	0	19.09	19.05	19.13	0-3	0
	50	25	19.14	19.05	19.25		0
	50	50	19.12	19.15	19.15		0
	100	0	19.04	18.95	19.13		0
256QAM	1	0	19.24	18.87	18.64	0-5	0
	1	50	19.00	19.36	19.19		0
	1	99	19.03	18.80	19.04		0
	50	0	19.07	18.91	19.00		0
	50	25	19.07	19.00	19.20		0
	50	50	19.03	19.10	19.18		0
	100	0	19.06	19.04	19.21		0

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Table 9-40
LTE Band 25 (PCS) Measured Plimit for DSI = 3 (Hotspot mode), DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 15 MHz Bandwidth

LTE Band 25 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26115 (1857.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26615 (1907.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	18.92	19.06	19.01	0	0
	1	36	19.13	19.11	19.03		0
	1	74	19.01	19.18	19.05		0
	36	0	19.18	19.17	19.06	0-1	0
	36	18	19.28	19.23	19.16		0
	36	37	19.28	19.27	19.19		0
	75	0	19.27	19.21	19.09		0
16QAM	1	0	19.29	19.49	19.46	0-1	0
	1	36	19.50	19.45	19.42		0
	1	74	19.37	19.50	19.47		0
	36	0	19.25	19.16	19.06	0-2	0
	36	18	19.29	19.28	19.21		0
	36	37	19.31	19.34	19.23		0
	75	0	19.25	19.17	19.13		0
64QAM	1	0	19.24	19.37	19.33	0-2	0
	1	36	19.38	19.45	19.37		0
	1	74	19.32	19.48	19.48		0
	36	0	19.20	19.16	19.12	0-3	0
	36	18	19.31	19.25	19.22		0
	36	37	19.32	19.33	19.30		0
	75	0	19.27	19.16	19.18		0
256QAM	1	0	19.19	19.09	18.99	0-5	0
	1	36	19.36	19.40	19.31		0
	1	74	19.27	19.29	19.19		0
	36	0	19.19	19.14	19.09		0
	36	18	19.35	19.26	19.18		0
	36	37	19.36	19.33	19.30		0
	75	0	19.25	19.18	19.16		0

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Table 9-41
LTE Band 25 (PCS) Measured Plimit for DSI = 3 (Hotspot mode), DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 10 MHz Bandwidth

LTE Band 25 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26090 (1855.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26640 (1910.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	18.63	18.73	18.80	0	0
	1	25	18.85	18.94	18.77		0
	1	49	18.71	18.68	18.84		0
	25	0	18.97	18.85	18.82	0-1	0
	25	12	19.08	18.96	18.90		0
	25	25	19.07	18.94	18.93		0
	50	0	19.01	18.90	18.87		0
16QAM	1	0	19.10	19.14	19.21	0-1	0
	1	25	19.37	19.44	19.36		0
	1	49	19.11	19.01	19.25		0
	25	0	18.96	18.79	18.82	0-2	0
	25	12	19.09	18.97	18.87		0
	25	25	19.05	19.00	19.03		0
	50	0	18.98	18.92	18.87		0
64QAM	1	0	18.93	18.82	18.93	0-2	0
	1	25	19.19	19.14	19.06		0
	1	49	18.93	18.92	19.20		0
	25	0	19.02	18.93	18.81	0-3	0
	25	12	19.05	18.94	19.02		0
	25	25	19.02	19.03	19.03		0
	50	0	19.03	18.98	18.89		0
256QAM	1	0	18.91	18.84	18.78	0-5	0
	1	25	19.09	19.01	19.04		0
	1	49	18.96	19.11	18.81		0
	25	0	18.96	18.88	18.92		0
	25	12	19.11	19.00	18.97		0
	25	25	18.98	19.05	18.98		0
	50	0	19.04	18.97	18.86		0

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Table 9-42
LTE Band 25 (PCS) Measured Plimit for DSI = 3 (Hotspot mode), DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 5 MHz Bandwidth

LTE Band 25 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26065 (1852.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26665 (1912.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	18.83	18.80	18.88	0	0
	1	12	18.86	18.98	18.75		0
	1	24	18.93	18.95	18.83		0
	12	0	18.99	18.92	18.96	0-1	0
	12	6	19.08	18.96	19.04		0
	12	13	19.06	19.02	19.03		0
	25	0	19.03	18.98	18.96		0
16QAM	1	0	19.27	19.18	19.24	0-1	0
	1	12	19.30	19.35	19.32		0
	1	24	19.32	19.29	19.20		0
	12	0	19.10	19.04	19.01	0-2	0
	12	6	19.15	19.04	19.02		0
	12	13	19.11	19.10	19.08		0
	25	0	19.08	18.94	19.03		0
64QAM	1	0	19.19	19.09	19.13	0-2	0
	1	12	19.17	19.16	19.11		0
	1	24	19.19	19.23	19.14		0
	12	0	19.03	18.92	18.97	0-3	0
	12	6	19.09	19.05	19.02		0
	12	13	19.09	19.11	19.06		0
	25	0	19.07	18.95	18.98		0
256QAM	1	0	19.07	19.04	19.04	0-5	0
	1	12	19.12	19.10	19.05		0
	1	24	19.10	19.11	19.07		0
	12	0	19.07	18.93	18.95		0
	12	6	19.12	19.01	19.03		0
	12	13	19.06	18.99	19.02		0
	25	0	19.05	18.94	19.01		0

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

LTE Band 25 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26055 (1851.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26675 (1913.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	18.90	18.83	18.68	0	0
	1	7	18.84	19.01	18.78		0
	1	14	18.92	18.91	18.89		0
	8	0	19.00	18.89	18.88	0-1	0
	8	4	19.05	19.03	18.95		0
	8	7	19.04	19.02	19.02		0
	15	0	19.04	18.90	18.93		0
16QAM	1	0	19.26	19.20	19.09	0-1	0
	1	7	19.30	19.30	19.29		0
	1	14	19.35	19.38	19.20		0
	8	0	19.13	19.05	18.98	0-2	0
	8	4	19.14	19.10	19.04		0
	8	7	19.11	19.14	19.06		0
	15	0	19.09	18.98	18.95		0
64QAM	1	0	19.16	19.07	19.06	0-2	0
	1	7	19.16	19.15	19.15		0
	1	14	19.23	19.24	19.19		0
	8	0	19.07	19.00	18.90	0-3	0
	8	4	19.14	19.03	18.97		0
	8	7	19.12	19.06	19.00		0
	15	0	19.08	18.97	18.98		0
256QAM	1	0	19.10	19.02	18.99	0-5	0
	1	7	19.10	19.09	19.01		0
	1	14	19.18	19.18	19.14		0
	8	0	19.08	19.01	18.92		0
	8	4	19.06	19.11	18.98		0
	8	7	19.07	19.07	18.99		0
	15	0	19.06	18.94	18.97		0

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Table 9-44
LTE Band 25 (PCS) Measured Plimit for DSI = 3 (Hotspot mode), DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) – 1.4 MHz Bandwidth

LTE Band 25 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26047 (1850.7 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26683 (1914.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	18.80	18.79	18.72	0	0
	1	2	18.89	18.89	18.86		0
	1	5	18.84	18.78	18.79		0
	3	0	18.83	18.81	18.75		0
	3	2	18.90	18.86	18.82		0
	3	3	18.84	18.83	18.78		0
	6	0	18.96	18.92	18.88	0-1	0
16QAM	1	0	19.19	19.24	19.10	0-1	0
	1	2	19.25	19.27	19.18		0
	1	5	19.19	19.20	19.20		0
	3	0	19.06	19.03	18.99		0
	3	2	19.10	19.09	19.02		0
	3	3	19.08	19.01	18.98		0
	6	0	19.03	19.00	18.96	0-2	0
64QAM	1	0	19.15	19.02	19.00	0-2	0
	1	2	19.21	19.15	19.06		0
	1	5	19.15	19.05	19.05		0
	3	0	19.08	19.02	18.93		0
	3	2	19.08	19.05	19.03		0
	3	3	19.06	19.03	18.97		0
	6	0	18.99	18.97	18.87	0-3	0
256QAM	1	0	19.00	18.98	18.96	0-5	0
	1	2	19.11	19.05	19.08		0
	1	5	19.06	19.01	18.94		0
	3	0	19.06	19.03	18.96		0
	3	2	19.16	19.11	19.03		0
	3	3	19.09	19.05	19.00		0
	6	0	19.00	18.93	18.88		0

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9.4.7 LTE Band 30

Table 9-45
LTE Band 30 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 10 MHz Bandwidth

LTE Band 30 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**22.18**	0	0
	1	25	22.10		0
	1	49	22.17		0
	25	0	**21.26**	0-1	1
	25	12	21.23		1
	25	25	21.11		1
	50	0	21.05		1
16QAM	1	0	21.63	0-1	1
	1	25	21.56		1
	1	49	21.54		1
	25	0	20.15	0-2	2
	25	12	20.13		2
	25	25	19.99		2
	50	0	20.04		2
64QAM	1	0	19.91	0-2	2
	1	25	20.27		2
	1	49	20.16		2
	25	0	18.72	0-3	3
	25	12	19.04		3
	25	25	19.01		3
	50	0	18.95		3
256QAM	1	0	17.01	0-5	5
	1	25	17.16		5
	1	49	16.70		5
	25	0	16.96		5
	25	12	17.01		5
	25	25	16.85		5
	50	0	16.84		5

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Table 9-46
LTE Band 30 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) – 5 MHz Bandwidth

LTE Band 30 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	22.03	0	0
	1	12	22.24		0
	1	24	21.91		0
	12	0	21.07	0-1	1
	12	6	21.18		1
	12	13	21.05		1
	25	0	21.05		1
16QAM	1	0	21.40	0-1	1
	1	12	21.28		1
	1	24	21.20		1
	12	0	20.16	0-2	2
	12	6	20.26		2
	12	13	20.08		2
	25	0	20.09		2
64QAM	1	0	19.83	0-2	2
	1	12	20.15		2
	1	24	20.11		2
	12	0	18.70	0-3	3
	12	6	18.95		3
	12	13	19.04		3
	25	0	18.85		3
256QAM	1	0	17.17	0-5	5
	1	12	17.23		5
	1	24	17.14		5
	12	0	16.99		5
	12	6	17.13		5
	12	13	16.91		5
	25	0	16.99		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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Table 9-47
LTE Band 30 Measured P_{limit} for DSI = 3 (Hotspot mode) - 10 MHz Bandwidth

LTE Band 30 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**18.56**	0	0
	1	25	18.30		0
	1	49	18.36		0
	25	0	18.33	0-1	0
	25	12	**18.34**		0
	25	25	18.25		0
	50	0	18.23		0
16QAM	1	0	18.89	0-1	0
	1	25	18.76		0
	1	49	18.81		0
	25	0	18.42	0-2	0
	25	12	18.34		0
	25	25	18.29		0
	50	0	18.33		0
64QAM	1	0	18.75	0-2	0
	1	25	18.58		0
	1	49	18.64		0
	25	0	18.40	0-3	0
	25	12	18.38		0
	25	25	18.31		0
	50	0	18.36		0
256QAM	1	0	17.28	0-5	1.2
	1	25	17.49		1.2
	1	49	17.07		1.2
	25	0	17.28		1.2
	25	12	17.32		1.2
	25	25	17.19		1.2
	50	0	17.29		1.2

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Table 9-48
LTE Band 30 Measured P_{limit} for DSI = 3 (Hotspot mode) - 5 MHz Bandwidth

LTE Band 30 5 MHz Bandwidth					
Modulation	**RB Size**	**RB Offset**	**Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]**	**MPR Allowed per 3GPP [dB]**	**MPR [dB]**
QPSK	1	0	18.33	0	0
	1	12	18.42		0
	1	24	18.24		0
	12	0	18.49	0-1	0
	12	6	18.48		0
	12	13	18.43		0
	25	0	18.41		0
16QAM	1	0	18.75	0-1	0
	1	12	18.86		0
	1	24	18.73		0
	12	0	18.61	0-2	0
	12	6	18.58		0
	12	13	18.47		0
	25	0	18.45		0
64QAM	1	0	18.73	0-2	0
	1	12	18.68		0
	1	24	18.52		0
	12	0	18.75	0-3	0
	12	6	18.84		0
	12	13	18.72		0
	25	0	18.70		0
256QAM	1	0	17.34	0-5	1.2
	1	12	17.46		1.2
	1	24	17.34		1.2
	12	0	17.28		1.2
	12	6	17.32		1.2
	12	13	17.20		1.2
	25	0	17.24		1.2

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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Table 9-49
LTE Band 30 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 10 MHz Bandwidth

LTE Band 30 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	20.80	0	0
	1	25	20.83		0
	1	49	**20.91**		0
	25	0	20.83	0-1	0
	25	12	**20.86**		0
	25	25	20.78		0
	50	0	20.77		0
16QAM	1	0	21.00	0-1	0
	1	25	20.98		0
	1	49	21.00		0
	25	0	20.24	0-2	0.5
	25	12	20.36		0.5
	25	25	20.28		0.5
	50	0	20.28		0.5
64QAM	1	0	19.73	0-2	0.5
	1	25	20.33		0.5
	1	49	20.35		0.5
	25	0	19.20	0-3	1.5
	25	12	19.29		1.5
	25	25	19.21		1.5
	50	0	19.30		1.5
256QAM	1	0	17.23	0-5	3.5
	1	25	17.40		3.5
	1	49	17.16		3.5
	25	0	17.34		3.5
	25	12	17.32		3.5
	25	25	17.21		3.5
	50	0	17.27		3.5

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Table 9-50
LTE Band 30 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 5 MHz Bandwidth

LTE Band 30 5 MHz Bandwidth					
Modulation	**RB Size**	**RB Offset**	**Mid Channel** **27710** **(2310.0 MHz)** **Conducted Power [dBm]**	**MPR Allowed per 3GPP [dB]**	**MPR [dB]**
QPSK	1	0	20.43	0	0
	1	12	20.48		0
	1	24	20.41		0
	12	0	20.61	0-1	0
	12	6	20.69		0
	12	13	20.55		0
	25	0	20.60		0
16QAM	1	0	20.48	0-1	0
	1	12	20.54		0
	1	24	20.46		0
	12	0	20.23	0-2	0.5
	12	6	20.26		0.5
	12	13	20.15		0.5
	25	0	20.09		0.5
64QAM	1	0	20.33	0-2	0.5
	1	12	20.45		0.5
	1	24	20.43		0.5
	12	0	18.95	0-3	1.5
	12	6	19.26		1.5
	12	13	19.19		1.5
	25	0	19.04		1.5
256QAM	1	0	17.12	0-5	3.5
	1	12	17.19		3.5
	1	24	17.30		3.5
	12	0	17.19		3.5
	12	6	17.17		3.5
	12	13	17.17		3.5
	25	0	17.10		3.5

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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9.4.8 LTE Band 7

Table 9-51
LTE Band 7 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 20 MHz Bandwidth

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20850 (2510.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21350 (2560.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.05	23.31	**23.35**	0	0
	1	50	23.12	23.33	23.31		0
	1	99	23.11	23.30	23.33		0
	50	0	22.39	22.42	**22.52**	0-1	1
	50	25	22.51	22.43	22.39		1
	50	50	22.43	22.44	22.43		1
	100	0	22.41	22.35	22.26		1
16QAM	1	0	22.62	22.88	22.90	0-1	1
	1	50	22.61	22.66	22.93		1
	1	99	22.64	22.60	22.82		1
	50	0	21.37	21.41	21.39	0-2	2
	50	25	21.43	21.43	21.40		2
	50	50	21.43	21.45	21.43		2
	100	0	21.34	21.36	21.34		2
64QAM	1	0	21.35	21.54	21.38	0-2	2
	1	50	21.36	21.63	21.48		2
	1	99	21.34	21.54	21.35		2
	50	0	20.15	20.44	20.43	0-3	3
	50	25	20.50	20.49	20.45		3
	50	50	20.46	20.48	20.45		3
	100	0	20.29	20.36	20.36		3
256QAM	1	0	18.35	18.33	18.32	0-5	5
	1	50	18.75	18.63	18.30		5
	1	99	18.49	18.37	18.10		5
	50	0	18.28	18.33	18.35		5
	50	25	18.48	18.44	18.42		5
	50	50	18.40	18.40	18.29		5
	100	0	18.35	18.30	18.29		5

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Table 9-52
LTE Band 7 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 15 MHz Bandwidth

LTE Band 7 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20825 (2507.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21375 (2562.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.23	23.35	23.45	0	0
	1	36	23.24	23.40	23.41		0
	1	74	23.16	23.41	23.25		0
	36	0	22.53	22.45	22.57	0-1	1
	36	18	22.44	22.52	22.63		1
	36	37	22.41	22.52	22.63		1
	75	0	22.37	22.36	22.59		1
16QAM	1	0	22.80	22.62	22.89	0-1	1
	1	36	22.61	22.51	22.73		1
	1	74	22.37	22.56	22.79		1
	36	0	21.47	21.48	21.56	0-2	2
	36	18	21.41	21.46	21.69		2
	36	37	21.45	21.55	21.60		2
	75	0	21.36	21.42	21.59		2
64QAM	1	0	21.55	21.37	21.74	0-2	2
	1	36	21.50	21.87	21.77		2
	1	74	21.51	21.69	21.75		2
	36	0	20.20	20.50	20.67	0-3	3
	36	18	20.44	20.49	20.50		3
	36	37	20.45	20.59	20.61		3
	75	0	20.39	20.38	20.56		3
256QAM	1	0	18.40	18.41	18.59	0-5	5
	1	36	18.52	18.55	18.54		5
	1	74	18.31	18.35	18.56		5
	36	0	18.33	18.43	18.49		5
	36	18	18.00	18.40	18.64		5
	36	37	18.46	18.44	18.62		5
	75	0	18.36	18.27	18.57		5

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Table 9-53
LTE Band 7 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 10 MHz Bandwidth

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20800 (2505.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21400 (2565.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.18	23.25	23.19	0	0
	1	25	23.05	23.22	23.14		0
	1	49	23.04	23.25	23.18		0
	25	0	22.15	22.30	22.24	0-1	1
	25	12	22.27	22.35	22.36		1
	25	25	22.18	22.39	22.31		1
	50	0	22.18	22.26	22.18		1
16QAM	1	0	22.64	22.71	22.58	0-1	1
	1	25	22.93	22.63	22.62		1
	1	49	22.48	22.70	22.65		1
	25	0	21.15	21.29	21.23	0-2	2
	25	12	21.23	21.33	21.35		2
	25	25	21.22	21.35	21.35		2
	50	0	21.17	21.21	21.18		2
64QAM	1	0	21.06	21.43	21.43	0-2	2
	1	25	21.28	21.46	21.46		2
	1	49	21.44	21.50	21.35		2
	25	0	19.99	20.21	20.27	0-3	3
	25	12	20.04	20.41	20.38		3
	25	25	20.20	20.37	20.30		3
	50	0	20.04	20.25	20.26		3
256QAM	1	0	18.10	18.14	18.00	0-5	5
	1	25	18.34	18.35	18.44		5
	1	49	18.01	18.31	18.11		5
	25	0	18.11	18.19	18.16		5
	25	12	18.35	18.27	18.30		5
	25	25	18.23	18.20	18.20		5
	50	0	18.16	18.17	18.15		5

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Table 9-54
LTE Band 7 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 5 MHz Bandwidth

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20775 (2502.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21425 (2567.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.05	23.05	23.25	0	0
	1	12	23.15	23.17	23.32		0
	1	24	23.09	23.11	23.30		0
	12	0	21.99	22.15	22.43	0-1	1
	12	6	22.07	22.18	22.40		1
	12	13	22.05	22.20	22.32		1
	25	0	21.98	22.14	22.37		1
16QAM	1	0	22.43	22.44	22.70	0-1	1
	1	12	22.29	22.42	22.62		1
	1	24	22.40	22.50	22.61		1
	12	0	21.21	21.25	21.43	0-2	2
	12	6	21.19	21.23	21.49		2
	12	13	21.16	21.30	21.39		2
	25	0	21.14	21.18	21.44		2
64QAM	1	0	21.36	21.35	21.52	0-2	2
	1	12	21.40	21.36	21.40		2
	1	24	21.40	21.39	21.60		2
	12	0	19.97	20.18	20.36	0-3	3
	12	6	19.68	20.19	20.41		3
	12	13	19.91	20.23	20.43		3
	25	0	19.88	20.09	20.46		3
256QAM	1	0	18.17	18.16	18.40	0-5	5
	1	12	18.28	18.32	18.26		5
	1	24	18.01	18.17	18.35		5
	12	0	18.19	18.04	18.35		5
	12	6	18.17	18.15	18.32		5
	12	13	18.16	18.26	18.29		5
	25	0	18.06	18.04	18.36		5

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Table 9-55
LTE Band 7 Measured P_{limit} for DSI = 3 (Hotspot mode) - 20 MHz Bandwidth

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20850 (2510.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21350 (2560.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.16	19.14	18.97	0	0
	1	50	**19.25**	19.13	18.95		0
	1	99	19.17	19.00	18.83		0
	50	0	19.19	19.17	19.03	0-1	0
	50	25	**19.32**	19.16	19.02		0
	50	50	19.25	19.12	18.87		0
	100	0	19.15	19.05	18.91		0
16QAM	1	0	19.64	19.19	19.27	0-1	0
	1	50	19.75	19.24	19.28		0
	1	99	19.72	19.20	19.26		0
	50	0	19.21	19.09	19.08	0-2	0
	50	25	19.33	19.11	19.11		0
	50	50	19.29	19.09	19.00		0
	100	0	19.26	19.06	18.98		0
64QAM	1	0	19.26	19.41	19.56	0-2	0
	1	50	19.36	19.51	19.53		0
	1	99	19.35	19.41	19.38		0
	50	0	19.31	19.24	19.13	0-3	0
	50	25	19.41	19.27	19.16		0
	50	50	19.38	19.20	19.04		0
	100	0	19.32	19.17	19.06		0
256QAM	1	0	18.11	18.26	18.25	0-5	1.5
	1	50	18.55	18.48	18.30		1.5
	1	99	18.26	18.36	18.02		1.5
	50	0	18.30	18.26	18.23		1.5
	50	25	18.47	18.37	18.29		1.5
	50	50	18.35	18.33	18.09		1.5
	100	0	18.40	18.34	18.19		1.5

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Table 9-56
LTE Band 7 Measured P_{limit} for DSI = 3 (Hotspot mode) - 15 MHz Bandwidth

LTE Band 7 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20825 (2507.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21375 (2562.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.09	19.08	19.05	0	0
	1	36	19.00	19.07	18.87		0
	1	74	19.03	19.04	18.78		0
	36	0	19.11	19.18	19.11	0-1	0
	36	18	19.30	19.21	19.06		0
	36	37	19.24	19.23	18.87		0
	75	0	19.18	19.16	19.04		0
16QAM	1	0	19.31	19.37	19.17	0-1	0
	1	36	19.27	19.25	19.24		0
	1	74	18.98	19.25	19.06		0
	36	0	19.17	19.25	19.03	0-2	0
	36	18	19.30	19.19	19.07		0
	36	37	19.27	19.20	18.95		0
	75	0	19.19	19.20	19.01		0
64QAM	1	0	19.51	19.11	19.29	0-2	0
	1	36	19.35	19.37	19.18		0
	1	74	19.38	19.10	19.05		0
	36	0	19.17	19.30	19.11	0-3	0
	36	18	19.36	19.29	19.12		0
	36	37	19.23	19.21	18.98		0
	75	0	19.26	19.25	19.10		0
256QAM	1	0	18.14	18.23	18.10	0-5	1.5
	1	36	18.20	18.40	18.08		1.5
	1	74	18.20	18.23	17.93		1.5
	36	0	18.20	18.34	18.20		1.5
	36	18	18.25	18.43	18.18		1.5
	36	37	18.21	18.22	18.19		1.5
	75	0	18.37	18.29	18.13		1.5

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Table 9-57
LTE Band 7 Measured P_{limit} for DSI = 3 (Hotspot mode) - 10 MHz Bandwidth

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20800 (2505.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21400 (2565.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	18.90	18.91	18.74	0	0
	1	25	18.92	19.07	18.47		0
	1	49	18.86	18.80	18.60		0
	25	0	18.91	19.02	18.78	0-1	0
	25	12	19.01	19.03	18.74		0
	25	25	18.96	19.08	18.76		0
	50	0	18.94	18.97	18.73		0
16QAM	1	0	18.96	19.11	18.65	0-1	0
	1	25	19.00	19.31	18.88		0
	1	49	19.37	19.36	18.64		0
	25	0	18.87	19.10	18.74	0-2	0
	25	12	19.11	19.05	18.87		0
	25	25	19.02	19.09	18.77		0
	50	0	19.02	18.99	18.78		0
64QAM	1	0	19.03	19.10	18.94	0-2	0
	1	25	19.16	19.27	19.13		0
	1	49	19.27	19.08	18.86		0
	25	0	19.02	19.07	18.84	0-3	0
	25	12	19.15	19.07	18.85		0
	25	25	19.06	18.95	18.81		0
	50	0	19.00	18.96	18.98		0
256QAM	1	0	18.12	17.95	17.85	0-5	1.5
	1	25	18.22	18.02	17.58		1.5
	1	49	18.07	18.00	17.96		1.5
	25	0	18.05	18.08	17.88		1.5
	25	12	18.11	18.13	17.93		1.5
	25	25	18.22	18.05	17.89		1.5
	50	0	18.14	18.02	17.79		1.5

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Table 9-58
LTE Band 7 Measured P_{limit} for DSI = 3 (Hotspot mode) - 5 MHz Bandwidth

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20775 (2502.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21425 (2567.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	18.80	18.86	18.84	0	0
	1	12	18.82	18.85	18.81		0
	1	24	18.91	18.88	18.81		0
	12	0	19.01	19.03	18.91	0-1	0
	12	6	19.03	19.02	18.94		0
	12	13	19.00	19.03	18.96		0
	25	0	18.94	19.01	18.64		0
16QAM	1	0	18.93	19.17	18.76	0-1	0
	1	12	18.84	19.17	18.99		0
	1	24	19.07	19.31	18.77		0
	12	0	19.15	18.91	18.70	0-2	0
	12	6	19.07	19.08	18.75		0
	12	13	18.95	19.02	18.84		0
	25	0	19.05	19.05	18.75		0
64QAM	1	0	19.21	19.17	19.02	0-2	0
	1	12	19.08	19.10	18.83		0
	1	24	19.20	19.14	19.25		0
	12	0	19.08	19.09	18.83	0-3	0
	12	6	19.10	19.13	18.71		0
	12	13	19.06	19.12	18.74		0
	25	0	19.05	19.10	18.79		0
256QAM	1	0	17.97	17.92	18.13	0-5	1.5
	1	12	17.83	17.98	18.02		1.5
	1	24	18.16	17.96	17.86		1.5
	12	0	18.15	18.03	17.92		1.5
	12	6	18.15	18.17	17.91		1.5
	12	13	18.16	18.07	17.92		1.5
	25	0	18.15	18.13	17.88		1.5

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Table 9-59
LTE Band 7 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 20 MHz Bandwidth

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20850 (2510.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21350 (2560.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.77	**20.03**	19.79	0	0
	1	50	19.79	20.02	19.79		0
	1	99	19.78	19.96	19.73		0
	50	0	20.01	20.10	19.88	0-1	0
	50	25	**20.15**	20.08	19.87		0
	50	50	20.06	20.06	19.75		0
	100	0	20.01	19.99	19.80		0
16QAM	1	0	20.44	20.29	20.12	0-1	0
	1	50	20.45	20.29	20.05		0
	1	99	20.43	20.22	20.01		0
	50	0	20.42	19.91	19.88	0-2	0
	50	25	20.45	19.92	19.94		0
	50	50	20.44	19.89	19.80		0
	100	0	20.43	19.88	19.81		0
64QAM	1	0	20.26	20.13	20.39	0-2	0
	1	50	20.24	20.14	20.35		0
	1	99	20.18	20.05	20.24		0
	50	0	20.08	20.02	19.94	0-3	0.5
	50	25	20.17	20.05	19.97		0.5
	50	50	20.05	20.01	19.86		0.5
	100	0	20.18	19.94	19.83		0.5
256QAM	1	0	18.10	18.08	18.09	0-5	2.5
	1	50	18.26	18.30	18.14		2.5
	1	99	18.24	18.34	17.82		2.5
	50	0	18.21	18.26	18.12		2.5
	50	25	18.26	18.26	18.20		2.5
	50	50	18.24	18.23	17.95		2.5
	100	0	18.25	18.22	18.14		2.5

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Table 9-60
LTE Band 7 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 15 MHz Bandwidth

LTE Band 7 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20825 (2507.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21375 (2562.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.90	19.92	19.73	0	0
	1	36	19.81	19.97	19.84		0
	1	74	19.89	19.97	19.82		0
	36	0	20.01	20.05	19.91	0-1	0
	36	18	20.03	20.27	19.80		0
	36	37	20.13	20.13	19.75		0
	75	0	19.98	20.05	19.85		0
16QAM	1	0	20.51	20.18	20.00	0-1	0
	1	36	20.05	20.16	19.66		0
	1	74	19.94	20.08	19.75		0
	36	0	19.88	20.13	19.90	0-2	0
	36	18	20.06	20.18	19.87		0
	36	37	20.10	20.00	19.88		0
	75	0	20.05	20.06	19.81		0
64QAM	1	0	20.29	20.37	20.20	0-2	0
	1	36	20.13	20.07	20.03		0
	1	74	20.13	20.22	20.10		0
	36	0	20.04	20.08	19.88	0-3	0.5
	36	18	20.10	20.13	19.98		0.5
	36	37	20.12	20.19	19.73		0.5
	75	0	19.99	20.08	19.95		0.5
256QAM	1	0	18.16	18.14	18.01	0-5	2.5
	1	36	18.26	18.35	18.04		2.5
	1	74	18.18	18.38	18.01		2.5
	36	0	18.23	18.35	18.12		2.5
	36	18	18.21	18.29	18.06		2.5
	36	37	18.12	18.31	18.12		2.5
	75	0	18.15	18.33	18.01		2.5

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Table 9-61
LTE Band 7 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 10 MHz Bandwidth

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20800 (2505.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21400 (2565.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.90	19.80	19.59	0	0
	1	25	19.79	19.82	19.52		0
	1	49	19.71	19.75	19.61		0
	25	0	19.68	19.74	19.76	0-1	0
	25	12	19.80	19.81	19.74		0
	25	25	19.80	19.77	19.63		0
	50	0	19.79	19.69	19.68		0
16QAM	1	0	19.83	20.10	19.81	0-1	0
	1	25	20.16	20.06	19.82		0
	1	49	20.01	20.23	19.87		0
	25	0	19.81	19.85	19.80	0-2	0
	25	12	19.92	19.85	19.76		0
	25	25	19.89	19.87	19.70		0
	50	0	19.80	19.81	19.78		0
64QAM	1	0	20.01	20.00	19.81	0-2	0
	1	25	19.86	20.01	19.61		0
	1	49	20.16	20.10	19.75		0
	25	0	19.89	19.96	19.55	0-3	0.5
	25	12	19.97	19.94	19.62		0.5
	25	25	19.89	19.84	19.63		0.5
	50	0	19.94	19.85	19.56		0.5
256QAM	1	0	17.85	18.04	17.78	0-5	2.5
	1	25	18.03	18.14	17.90		2.5
	1	49	18.09	17.84	17.63		2.5
	25	0	18.05	18.09	17.79		2.5
	25	12	18.17	18.14	17.89		2.5
	25	25	18.01	18.02	17.83		2.5
	50	0	18.14	18.06	17.81		2.5

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Table 9-62
LTE Band 7 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 5 MHz Bandwidth

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20775 (2502.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21425 (2567.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.91	19.89	19.62	0	0
	1	12	19.87	19.81	19.59		0
	1	24	19.86	19.85	19.59		0
	12	0	19.80	19.78	19.56	0-1	0
	12	6	19.80	19.92	19.58		0
	12	13	19.81	19.83	19.69		0
	25	0	19.76	19.85	19.69		0
16QAM	1	0	19.97	19.95	19.59	0-1	0
	1	12	20.23	19.96	19.58		0
	1	24	19.88	19.92	19.60		0
	12	0	19.83	19.84	19.57	0-2	0
	12	6	19.84	19.94	19.60		0
	12	13	19.82	19.85	19.53		0
	25	0	19.79	19.84	19.51		0
64QAM	1	0	19.92	19.85	19.88	0-2	0
	1	12	19.95	20.13	19.69		0
	1	24	20.04	20.05	19.72		0
	12	0	19.65	19.84	19.51	0-3	0.5
	12	6	19.90	19.97	19.60		0.5
	12	13	19.83	19.87	19.61		0.5
	25	0	19.69	19.85	19.49		0.5
256QAM	1	0	18.09	18.17	17.86	0-5	2.5
	1	12	18.18	18.11	17.80		2.5
	1	24	18.06	18.06	17.70		2.5
	12	0	18.09	18.16	17.79		2.5
	12	6	18.20	18.26	17.86		2.5
	12	13	18.08	18.12	17.82		2.5
	25	0	18.10	18.10	17.87		2.5

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9.4.9 LTE Band 41

Table 9-63
LTE Band 41 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	**24.51**	24.27	24.12	24.06	23.95	0	0
	1	50	24.30	24.25	24.18	24.31	24.30		0
	1	99	24.26	24.33	23.99	23.82	24.08		0
	50	0	**23.50**	23.28	23.18	23.32	23.24	0-1	1
	50	25	23.49	23.35	23.36	23.44	23.32		1
	50	50	23.40	23.32	23.22	23.31	23.37		1
	100	0	23.38	23.30	23.26	23.36	23.30		1
16QAM	1	0	23.88	23.71	23.41	23.55	23.25	0-1	1
	1	50	23.75	23.68	23.64	23.68	23.63		1
	1	99	23.62	23.65	23.29	23.16	23.54		1
	50	0	22.62	22.39	22.22	22.40	22.29	0-2	2
	50	25	22.61	22.45	22.41	22.47	22.38		2
	50	50	22.51	22.42	22.29	22.31	22.42		2
	100	0	22.47	22.35	22.37	22.38	22.29		2
64QAM	1	0	22.61	22.33	21.90	22.07	21.86	0-2	2
	1	50	22.40	22.32	22.26	22.36	22.37		2
	1	99	22.33	22.32	21.93	21.83	22.15		2
	50	0	21.54	21.37	21.25	21.39	21.26	0-3	3
	50	25	21.53	21.44	21.38	21.46	21.38		3
	50	50	21.44	21.38	21.32	21.25	21.41		3
	100	0	21.45	21.32	21.30	21.41	21.33		3
256QAM	1	0	19.05	18.75	19.17	19.06	18.85	0-5	5
	1	50	19.24	19.17	19.36	19.06	19.28		5
	1	99	18.88	18.77	18.90	19.33	19.17		5
	50	0	19.41	19.25	19.53	19.47	19.37		5
	50	25	19.47	19.12	19.66	19.54	19.48		5
	50	50	19.37	19.25	19.47	19.36	19.49		5
	100	0	19.35	19.28	19.44	19.44	19.37		5

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Table 9-64
LTE Band 41 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 15 MHz Bandwidth

LTE Band 41 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	24.53	24.20	24.23	24.46	24.12	0	0
	1	36	24.41	24.36	24.34	24.43	24.34		0
	1	74	24.33	24.04	24.20	24.14	24.29		0
	36	0	23.58	23.36	23.32	23.49	23.30	0-1	1
	36	18	23.57	23.47	23.49	23.48	23.40		1
	36	37	23.50	23.41	23.44	23.43	23.46		1
	75	0	23.49	23.40	23.44	23.50	23.35		1
16QAM	1	0	23.68	23.26	23.28	23.49	23.12	0-1	1
	1	36	23.49	23.42	23.42	23.54	23.41		1
	1	74	23.37	23.21	23.21	23.23	23.38		1
	36	0	22.52	22.31	22.31	22.45	22.28	0-2	2
	36	18	22.52	22.44	22.43	22.44	22.35		2
	36	37	22.45	22.38	22.38	22.37	22.41		2
	75	0	22.51	22.38	22.43	22.52	22.33		2
64QAM	1	0	22.24	21.87	21.90	22.10	21.83	0-2	2
	1	36	22.13	22.11	22.09	22.15	22.04		2
	1	74	22.08	21.89	21.92	22.15	22.05		2
	36	0	21.62	21.40	21.37	21.51	21.38	0-3	3
	36	18	21.55	21.51	21.51	21.43	21.44		3
	36	37	21.47	21.34	21.47	21.53	21.48		3
	75	0	21.47	21.45	21.49	21.51	21.39		3
256QAM	1	0	19.28	19.08	19.11	19.26	19.04	0-5	5
	1	36	19.34	19.32	19.35	19.41	19.22		5
	1	74	19.13	19.11	19.17	19.09	19.26		5
	36	0	19.50	19.33	19.36	19.43	19.28		5
	36	18	19.52	19.52	19.55	19.50	19.44		5
	36	37	19.50	19.42	19.50	19.47	19.48		5
	75	0	19.44	19.42	19.46	19.50	19.32		5

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Table 9-65
LTE Band 41 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 10 MHz Bandwidth

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	24.07	23.99	24.02	24.07	23.96	0	0
	1	25	24.14	24.13	24.14	24.19	24.01		0
	1	49	24.16	23.96	23.94	23.96	23.84		0
	25	0	23.27	23.15	23.19	23.23	23.08	0-1	1
	25	12	23.30	23.30	23.35	23.32	23.19		1
	25	25	23.29	23.20	23.17	23.17	23.13		1
	50	0	23.24	23.23	23.25	23.27	23.10		1
16QAM	1	0	23.47	23.11	23.13	23.21	23.11	0-1	1
	1	25	23.27	23.34	23.29	23.37	23.26		1
	1	49	23.29	23.06	23.04	23.06	23.06		1
	25	0	22.35	22.14	22.18	22.24	22.13	0-2	2
	25	12	22.34	22.33	22.31	22.36	22.24		2
	25	25	22.30	22.35	22.16	22.20	22.17		2
	50	0	22.31	22.20	22.27	22.30	22.15		2
64QAM	1	0	22.06	22.32	21.67	21.78	21.57	0-2	2
	1	25	21.80	21.56	21.93	21.96	21.76		2
	1	49	21.81	21.84	21.92	21.60	21.54		2
	25	0	21.33	21.56	21.66	21.22	21.10	0-3	3
	25	12	21.32	21.13	21.17	21.31	21.18		3
	25	25	21.22	21.31	21.31	21.18	21.10		3
	50	0	21.20	21.18	21.30	21.35	21.20		3
256QAM	1	0	19.03	19.29	19.02	19.02	18.75	0-5	5
	1	25	19.18	18.89	19.16	19.20	18.97		5
	1	49	18.98	19.14	18.96	18.93	18.73		5
	25	0	19.36	18.82	19.27	19.28	19.20		5
	25	12	19.40	19.34	19.40	19.43	19.24		5
	25	25	19.27	19.43	19.27	19.25	19.23		5
	50	0	19.33	19.29	19.33	19.35	19.17		5

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Table 9-66
LTE Band 41 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 5 MHz Bandwidth

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	24.12	24.16	24.14	24.24	24.08	0	0
	1	12	24.12	24.22	24.16	24.26	24.12		0
	1	24	24.11	24.19	24.12	24.22	24.12		0
	12	0	23.30	23.29	23.22	23.31	23.18	0-1	1
	12	6	23.26	23.32	23.26	23.36	23.20		1
	12	13	23.29	23.26	23.20	23.27	23.32		1
	25	0	23.29	23.31	23.23	23.32	23.18		1
16QAM	1	0	23.35	23.28	23.24	23.30	23.26	0-1	1
	1	12	23.29	23.35	23.18	23.37	23.29		1
	1	24	23.30	23.27	23.17	23.28	23.22		1
	12	0	22.25	22.22	22.14	22.22	22.13	0-2	2
	12	6	22.26	22.26	22.22	22.31	22.15		2
	12	13	22.22	22.21	22.20	22.21	22.16		2
	25	0	22.35	22.33	22.31	22.37	22.19		2
64QAM	1	0	21.99	21.85	21.94	21.89	21.82	0-2	2
	1	12	21.96	21.91	21.93	21.99	21.94		2
	1	24	21.93	21.89	21.87	21.93	21.80		2
	12	0	21.29	21.28	21.20	21.25	21.19	0-3	3
	12	6	21.28	21.26	21.24	21.29	21.33		3
	12	13	21.23	21.27	21.21	21.29	21.22		3
	25	0	21.29	21.31	21.25	21.37	21.20		3
256QAM	1	0	19.14	19.12	19.06	19.21	19.01	0-5	5
	1	12	19.10	19.16	19.08	19.10	19.06		5
	1	24	19.02	19.09	19.03	19.15	19.00		5
	12	0	19.39	19.41	19.32	19.08	19.27		5
	12	6	19.37	19.46	19.40	19.34	19.28		5
	12	13	19.32	19.42	19.35	19.44	19.30		5
	25	0	19.32	19.32	19.28	19.38	19.20		5

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Table 9-67
LTE Band 41 Measured P_{limit} for DSI = 3 (Hotspot mode) - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	21.51	21.57	21.15	21.35	21.10	0	0
	1	50	**21.63**	21.61	21.40	21.48	21.44		0
	1	99	21.50	21.55	21.12	21.02	21.33		0
	50	0	21.69	21.62	21.34	21.56	21.42	0-1	0
	50	25	**21.70**	21.61	21.53	21.67	21.51		0
	50	50	21.63	21.62	21.50	21.51	21.61		0
	100	0	21.61	21.52	21.44	21.58	21.42		0
16QAM	1	0	22.00	21.89	21.73	21.64	21.38	0-1	0
	1	50	21.79	21.82	21.74	21.88	21.88		0
	1	99	21.74	21.81	21.40	21.27	21.69		0
	50	0	21.64	21.56	21.40	21.57	21.48	0-2	0
	50	25	21.71	21.64	21.58	21.72	21.51		0
	50	50	21.67	21.64	21.46	21.50	21.61		0
	100	0	21.63	21.59	21.54	21.62	21.53		0
64QAM	1	0	21.77	21.58	21.10	21.63	21.04	0-2	0
	1	50	21.54	21.55	21.47	21.53	21.57		0
	1	99	21.66	21.56	21.17	21.00	21.43		0
	50	0	21.77	21.66	21.48	21.64	21.52	0-3	0
	50	25	21.75	21.71	21.67	21.71	21.56		0
	50	50	21.69	21.70	21.56	21.52	21.68		0
	100	0	21.66	21.65	21.51	21.61	21.52		0
256QAM	1	0	19.42	19.19	19.27	19.42	19.28	0-5	2
	1	50	19.61	19.66	19.56	19.60	19.59		2
	1	99	19.30	19.23	19.29	19.25	19.45		2
	50	0	19.68	19.53	19.43	19.57	19.50		2
	50	25	19.74	19.74	19.71	19.72	19.64		2
	50	50	19.68	19.60	19.61	19.53	19.69		2
	100	0	19.61	19.61	19.47	19.60	19.51		2

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Table 9-68
LTE Band 41 Measured P_{limit} for DSI = 3 (Hotspot mode) - 15 MHz Bandwidth

LTE Band 41 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	21.62	21.39	21.25	21.50	21.34	0	0
	1	36	21.50	21.55	21.41	21.50	21.57		0
	1	74	21.46	21.31	21.27	21.27	21.49		0
	36	0	21.68	21.56	21.45	21.56	21.60	0-1	0
	36	18	21.67	21.68	21.58	21.57	21.68		0
	36	37	21.58	21.58	21.54	21.52	21.72		0
	75	0	21.63	21.60	21.52	21.58	21.62		0
16QAM	1	0	21.74	21.48	21.51	21.62	21.45	0-1	0
	1	36	21.57	21.66	21.68	21.63	21.67		0
	1	74	21.47	21.38	21.45	21.37	21.60		0
	36	0	21.62	21.49	21.43	21.56	21.51	0-2	0
	36	18	21.59	21.59	21.60	21.52	21.58		0
	36	37	21.53	21.53	21.57	21.51	21.66		0
	75	0	21.58	21.60	21.54	21.60	21.61		0
64QAM	1	0	21.41	21.10	21.04	21.18	21.10	0-2	0
	1	36	21.25	21.30	21.23	21.26	21.25		0
	1	74	21.19	21.04	21.07	21.00	21.24		0
	36	0	21.61	21.60	21.45	21.62	21.61	0-3	0
	36	18	21.68	21.70	21.59	21.60	21.71		0
	36	37	21.60	21.60	21.55	21.56	21.74		0
	75	0	21.63	21.64	21.58	21.65	21.63		0
256QAM	1	0	19.40	19.30	19.23	19.41	19.27	0-5	2
	1	36	19.46	19.51	19.44	19.49	19.50		2
	1	74	19.26	19.24	19.22	19.24	19.41		2
	36	0	19.65	19.56	19.49	19.59	19.58		2
	36	18	19.66	19.68	19.63	19.61	19.69		2
	36	37	19.60	19.62	19.60	19.57	19.71		2
	75	0	19.61	19.63	19.54	19.61	19.59		2

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Table 9-69
LTE Band 41 Measured P_{limit} for DSI = 3 (Hotspot mode) - 10 MHz Bandwidth

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	21.35	21.18	21.02	21.14	21.19	0	0
	1	25	21.27	21.37	21.20	21.33	21.39		0
	1	49	21.32	21.12	20.95	21.01	21.09		0
	25	0	21.44	21.34	21.18	21.34	21.37	0-1	0
	25	12	21.45	21.50	21.35	21.49	21.46		0
	25	25	21.45	21.51	21.37	21.49	21.45		0
	50	0	21.36	21.42	21.26	21.41	21.35		0
16QAM	1	0	21.57	21.35	21.21	21.31	21.36	0-1	0
	1	25	21.49	21.55	21.40	21.47	21.50		0
	1	49	21.41	21.27	21.10	21.17	21.23		0
	25	0	21.44	21.40	21.20	21.31	21.39	0-2	0
	25	12	21.43	21.54	21.31	21.47	21.47		0
	25	25	21.39	21.42	21.14	21.33	21.41		0
	50	0	21.39	21.49	21.33	21.45	21.42		0
64QAM	1	0	21.23	20.88	20.61	20.85	20.86	0-2	0
	1	25	21.06	21.15	20.87	21.09	21.05		0
	1	49	21.03	20.90	20.63	20.76	20.76		0
	25	0	21.42	21.32	21.16	21.29	21.37	0-3	0
	25	12	21.45	21.51	21.20	21.47	21.46		0
	25	25	21.39	21.37	21.18	21.31	21.39		0
	50	0	21.44	21.49	21.28	21.47	21.43		0
256QAM	1	0	19.00	19.14	18.84	18.93	19.16	0-5	2
	1	25	19.15	19.35	19.09	19.23	19.40		2
	1	49	18.84	19.12	18.81	18.90	19.12		2
	25	0	19.48	19.48	19.30	19.42	19.48		2
	25	12	19.51	19.60	19.43	19.53	19.52		2
	25	25	19.40	19.51	19.19	19.39	19.47		2
	50	0	19.44	19.52	19.30	19.46	19.43		2

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Table 9-70
LTE Band 41 Measured P_{limit} for DSI = 3 (Hotspot mode) - 5 MHz Bandwidth

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	21.41	21.41	21.17	21.33	21.40	0	0
	1	12	21.35	21.46	21.18	21.37	21.43		0
	1	24	21.34	21.41	21.18	21.37	21.39		0
	12	0	21.44	21.52	21.29	21.41	21.45	0-1	0
	12	6	21.47	21.51	21.36	21.50	21.46		0
	12	13	21.42	21.48	21.30	21.43	21.46		0
	25	0	21.42	21.51	21.32	21.45	21.43		0
16QAM	1	0	21.46	21.51	21.35	21.40	21.44	0-1	0
	1	12	21.42	21.52	21.29	21.44	21.54		0
	1	24	21.43	21.47	21.29	21.41	21.44		0
	12	0	21.36	21.49	21.24	21.33	21.39	0-2	0
	12	6	21.37	21.52	21.35	21.39	21.41		0
	12	13	21.32	21.43	21.30	21.36	21.41		0
	25	0	21.47	21.58	21.41	21.49	21.47		0
64QAM	1	0	21.11	21.06	20.94	21.01	21.10	0-2	0
	1	12	21.09	21.14	21.04	21.07	21.17		0
	1	24	21.03	21.14	20.98	21.02	21.12		0
	12	0	21.41	21.45	21.25	21.36	21.42	0-3	0
	12	6	21.44	21.50	21.34	21.42	21.45		0
	12	13	21.38	21.49	21.30	21.39	21.47		0
	25	0	21.42	21.50	21.38	21.46	21.49		0
256QAM	1	0	19.31	19.31	19.16	19.24	19.28	0-5	2
	1	12	19.21	19.36	19.16	19.27	19.31		2
	1	24	19.16	19.29	19.16	19.22	19.25		2
	12	0	19.52	19.61	19.43	19.47	19.53		2
	12	6	19.56	19.64	19.48	19.58	19.57		2
	12	13	19.48	19.60	19.43	19.52	19.59		2
	25	0	19.45	19.59	19.41	19.49	19.48		2

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Table 9-71
LTE Band 41 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	24.09	24.19	23.77	24.44	24.25	0	0
	1	50	24.04	24.19	24.02	24.49	**24.50**		0
	1	99	23.98	24.14	23.74	24.13	24.45		0
	50	0	23.70	23.67	23.53	23.62	23.56	0-1	0.5
	50	25	23.63	23.74	23.67	23.70	23.66		0.5
	50	50	23.57	23.75	23.61	23.53	**23.76**		0.5
	100	0	23.55	23.67	23.59	23.62	23.61		0.5
16QAM	1	0	23.79	23.79	23.37	23.44	23.24	0-1	0.5
	1	50	23.63	23.68	23.67	23.68	23.68		0.5
	1	99	23.54	23.67	23.37	23.12	23.51		0.5
	50	0	22.75	22.73	22.58	22.65	22.58	0-2	1.5
	50	25	22.72	22.79	22.73	22.74	22.72		1.5
	50	50	22.65	22.78	22.62	22.55	22.76		1.5
	100	0	22.62	22.69	22.68	22.66	22.64		1.5
64QAM	1	0	22.48	22.35	22.00	22.09	21.92	0-2	1.5
	1	50	22.31	22.36	22.34	22.35	22.39		1.5
	1	99	22.22	22.32	22.33	21.85	22.21		1.5
	50	0	21.44	21.43	21.44	21.30	21.47	0-3	2.5
	50	25	21.38	21.50	21.46	21.50	21.47		2.5
	50	50	21.31	21.46	21.49	21.47	21.50		2.5
	100	0	21.28	21.48	21.49	21.37	21.44		2.5
256QAM	1	0	19.31	19.16	19.23	19.29	19.09	0-5	4.5
	1	50	19.55	19.57	19.55	19.53	19.58		4.5
	1	99	19.16	19.10	19.25	19.03	19.42		4.5
	50	0	19.68	19.66	19.63	19.71	19.61		4.5
	50	25	19.74	19.81	19.80	19.80	19.75		4.5
	50	50	19.65	19.65	19.78	19.61	19.80		4.5
	100	0	19.64	19.67	19.65	19.68	19.63		4.5

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Table 9-72
LTE Band 41 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 15 MHz Bandwidth

LTE Band 41 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	24.43	24.41	24.38	24.42	24.36	0	0
	1	36	24.42	24.46	24.41	24.41	24.48		0
	1	74	24.48	24.32	24.33	24.29	24.49		0
	36	0	23.70	23.57	23.52	23.56	23.55	0-1	0.5
	36	18	23.67	23.70	23.64	23.58	23.64		0.5
	36	37	23.58	23.59	23.59	23.52	23.69		0.5
	75	0	23.59	23.61	23.57	23.58	23.57		0.5
16QAM	1	0	23.76	23.44	23.43	23.55	23.37	0-1	0.5
	1	36	23.59	23.64	23.55	23.58	23.65		0.5
	1	74	23.46	23.40	23.37	23.32	23.60		0.5
	36	0	22.65	22.51	22.44	22.51	22.51	0-2	1.5
	36	18	22.59	22.62	22.57	22.49	22.60		1.5
	36	37	22.55	22.54	22.55	22.47	22.63		1.5
	75	0	22.63	22.61	22.58	22.59	22.59		1.5
64QAM	1	0	22.39	22.06	22.03	22.20	22.12	0-2	1.5
	1	36	22.24	22.27	22.22	22.26	22.25		1.5
	1	74	22.18	22.03	22.04	21.99	22.25		1.5
	36	0	21.49	21.48	21.41	21.49	21.48	0-3	2.5
	36	18	21.48	21.47	21.46	21.47	21.46		2.5
	36	37	21.49	21.50	21.49	21.46	21.47		2.5
	75	0	21.48	21.48	21.47	21.49	21.48		2.5
256QAM	1	0	19.39	19.28	19.24	19.39	19.27	0-5	4.5
	1	36	19.45	19.49	19.44	19.50	19.47		4.5
	1	74	19.24	19.23	19.23	19.21	19.40		4.5
	36	0	19.61	19.56	19.50	19.60	19.56		4.5
	36	18	19.68	19.67	19.64	19.58	19.66		4.5
	36	37	19.62	19.60	19.60	19.56	19.72		4.5
	75	0	19.59	19.63	19.57	19.60	19.57		4.5

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Table 9-73
LTE Band 41 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 10 MHz Bandwidth

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	24.23	24.20	24.02	24.22	24.23	0	0
	1	25	24.18	24.36	24.24	24.32	24.38		0
	1	49	24.17	24.14	23.93	24.03	24.06		0
	25	0	23.44	23.35	23.20	23.35	23.37	0-1	0.5
	25	12	23.45	23.51	23.36	23.48	23.43		0.5
	25	25	23.45	23.51	23.37	23.48	23.42		0.5
	50	0	23.38	23.42	23.28	23.39	23.31		0.5
16QAM	1	0	23.57	23.30	23.18	23.31	23.36	0-1	0.5
	1	25	23.46	23.53	23.34	23.54	23.49		0.5
	1	49	23.42	23.22	23.07	23.14	23.19		0.5
	25	0	22.48	22.33	22.21	22.32	22.39	0-2	1.5
	25	12	22.45	22.52	22.40	22.46	22.45		1.5
	25	25	22.42	22.40	22.25	22.33	22.39		1.5
	50	0	22.43	22.46	22.32	22.42	22.40		1.5
64QAM	1	0	22.14	21.90	21.74	21.82	21.99	0-2	1.5
	1	25	21.92	22.14	21.83	21.96	22.00		1.5
	1	49	21.93	21.89	21.80	21.89	21.95		1.5
	25	0	21.33	21.33	21.14	21.32	21.37	0-3	2.5
	25	12	21.35	21.48	21.28	21.45	21.43		2.5
	25	25	21.31	21.36	21.12	21.28	21.38		2.5
	50	0	21.36	21.50	21.13	21.46	21.40		2.5
256QAM	1	0	18.98	19.08	18.82	19.10	19.16	0-5	4.5
	1	25	19.17	19.31	19.10	19.29	19.35		4.5
	1	49	18.88	19.02	18.83	19.05	19.08		4.5
	25	0	19.49	19.48	19.32	19.38	19.45		4.5
	25	12	19.50	19.62	19.44	19.51	19.49		4.5
	25	25	19.43	19.48	19.34	19.39	19.44		4.5
	50	0	19.42	19.53	19.38	19.45	19.42		4.5

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Table 9-74
LTE Band 41 Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 5 MHz Bandwidth

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	24.41	24.37	24.14	24.31	24.37	0	0
	1	12	24.36	24.42	24.20	24.34	24.43		0
	1	24	24.34	24.39	24.20	24.33	24.38		0
	12	0	23.41	23.51	23.27	23.35	23.45	0-1	0.5
	12	6	23.47	23.52	23.36	23.45	23.46		0.5
	12	13	23.42	23.50	23.30	23.39	23.48		0.5
	25	0	23.43	23.50	23.35	23.41	23.42		0.5
16QAM	1	0	23.50	23.43	23.25	23.40	23.42	0-1	0.5
	1	12	23.47	23.56	23.31	23.38	23.59		0.5
	1	24	23.45	23.47	23.31	23.37	23.46		0.5
	12	0	22.37	22.43	22.18	22.31	22.39	0-2	1.5
	12	6	22.37	22.46	22.30	22.38	22.40		1.5
	12	13	22.35	22.40	22.24	22.33	22.41		1.5
	25	0	22.44	22.50	22.37	22.44	22.45		1.5
64QAM	1	0	22.13	22.05	21.91	22.02	22.09	0-2	1.5
	1	12	22.08	22.11	21.96	22.07	22.18		1.5
	1	24	22.03	22.06	21.93	22.01	22.12		1.5
	12	0	21.41	21.44	21.23	21.34	21.39	0-3	2.5
	12	6	21.42	21.47	21.29	21.42	21.41		2.5
	12	13	21.39	21.42	21.28	21.35	21.43		2.5
	25	0	21.42	21.49	21.34	21.43	21.43		2.5
256QAM	1	0	19.21	19.31	19.13	19.21	19.25	0-5	4.5
	1	12	19.15	19.35	19.17	19.25	19.27		4.5
	1	24	19.12	19.29	19.10	19.18	19.26		4.5
	12	0	19.51	19.60	19.40	19.45	19.50		4.5
	12	6	19.51	19.62	19.47	19.51	19.53		4.5
	12	13	19.46	19.58	19.41	19.50	19.55		4.5
	25	0	19.42	19.54	19.38	19.44	19.44		4.5

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9.5 NR Conducted Powers

9.5.1 NR Band n71

Table 9-75
NR Band n71 Measured P_{max} for all DSI - 20 MHz Bandwidth

NR Band n71 20 MHz Bandwidth					
			Channel		
Modulation	RB Size	RB Offset	136100 (680.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
DFT-s-OFDM QPSK	1	1	24.36	0	0
	1	53	**25.12**		0
	1	104	24.32		0
	50	0	23.72	0-1	1
	50	28	**24.87**	0	0
	50	56	23.75	0-1	1
	100	0	23.77		1
DFT-s-OFDM 16QAM	1	1	23.12	0-1	1
CP-OFDM QPSK	1	1	23.05	0-1.5	1.5

Note: NR Band n71 at 20 MHz bandwidth does not support non-overlapping channels. Per FCC Guidance, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

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Table 9-76
NR Band n71 Measured P_{max} for all DSI - 15 MHz Bandwidth

NR Band n71 15 MHz Bandwidth					
			Channel		
Modulation	RB Size	RB Offset	136100 (680.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
DFT-s-OFDM QPSK	1	1	24.48	0	0
	1	40	24.75		0
	1	77	24.77		0
	36	0	23.68	0-1	1
	36	22	24.88	0	0
	36	43	24.09	0-1	1
	75	0	23.89		1
DFT-s-OFDM 16QAM	1	1	23.56	0-1	1
CP-OFDM QPSK	1	1	23.32	0-1.5	1.5

Note: NR Band n71 at 15 MHz bandwidth does not support non-overlapping channels. Per FCC Guidance, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

Table 9-77
NR Band n71 Measured P_{max} for all DSI - 10 MHz Bandwidth

NR Band n71 10 MHz Bandwidth							
			Channel				
Modulation	RB Size	RB Offset	133600 (668 MHz)	136100 (680.5 MHz)	138600 (693 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
DFT-s-OFDM QPSK	1	1	24.00	24.14	24.12	0	0
	1	26	24.20	24.62	24.50		0
	1	50	24.16	24.49	23.84		0
	25	0	23.60	23.70	23.73	0-1	1
	25	14	24.64	24.87	24.68	0	0
	25	27	23.38	24.06	23.62	0-1	1
	50	0	23.46	23.90	23.59		1
DFT-s-OFDM 16QAM	1	1	23.15	23.49	23.28	0-1	1
CP-OFDM QPSK	1	1	22.44	22.86	22.71	0-1.5	1.5

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Table 9-78
NR Band n71 Measured P_{max} for all DSI - 5 MHz Bandwidth

NR Band n71 5 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	133100 (665.5 MHz)	136100 (680.5 MHz)	139100 (695.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM QPSK	1	1	24.32	24.42	24.40	0	0
	1	13	24.66	24.57	24.54		0
	1	23	24.61	24.73	24.21		0
	12	0	23.60	24.03	24.03	0-1	1
	12	7	24.76	24.98	24.67	0	0
	12	13	23.90	24.24	23.42	0-1	1
	25	0	23.60	24.03	23.63		1
DFT-s-OFDM 16QAM	1	1	23.40	23.51	23.56	0-1	1
CP-OFDM QPSK	1	1	22.83	22.87	23.08	0-1.5	1.5

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9.5.2 NR Band n66

Table 9-79
NR Band n66 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 20 MHz Bandwidth

NR Band n66 20 MHz Bandwidth							
			Channel				
Modulation	RB Size	RB Offset	344000 (1720 MHz)	349000 (1745 MHz)	354000 (1770 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
DFT-s-OFDM QPSK	1	1	23.19	23.14	22.91	0	0
	1	53	23.41	**24.12**	23.34		0
	1	104	23.03	23.41	23.27		0
	50	0	22.37	22.67	22.05	0-1	1
	50	28	23.35	**23.97**	23.41	0	0
	50	56	22.13	22.71	22.51	0-1	1
	100	0	22.40	22.76	22.25		1
DFT-s-OFDM 16QAM	1	1	22.35	22.65	22.13	0-1	1
CP-OFDM QPSK	1	1	21.88	22.01	21.82	0-1.5	1.5

Table 9-80
NR Band n66 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 15 MHz Bandwidth

NR Band n66 15 MHz Bandwidth								
			Channel					
Modulation	RB Size	RB Offset	343500 (1717.5 MHz)	347160 (1735.8 MHz)	350820 (1754.1 MHz)	354500 (1772.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
DFT-s-OFDM QPSK	1	1	23.59	23.85	23.97	23.70	0	0
	1	40	23.61	23.96	23.98	23.79		0
	1	77	23.51	24.10	23.72	23.76		0
	36	0	22.70	22.87	23.15	22.64	0-1	1
	36	22	23.67	23.91	24.03	23.73	0	0
	36	43	22.60	23.05	22.81	22.84	0-1	1
	75	0	22.70	23.04	23.07	22.66		1
DFT-s-OFDM 16QAM	1	1	22.53	22.73	23.23	22.52	0-1	1
CP-OFDM QPSK	1	1	22.04	22.13	22.45	22.12	0-1.5	1.5

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Table 9-81
NR Band n66 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 10 MHz Bandwidth

NR Band n66 10 MHz Bandwidth								
			Channel					
Modulation	RB Size	RB Offset	343000 (1715 MHz)	347000 (1735 MHz)	351000 (1755 MHz)	355000 (1775 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
DFT-s-OFDM QPSK	1	1	23.62	23.56	23.83	23.68	0	0
	1	26	23.73	23.80	23.91	23.83		0
	1	50	23.60	23.87	23.46	23.60		0
	25	0	22.64	22.73	23.03	22.95	0-1	1
	25	14	23.65	23.89	23.93	23.95	0	0
	25	27	22.62	22.94	22.68	23.01	0-1	1
	50	0	22.59	22.84	22.89	22.98		1
DFT-s-OFDM 16QAM	1	1	22.39	22.42	23.08	22.42	0-1	1
CP-OFDM QPSK	1	1	21.76	21.86	22.25	22.11	0-1.5	1.5

Table 9-82
NR Band n66 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 5 MHz Bandwidth

NR Band n66 5 MHz Bandwidth								
			Channel					
Modulation	RB Size	RB Offset	342500 (1712.5 MHz)	346820 (1734.1 MHz)	351160 (1755.8 MHz)	355500 (1777.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
DFT-s-OFDM QPSK	1	1	23.36	23.69	23.95	23.81	0	0
	1	13	23.54	23.76	23.76	23.80		0
	1	23	23.48	23.71	23.41	23.73		0
	12	0	22.48	22.73	22.76	22.97	0-1	1
	12	7	23.37	23.72	23.55	23.86	0	0
	12	13	22.38	22.85	22.52	22.94	0-1	1
	25	0	22.42	22.81	22.60	22.97		1
DFT-s-OFDM 16QAM	1	1	22.49	22.55	22.89	23.28	0-1	1
CP-OFDM QPSK	1	1	21.93	22.19	22.32	22.39	0-1.5	1.5

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Table 9-83
NR Band n66 Measured P_{limit} for DSI = 3 (Hotspot mode) / DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 20 MHz Bandwidth

NR Band n66 20 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	344000 (1720 MHz)	349000 (1745 MHz)	354000 (1770 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM QPSK	1	1	20.00	19.81	19.86	0	0
	1	53	19.91	19.66	19.83		0
	1	104	**20.04**	19.79	19.77		0
	50	0	**20.06**	19.86	19.85	0-1	0
	50	28	20.02	19.80	19.84	0	0
	50	56	20.04	19.77	19.81	0-1	0
	100	0	20.00	19.80	19.84		0
DFT-s-OFDM 16QAM	1	1	20.36	20.22	20.12	0-1	0
CP-OFDM QPSK	1	1	20.17	20.04	20.04	0-1.5	0

Table 9-84
NR Band n66 Measured P_{limit} for DSI = 3 (Hotspot mode) / DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 15 MHz Bandwidth

NR Band n66 15 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	343500 (1717.5 MHz)	349000 (1745 MHz)	354500 (1772.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM QPSK	1	1	19.71	19.48	19.66	0	0
	1	40	19.66	19.36	19.55		0
	1	77	19.79	19.43	19.65		0
	36	0	19.77	19.58	19.70	0-1	0
	36	22	19.72	19.50	19.60	0	0
	36	43	19.80	19.53	19.66	0-1	0
	75	0	19.75	19.60	19.63		0
DFT-s-OFDM 16QAM	1	1	19.52	19.31	19.82	0-1	0
CP-OFDM QPSK	1	1	19.60	19.48	19.71	0-1.5	0

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Table 9-85
NR Band n66 Measured P_{limit} for DSI = 3 (Hotspot mode) / DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 10 MHz Bandwidth

NR Band n66 10 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	343000 (1715 MHz)	349000 (1745 MHz)	355000 (1775 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM QPSK	1	1	19.59	19.35	19.55	0	0
	1	26	19.61	19.42	19.45		0
	1	50	19.57	19.31	19.29		0
	25	0	19.59	19.40	19.42	0-1	0
	25	14	19.54	19.40	19.39	0	0
	25	27	19.53	19.39	19.42	0-1	0
	50	0	19.56	19.36	19.42		0
DFT-s-OFDM 16QAM	1	1	19.74	19.42	19.68	0-1	0
CP-OFDM QPSK	1	1	19.10	19.12	19.14	0-1.5	0

Table 9-86
NR Band n66 Measured P_{limit} for DSI = 3 (Hotspot mode) / DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 5 MHz Bandwidth

NR Band n66 5 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	342500 (1712.5 MHz)	349000 (1745 MHz)	355500 (1777.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM QPSK	1	1	19.65	19.37	19.37	0	0
	1	13	19.57	19.20	19.50		0
	1	23	19.56	19.40	19.40		0
	12	0	19.70	19.47	19.46	0-1	0
	12	7	19.64	19.47	19.47	0	0
	12	13	19.68	19.50	19.43	0-1	0
	25	0	19.68	19.43	19.46		0
DFT-s-OFDM 16QAM	1	1	19.63	19.64	19.65	0-1	0
CP-OFDM QPSK	1	1	19.26	19.06	19.18	0-1.5	0

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9.5.3 NR Band n41

Table 9-87
NR Band n41 Measured P_{max} for all DSI - 100 MHz Bandwidth

NR Band n41 100 MHz Bandwidth					
			Channel		
Modulation	RB Size	RB Offset	518598 (2592.99 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
DFT-s-OFDM QPSK	1	1	**23.66**	0	0
	1	137	23.42		0
	1	271	23.46		0
	135	0	22.50	0-1	1
	135	69	**23.39**	0	0
	135	138	22.44	0-1	1
	270	0	22.52		1
DFT-s-OFDM 16QAM	1	1	22.75	0-1	1
CP-OFDM QPSK	1	1	22.08	0-1.5	1.5

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

Table 9-88
NR Band n41 Measured P_{max} for all DSI - 90 MHz Bandwidth

NR Band n41 90 MHz Bandwidth						
			Channel			
Modulation	RB Size	RB Offset	508200 (2541 MHz)	528996 (2644.98 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]			
DFT-s-OFDM QPSK	1	1	23.98	23.99	0	0
	1	123	24.25	24.11		0
	1	243	23.76	23.76		0
	120	0	23.15	23.34	0-1	1
	120	63	23.94	23.83	0	0
	120	125	22.92	22.82	0-1	1
	243	0	22.93	22.86		1
DFT-s-OFDM 16QAM	1	1	23.37	23.02	0-1	1
CP-OFDM QPSK	1	1	22.55	22.46	0-1.5	1.5

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Table 9-89
NR Band n41 Measured P_{max} for all DSI - 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 QPSK	1	1	23.80	24.01	0	0
	1	109	24.22	24.09		0
	1	215	23.78	24.12		0
	108	0	23.17	23.05	0-1	1
	108	55	24.17	24.01	0	0
	108	109	23.04	22.98	0-1	1
	216	0	23.03	22.96		1
DFT-s-OFDM 16QAM	1	1	23.28	23.11	0-1	1
CP-OFDM QPSK	1	1	22.39	22.51	0-1.5	1.5

Table 9-90
NR Band n41 Measured P_{max} for all DSI - 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 QPSK	1	1	23.71	23.62	24.08	0	0
	1	81	24.13	23.93	24.15		0
	1	160	23.54	23.55	23.91		0
	81	0	22.55	22.12	22.62	0-1	1
	81	41	23.83	23.29	23.75	0	0
	81	81	22.93	22.60	22.87	0-1	1
	162	0	22.86	22.52	22.78		1
DFT-s-OFDM 16QAM	1	1	22.66	22.36	22.64	0-1	1
CP-OFDM QPSK	1	1	22.42	22.09	22.67	0-1.5	1.5

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Table 9-91
NR Band n41 Measured P_{max} for all DSI - 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 QPSK	1	1	24.12	23.51	24.10	0	0
	1	67	24.03	23.64	23.91		0
	1	131	24.05	24.09	24.15		0
	64	0	22.83	22.51	22.88	0-1	1
	64	35	23.57	23.42	23.63	0	0
	64	69	22.85	22.51	22.66	0-1	1
	128	0	22.48	22.10	22.44		1
DFT-s-OFDM 16QAM	1	1	23.42	22.93	23.17	0-1	1
CP-OFDM QPSK	1	1	22.05	22.15	22.29	0-1.5	1.5

Table 9-92
NR Band n41 Measured P_{max} for all DSI - 40 MHz Bandwidth

NR Band n41 40 MHz Bandwidth								
			Channel				MPR Allowed per 3GPP [dB]	MPR [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 QPSK	1	1	24.05	24.02	24.11	24.07	0	0
	1	53	24.11	23.94	24.08	24.06		0
	1	104	24.03	24.02	24.06	24.01		0
	50	0	23.35	22.88	23.35	23.34	0-1	1
	50	28	23.96	23.84	23.75	23.87	0	0
	50	56	23.33	22.61	23.40	23.40	0-1	1
	100	0	23.35	22.52	23.05	23.06		1
DFT-s-OFDM 16QAM	1	1	23.29	23.05	23.12	23.21	0-1	1
CP-OFDM QPSK	1	1	22.43	22.66	22.64	22.68	0-1.5	1.5

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Table 9-93
NR Band n41 Measured P_{max} for all DSI - 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 QPSK	1	1	23.92	24.07	24.01	24.07	24.09	0	0
	1	26	24.03	24.05	23.92	23.95	24.10		0
	1	49	24.01	24.04	23.86	24.13	24.11		0
	25	0	22.90	22.84	22.73	23.03	22.91	0-1	1
	25	13	23.85	23.71	23.53	23.98	23.99	0	0
	25	26	23.15	23.06	22.87	23.21	23.20	0-1	1
	50	0	22.86	22.62	22.50	22.82	22.96		1
DFT-s-OFDM 16QAM	1	1	22.81	22.84	22.76	22.65	22.79	0-1	1
CP-OFDM QPSK	1	1	22.07	21.93	22.37	22.26	22.14	0-1.5	1.5

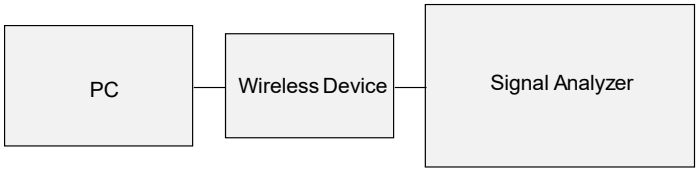

Figure 9-4
Power Measurement Setup

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9.6 WLAN Conducted Powers

Table 9-94
2.4 GHz WLAN Maximum Average RF Power – Ant 1

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ax SU
		Average	Average	Average	Average
2412	1	20.51	17.92	17.35	16.47
2437	6	20.38	17.54	17.36	16.31
2457	10	N/A	17.72	17.66	16.58
2462	11	20.77	16.68	16.39	14.06

Table 9-95
2.4 GHz WLAN Maximum Average RF Power – Ant 2

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ax SU
		Average	Average	Average	Average
2412	1	20.86	17.25	17.15	16.73
2437	6	20.88	17.96	17.96	16.70
2457	10	N/A	17.76	17.69	16.26
2462	11	19.25	16.45	16.35	14.01

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Table 9-96
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 SU
		Average	Average	Average	Average
5180	36	16.01	15.93	16.06	15.93
5200	40	17.64	17.76	17.61	15.99
5220	44	17.72	17.71	17.56	15.92
5240	48	17.67	17.66	17.51	15.97
5260	52	17.32	17.18	17.25	15.73
5280	56	17.96	17.96	17.94	15.59
5300	60	17.84	17.77	17.77	15.34
5320	64	16.14	16.12	16.16	15.97
5500	100	16.48	16.34	16.41	15.99
5520	104	17.97	17.95	17.98	15.76
5600	120	17.68	17.76	17.64	15.97
5620	124	17.61	17.71	17.63	15.88
5720	144	17.77	17.75	17.71	15.98
5745	149	17.98	17.35	17.29	15.48
5785	157	17.73	17.74	17.72	15.98
5825	165	17.74	17.84	17.77	15.97

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Table 9-97
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 SU
		Average	Average	Average	Average
5180	36	16.20	16.16	16.13	15.55
5200	40	17.25	17.21	17.36	15.54
5220	44	17.26	17.10	17.33	15.48
5240	48	17.25	17.16	17.39	15.49
5260	52	17.26	17.25	17.44	15.59
5280	56	17.35	17.37	17.36	15.68
5300	60	17.34	17.49	17.58	15.70
5320	64	16.31	16.24	16.24	15.69
5500	100	16.08	16.02	16.06	15.32
5520	104	17.77	17.81	17.78	15.97
5600	120	17.53	17.16	17.23	15.55
5620	124	17.26	17.01	17.35	15.44
5720	144	17.29	17.91	17.15	15.40
5745	149	17.13	17.36	17.34	15.55
5785	157	17.25	17.19	17.54	15.69
5825	165	16.98	17.96	17.21	15.42

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Table 9-98
5 GHz WLAN Maximum Average RF Power – MIMO

5GHz (20MHz) 802.11n Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
5180	36	15.93	16.16	19.06
5200	40	17.76	17.21	20.50
5220	44	17.71	17.10	20.43
5240	48	17.66	17.16	20.43
5260	52	17.18	17.25	20.23
5280	56	17.96	17.37	20.69
5300	60	17.77	17.49	20.64
5320	64	16.12	16.24	19.19
5500	100	16.34	16.02	19.19
5520	104	17.95	17.81	20.89
5600	120	17.76	17.16	20.48
5620	124	17.71	17.01	20.38
5720	144	17.75	17.91	20.84
5745	149	17.35	17.36	20.37
5785	157	17.74	17.19	20.48
5825	165	17.84	17.96	20.91

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Table 9-99
Maximum 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	16.31	15.68
2437	6	16.48	16.65
2462	11	16.39	16.35

5GHz (40MHz) 802.11n Conducted Power [dBm]			
Freq [MHz]	Channel	ANT1	ANT2
5190	38	13.37	13.21
5230	46	13.66	13.38
5270	54	13.92	13.78
5310	62	13.49	13.41

5GHz (80MHz) 802.11ac Conducted Power [dBm]			
Freq [MHz]	Channel	ANT1	ANT2
5530	106	12.36	12.28
5610	122	13.32	13.31
5690	138	13.63	13.37
5775	155	13.24	13.58

Table 9-100
2.4 GHz WLAN Reduced Average RF Power (RCV Active) – Ant 1

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ax SU
		Average	Average	Average	Average
2412	1	16.61	16.55	16.31	16.47
2437	6	16.72	16.56	16.48	16.31
2462	11	16.95	16.68	16.39	14.06

Table 9-101
2.4 GHz WLAN Reduced Average RF Power (RCV Active) – Ant 2

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ax SU
		Average	Average	Average	Average
2412	1	16.36	15.80	15.68	16.73
2437	6	16.23	16.68	16.65	16.70
2462	11	16.15	16.45	16.35	14.01

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Table 9-102
5 GHz WLAN Reduced Average RF Power – Ant 1

5GHz (40MHz) Conducted Power [dBm]				
Freq [MHz]	Channel	IEEE Transmission Mode		
		802.11n	802.11ac	802.11ax
		Average	Average	Average
5190	38	13.37	13.37	12.89
5230	46	13.66	13.72	13.85
5270	54	13.92	13.89	13.97
5310	62	13.49	12.52	13.85

5GHz (80MHz) Conducted Power [dBm]			
Freq [MHz]	Channel	IEEE Transmission Mode	
		802.11ac	802.11ax SU
		Average	Average
5530	106	12.36	12.10
5610	122	13.32	12.72
5690	138	13.63	12.97
5775	155	13.24	12.62

Table 9-103
5 GHz WLAN Reduced Average RF Power – Ant 2

5GHz (40MHz) Conducted Power [dBm]				
Freq [MHz]	Channel	IEEE Transmission Mode		
		802.11n	802.11ac	802.11ax
		Average	Average	Average
5190	38	13.21	12.84	13.06
5230	46	13.38	13.13	13.33
5270	54	13.78	13.93	13.55
5310	62	13.41	12.72	13.85

5GHz (80MHz) Conducted Power [dBm]			
Freq [MHz]	Channel	IEEE Transmission Mode	
		802.11ac	802.11ax SU
		Average	Average
5530	106	12.28	12.78
5610	122	13.31	12.42
5690	138	13.37	12.60
5775	155	13.58	12.96

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

5GHz (40MHz) 802.11n Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
5190	38	13.37	13.21	16.30
5230	46	13.66	13.38	16.53
5270	54	13.92	13.78	16.86
5310	62	13.49	13.41	16.46
5GHz (80MHz) 802.11ac Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
5530	106	12.36	12.28	15.33
5610	122	13.32	13.31	16.33
5690	138	13.63	13.37	16.51
5775	155	13.24	13.58	16.42

Table 9-105
Reduced Output Powers when RCV Active During Conditions with 2.4 GHz and 5 GHz WLAN

2.4GHz 802.11n Conducted Power [dBm]			
Freq [MHz]	Channel	ANT1	ANT2
2412	1	13.05	13.11
2437	6	13.67	13.35
2462	11	13.15	13.97

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

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

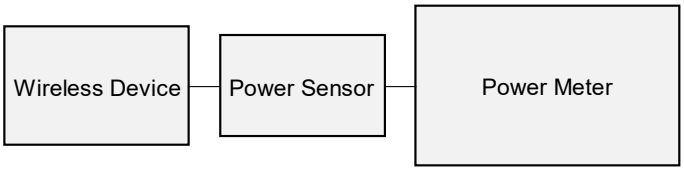

Figure 9-5
Power Measurement Setup

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9.7 Bluetooth Conducted Powers

Table 9-106
Bluetooth Average RF Power

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
			[dBm]	[mW]
2402	1.0	0	12.53	17.902
2441	1.0	39	14.91	30.974
2480	1.0	78	13.49	22.325
2402	2.0	0	10.70	11.761
2441	2.0	39	12.16	16.436
2480	2.0	78	10.81	12.044
2402	3.0	0	10.42	11.011
2441	3.0	39	12.33	17.093
2480	3.0	78	10.84	12.134

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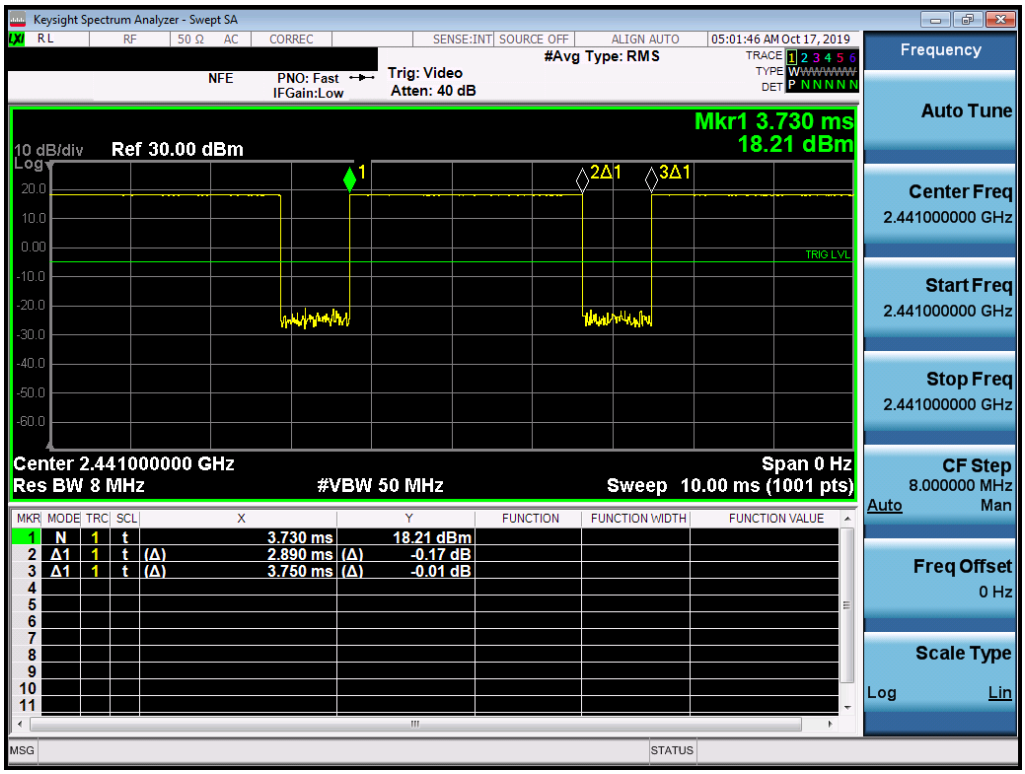

Figure 9-6
Bluetooth Transmission Plot

Equation 9-1
Bluetooth Duty Cycle Calculation

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{2.89ms}{3.75ms} * 100\% = 77.1\%$$

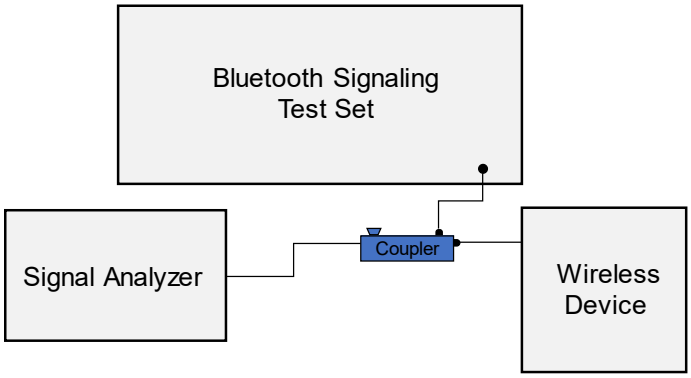

Figure 9-7
Power Measurement Setup

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10 SYSTEM VERIFICATION

10.1 Tissue Verification

Table 10-1
Measured Head Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (˚C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
01/05/2020	700 Head	20.4	680	0.844	41.641	0.888	42.305	-4.95%	-1.57%
			695	0.849	41.593	0.889	42.227	-4.50%	-1.50%
			700	0.851	41.575	0.889	42.201	-4.27%	-1.48%
			710	0.855	41.543	0.890	42.149	-3.93%	-1.44%
			725	0.860	41.492	0.891	42.071	-3.48%	-1.38%
			740	0.866	41.436	0.893	41.994	-3.02%	-1.33%
			750	0.870	41.400	0.894	41.942	-2.68%	-1.29%
			755	0.871	41.383	0.894	41.916	-2.57%	-1.27%
			770	0.877	41.342	0.895	41.838	-2.01%	-1.19%
			785	0.882	41.298	0.896	41.760	-1.56%	-1.11%
			800	0.888	41.252	0.897	41.682	-1.00%	-1.03%
01/20/2020	700 Head	20.6	680	0.870	42.192	0.888	42.305	-2.03%	-0.27%
			695	0.875	42.145	0.889	42.227	-1.57%	-0.19%
			700	0.877	42.132	0.889	42.201	-1.35%	-0.16%
			710	0.880	42.100	0.890	42.149	-1.12%	-0.12%
			725	0.886	42.049	0.891	42.071	-0.56%	-0.05%
			740	0.891	42.005	0.893	41.994	-0.22%	0.03%
			750	0.894	41.968	0.894	41.942	0.00%	0.06%
			755	0.896	41.953	0.894	41.916	0.22%	0.09%
			770	0.901	41.901	0.895	41.838	0.67%	0.15%
			785	0.907	41.855	0.896	41.760	1.23%	0.23%
			800	0.912	41.812	0.897	41.682	1.67%	0.31%
12/09/2019	835 Head	21.3	820	0.911	40.677	0.899	41.578	1.33%	-2.17%
			835	0.915	40.624	0.900	41.500	1.67%	-2.11%
			850	0.920	40.584	0.916	41.500	0.44%	-2.21%
12/02/2019	1750 Head	21.2	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%
			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%
			1770	1.391	39.116	1.383	40.047	0.58%	-2.32%
			1790	1.401	39.065	1.394	40.016	0.50%	-2.38%
12/04/2019	1750 Head	21.6	1710	1.323	38.629	1.348	40.142	-1.85%	-3.77%
			1720	1.329	38.606	1.354	40.126	-1.85%	-3.79%
			1745	1.347	38.598	1.368	40.087	-1.54%	-3.71%
			1750	1.350	38.601	1.371	40.079	-1.53%	-3.69%
			1770	1.362	38.582	1.383	40.047	-1.52%	-3.66%
			1790	1.371	38.520	1.394	40.016	-1.65%	-3.74%
01/04/2020	1900 Head	21.6	1850	1.406	39.411	1.400	40.000	0.43%	-1.47%
			1860	1.412	39.397	1.400	40.000	0.86%	-1.51%
			1880	1.423	39.364	1.400	40.000	1.64%	-1.59%
			1900	1.433	39.339	1.400	40.000	2.36%	-1.65%
			1905	1.436	39.332	1.400	40.000	2.57%	-1.67%
			1910	1.438	39.326	1.400	40.000	2.71%	-1.69%
11/25/2019	2450 Head	23.0	2400	1.791	38.536	1.756	39.289	1.99%	-1.92%
			2450	1.829	38.470	1.800	39.200	1.61%	-1.86%
			2500	1.866	38.384	1.855	39.136	0.59%	-1.92%
			2510	1.874	38.363	1.866	39.123	0.43%	-1.94%
			2535	1.895	38.322	1.893	39.092	0.11%	-1.97%
			2550	1.908	38.305	1.909	39.073	-0.05%	-1.97%
			2560	1.916	38.294	1.920	39.060	-0.21%	-1.96%
			2600	1.946	38.234	1.964	39.009	-0.92%	-1.99%
			2650	1.986	38.135	2.018	38.945	-1.59%	-2.08%
			2680	2.010	38.084	2.051	38.907	-2.00%	-2.12%
			2700	2.025	38.058	2.073	38.882	-2.32%	-2.12%
12/09/2019	2450 Head	19.8	2400	1.808	38.922	1.756	39.289	2.96%	-0.93%
			2450	1.849	38.818	1.800	39.200	2.72%	-0.97%
			2500	1.888	38.743	1.855	39.136	1.78%	-1.00%
12/16/2019	2450 Head	19.2	2400	1.806	38.745	1.756	39.289	2.85%	-1.38%
			2450	1.849	38.669	1.800	39.200	2.72%	-1.35%
			2500	1.888	38.591	1.855	39.136	1.78%	-1.39%
12/25/2019	2450 Head	23.0	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%
			2320	1.768	38.586	1.687	39.460	4.80%	-2.21%
			2400	1.827	38.471	1.756	39.289	4.04%	-2.08%
01/10/2020	2450 Head	23.2	2500	1.853	37.413	1.855	39.136	-0.11%	-4.40%
			2510	1.861	37.400	1.866	39.123	-0.27%	-4.40%
			2535	1.881	37.360	1.893	39.092	-0.63%	-4.43%
			2550	1.893	37.336	1.909	39.073	-0.84%	-4.45%
			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%
			2650	1.970	37.193	2.018	38.945	-2.38%	-4.50%
			2680	1.994	37.144	2.051	38.907	-2.78%	-4.53%
			2700	2.009	37.110	2.073	38.882	-3.09%	-4.56%
01/27/2020	2450 Head	24.3	2500	1.857	38.221	1.855	39.136	0.11%	-2.34%
			2510	1.864	38.206	1.866	39.123	-0.11%	-2.34%
			2535	1.883	38.165	1.893	39.092	-0.53%	-2.37%
			2550	1.895	38.144	1.909	39.073	-0.73%	-2.38%
			2560	1.903	38.132	1.920	39.060	-0.89%	-2.38%
			2600	1.931	38.079	1.964	39.009	-1.68%	-2.38%
			2650	1.970	37.995	2.018	38.945	-2.38%	-2.44%
			2680	1.993	37.951	2.051	38.907	-2.83%	-2.46%
			2700	2.008	37.917	2.073	38.882	-3.14%	-2.48%

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Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (˚C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
			5180	4.491	34.617	4.635	36.009	-3.11%	-3.87%
			5190	4.498	34.606	4.645	35.998	-3.16%	-3.87%
			5200	4.507	34.592	4.655	35.986	-3.18%	-3.87%
			5210	4.515	34.588	4.666	35.975	-3.24%	-3.86%
			5220	4.525	34.565	4.676	35.963	-3.23%	-3.89%
			5240	4.544	34.526	4.696	35.940	-3.24%	-3.93%
			5250	4.555	34.508	4.706	35.929	-3.21%	-3.96%
			5260	4.567	34.489	4.717	35.917	-3.18%	-3.98%
			5270	4.579	34.473	4.727	35.906	-3.13%	-3.99%
			5280	4.590	34.459	4.737	35.894	-3.10%	-4.00%
			5290	4.601	34.452	4.748	35.883	-3.10%	-3.99%
			5300	4.612	34.443	4.758	35.871	-3.07%	-3.98%
			5310	4.619	34.429	4.768	35.860	-3.13%	-3.99%
			5320	4.625	34.415	4.778	35.849	-3.20%	-4.00%
			5500	4.808	34.160	4.963	35.643	-3.12%	-4.16%
			5510	4.818	34.155	4.973	35.632	-3.12%	-4.15%
			5520	4.827	34.152	4.983	35.620	-3.13%	-4.12%
			5530	4.836	34.142	4.994	35.609	-3.16%	-4.12%
			5540	4.842	34.130	5.004	35.597	-3.24%	-4.12%
			5550	4.848	34.114	5.014	35.586	-3.31%	-4.14%
			5560	4.857	34.086	5.024	35.574	-3.32%	-4.18%
12/09/2019	5200-5800 Head	22.0	5580	4.885	34.042	5.045	35.551	-3.17%	-4.24%
			5600	4.913	34.013	5.065	35.529	-3.00%	-4.27%
			5610	4.924	33.995	5.076	35.518	-2.99%	-4.29%
			5620	4.935	33.987	5.086	35.506	-2.97%	-4.28%
			5640	4.955	33.981	5.106	35.483	-2.96%	-4.23%
			5660	4.968	33.956	5.127	35.460	-3.10%	-4.24%
			5670	4.976	33.933	5.137	35.449	-3.13%	-4.28%
			5680	4.987	33.901	5.147	35.437	-3.11%	-4.33%
			5690	4.999	33.872	5.158	35.426	-3.08%	-4.39%
			5700	5.011	33.848	5.168	35.414	-3.04%	-4.42%
			5710	5.024	33.839	5.178	35.403	-2.97%	-4.42%
			5720	5.039	33.839	5.188	35.391	-2.87%	-4.39%
			5745	5.069	33.833	5.214	35.363	-2.78%	-4.33%
			5750	5.075	33.826	5.219	35.357	-2.76%	-4.33%
			5755	5.077	33.822	5.224	35.351	-2.81%	-4.33%
			5765	5.084	33.815	5.234	35.340	-2.87%	-4.32%
			5775	5.092	33.801	5.245	35.329	-2.92%	-4.33%
			5785	5.101	33.776	5.255	35.317	-2.93%	-4.36%
			5795	5.112	33.750	5.265	35.305	-2.91%	-4.40%
			5800	5.116	33.738	5.270	35.300	-2.92%	-4.42%
			5805	5.121	33.728	5.275	35.294	-2.92%	-4.44%
			5825	5.147	33.702	5.296	35.271	-2.81%	-4.45%

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Table 10-2
Measured Body Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (˚C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
11/12/2019	700 Body	24.4	680	0.929	57.784	0.958	55.804	-3.03%	3.55%
			695	0.941	57.651	0.959	55.745	-1.88%	3.42%
			700	0.945	57.609	0.959	55.726	-1.46%	3.38%
			710	0.954	57.528	0.960	55.687	-0.63%	3.31%
			725	0.967	57.409	0.961	55.629	0.62%	3.20%
			740	0.980	57.282	0.963	55.570	1.77%	3.08%
			750	0.990	57.195	0.964	55.531	2.70%	3.00%
			755	0.995	57.152	0.964	55.512	3.22%	2.95%
			770	1.008	57.008	0.965	55.453	4.46%	2.80%
11/14/2019	700 Body	23.6	680	0.912	57.235	0.958	55.804	-4.80%	2.56%
			695	0.925	57.108	0.959	55.745	-3.55%	2.45%
			700	0.929	57.066	0.959	55.726	-3.13%	2.40%
			710	0.938	56.981	0.960	55.687	-2.29%	2.32%
			725	0.951	56.859	0.961	55.629	-1.04%	2.21%
			740	0.965	56.731	0.963	55.570	0.21%	2.09%
			750	0.974	56.643	0.964	55.531	1.04%	2.00%
			755	0.978	56.598	0.964	55.512	1.45%	1.96%
			770	0.992	56.464	0.965	55.453	2.80%	1.82%
			785	1.006	56.328	0.966	55.395	4.14%	1.68%
11/20/2019	700 Body	21.7	680	0.920	55.175	0.958	55.804	-3.97%	-1.13%
			695	0.925	55.137	0.959	55.745	-3.55%	-1.09%
			700	0.926	55.126	0.959	55.726	-3.44%	-1.08%
			710	0.929	55.107	0.960	55.687	-3.23%	-1.04%
			725	0.935	55.092	0.961	55.629	-2.71%	-0.97%
			740	0.940	55.069	0.963	55.570	-2.39%	-0.90%
			750	0.944	55.048	0.964	55.531	-2.07%	-0.87%
			755	0.946	55.036	0.964	55.512	-1.87%	-0.86%
			770	0.952	54.994	0.965	55.453	-1.35%	-0.83%
			785	0.958	54.944	0.966	55.395	-0.83%	-0.81%
			800	0.964	54.898	0.967	55.336	-0.31%	-0.79%
11/13/2019	835 Body	20.3	820	0.940	54.840	0.969	55.258	-2.99%	-0.76%
			835	0.956	54.694	0.970	55.200	-1.44%	-0.92%
			850	0.972	54.542	0.988	55.154	-1.62%	-1.11%
11/11/2019	1750 Body	22.5	1710	1.46	51.554	1.463	53.537	-0.21%	-3.70%
			1720	1.471	51.516	1.469	53.511	0.14%	-3.73%
			1745	1.499	51.43	1.485	53.445	0.94%	-3.77%
			1750	1.505	51.413	1.488	53.432	1.14%	-3.78%
			1770	1.526	51.329	1.501	53.379	1.67%	-3.84%
			1790	1.547	51.245	1.514	53.326	2.18%	-3.90%

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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
01/03/2020	1750 Body	20.4	1710	1.492	53.174	1.463	53.537	1.98%	-0.68%
			1720	1.505	53.132	1.469	53.511	2.45%	-0.71%
			1745	1.534	53.023	1.485	53.445	3.30%	-0.79%
			1750	1.540	53.000	1.488	53.432	3.49%	-0.81%
			1770	1.562	52.907	1.501	53.379	4.06%	-0.88%
			1790	1.583	52.818	1.514	53.326	4.56%	-0.95%
01/11/2020	1750 Body	20.6	1710	1.476	53.044	1.463	53.537	0.89%	-0.92%
			1720	1.488	52.997	1.469	53.511	1.29%	-0.96%
			1745	1.516	52.891	1.485	53.445	2.09%	-1.04%
			1750	1.522	52.870	1.488	53.432	2.28%	-1.05%
			1770	1.543	52.788	1.501	53.379	2.80%	-1.11%
			1790	1.564	52.709	1.514	53.326	3.30%	-1.16%
01/13/2020	1750 Body	20.8	1710	1.415	53.796	1.463	53.537	-3.28%	0.48%
			1720	1.427	53.763	1.469	53.511	-2.86%	0.47%
			1745	1.454	53.672	1.485	53.445	-2.09%	0.42%
			1750	1.459	53.654	1.488	53.432	-1.95%	0.42%
			1770	1.479	53.579	1.501	53.379	-1.47%	0.37%
			1790	1.500	53.506	1.514	53.326	-0.92%	0.34%
01/20/2020	1750 Body	21.2	1710	1.400	53.897	1.463	53.537	-4.31%	0.67%
			1720	1.411	53.868	1.469	53.511	-3.95%	0.67%
			1745	1.439	53.794	1.485	53.445	-3.10%	0.65%
			1750	1.444	53.779	1.488	53.432	-2.96%	0.65%
			1770	1.465	53.718	1.501	53.379	-2.40%	0.64%
			1790	1.487	53.645	1.514	53.326	-1.78%	0.60%
01/22/2020	1750 Body	21.1	1710	1.464	54.124	1.463	53.537	0.07%	1.10%
			1720	1.476	54.083	1.469	53.511	0.48%	1.07%
			1745	1.504	53.986	1.485	53.445	1.28%	1.01%
			1750	1.510	53.969	1.488	53.432	1.48%	1.01%
			1770	1.531	53.889	1.501	53.379	2.00%	0.96%
			1790	1.552	53.810	1.514	53.326	2.51%	0.91%
01/25/2020	1750 Body	21.2	1710	1.462	54.669	1.463	53.537	-0.07%	2.11%
			1720	1.474	54.632	1.469	53.511	0.34%	2.09%
			1745	1.503	54.539	1.485	53.445	1.21%	2.05%
			1750	1.508	54.520	1.488	53.432	1.34%	2.04%
			1770	1.530	54.437	1.501	53.379	1.93%	1.98%
			1790	1.552	54.349	1.514	53.326	2.51%	1.92%
11/18/2019	1900 Body	22.9	1850	1.508	51.200	1.520	53.300	-0.79%	-3.94%
			1860	1.519	51.172	1.520	53.300	-0.07%	-3.99%
			1880	1.542	51.116	1.520	53.300	1.45%	-4.10%
			1900	1.564	51.052	1.520	53.300	2.89%	-4.22%
			1905	1.570	51.033	1.520	53.300	3.29%	-4.25%
			1910	1.575	51.014	1.520	53.300	3.62%	-4.29%
11/23/2019	1900 Body	24.3	1850	1.525	52.039	1.520	53.300	0.33%	-2.37%
			1860	1.535	51.997	1.520	53.300	0.99%	-2.44%
			1880	1.558	51.941	1.520	53.300	2.50%	-2.55%
			1900	1.579	51.868	1.520	53.300	3.88%	-2.69%
			1905	1.585	51.853	1.520	53.300	4.28%	-2.71%
			1910	1.590	51.834	1.520	53.300	4.61%	-2.75%

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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
01/12/2020	1900 Body	23.8	1850	1.507	52.158	1.520	53.300	-0.86%	-2.14%
			1860	1.517	52.129	1.520	53.300	-0.20%	-2.20%
			1880	1.538	52.070	1.520	53.300	1.18%	-2.31%
			1900	1.560	52.007	1.520	53.300	2.63%	-2.43%
			1905	1.566	51.991	1.520	53.300	3.03%	-2.46%
			1910	1.571	51.974	1.520	53.300	3.36%	-2.49%
11/24/2019	2400 Body	24.0	2300	1.866	51.288	1.809	52.900	3.15%	-3.05%
			2310	1.877	51.257	1.816	52.887	3.36%	-3.08%
			2320	1.889	51.239	1.826	52.873	3.45%	-3.09%
			2400	1.978	51.014	1.902	52.767	4.00%	-3.32%
01/19/2020	1900 Body	24.5	1850	1.528	52.299	1.520	53.300	0.53%	-1.88%
			1860	1.538	52.263	1.520	53.300	1.18%	-1.95%
			1880	1.560	52.192	1.520	53.300	2.63%	-2.08%
			1900	1.583	52.118	1.520	53.300	4.14%	-2.22%
			1905	1.589	52.097	1.520	53.300	4.54%	-2.26%
			1910	1.594	52.078	1.520	53.300	4.87%	-2.29%
11/18/2019	2450 Body	22.0	2500	2.051	52.344	2.021	52.636	1.48%	-0.55%
			2510	2.060	52.333	2.035	52.623	1.23%	-0.55%
			2535	2.082	52.293	2.071	52.592	0.53%	-0.57%
			2550	2.095	52.267	2.092	52.573	0.14%	-0.58%
			2560	2.105	52.247	2.106	52.560	-0.05%	-0.60%
			2600	2.146	52.190	2.163	52.509	-0.79%	-0.61%
11/21/2019	2450 Body	23.1	2400	1.982	51.676	1.902	52.767	4.21%	-2.07%
			2450	2.043	51.548	1.950	52.700	4.77%	-2.19%
			2500	2.102	51.395	2.021	52.636	4.01%	-2.36%
			2510	2.114	51.363	2.035	52.623	3.88%	-2.39%
			2535	2.146	51.292	2.071	52.592	3.62%	-2.47%
			2550	2.166	51.256	2.092	52.573	3.54%	-2.51%
			2560	2.178	51.229	2.106	52.560	3.42%	-2.53%
			2600	2.226	51.120	2.163	52.509	2.91%	-2.65%
12/27/2019	2450 Body	22.3	2400	1.978	51.483	1.902	52.767	4.00%	-2.43%
			2450	2.035	51.343	1.950	52.700	4.36%	-2.57%
			2500	2.094	51.186	2.021	52.636	3.61%	-2.75%
01/02/2020	2450 Body	23.1	2300	1.872	51.404	1.809	52.900	3.48%	-2.83%
			2310	1.884	51.378	1.816	52.887	3.74%	-2.85%
			2320	1.895	51.351	1.826	52.873	3.78%	-2.88%
			2400	1.988	51.115	1.902	52.767	4.52%	-3.13%
01/05/20	2450 Body	23.2	2400	1.984	51.751	1.902	52.767	4.31%	-1.93%
			2450	2.041	51.608	1.950	52.700	4.67%	-2.07%
			2500	2.099	51.452	2.021	52.636	3.86%	-2.25%
			2510	2.112	51.433	2.035	52.623	3.78%	-2.26%
			2535	2.142	51.351	2.071	52.592	3.43%	-2.36%
			2550	2.160	51.312	2.092	52.573	3.25%	-2.40%
			2560	2.172	51.281	2.106	52.560	3.13%	-2.43%
			2600	2.222	51.175	2.163	52.509	2.73%	-2.54%
			2650	2.279	51.032	2.234	52.445	2.01%	-2.69%
			2680	2.318	50.935	2.277	52.407	1.80%	-2.81%
			2700	2.343	50.869	2.305	52.382	1.65%	-2.89%
01/06/2020	2450 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%
			2320	1.908	52.592	1.826	52.873	4.49%	-0.53%
			2400	1.976	52.409	1.902	52.767	3.89%	-0.68%
			2450	2.013	52.372	1.950	52.700	3.23%	-0.62%
01/09/2020	2450 Body	21.7	2400	1.972	51.581	1.902	52.767	3.68%	-2.25%
			2450	2.020	51.511	1.950	52.700	3.59%	-2.26%
			2500	2.063	51.442	2.021	52.636	2.08%	-2.27%
			2510	2.072	51.426	2.035	52.623	1.82%	-2.27%
			2535	2.097	51.392	2.071	52.592	1.26%	-2.28%
			2550	2.112	51.383	2.092	52.573	0.96%	-2.26%
			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%
			2650	2.208	51.215	2.234	52.445	-1.16%	-2.35%
			2680	2.237	51.178	2.277	52.407	-1.76%	-2.35%
			2700	2.255	51.124	2.305	52.382	-2.17%	-2.40%

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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
01/20/2020	2450 Body	24.1	2500	2.093	50.804	2.021	52.636	3.56%	-3.48%
			2510	2.105	50.771	2.035	52.623	3.44%	-3.52%
			2535	2.135	50.687	2.071	52.592	3.09%	-3.62%
			2550	2.153	50.645	2.092	52.573	2.92%	-3.67%
			2560	2.165	50.617	2.106	52.560	2.80%	-3.70%
			2600	2.212	50.494	2.163	52.509	2.27%	-3.84%
			2650	2.273	50.314	2.234	52.445	1.75%	-4.06%
			2680	2.309	50.231	2.277	52.407	1.41%	-4.15%
			2700	2.333	50.169	2.305	52.382	1.21%	-4.22%
01/27/2020	2450 Body	21.5	2400	1.974	51.690	1.902	52.767	3.79%	-2.04%
			2450	2.043	51.497	1.950	52.700	4.77%	-2.28%
			2500	2.112	51.296	2.021	52.636	4.50%	-2.55%
			2510	2.127	51.260	2.035	52.623	4.52%	-2.59%
			2535	2.163	51.169	2.071	52.592	4.44%	-2.71%
			2550	2.185	51.109	2.092	52.573	4.45%	-2.78%
			2560	2.200	51.069	2.106	52.560	4.46%	-2.84%
			2600	2.260	50.909	2.163	52.509	4.48%	-3.05%
			2650	2.331	50.706	2.234	52.445	4.34%	-3.32%
			2680	2.373	50.579	2.277	52.407	4.22%	-3.49%
			2700	2.401	50.492	2.305	52.382	4.16%	-3.61%
01/05/2020	5200-5800 Body	22.6	5180	5.398	48.069	5.276	49.041	2.31%	-1.98%
			5190	5.405	48.053	5.288	49.028	2.21%	-1.99%
			5200	5.417	48.038	5.299	49.014	2.23%	-1.99%
			5210	5.433	48.023	5.311	49.001	2.30%	-2.00%
			5220	5.447	48.005	5.323	48.987	2.33%	-2.00%
			5240	5.475	47.969	5.346	48.960	2.41%	-2.02%
			5250	5.495	47.949	5.358	48.947	2.56%	-2.04%
			5260	5.513	47.923	5.369	48.933	2.68%	-2.06%
			5270	5.525	47.895	5.381	48.919	2.68%	-2.09%
			5280	5.536	47.887	5.393	48.906	2.65%	-2.08%
			5290	5.550	47.880	5.404	48.892	2.70%	-2.07%
			5300	5.564	47.876	5.416	48.879	2.73%	-2.05%
			5310	5.574	47.862	5.428	48.865	2.69%	-2.05%
			5320	5.579	47.845	5.439	48.851	2.57%	-2.06%
			5500	5.821	47.534	5.650	48.607	3.03%	-2.21%
			5510	5.839	47.505	5.661	48.594	3.14%	-2.24%
			5520	5.853	47.487	5.673	48.580	3.17%	-2.25%
			5530	5.866	47.490	5.685	48.566	3.18%	-2.22%
			5540	5.877	47.483	5.696	48.553	3.18%	-2.20%
			5550	5.884	47.464	5.708	48.539	3.08%	-2.21%
			5560	5.891	47.441	5.720	48.526	2.99%	-2.24%
			5580	5.912	47.412	5.743	48.499	2.94%	-2.24%
			5600	5.942	47.372	5.766	48.471	3.05%	-2.27%
			5610	5.957	47.349	5.778	48.458	3.10%	-2.29%
			5620	5.975	47.334	5.790	48.444	3.20%	-2.29%
			5640	6.010	47.293	5.813	48.417	3.39%	-2.32%
			5660	6.034	47.278	5.837	48.390	3.38%	-2.30%
			5670	6.047	47.271	5.848	48.376	3.40%	-2.28%
			5680	6.059	47.247	5.860	48.363	3.40%	-2.31%
			5690	6.070	47.228	5.872	48.349	3.37%	-2.32%
			5700	6.081	47.218	5.883	48.336	3.37%	-2.31%
			5710	6.094	47.213	5.895	48.322	3.38%	-2.30%
			5720	6.107	47.188	5.907	48.309	3.39%	-2.32%
			5745	6.141	47.129	5.936	48.275	3.45%	-2.37%
			5750	6.147	47.117	5.942	48.268	3.45%	-2.38%
			5755	6.155	47.102	5.947	48.261	3.50%	-2.40%
			5765	6.169	47.085	5.959	48.248	3.52%	-2.41%
			5775	6.187	47.082	5.971	48.234	3.62%	-2.39%
			5785	6.207	47.079	5.982	48.220	3.76%	-2.37%
			5795	6.224	47.072	5.994	48.207	3.84%	-2.35%
			5800	6.230	47.068	6.000	48.200	3.83%	-2.35%
			5805	6.234	47.062	6.006	48.193	3.80%	-2.35%
			5825	6.252	47.041	6.029	48.166	3.70%	-2.34%

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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
01/13/2020	5200-5800 Body	22.1	5180	5.428	47.232	5.276	49.041	2.88%	-3.69%
			5190	5.438	47.214	5.288	49.028	2.84%	-3.70%
			5200	5.451	47.196	5.299	49.014	2.87%	-3.71%
			5210	5.466	47.176	5.311	49.001	2.92%	-3.72%
			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%
			5260	5.535	47.075	5.369	48.933	3.09%	-3.80%
			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%
			5290	5.575	47.032	5.404	48.892	3.16%	-3.80%
			5300	5.586	47.020	5.416	48.879	3.14%	-3.80%
			5310	5.596	46.998	5.428	48.865	3.10%	-3.82%
			5320	5.607	46.970	5.439	48.851	3.09%	-3.85%
			5500	5.846	46.669	5.650	48.607	3.47%	-3.99%
			5510	5.860	46.650	5.661	48.594	3.52%	-4.00%
			5520	5.871	46.641	5.673	48.580	3.49%	-3.99%
			5530	5.881	46.633	5.685	48.566	3.45%	-3.98%
			5540	5.890	46.614	5.696	48.553	3.41%	-3.99%
			5550	5.901	46.593	5.708	48.539	3.38%	-4.01%
			5560	5.914	46.570	5.720	48.526	3.39%	-4.03%
			5580	5.942	46.533	5.743	48.499	3.47%	-4.05%
			5600	5.978	46.497	5.766	48.471	3.68%	-4.07%
			5610	5.995	46.481	5.778	48.458	3.76%	-4.08%
			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%
			5660	6.059	46.403	5.837	48.390	3.80%	-4.11%
			5670	6.069	46.389	5.848	48.376	3.78%	-4.11%
			5680	6.081	46.370	5.860	48.363	3.77%	-4.12%
			5690	6.095	46.346	5.872	48.349	3.80%	-4.14%
			5700	6.110	46.317	5.883	48.336	3.86%	-4.18%
			5710	6.127	46.305	5.895	48.322	3.94%	-4.17%
			5720	6.141	46.292	5.907	48.309	3.96%	-4.18%
			5745	6.180	46.273	5.936	48.275	4.11%	-4.15%
			5750	6.187	46.260	5.942	48.268	4.12%	-4.16%
			5755	6.193	46.253	5.947	48.261	4.14%	-4.16%
			5765	6.201	46.239	5.959	48.248	4.06%	-4.16%
			5775	6.210	46.221	5.971	48.234	4.00%	-4.17%
			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%
			5800	6.250	46.167	6.000	48.200	4.17%	-4.22%
			5805	6.257	46.157	6.006	48.193	4.18%	-4.22%
			5825	6.289	46.125	6.029	48.166	4.31%	-4.24%
01/19/2020	5200-5800 Body	22.5	5180	5.370	48.460	5.276	49.041	1.78%	-1.18%
			5190	5.382	48.461	5.288	49.028	1.78%	-1.16%
			5200	5.398	48.459	5.299	49.014	1.87%	-1.13%
			5210	5.411	48.427	5.311	49.001	1.88%	-1.17%
			5220	5.422	48.388	5.323	48.987	1.86%	-1.22%
			5240	5.449	48.348	5.346	48.960	1.93%	-1.25%
			5250	5.465	48.326	5.358	48.947	2.00%	-1.27%
			5260	5.478	48.294	5.369	48.933	2.03%	-1.31%
			5270	5.489	48.280	5.381	48.919	2.01%	-1.31%
			5280	5.501	48.279	5.393	48.906	2.00%	-1.28%
			5290	5.513	48.285	5.404	48.892	2.02%	-1.24%
			5300	5.527	48.289	5.416	48.879	2.05%	-1.21%
			5310	5.538	48.278	5.428	48.865	2.03%	-1.20%
			5320	5.550	48.252	5.439	48.851	2.04%	-1.23%
			5500	5.781	47.926	5.650	48.607	2.32%	-1.40%
			5510	5.795	47.913	5.661	48.594	2.37%	-1.40%
			5520	5.812	47.911	5.673	48.580	2.45%	-1.38%
			5530	5.827	47.915	5.685	48.566	2.50%	-1.34%
			5540	5.839	47.911	5.696	48.553	2.51%	-1.32%
			5550	5.849	47.892	5.708	48.539	2.47%	-1.33%
			5560	5.857	47.856	5.720	48.526	2.40%	-1.38%
			5580	5.882	47.790	5.743	48.499	2.42%	-1.46%
			5600	5.918	47.763	5.766	48.471	2.64%	-1.46%
			5610	5.931	47.747	5.778	48.458	2.65%	-1.47%
			5620	5.942	47.735	5.790	48.444	2.63%	-1.46%
			5640	5.976	47.743	5.813	48.417	2.80%	-1.39%
			5660	6.000	47.689	5.837	48.390	2.79%	-1.45%
			5670	6.007	47.661	5.848	48.376	2.72%	-1.48%
			5680	6.017	47.638	5.860	48.363	2.68%	-1.50%
			5690	6.034	47.617	5.872	48.349	2.76%	-1.51%
			5700	6.048	47.578	5.883	48.336	2.80%	-1.57%
			5710	6.059	47.549	5.895	48.322	2.78%	-1.60%
			5720	6.071	47.548	5.907	48.309	2.78%	-1.58%
			5745	6.110	47.567	5.936	48.275	2.93%	-1.47%
			5750	6.116	47.553	5.942	48.268	2.93%	-1.48%
			5755	6.121	47.537	5.947	48.261	2.93%	-1.50%
			5765	6.132	47.519	5.959	48.248	2.90%	-1.51%
			5775	6.146	47.503	5.971	48.234	2.93%	-1.52%
			5785	6.159	47.480	5.982	48.220	2.96%	-1.53%
			5795	6.173	47.446	5.994	48.207	2.99%	-1.58%
			5800	6.179	47.431	6.000	48.200	2.98%	-1.60%
			5805	6.184	47.419	6.006	48.193	2.96%	-1.61%
			5825	6.213	47.408	6.029	48.166	3.05%	-1.57%

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 ±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 10-3
System Verification Results – 1g Head

System Verification TARGET & MEASURED												
SAR System #	Tissue Frequency (MHz)	Tissue Type	Date	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Source SN	Probe SN	Measured SAR_{1g} (W/kg)	1 W Target SAR_{1g} (W/kg)	1 W Normalized SAR_{1g} (W/kg)	$Deviation_{1g}$ (%)
M	750	HEAD	01/05/2020	21.9	20.4	0.200	1003	7308	1.740	8.280	8.700	5.07%
D	750	HEAD	01/20/2020	21.6	20.6	0.200	1054	3914	1.650	8.290	8.250	-0.48%
L	835	HEAD	12/09/2019	21.0	21.3	0.200	4d047	7410	1.920	9.420	9.600	1.91%
P	1750	HEAD	12/02/2019	23.7	21.2	0.100	1150	7551	3.780	36.500	37.800	3.56%
P	1750	HEAD	12/04/2019	22.8	21.6	0.100	1150	7551	3.680	36.500	36.800	0.82%
L	1900	HEAD	01/04/2020	23.2	21.6	0.100	5d148	7410	4.150	39.100	41.500	6.14%
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	11/25/2019	23.2	21.3	0.100	981	7417	5.390	52.300	53.900	3.06%
E	2450	HEAD	12/09/2019	20.8	19.8	0.100	981	7417	5.400	52.300	54.000	3.25%
E	2450	HEAD	12/16/2019	20.1	19.2	0.100	981	7417	5.300	52.300	53.000	1.34%
E	2600	HEAD	11/25/2019	23.2	21.3	0.100	1064	7417	6.040	58.100	60.400	3.96%
E	2600	HEAD	01/10/2020	23.1	22.2	0.100	1064	7417	6.070	58.100	60.700	4.48%
E	2600	HEAD	01/27/2020	24.4	23.0	0.100	1064	7417	5.980	58.100	59.800	2.93%
H	5250	HEAD	12/09/2019	22.0	23.0	0.050	1191	7406	3.780	80.800	75.600	-6.44%
H	5600	HEAD	12/09/2019	22.0	23.0	0.050	1191	7406	3.910	82.700	78.200	-5.44%
H	5750	HEAD	12/09/2019	22.0	23.0	0.050	1191	7406	3.610	80.200	72.200	-9.98%

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Table 10-4
System Verification Results – 1g Body

System Verification TARGET & MEASURED												
SAR System #	Tissue Frequency (MHz)	Tissue Type	Date	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Source SN	Probe SN	Measured SAR_{1g} (W/kg)	1 W Target SAR_{1g} (W/kg)	1 W Normalized SAR_{1g} (W/kg)	$Deviation_{1g}$ (%)
L	750	BODY	11/12/2019	22.6	24.4	0.200	1161	7410	1.820	8.430	9.100	7.95%
L	750	BODY	11/14/2019	22.8	23.6	0.200	1161	7410	1.790	8.430	8.950	6.17%
L	750	BODY	11/20/2019	23.0	21.7	0.200	1161	7410	1.710	8.430	8.550	1.42%
I	835	BODY	11/13/2019	22.0	20.3	0.200	4d132	7357	1.950	9.670	9.750	0.83%
G	1750	BODY	11/11/2019	21.8	21.0	0.100	1148	7409	3.790	37.700	37.900	0.53%
I	1750	BODY	01/03/2020	21.4	20.4	0.100	1150	7357	3.860	36.600	38.600	5.46%
M	1750	BODY	01/11/2020	21.4	20.6	0.100	1148	7308	3.970	37.700	39.700	5.31%
I	1750	BODY	01/13/2020	21.2	20.8	0.100	1008	7357	3.790	37.400	37.900	1.34%
I	1750	BODY	01/25/2020	22.2	21.2	0.100	1148	7357	3.930	37.700	39.300	4.24%
D	1900	BODY	11/18/2019	22.4	21.3	0.100	5d149	3914	4.240	39.400	42.400	7.61%
J	1900	BODY	11/23/2019	20.3	24.3	0.100	5d148	7488	3.990	39.100	39.900	2.05%
J	1900	BODY	01/12/2020	24.1	23.5	0.100	5d080	7571	4.150	39.200	41.500	5.87%
J	1900	BODY	01/19/2020	22.7	24.5	0.100	5d148	7571	4.200	39.100	42.000	7.42%
K	2300	BODY	01/02/2020	23.1	23.0	0.100	1073	7547	4.710	47.700	47.100	-1.26%
L	2300	BODY	01/06/2020	20.6	21.9	0.100	1064	7410	4.710	46.500	47.100	1.29%
K	2450	BODY	12/27/2019	23.5	22.0	0.100	797	7547	5.140	51.100	51.400	0.59%
K	2450	BODY	01/05/2020	23.4	22.2	0.100	719	7547	5.300	50.800	53.000	4.33%
L	2450	BODY	01/09/2020	21.8	20.2	0.100	719	7410	5.410	50.800	54.100	6.50%
L	2450	BODY	01/27/2020	20.5	21.5	0.100	981	7410	4.890	50.900	48.900	-3.93%
L	2600	BODY	11/18/2019	23.0	21.0	0.100	1064	7410	5.530	55.600	55.300	-0.54%
L	2600	BODY	01/09/2020	21.8	20.2	0.100	1004	7410	5.480	54.800	54.800	0.00%
K	2600	BODY	01/20/2020	23.9	24.1	0.100	1004	7547	5.620	54.800	56.200	2.55%
L	2600	BODY	01/27/2020	20.5	21.5	0.100	1064	7410	5.420	55.600	54.200	-2.52%
G	5250	BODY	01/05/2020	23.5	22.0	0.050	1191	7409	3.890	77.000	77.800	1.04%
G	5600	BODY	01/05/2020	23.5	22.0	0.050	1191	7409	4.140	78.600	82.800	5.34%
G	5750	BODY	01/05/2020	23.5	22.0	0.050	1191	7409	4.050	76.900	81.000	5.33%
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 10-5
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	01/20/2020	22.2	21.2	0.100	1148	7357	1.990	19.800	19.900	0.51%
I	1750	BODY	01/22/2020	21.1	22.8	0.100	1148	7357	2.120	19.800	21.200	7.07%
I	1750	BODY	01/25/2020	22.2	21.2	0.100	1148	7357	2.080	19.800	20.800	5.05%
J	1900	BODY	01/12/2020	24.1	23.5	0.100	5d080	7571	2.130	20.600	21.300	3.40%
J	1900	BODY	01/19/2020	22.7	24.5	0.100	5d148	7571	2.140	20.500	21.400	4.39%
L	2300	BODY	01/06/2020	20.6	21.9	0.100	1064	7410	2.260	22.600	22.600	0.00%
L	2450	BODY	01/09/2020	21.8	20.2	0.100	719	7410	2.480	24.000	24.800	3.33%
L	2450	BODY	01/27/2020	20.5	21.5	0.100	981	7410	2.240	24.200	22.400	-7.44%
L	2600	BODY	01/09/2020	21.8	20.2	0.100	1004	7410	2.420	24.700	24.200	-2.02%
L	2600	BODY	01/27/2020	20.5	21.5	0.100	1064	7410	2.370	25.000	23.700	-5.20%
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%
G	5750	BODY	01/19/2020	23.9	22.0	0.050	1191	7409	1.040	21.300	20.800	-2.35%

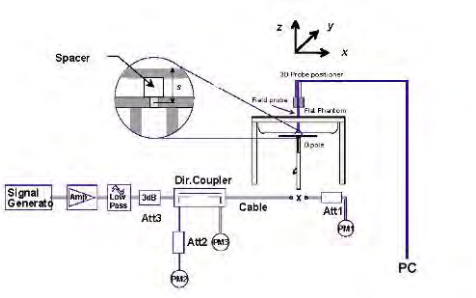

Figure 10-1
System Verification Setup Diagram

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 BC0 (§22H) Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna State	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
836.52	384	Cell. CDMA	RC3 / SO55	25.8	25.07	-0.15	Right	Cheek	0	1026M	1:1	0.196	1.183	0.232	
836.52	384	Cell. CDMA	RC3 / SO55	25.8	25.07	-0.05	Right	Tilt	0	1026M	1:1	0.085	1.183	0.101	
836.52	384	Cell. CDMA	RC3 / SO55	25.8	25.07	0.15	Left	Cheek	0	1026M	1:1	0.157	1.183	0.186	
836.52	384	Cell. CDMA	RC3 / SO55	25.8	25.07	-0.02	Left	Tilt	0	1026M	1:1	0.090	1.183	0.106	
836.52	384	Cell. CDMA	EVDO Rev. A	25.8	25.06	-0.01	Right	Cheek	0	1026M	1:1	0.198	1.186	0.235	A1
836.52	384	Cell. CDMA	EVDO Rev. A	25.8	25.06	0.12	Right	Tilt	0	1026M	1:1	0.095	1.186	0.113	
836.52	384	Cell. CDMA	EVDO Rev. A	25.8	25.06	0.09	Left	Cheek	0	1026M	1:1	0.174	1.186	0.206	
836.52	384	Cell. CDMA	EVDO Rev. A	25.8	25.06	0.10	Left	Tilt	0	1026M	1:1	0.095	1.186	0.113	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 11-2
GSM 850 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	# of Time Slots	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
836.60	190	GSM 850	GSM	33.0	32.10	0.07	Right	Cheek	0387M	1	1:8.3	0.145	1.230	0.178	A2
836.60	190	GSM 850	GSM	33.0	32.10	0.09	Right	Tilt	0387M	1	1:8.3	0.067	1.230	0.082	
836.60	190	GSM 850	GSM	33.0	32.10	0.15	Left	Cheek	0387M	1	1:8.3	0.117	1.230	0.144	
836.60	190	GSM 850	GSM	33.0	32.10	-0.12	Left	Tilt	0387M	1	1:8.3	0.064	1.230	0.079	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram								

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Table 11-3
GSM 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	30.0	28.90	0.20	Right	Cheek	0387M	1	1:8.3	0.036	1.288	0.046	
1880.00	661	GSM 1900	GSM	30.0	28.90	0.16	Right	Tilt	0387M	1	1:8.3	0.019	1.288	0.024	
1880.00	661	GSM 1900	GSM	30.0	28.90	0.12	Left	Cheek	0387M	1	1:8.3	0.038	1.288	0.049	A3
1880.00	661	GSM 1900	GSM	30.0	28.90	0.09	Left	Tilt	0387M	1	1:8.3	0.017	1.288	0.022	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 11-4
UMTS 850 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna State	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
836.60	4183	UMTS 850	RMC	25.0	24.21	0.02	Right	Cheek	0	1026M	1:1	0.168	1.199	0.201	A4
836.60	4183	UMTS 850	RMC	25.0	24.21	0.03	Right	Tilt	0	1026M	1:1	0.077	1.199	0.092	
836.60	4183	UMTS 850	RMC	25.0	24.21	-0.04	Left	Cheek	0	1026M	1:1	0.131	1.199	0.157	
836.60	4183	UMTS 850	RMC	25.0	24.21	-0.03	Left	Tilt	0	1026M	1:1	0.074	1.199	0.089	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 11-5
UMTS 1750 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna State	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1732.40	1412	UMTS 1750	RMC	24.5	24.16	0.13	Right	Cheek	23	0867M	1:1	0.094	1.081	0.102	
1732.40	1412	UMTS 1750	RMC	24.5	24.16	0.12	Right	Tilt	23	0867M	1:1	0.089	1.081	0.096	
1732.40	1412	UMTS 1750	RMC	24.5	24.16	-0.04	Left	Cheek	23	0867M	1:1	0.125	1.081	0.135	A5
1732.40	1412	UMTS 1750	RMC	24.5	24.16	0.03	Left	Tilt	23	0867M	1:1	0.088	1.081	0.095	
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 11-6
UMTS 1900 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna State	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1880.00	9400	UMTS 1900	RMC	24.5	24.02	0.05	Right	Cheek	13	0387M	1:1	0.091	1.117	0.102	
1880.00	9400	UMTS 1900	RMC	24.5	24.02	0.11	Right	Tilt	13	0387M	1:1	0.052	1.117	0.058	
1880.00	9400	UMTS 1900	RMC	24.5	24.02	0.08	Left	Cheek	13	0387M	1:1	0.096	1.117	0.107	A6
1880.00	9400	UMTS 1900	RMC	24.5	24.02	0.19	Left	Tilt	13	0387M	1:1	0.052	1.117	0.058	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 11-7
LTE Band 71 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Antenna State	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	33	25.5	24.79	0.06	0	Right	Cheek	QPSK	1	50	0332M	1:1	0.156	1.178	0.184	A7
680.50	133297	Mid	LTE Band 71	20	33	24.5	23.77	0.05	1	Right	Cheek	QPSK	50	25	0332M	1:1	0.126	1.183	0.149	
680.50	133297	Mid	LTE Band 71	20	33	25.5	24.79	0.03	0	Right	Tilt	QPSK	1	50	0332M	1:1	0.083	1.178	0.098	
680.50	133297	Mid	LTE Band 71	20	33	24.5	23.77	0.06	1	Right	Tilt	QPSK	50	25	0332M	1:1	0.066	1.183	0.078	
680.50	133297	Mid	LTE Band 71	20	33	25.5	24.79	0.04	0	Left	Cheek	QPSK	1	50	0332M	1:1	0.128	1.178	0.151	
680.50	133297	Mid	LTE Band 71	20	33	24.5	23.77	0.10	1	Left	Cheek	QPSK	50	25	0332M	1:1	0.107	1.183	0.127	
680.50	133297	Mid	LTE Band 71	20	33	25.5	24.79	0.06	0	Left	Tilt	QPSK	1	50	0332M	1:1	0.069	1.178	0.081	
680.50	133297	Mid	LTE Band 71	20	33	24.5	23.77	0.02	1	Left	Tilt	QPSK	50	25	0332M	1:1	0.058	1.183	0.069	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-8
LTE Band 12 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Antenna State	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	7	25.8	24.77	0.00	0	Right	Cheek	QPSK	1	49	0387M	1:1	0.164	1.268	0.208	A8
707.50	23095	Mid	LTE Band 12	10	7	24.8	23.81	0.07	1	Right	Cheek	QPSK	25	12	0387M	1:1	0.139	1.256	0.175	
707.50	23095	Mid	LTE Band 12	10	7	25.8	24.77	0.15	0	Right	Tilt	QPSK	1	49	0387M	1:1	0.079	1.268	0.100	
707.50	23095	Mid	LTE Band 12	10	7	24.8	23.81	0.01	1	Right	Tilt	QPSK	25	12	0387M	1:1	0.071	1.256	0.089	
707.50	23095	Mid	LTE Band 12	10	7	25.8	24.77	0.16	0	Left	Cheek	QPSK	1	49	0387M	1:1	0.140	1.268	0.178	
707.50	23095	Mid	LTE Band 12	10	7	24.8	23.81	0.11	1	Left	Cheek	QPSK	25	12	0387M	1:1	0.128	1.256	0.161	
707.50	23095	Mid	LTE Band 12	10	7	25.8	24.77	0.13	0	Left	Tilt	QPSK	1	49	0387M	1:1	0.087	1.268	0.110	
707.50	23095	Mid	LTE Band 12	10	7	24.8	23.81	0.21	1	Left	Tilt	QPSK	25	12	0387M	1:1	0.074	1.256	0.093	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram										

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Table 11-9
LTE Band 13 Head SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Antenna State	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	0	25.8	25.04	-0.16	0	Right	Cheek	QPSK	1	0	0332M	1:1	0.162	1.191	0.193	A9
782.00	23230	Mid	LTE Band 13	10	0	24.8	24.06	-0.15	1	Right	Cheek	QPSK	25	0	0332M	1:1	0.131	1.186	0.155	
782.00	23230	Mid	LTE Band 13	10	0	25.8	25.04	0.07	0	Right	Tilt	QPSK	1	0	0332M	1:1	0.056	1.191	0.067	
782.00	23230	Mid	LTE Band 13	10	0	24.8	24.06	0.08	1	Right	Tilt	QPSK	25	0	0332M	1:1	0.046	1.186	0.055	
782.00	23230	Mid	LTE Band 13	10	0	25.8	25.04	0.13	0	Left	Cheek	QPSK	1	0	0332M	1:1	0.143	1.191	0.170	
782.00	23230	Mid	LTE Band 13	10	0	24.8	24.06	0.16	1	Left	Cheek	QPSK	25	0	0332M	1:1	0.122	1.186	0.145	
782.00	23230	Mid	LTE Band 13	10	0	25.8	25.04	0.15	0	Left	Tilt	QPSK	1	0	0332M	1:1	0.109	1.191	0.130	
782.00	23230	Mid	LTE Band 13	10	0	24.8	24.06	-0.07	1	Left	Tilt	QPSK	25	0	0332M	1:1	0.085	1.186	0.101	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-10
LTE Band 5 (Cell) Head SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Antenna State	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
836.50	20525	Mid	LTE Band 5 (Cell)	10	0	25.8	25.06	0.18	0	Right	Cheek	QPSK	1	0	1001M	1:1	0.175	1.186	0.208	A10
836.50	20525	Mid	LTE Band 5 (Cell)	10	0	24.8	23.81	0.03	1	Right	Cheek	QPSK	25	0	1001M	1:1	0.138	1.256	0.173	
836.50	20525	Mid	LTE Band 5 (Cell)	10	0	25.8	25.06	0.04	0	Right	Tilt	QPSK	1	0	1001M	1:1	0.081	1.186	0.096	
836.50	20525	Mid	LTE Band 5 (Cell)	10	0	24.8	23.81	0.13	1	Right	Tilt	QPSK	25	0	1001M	1:1	0.063	1.256	0.079	
836.50	20525	Mid	LTE Band 5 (Cell)	10	0	25.8	25.06	0.03	0	Left	Cheek	QPSK	1	0	1001M	1:1	0.123	1.186	0.146	
836.50	20525	Mid	LTE Band 5 (Cell)	10	0	24.8	23.81	0.08	1	Left	Cheek	QPSK	25	0	1001M	1:1	0.115	1.256	0.144	
836.50	20525	Mid	LTE Band 5 (Cell)	10	0	25.8	25.06	0.11	0	Left	Tilt	QPSK	1	0	1001M	1:1	0.071	1.186	0.084	
836.50	20525	Mid	LTE Band 5 (Cell)	10	0	24.8	23.81	0.04	1	Left	Tilt	QPSK	25	0	1001M	1:1	0.063	1.256	0.079	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-11
LTE Band 66 (AWS) Head SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Antenna State	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
1770.00	132572	High	LTE Band 66 (AWS)	20	22	25.0	24.28	-0.10	0	Right	Cheek	QPSK	1	50	0890M	1:1	0.084	1.180	0.099	
1770.00	132572	High	LTE Band 66 (AWS)	20	22	24.0	23.52	-0.02	1	Right	Cheek	QPSK	50	25	0890M	1:1	0.070	1.117	0.078	
1770.00	132572	High	LTE Band 66 (AWS)	20	22	25.0	24.28	0.18	0	Right	Tilt	QPSK	1	50	0890M	1:1	0.068	1.180	0.080	
1770.00	132572	High	LTE Band 66 (AWS)	20	22	24.0	23.52	0.21	1	Right	Tilt	QPSK	50	25	0890M	1:1	0.050	1.117	0.056	
1770.00	132572	High	LTE Band 66 (AWS)	20	22	25.0	24.28	0.02	0	Left	Cheek	QPSK	1	50	0890M	1:1	0.115	1.180	0.136	A11
1770.00	132572	High	LTE Band 66 (AWS)	20	22	24.0	23.52	0.11	1	Left	Cheek	QPSK	50	25	0890M	1:1	0.091	1.117	0.102	
1770.00	132572	High	LTE Band 66 (AWS)	20	22	25.0	24.28	-0.01	0	Left	Tilt	QPSK	1	50	0890M	1:1	0.050	1.180	0.059	
1770.00	132572	High	LTE Band 66 (AWS)	20	22	24.0	23.52	0.15	1	Left	Tilt	QPSK	50	25	0890M	1:1	0.041	1.117	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										

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Table 11-12
LTE Band 25 (PCS) Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Antenna State	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	18	24.5	24.36	0.18	0	Right	Cheek	QPSK	1	99	0387M	1:1	0.077	1.033	0.080	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	18	23.5	23.48	0.19	1	Right	Cheek	QPSK	50	50	0387M	1:1	0.057	1.005	0.057	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	18	24.5	24.36	0.10	0	Right	Tilt	QPSK	1	99	0387M	1:1	0.060	1.033	0.062	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	18	23.5	23.48	0.11	1	Right	Tilt	QPSK	50	50	0387M	1:1	0.046	1.005	0.046	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	18	24.5	24.36	-0.03	0	Left	Cheek	QPSK	1	99	0387M	1:1	0.110	1.033	0.114	A12
1882.50	26365	Mid	LTE Band 25 (PCS)	20	18	23.5	23.48	0.06	1	Left	Cheek	QPSK	50	50	0387M	1:1	0.091	1.005	0.091	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	18	24.5	24.36	0.10	0	Left	Tilt	QPSK	1	99	0387M	1:1	0.070	1.033	0.072	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	18	23.5	23.48	0.06	1	Left	Tilt	QPSK	50	50	0387M	1:1	0.055	1.005	0.055	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-13
LTE Band 30 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.18	0.12	0	Right	Cheek	QPSK	1	0	0317M	1:1	0.049	1.208	0.059	
2310.00	27710	Mid	LTE Band 30	10	22.0	21.26	0.07	1	Right	Cheek	QPSK	25	0	0317M	1:1	0.032	1.186	0.038	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.18	0.18	0	Right	Tilt	QPSK	1	0	0317M	1:1	0.032	1.208	0.039	
2310.00	27710	Mid	LTE Band 30	10	22.0	21.26	0.10	1	Right	Tilt	QPSK	25	0	0317M	1:1	0.025	1.186	0.030	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.18	0.21	0	Left	Cheek	QPSK	1	0	0317M	1:1	0.062	1.208	0.075	A13
2310.00	27710	Mid	LTE Band 30	10	22.0	21.26	0.00	1	Left	Cheek	QPSK	25	0	0317M	1:1	0.043	1.186	0.051	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.18	0.13	0	Left	Tilt	QPSK	1	0	0317M	1:1	0.028	1.208	0.034	
2310.00	27710	Mid	LTE Band 30	10	22.0	21.26	0.18	1	Left	Tilt	QPSK	25	0	0317M	1:1	0.019	1.186	0.023	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-14
LTE Band 7 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
2560.00	21350	High	LTE Band 7	20	24.0	23.35	0.19	0	Right	Cheek	QPSK	1	0	0888M	1:1	0.089	1.161	0.103	
2560.00	21350	High	LTE Band 7	20	23.0	22.52	0.13	1	Right	Cheek	QPSK	50	0	0888M	1:1	0.069	1.117	0.077	
2560.00	21350	High	LTE Band 7	20	24.0	23.35	0.21	0	Right	Tilt	QPSK	1	0	0888M	1:1	0.135	1.161	0.157	A14
2560.00	21350	High	LTE Band 7	20	23.0	22.52	0.14	1	Right	Tilt	QPSK	50	0	0888M	1:1	0.113	1.117	0.126	
2560.00	21350	High	LTE Band 7	20	24.0	23.35	0.14	0	Left	Cheek	QPSK	1	0	0888M	1:1	0.135	1.161	0.157	
2560.00	21350	High	LTE Band 7	20	23.0	22.52	0.18	1	Left	Cheek	QPSK	50	0	0888M	1:1	0.096	1.117	0.107	
2560.00	21350	High	LTE Band 7	20	24.0	23.35	0.16	0	Left	Tilt	QPSK	1	0	0888M	1:1	0.055	1.161	0.064	
2560.00	21350	High	LTE Band 7	20	23.0	22.52	0.14	1	Left	Tilt	QPSK	50	0	0888M	1:1	0.038	1.117	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										

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Table 11-15
LTE Band 41 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
2506.00	39750	Low	LTE Band 41	20	25.0	24.51	0.10	0	Right	Cheek	QPSK	1	0	0902M	1:1.58	0.069	1.119	0.077	
2506.00	39750	Low	LTE Band 41	20	24.0	23.50	0.13	1	Right	Cheek	QPSK	50	0	0902M	1:1.58	0.055	1.122	0.062	
2506.00	39750	Low	LTE Band 41	20	25.0	24.51	0.15	0	Right	Tilt	QPSK	1	0	0902M	1:1.58	0.087	1.119	0.097	
2506.00	39750	Low	LTE Band 41	20	24.0	23.50	0.14	1	Right	Tilt	QPSK	50	0	0902M	1:1.58	0.068	1.122	0.076	
2506.00	39750	Low	LTE Band 41	20	25.0	24.51	0.13	0	Left	Cheek	QPSK	1	0	0902M	1:1.58	0.098	1.119	0.110	A15
2506.00	39750	Low	LTE Band 41	20	24.0	23.50	0.19	1	Left	Cheek	QPSK	50	0	0902M	1:1.58	0.073	1.122	0.082	
2506.00	39750	Low	LTE Band 41	20	25.0	24.51	0.08	0	Left	Tilt	QPSK	1	0	0902M	1:1.58	0.076	1.119	0.085	
2506.00	39750	Low	LTE Band 41	20	24.0	23.50	0.15	1	Left	Tilt	QPSK	50	0	0902M	1:1.58	0.064	1.122	0.072	
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
NR Band n71 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Antenna State	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	33	25.5	25.12	0.11	0	Right	Cheek	DFT-S-OFDM QPSK	1	53	1031M	1:1	0.096	1.091	0.105	A16
680.50	136100	Mid	NR Band n71	20	33	25.5	24.87	-0.03	0	Right	Cheek	DFT-S-OFDM QPSK	50	28	1031M	1:1	0.095	1.156	0.110	
680.50	136100	Mid	NR Band n71	20	33	24.0	23.05	0.15	1.5	Right	Cheek	CP-OFDM QPSK	1	1	1031M	1:1	0.051	1.245	0.063	
680.50	136100	Mid	NR Band n71	20	33	25.5	25.12	-0.09	0	Right	Tilt	DFT-S-OFDM QPSK	1	53	1031M	1:1	0.047	1.091	0.051	
680.50	136100	Mid	NR Band n71	20	33	25.5	24.87	-0.18	0	Right	Tilt	DFT-S-OFDM QPSK	50	28	1031M	1:1	0.044	1.156	0.051	
680.50	136100	Mid	NR Band n71	20	33	25.5	25.12	-0.08	0	Left	Cheek	DFT-S-OFDM QPSK	1	53	1031M	1:1	0.092	1.091	0.100	
680.50	136100	Mid	NR Band n71	20	33	25.5	24.87	0.07	0	Left	Cheek	DFT-S-OFDM QPSK	50	28	1031M	1:1	0.089	1.156	0.103	
680.50	136100	Mid	NR Band n71	20	33	25.5	25.12	-0.12	0	Left	Tilt	DFT-S-OFDM QPSK	1	53	1031M	1:1	0.048	1.091	0.052	
680.50	136100	Mid	NR Band n71	20	33	25.5	24.87	-0.16	0	Left	Tilt	DFT-S-OFDM QPSK	50	28	1031M	1:1	0.044	1.156	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 11-17
NR Band n66 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Antenna State	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	349000	Mid	NR Band n66 (AWS)	20	22	25.0	24.12	0.15	0	Right	Cheek	DFT-S-OFDM QPSK	1	53	1019M	1:1	0.093	1.225	0.114	
1745.00	349000	Mid	NR Band n66 (AWS)	20	22	25.0	23.97	0.12	0	Right	Cheek	DFT-S-OFDM QPSK	50	28	1019M	1:1	0.095	1.268	0.120	
1745.00	349000	Mid	NR Band n66 (AWS)	20	22	25.0	24.12	0.02	0	Right	Tilt	DFT-S-OFDM QPSK	1	53	1019M	1:1	0.065	1.225	0.080	
1745.00	349000	Mid	NR Band n66 (AWS)	20	22	25.0	23.97	-0.13	0	Right	Tilt	DFT-S-OFDM QPSK	50	28	1019M	1:1	0.065	1.268	0.082	
1745.00	349000	Mid	NR Band n66 (AWS)	20	22	25.0	24.12	-0.15	0	Left	Cheek	DFT-S-OFDM QPSK	1	53	1019M	1:1	0.116	1.225	0.142	
1745.00	349000	Mid	NR Band n66 (AWS)	20	22	25.0	23.97	0.14	0	Left	Cheek	DFT-S-OFDM QPSK	50	28	1019M	1:1	0.121	1.268	0.153	A17
1745.00	349000	Mid	NR Band n66 (AWS)	20	22	23.5	22.01	0.13	1.5	Left	Cheek	CP-OFDM QPSK	1	1	1019M	1:1	0.077	1.409	0.108	
1745.00	349000	Mid	NR Band n66 (AWS)	20	22	25.0	24.12	0.13	0	Left	Tilt	DFT-S-OFDM QPSK	1	53	1019M	1:1	0.041	1.225	0.050	
1745.00	349000	Mid	NR Band n66 (AWS)	20	22	25.0	23.97	0.19	0	Left	Tilt	DFT-S-OFDM QPSK	50	28	1019M	1:1	0.041	1.268	0.052	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram										

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Table 11-18
NR Band n41 Head SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
2592.99	518598	Mid	NR Band n41	100	24.5	23.66	0.02	0	Right	Cheek	DFT-S-OFDM QPSK	1	1	0410M	1:4	0.609	1.213	0.739	
2592.99	518598	Mid	NR Band n41	100	24.5	23.39	0.02	0	Right	Cheek	DFT-S-OFDM QPSK	135	69	0410M	1:4	0.600	1.291	0.775	
2592.99	518598	Mid	NR Band n41	100	23.5	22.52	0.00	1	Right	Cheek	DFT-S-OFDM QPSK	270	0	0410M	1:4	0.433	1.253	0.543	
2592.99	518598	Mid	NR Band n41	100	24.5	23.66	0.07	0	Right	Tilt	DFT-S-OFDM QPSK	1	1	0410M	1:4	0.876	1.213	1.063	A18
2592.99	518598	Mid	NR Band n41	100	24.5	23.39	0.13	0	Right	Tilt	DFT-S-OFDM QPSK	135	69	0410M	1:4	0.854	1.291	**1.103**	
2592.99	518598	Mid	NR Band n41	100	23.0	22.08	0.15	1.5	Right	Tilt	CP-OFDM QPSK	1	1	0410M	1:4	0.379	1.236	0.468	
2592.99	518598	Mid	NR Band n41	100	23.5	22.52	0.11	1	Right	Tilt	DFT-S-OFDM QPSK	270	0	0410M	1:4	0.670	1.253	0.840	
2592.99	518598	Mid	NR Band n41	100	24.5	23.66	0.02	0	Left	Cheek	DFT-S-OFDM QPSK	1	1	0410M	1:4	0.441	1.213	0.535	
2592.99	518598	Mid	NR Band n41	100	24.5	23.39	-0.08	0	Left	Cheek	DFT-S-OFDM QPSK	135	69	0410M	1:4	0.453	1.291	0.585	
2592.99	518598	Mid	NR Band n41	100	23.5	22.52	0.04	1	Left	Cheek	DFT-S-OFDM QPSK	270	0	0410M	1:4	0.362	1.253	0.454	
2592.99	518598	Mid	NR Band n41	100	24.5	23.66	0.00	0	Left	Tilt	DFT-S-OFDM QPSK	1	1	0410M	1:4	0.647	1.213	0.785	
2592.99	518598	Mid	NR Band n41	100	24.5	23.39	0.13	0	Left	Tilt	DFT-S-OFDM QPSK	135	69	0410M	1:4	0.686	1.291	0.886	
2592.99	518598	Mid	NR Band n41	100	23.5	22.52	-0.01	1	Left	Tilt	DFT-S-OFDM QPSK	270	0	0410M	1:4	0.552	1.253	0.692	
2592.99	518598	Mid	NR Band n41	100	24.5	23.66	0.07	0	Right	Tilt	DFT-S-OFDM QPSK	1	1	0410M	1:4	0.802	1.213	0.973	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram										

Note: Blue entries represent variability measurements.

Table 11-19
DTS Head SISO SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
2462	11	802.11b	DSSS	22	17.0	16.95	0.17	Right	Cheek	1	0337M	1	99.9	0.672	-	1.012	1.001	-	
2462	11	802.11b	DSSS	22	17.0	16.95	0.20	Right	Tilt	1	0337M	1	99.9	0.908	0.514	1.012	1.001	**0.521**	A19
2462	11	802.11b	DSSS	22	17.0	16.95	0.15	Left	Cheek	1	0337M	1	99.9	0.522	-	1.012	1.001	-	
2462	11	802.11b	DSSS	22	17.0	16.95	0.12	Left	Tilt	1	0337M	1	99.9	0.768	0.491	1.012	1.001	0.497	
2412	1	802.11b	DSSS	22	17.0	16.36	-0.13	Right	Cheek	2	0337M	1	99.9	0.017	-	1.159	1.001	-	
2412	1	802.11b	DSSS	22	17.0	16.36	0.13	Right	Tilt	2	0337M	1	99.9	0.018	-	1.159	1.001	-	
2412	1	802.11b	DSSS	22	17.0	16.36	0.12	Left	Cheek	2	0337M	1	99.9	0.017	-	1.159	1.001	-	
2412	1	802.11b	DSSS	22	17.0	16.36	0.13	Left	Tilt	2	0337M	1	99.9	0.028	0.017	1.159	1.001	0.020	
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
DTS Head MIMO SAR During Conditions with 2.4 GHz and 5 GHz WLAN

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
2462	11	802.11n	OFDM	20	14.0	13.15	14.0	13.97	0.12	Right	Cheek	MIMO	0337M	13	98.7	0.271	-	1.216	1.013	-	
2462	11	802.11n	OFDM	20	14.0	13.15	14.0	13.97	0.15	Right	Tilt	MIMO	0337M	13	98.7	0.299	0.217	1.216	1.013	0.267	
2462	11	802.11n	OFDM	20	14.0	13.15	14.0	13.97	0.17	Left	Cheek	MIMO	0337M	13	98.7	0.171	-	1.216	1.013	-	
2462	11	802.11n	OFDM	20	14.0	13.15	14.0	13.97	0.20	Left	Tilt	MIMO	0337M	13	98.7	0.244	-	1.216	1.013	-	
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: 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 11-21
NII SISO Head SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5270	54	802.11n	OFDM	40	14.0	13.92	0.13	Right	Cheek	1	0388M	13.5	97.3	0.346	-	1.019	1.028	-	
5270	54	802.11n	OFDM	40	14.0	13.92	0.19	Right	Tilt	1	0388M	13.5	97.3	0.443	0.157	1.019	1.028	**0.164**	A20
5270	54	802.11n	OFDM	40	14.0	13.92	0.16	Left	Cheek	1	0388M	13.5	97.3	0.110	-	1.019	1.028	-	
5270	54	802.11n	OFDM	40	14.0	13.92	0.13	Left	Tilt	1	0388M	13.5	97.3	0.151	-	1.019	1.028	-	
5270	54	802.11n	OFDM	40	14.0	13.78	0.00	Right	Cheek	2	0388M	13.5	97.4	0.254	0.122	1.052	1.027	0.132	
5270	54	802.11n	OFDM	40	14.0	13.78	0.14	Right	Tilt	2	0388M	13.5	97.4	0.186	-	1.052	1.027	-	
5270	54	802.11n	OFDM	40	14.0	13.78	0.13	Left	Cheek	2	0388M	13.5	97.4	0.131	-	1.052	1.027	-	
5270	54	802.11n	OFDM	40	14.0	13.78	0.18	Left	Tilt	2	0388M	13.5	97.4	0.193	-	1.052	1.027	-	
5690	138	802.11ac	OFDM	80	14.0	13.63	0.12	Right	Cheek	1	0388M	29.3	94.7	0.216	-	1.089	1.056	-	
5690	138	802.11ac	OFDM	80	14.0	13.63	0.18	Right	Tilt	1	0388M	29.3	94.7	0.240	0.107	1.089	1.056	0.123	
5690	138	802.11ac	OFDM	80	14.0	13.63	0.14	Left	Cheek	1	0388M	29.3	94.7	0.076	-	1.089	1.056	-	
5690	138	802.11ac	OFDM	80	14.0	13.63	0.19	Left	Tilt	1	0388M	29.3	94.7	0.101	-	1.089	1.056	-	
5690	138	802.11ac	OFDM	80	14.0	13.37	0.19	Right	Cheek	2	0388M	29.3	94.7	0.047	-	1.156	1.056	-	
5690	138	802.11ac	OFDM	80	14.0	13.37	0.16	Right	Tilt	2	0388M	29.3	94.7	0.065	-	1.156	1.056	-	
5690	138	802.11ac	OFDM	80	14.0	13.37	0.19	Left	Cheek	2	0388M	29.3	94.7	0.059	-	1.156	1.056	-	
5690	138	802.11ac	OFDM	80	14.0	13.37	0.12	Left	Tilt	2	0388M	29.3	94.7	0.079	0.034	1.156	1.056	0.042	
5775	155	802.11ac	OFDM	80	14.0	13.24	0.15	Right	Cheek	1	0388M	29.3	94.7	0.257	-	1.191	1.056	-	
5775	155	802.11ac	OFDM	80	14.0	13.24	0.10	Right	Tilt	1	0388M	29.3	94.7	0.311	0.108	1.191	1.056	0.136	
5775	155	802.11ac	OFDM	80	14.0	13.24	0.10	Left	Cheek	1	0388M	29.3	94.7	0.099	-	1.191	1.056	-	
5775	155	802.11ac	OFDM	80	14.0	13.24	-0.11	Left	Tilt	1	0388M	29.3	94.7	0.137	-	1.191	1.056	-	
5775	155	802.11ac	OFDM	80	14.0	13.58	0.00	Right	Cheek	2	0388M	29.3	94.7	0.051	-	1.102	1.056	-	
5775	155	802.11ac	OFDM	80	14.0	13.58	0.00	Right	Tilt	2	0388M	29.3	94.7	0.071	-	1.102	1.056	-	
5775	155	802.11ac	OFDM	80	14.0	13.58	0.00	Left	Cheek	2	0388M	29.3	94.7	0.061	-	1.102	1.056	-	
5775	155	802.11ac	OFDM	80	14.0	13.58	0.00	Left	Tilt	2	0388M	29.3	94.7	0.101	0.034	1.102	1.056	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 11-22
DSS Head SAR

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	SAR (1g)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)			(W/kg)	
2441.00	39	Bluetooth	FHSS	15.0	14.91	-0.15	Right	Cheek	0388M	1	77.1	0.197	1.021	1.297	0.261	
2441.00	39	Bluetooth	FHSS	15.0	14.91	-0.03	Right	Tilt	0388M	1	77.1	0.237	1.021	1.297	**0.314**	A21
2441.00	39	Bluetooth	FHSS	15.0	14.91	-0.10	Left	Cheek	0388M	1	77.1	0.116	1.021	1.297	0.154	
2441.00	39	Bluetooth	FHSS	15.0	14.91	0.01	Left	Tilt	0388M	1	77.1	0.195	1.021	1.297	0.258	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							**Head 1.6 W/kg (mW/g) averaged over 1 gram**									

11.2 Standalone Body-Worn SAR Data

Table 11-23
GSM/UMTS/CDMA Body-Worn SAR Data

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna State	Device Serial Number	# of Time Slots	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.												(W/kg)		(W/kg)	
836.52	384	Cell. CDMA	TDSO / SO32	25.8	24.96	0.07	15 mm	0	1026M	N/A	1:1	back	0.241	1.213	0.292	A22
836.60	190	GSM 850	GSM	33.0	32.10	-0.14	15 mm	N/A	1026M	1	1:8.3	back	0.131	1.230	0.161	A24
1880.00	661	GSM 1900	GSM	30.0	28.90	-0.03	15 mm	N/A	0867M	1	1:8.3	back	0.232	1.288	0.299	A26
836.60	4183	UMTS 850	RMC	25.0	24.21	0.01	15 mm	0	1026M	N/A	1:1	back	0.185	1.199	0.222	A28
1712.40	1312	UMTS 1750	RMC	24.5	23.97	-0.05	15 mm	24	0867M	N/A	1:1	back	0.642	1.130	0.725	
1732.40	1412	UMTS 1750	RMC	24.5	24.16	0.03	15 mm	24	0867M	N/A	1:1	back	0.722	1.081	0.780	
1752.60	1513	UMTS 1750	RMC	24.5	24.12	0.11	15 mm	24	0867M	N/A	1:1	back	0.736	1.091	0.803	A30
1852.40	9262	UMTS 1900	RMC	24.5	23.92	0.01	15 mm	20	0867M	N/A	1:1	back	0.643	1.143	0.735	
1880.00	9400	UMTS 1900	RMC	24.5	24.02	0.03	15 mm	20	0867M	N/A	1:1	back	0.658	1.117	0.735	
1907.60	9538	UMTS 1900	RMC	24.5	23.89	0.04	15 mm	20	0867M	N/A	1:1	back	0.678	1.151	0.780	A32
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								**Body 1.6 W/kg (mW/g) averaged over 1 gram**								

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Table 11-24
LTE Body-Worn SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Antenna State	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	43	25.5	24.79	-0.01	0	1007M	QPSK	1	50	15 mm	back	1:1	0.163	1.178	0.192	A34
680.50	133297	Mid	LTE Band 71	20	43	24.5	23.77	-0.01	1	1007M	QPSK	50	25	15 mm	back	1:1	0.136	1.183	0.161	
707.50	23095	Mid	LTE Band 12	10	43	25.8	24.77	0.00	0	1007M	QPSK	1	49	15 mm	back	1:1	0.216	1.268	0.274	A36
707.50	23095	Mid	LTE Band 12	10	43	24.8	23.81	0.01	1	1007M	QPSK	25	12	15 mm	back	1:1	0.165	1.256	0.207	
782.00	23230	Mid	LTE Band 13	10	0	25.8	25.04	-0.04	0	1007M	QPSK	1	0	15 mm	back	1:1	0.256	1.191	0.305	A38
782.00	23230	Mid	LTE Band 13	10	0	24.8	24.06	0.04	1	1007M	QPSK	25	0	15 mm	back	1:1	0.211	1.186	0.250	
836.50	20525	Mid	LTE Band 5 (Cell)	10	0	25.8	25.06	0.05	0	1001M	QPSK	1	0	15 mm	back	1:1	0.210	1.186	0.249	A40
836.50	20525	Mid	LTE Band 5 (Cell)	10	0	24.8	23.81	0.03	1	1001M	QPSK	25	0	15 mm	back	1:1	0.171	1.256	0.215	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23	25.0	24.24	-0.03	0	0390M	QPSK	1	50	15 mm	back	1:1	0.948	1.191	1.129	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	23	25.0	24.23	-0.03	0	0390M	QPSK	1	50	15 mm	back	1:1	0.989	1.194	**1.181**	A42
1770.00	132572	High	LTE Band 66 (AWS)	20	23	25.0	24.28	0.02	0	0390M	QPSK	1	50	15 mm	back	1:1	0.897	1.180	1.058	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23	24.0	23.49	0.04	1	0390M	QPSK	50	25	15 mm	back	1:1	0.776	1.125	0.873	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	23	24.0	23.40	0.00	1	0390M	QPSK	50	0	15 mm	back	1:1	0.805	1.148	0.924	
1770.00	132572	High	LTE Band 66 (AWS)	20	23	24.0	23.52	0.04	1	0390M	QPSK	50	25	15 mm	back	1:1	0.739	1.117	0.825	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	23	24.0	23.42	-0.01	1	0390M	QPSK	100	0	15 mm	back	1:1	0.789	1.143	0.902	
1860.00	26140	Low	LTE Band 25 (PCS)	20	20	24.5	24.05	-0.10	0	0896M	QPSK	1	0	15 mm	back	1:1	0.631	1.109	0.700	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20	24.5	24.36	-0.13	0	0896M	QPSK	1	99	15 mm	back	1:1	0.587	1.033	0.606	
1905.00	26590	High	LTE Band 25 (PCS)	20	20	24.5	24.32	-0.05	0	0896M	QPSK	1	0	15 mm	back	1:1	0.658	1.042	0.686	A44
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20	23.5	23.48	-0.02	1	0896M	QPSK	50	50	15 mm	back	1:1	0.518	1.005	0.521	
2310.00	27710	Mid	LTE Band 30	10	N/A	23.0	22.18	-0.01	0	0317M	QPSK	1	0	15 mm	back	1:1	0.468	1.208	0.565	A46
2310.00	27710	Mid	LTE Band 30	10	N/A	22.0	21.26	-0.05	1	0317M	QPSK	25	0	15 mm	back	1:1	0.408	1.186	0.484	
2560.00	21350	High	LTE Band 7	20	N/A	24.0	23.35	-0.12	0	0888M	QPSK	1	0	15 mm	back	1:1	0.381	1.161	0.442	A48
2560.00	21350	High	LTE Band 7	20	N/A	23.0	22.52	-0.01	1	0888M	QPSK	50	0	15 mm	back	1:1	0.294	1.117	0.328	
2506.00	39750	Low	LTE Band 41	20	N/A	25.0	24.51	-0.01	0	0317M	QPSK	1	0	15 mm	back	1:1.58	0.317	1.119	0.355	A50
2506.00	39750	Low	LTE Band 41	20	N/A	24.0	23.50	0.01	1	0317M	QPSK	50	0	15 mm	back	1:1.58	0.262	1.122	0.294	
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 11-25
NR Body-Worn SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Antenna State	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	136100	Mid	NR Band n71	20	43	25.5	25.12	0.01	0	1031M	DFT-S-OFDM QPSK	1	53	15 mm	back	1:1	0.146	1.091	0.159	
680.50	136100	Mid	NR Band n71	20	43	25.5	24.87	-0.02	0	1031M	DFT-S-OFDM QPSK	50	28	15 mm	back	1:1	0.148	1.156	0.171	A52
680.50	136100	Mid	NR Band n71	20	43	24.0	23.05	0.05	1.5	1031M	CP-OFDM QPSK	1	1	15 mm	back	1:1	0.098	1.245	0.122	
1720.00	344000	Low	NR Band n66 (AWS)	20	23	25.0	23.41	0.00	0	1019M	DFT-S-OFDM QPSK	1	53	15 mm	back	1:1	0.648	1.442	0.934	
1745.00	349000	Mid	NR Band n66 (AWS)	20	23	25.0	24.12	-0.06	0	1019M	DFT-S-OFDM QPSK	1	53	15 mm	back	1:1	0.867	1.225	1.062	A54
1770.00	354000	High	NR Band n66 (AWS)	20	23	25.0	23.34	-0.07	0	1019M	DFT-S-OFDM QPSK	1	53	15 mm	back	1:1	0.700	1.466	1.026	
1720.00	344000	Low	NR Band n66 (AWS)	20	23	25.0	23.35	0.04	0	1019M	DFT-S-OFDM QPSK	50	28	15 mm	back	1:1	0.645	1.462	0.943	
1745.00	349000	Mid	NR Band n66 (AWS)	20	23	25.0	23.97	0.03	0	1019M	DFT-S-OFDM QPSK	50	28	15 mm	back	1:1	0.805	1.268	1.021	
1770.00	354000	High	NR Band n66 (AWS)	20	23	25.0	23.41	0.00	0	1019M	DFT-S-OFDM QPSK	50	28	15 mm	back	1:1	0.621	1.442	0.895	
1745.00	349000	Mid	NR Band n66 (AWS)	20	23	23.5	22.01	0.00	1.5	1019M	CP-OFDM QPSK	1	1	15 mm	back	1:1	0.504	1.409	0.710	
1745.00	349000	Mid	NR Band n66 (AWS)	20	23	24.0	22.76	0.03	1	1019M	DFT-S-OFDM QPSK	100	0	15 mm	back	1:1	0.640	1.330	0.851	
2592.99	518598	Mid	NR Band n41	100	N/A	24.5	23.66	0.10	0	0410M	DFT-S-OFDM QPSK	1	1	15 mm	back	1:4	0.103	1.213	0.125	
2592.99	518598	Mid	NR Band n41	100	N/A	24.5	23.39	0.04	0	0410M	DFT-S-OFDM QPSK	135	69	15 mm	back	1:4	0.132	1.291	0.170	A56
2592.99	518598	Mid	NR Band n41	100	N/A	23.0	22.08	-0.01	1.5	0410M	CP-OFDM QPSK	1	1	15 mm	back	1:4	0.053	1.236	0.066	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-26
DTS Body-Worn SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
2462	11	802.11b	DSSS	22	21.0	20.77	-0.09	15 mm	1	0388M	1	back	99.9	0.137	0.098	1.054	1.001	**0.103**	A58
2437	6	802.11b	DSSS	22	21.0	20.88	0.08	15 mm	2	0388M	1	back	99.9	0.103	0.074	1.028	1.001	0.076	
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 11-27
NII SISO Body-Worn SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5280	56	802.11a	OFDM	20	18.0	17.96	-0.06	15 mm	1	0337M	6	back	98.8	0.557	0.272	1.009	1.012	0.278	
5280	56	802.11a	OFDM	20	18.0	17.35	0.07	15 mm	2	0337M	6	back	98.9	0.514	0.251	1.161	1.011	0.295	
5520	104	802.11a	OFDM	20	18.0	17.97	0.12	15 mm	1	0337M	6	back	98.8	0.242	0.113	1.007	1.012	0.115	
5520	104	802.11a	OFDM	20	18.0	17.77	0.02	15 mm	2	0337M	6	back	98.9	0.515	0.250	1.054	1.011	0.266	
5745	149	802.11a	OFDM	20	18.0	17.98	0.14	15 mm	1	0337M	6	back	98.8	0.332	0.153	1.005	1.012	0.156	
5785	157	802.11a	OFDM	20	18.0	17.25	0.18	15 mm	2	0337M	6	back	98.9	0.741	0.326	1.189	1.011	**0.392**	
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 11-28
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	17.96	18.0	17.37	0.03	15 mm	MIMO	0337M	13	back	98.7	1.052	0.504	1.156	1.013	0.590	A60
5520	104	802.11n	OFDM	20	18.0	17.95	18.0	17.81	-0.03	15 mm	MIMO	0337M	13	back	98.7	0.907	0.393	1.045	1.013	0.416	
5825	165	802.11n	OFDM	20	18.0	17.84	18.0	17.96	0.18	15 mm	MIMO	0337M	13	back	98.7	1.107	0.473	1.038	1.013	0.497	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram											

Note: To achieve the 21.0 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 18.0 dBm.

Table 11-29
NII MIMO Body-Worn SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5270	54	802.11n	OFDM	40	14.0	13.92	14.0	13.78	0.12	15 mm	MIMO	0337M	27	back	97.4	0.317	0.155	1.052	1.027	0.167	
5690	138	802.11ac	OFDM	80	14.0	13.63	14.0	13.37	0.17	15 mm	MIMO	0337M	58.5	back	91.2	0.223	0.101	1.156	1.096	0.128	
5775	155	802.11ac	OFDM	80	14.0	13.24	14.0	13.58	-0.15	15 mm	MIMO	0337M	58.5	back	91.2	0.287	0.121	1.191	1.096	0.158	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram											

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

Table 11-30
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	15.0	14.91	-0.19	15 mm	0388M	1	back	77.1	0.009	1.021	1.297	**0.012**	A62
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram									

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11.3 Standalone Hotspot SAR Data

Table 11-31
GPRS/UMTS/CDMA Hotspot SAR Data

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna State	Device Serial Number	# of Time Slots	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.												(W/kg)		(W/kg)	
824.70	1013	Cell. CDMA	EVDO Rev. 0	25.8	25.20	-0.01	10 mm	0	1026M	N/A	1:1	back	0.410	1.148	0.471	
836.52	384	Cell. CDMA	EVDO Rev. 0	25.8	25.09	-0.01	10 mm	0	1026M	N/A	1:1	back	0.526	1.178	0.620	
848.31	777	Cell. CDMA	EVDO Rev. 0	25.8	24.97	0.02	10 mm	0	1026M	N/A	1:1	back	0.639	1.211	0.774	A23
836.52	384	Cell. CDMA	EVDO Rev. 0	25.8	25.09	0.02	10 mm	0	1026M	N/A	1:1	front	0.362	1.178	0.426	
836.52	384	Cell. CDMA	EVDO Rev. 0	25.8	25.09	-0.01	10 mm	0	1026M	N/A	1:1	bottom	0.312	1.178	0.368	
836.52	384	Cell. CDMA	EVDO Rev. 0	25.8	25.09	0.06	10 mm	0	1026M	N/A	1:1	right	0.227	1.178	0.267	
836.52	384	Cell. CDMA	EVDO Rev. 0	25.8	25.09	0.03	10 mm	0	1026M	N/A	1:1	left	0.088	1.178	0.104	
836.60	190	GSM 850	GPRS	30.0	28.88	-0.05	10 mm	N/A	1026M	3	1:2.76	back	0.377	1.294	0.488	A25
836.60	190	GSM 850	GPRS	30.0	28.88	-0.05	10 mm	N/A	1026M	3	1:2.76	front	0.262	1.294	0.339	
836.60	190	GSM 850	GPRS	30.0	28.88	-0.08	10 mm	N/A	1026M	3	1:2.76	bottom	0.233	1.294	0.302	
836.60	190	GSM 850	GPRS	30.0	28.88	-0.01	10 mm	N/A	1026M	3	1:2.76	right	0.208	1.294	0.269	
836.60	190	GSM 850	GPRS	30.0	28.88	-0.01	10 mm	N/A	1026M	3	1:2.76	left	0.076	1.294	0.098	
1880.00	661	GSM 1900	GPRS	23.0	22.43	-0.13	10 mm	N/A	0387M	4	1:2.076	back	0.310	1.140	0.353	
1880.00	661	GSM 1900	GPRS	23.0	22.43	-0.04	10 mm	N/A	0387M	4	1:2.076	front	0.232	1.140	0.264	
1850.20	512	GSM 1900	GPRS	23.0	21.95	0.04	10 mm	N/A	0387M	4	1:2.076	bottom	0.616	1.274	0.785	
1880.00	661	GSM 1900	GPRS	23.0	22.43	-0.01	10 mm	N/A	0387M	4	1:2.076	bottom	0.502	1.140	0.572	
1909.80	810	GSM 1900	GPRS	23.0	22.16	0.10	10 mm	N/A	0387M	4	1:2.076	bottom	0.776	1.213	0.941	A27
1880.00	661	GSM 1900	GPRS	23.0	22.43	0.11	10 mm	N/A	0387M	4	1:2.076	right	0.025	1.140	0.029	
1880.00	661	GSM 1900	GPRS	23.0	22.43	0.16	10 mm	N/A	0387M	4	1:2.076	left	0.036	1.140	0.041	
836.60	4183	UMTS 850	RMC	25.0	24.21	-0.01	10 mm	0	1026M	N/A	1:1	back	0.467	1.199	0.560	A29
836.60	4183	UMTS 850	RMC	25.0	24.21	0.03	10 mm	0	1026M	N/A	1:1	front	0.296	1.199	0.355	
836.60	4183	UMTS 850	RMC	25.0	24.21	0.00	10 mm	0	1026M	N/A	1:1	bottom	0.273	1.199	0.327	
836.60	4183	UMTS 850	RMC	25.0	24.21	0.06	10 mm	0	1026M	N/A	1:1	right	0.228	1.199	0.273	
836.60	4183	UMTS 850	RMC	25.0	24.21	0.11	10 mm	0	1026M	N/A	1:1	left	0.082	1.199	0.098	
1732.40	1412	UMTS 1750	RMC	20.0	19.85	0.01	10 mm	24	0390M	N/A	1:1	back	0.522	1.035	0.540	
1732.40	1412	UMTS 1750	RMC	20.0	19.85	-0.01	10 mm	24	0390M	N/A	1:1	front	0.431	1.035	0.446	
1712.40	1312	UMTS 1750	RMC	20.0	19.87	-0.02	10 mm	24	0390M	N/A	1:1	bottom	0.895	1.030	0.922	
1732.40	1412	UMTS 1750	RMC	20.0	19.85	0.01	10 mm	24	0390M	N/A	1:1	bottom	0.933	1.035	0.966	A31
1752.60	1513	UMTS 1750	RMC	20.0	20.00	-0.01	10 mm	24	0390M	N/A	1:1	bottom	0.807	1.000	0.807	
1732.40	1412	UMTS 1750	RMC	20.0	19.85	-0.11	10 mm	24	0390M	N/A	1:1	right	0.185	1.035	0.191	
1732.40	1412	UMTS 1750	RMC	20.0	19.85	-0.04	10 mm	24	0390M	N/A	1:1	left	0.241	1.035	0.249	
1880.00	9400	UMTS 1900	RMC	19.5	18.54	0.00	10 mm	20	0387M	N/A	1:1	back	0.407	1.247	0.508	
1880.00	9400	UMTS 1900	RMC	19.5	18.54	0.03	10 mm	20	0387M	N/A	1:1	front	0.381	1.247	0.475	
1852.40	9262	UMTS 1900	RMC	19.5	18.44	0.02	10 mm	20	0387M	N/A	1:1	bottom	0.800	1.276	1.021	
1880.00	9400	UMTS 1900	RMC	19.5	18.54	-0.05	10 mm	20	0387M	N/A	1:1	bottom	0.788	1.247	0.983	
1907.60	9538	UMTS 1900	RMC	19.5	18.24	0.00	10 mm	20	0387M	N/A	1:1	bottom	0.871	1.337	1.165	A33
1880.00	9400	UMTS 1900	RMC	19.5	18.54	-0.18	10 mm	20	0387M	N/A	1:1	right	0.038	1.247	0.047	
1880.00	9400	UMTS 1900	RMC	19.5	18.54	0.02	10 mm	20	0387M	N/A	1:1	left	0.184	1.247	0.229	
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 11-32
LTE Band 71 Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Antenna State	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	43	25.5	24.79	-0.20	0	1007M	QPSK	1	50	10 mm	back	1:1	0.216	1.178	0.254	A35
680.50	133297	Mid	LTE Band 71	20	43	24.5	23.77	0.00	1	1007M	QPSK	50	25	10 mm	back	1:1	0.174	1.183	0.206	
680.50	133297	Mid	LTE Band 71	20	43	25.5	24.79	0.02	0	1007M	QPSK	1	50	10 mm	front	1:1	0.161	1.178	0.190	
680.50	133297	Mid	LTE Band 71	20	43	24.5	23.77	-0.02	1	1007M	QPSK	50	25	10 mm	front	1:1	0.131	1.183	0.155	
680.50	133297	Mid	LTE Band 71	20	43	25.5	24.79	0.14	0	1007M	QPSK	1	50	10 mm	bottom	1:1	0.100	1.178	0.118	
680.50	133297	Mid	LTE Band 71	20	43	24.5	23.77	-0.11	1	1007M	QPSK	50	25	10 mm	bottom	1:1	0.081	1.183	0.096	
680.50	133297	Mid	LTE Band 71	20	43	25.5	24.79	-0.14	0	1007M	QPSK	1	50	10 mm	right	1:1	0.170	1.178	0.200	
680.50	133297	Mid	LTE Band 71	20	43	24.5	23.77	-0.02	1	1007M	QPSK	50	25	10 mm	right	1:1	0.143	1.183	0.169	
680.50	133297	Mid	LTE Band 71	20	43	25.5	24.79	-0.10	0	1007M	QPSK	1	50	10 mm	left	1:1	0.106	1.178	0.125	
680.50	133297	Mid	LTE Band 71	20	43	24.5	23.77	-0.01	1	1007M	QPSK	50	25	10 mm	left	1:1	0.095	1.183	0.112	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Body 1.6 W/kg (mW/g) averaged over 1 gram												

Table 11-33
LTE Band 12 Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Antenna State	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	43	25.8	24.77	-0.12	0	1007M	QPSK	1	49	10 mm	back	1:1	0.279	1.268	0.354	A37
707.50	23095	Mid	LTE Band 12	10	43	24.8	23.81	-0.01	1	1007M	QPSK	25	12	10 mm	back	1:1	0.211	1.256	0.265	
707.50	23095	Mid	LTE Band 12	10	43	25.8	24.77	-0.03	0	1007M	QPSK	1	49	10 mm	front	1:1	0.197	1.268	0.250	
707.50	23095	Mid	LTE Band 12	10	43	24.8	23.81	-0.04	1	1007M	QPSK	25	12	10 mm	front	1:1	0.154	1.256	0.193	
707.50	23095	Mid	LTE Band 12	10	43	25.8	24.77	-0.09	0	1007M	QPSK	1	49	10 mm	bottom	1:1	0.112	1.268	0.142	
707.50	23095	Mid	LTE Band 12	10	43	24.8	23.81	-0.16	1	1007M	QPSK	25	12	10 mm	bottom	1:1	0.096	1.256	0.121	
707.50	23095	Mid	LTE Band 12	10	43	25.8	24.77	0.04	0	1007M	QPSK	1	49	10 mm	right	1:1	0.225	1.268	0.285	
707.50	23095	Mid	LTE Band 12	10	43	24.8	23.81	-0.02	1	1007M	QPSK	25	12	10 mm	right	1:1	0.172	1.256	0.216	
707.50	23095	Mid	LTE Band 12	10	43	25.8	24.77	-0.02	0	1007M	QPSK	1	49	10 mm	left	1:1	0.175	1.268	0.222	
707.50	23095	Mid	LTE Band 12	10	43	24.8	23.81	-0.02	1	1007M	QPSK	25	12	10 mm	left	1:1	0.121	1.256	0.152	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Body 1.6 W/kg (mW/g) averaged over 1 gram												

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Table 11-34
LTE Band 13 Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Antenna State	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	0	25.8	25.04	-0.09	0	1007M	QPSK	1	0	10 mm	back	1:1	0.324	1.191	0.386	A39
782.00	23230	Mid	LTE Band 13	10	0	24.8	24.06	0.04	1	1007M	QPSK	25	0	10 mm	back	1:1	0.299	1.186	0.355	
782.00	23230	Mid	LTE Band 13	10	0	25.8	25.04	-0.01	0	1007M	QPSK	1	0	10 mm	front	1:1	0.275	1.191	0.328	
782.00	23230	Mid	LTE Band 13	10	0	24.8	24.06	0.02	1	1007M	QPSK	25	0	10 mm	front	1:1	0.222	1.186	0.263	
782.00	23230	Mid	LTE Band 13	10	0	25.8	25.04	0.01	0	1007M	QPSK	1	0	10 mm	bottom	1:1	0.224	1.191	0.267	
782.00	23230	Mid	LTE Band 13	10	0	24.8	24.06	-0.07	1	1007M	QPSK	25	0	10 mm	bottom	1:1	0.187	1.186	0.222	
782.00	23230	Mid	LTE Band 13	10	0	25.8	25.04	-0.21	0	1007M	QPSK	1	0	10 mm	right	1:1	0.267	1.191	0.318	
782.00	23230	Mid	LTE Band 13	10	0	24.8	24.06	-0.06	1	1007M	QPSK	25	0	10 mm	right	1:1	0.229	1.186	0.272	
782.00	23230	Mid	LTE Band 13	10	0	25.8	25.04	0.02	0	1007M	QPSK	1	0	10 mm	left	1:1	0.140	1.191	0.167	
782.00	23230	Mid	LTE Band 13	10	0	24.8	24.06	-0.04	1	1007M	QPSK	25	0	10 mm	left	1:1	0.113	1.186	0.134	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Body 1.6 W/kg (mW/g) averaged over 1 gram												

Table 11-35
LTE Band 5 (Cell) Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Antenna State	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
836.50	20525	Mid	LTE Band 5 (Cell)	10	0	25.8	25.06	0.02	0	1001M	QPSK	1	0	10 mm	back	1:1	0.491	1.186	0.582	A41
836.50	20525	Mid	LTE Band 5 (Cell)	10	0	24.8	23.81	0.05	1	1001M	QPSK	25	0	10 mm	back	1:1	0.400	1.256	0.502	
836.50	20525	Mid	LTE Band 5 (Cell)	10	0	25.8	25.06	0.01	0	1001M	QPSK	1	0	10 mm	front	1:1	0.331	1.186	0.393	
836.50	20525	Mid	LTE Band 5 (Cell)	10	0	24.8	23.81	0.00	1	1001M	QPSK	25	0	10 mm	front	1:1	0.261	1.256	0.328	
836.50	20525	Mid	LTE Band 5 (Cell)	10	0	25.8	25.06	0.01	0	1001M	QPSK	1	0	10 mm	bottom	1:1	0.275	1.186	0.326	
836.50	20525	Mid	LTE Band 5 (Cell)	10	0	24.8	23.81	0.01	1	1001M	QPSK	25	0	10 mm	bottom	1:1	0.230	1.256	0.289	
836.50	20525	Mid	LTE Band 5 (Cell)	10	0	25.8	25.06	0.05	0	1001M	QPSK	1	0	10 mm	right	1:1	0.248	1.186	0.294	
836.50	20525	Mid	LTE Band 5 (Cell)	10	0	24.8	23.81	0.04	1	1001M	QPSK	25	0	10 mm	right	1:1	0.192	1.256	0.241	
836.50	20525	Mid	LTE Band 5 (Cell)	10	0	25.8	25.06	0.02	0	1001M	QPSK	1	0	10 mm	left	1:1	0.094	1.186	0.111	
836.50	20525	Mid	LTE Band 5 (Cell)	10	0	24.8	23.81	0.09	1	1001M	QPSK	25	0	10 mm	left	1:1	0.073	1.256	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 11-36
LTE Band 66 (AWS) Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Antenna State	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24	20.3	20.05	0.01	0	0390M	QPSK	1	50	10 mm	back	1:1	0.551	1.059	0.584	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24	20.3	20.07	0.01	0	0390M	QPSK	50	25	10 mm	back	1:1	0.578	1.054	0.609	
1720.00	132072	Low	LTE Band 66 (AWS)	20	63	20.3	20.05	-0.04	0	0390M	QPSK	1	50	10 mm	front	1:1	0.470	1.059	0.498	
1720.00	132072	Low	LTE Band 66 (AWS)	20	63	20.3	20.07	-0.05	0	0390M	QPSK	50	25	10 mm	front	1:1	0.491	1.054	0.518	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23	20.3	20.05	-0.03	0	0390M	QPSK	1	50	10 mm	bottom	1:1	0.869	1.059	0.920	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	23	20.3	19.78	-0.17	0	0390M	QPSK	1	50	10 mm	bottom	1:1	1.000	1.127	1.127	
1770.00	132572	High	LTE Band 66 (AWS)	20	23	20.3	19.75	-0.12	0	0390M	QPSK	1	50	10 mm	bottom	1:1	1.100	1.135	**1.249**	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23	20.3	20.07	0.03	0	0390M	QPSK	50	25	10 mm	bottom	1:1	0.897	1.054	0.945	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	23	20.3	19.85	0.02	0	0390M	QPSK	50	25	10 mm	bottom	1:1	1.040	1.109	1.153	
1770.00	132572	High	LTE Band 66 (AWS)	20	23	20.3	20.05	-0.10	0	0390M	QPSK	50	50	10 mm	bottom	1:1	1.130	1.059	1.197	A43
1770.00	132572	High	LTE Band 66 (AWS)	20	23	20.3	20.04	-0.11	0	0390M	QPSK	100	0	10 mm	bottom	1:1	1.130	1.062	1.200	
1720.00	132072	Low	LTE Band 66 (AWS)	20	25	20.3	20.05	0.19	0	0390M	QPSK	1	50	10 mm	right	1:1	0.083	1.059	0.088	
1720.00	132072	Low	LTE Band 66 (AWS)	20	25	20.3	20.07	0.04	0	0390M	QPSK	50	25	10 mm	right	1:1	0.087	1.054	0.092	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24	20.3	20.05	-0.05	0	0390M	QPSK	1	50	10 mm	left	1:1	0.086	1.059	0.091	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24	20.3	20.07	0.07	0	0390M	QPSK	50	25	10 mm	left	1:1	0.093	1.054	0.098	
1770.00	132572	High	LTE Band 66 (AWS)	20	23	20.3	20.05	-0.10	0	0390M	QPSK	50	50	10 mm	bottom	1:1	1.130	1.059	1.197	
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.

Table 11-37
LTE Band 25 (PCS) Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Antenna State	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
1860.00	26140	Low	LTE Band 25 (PCS)	20	20	19.5	19.20	0.09	0	0387M	QPSK	1	99	10 mm	back	1:1	0.466	1.072	0.500	
1860.00	26140	Low	LTE Band 25 (PCS)	20	20	19.5	19.19	0.02	0	0387M	QPSK	50	25	10 mm	back	1:1	0.475	1.074	0.510	
1860.00	26140	Low	LTE Band 25 (PCS)	20	20	19.5	19.20	-0.10	0	0387M	QPSK	1	99	10 mm	front	1:1	0.382	1.072	0.410	
1860.00	26140	Low	LTE Band 25 (PCS)	20	20	19.5	19.19	-0.01	0	0387M	QPSK	50	25	10 mm	front	1:1	0.404	1.074	0.434	
1860.00	26140	Low	LTE Band 25 (PCS)	20	20	19.5	19.20	-0.05	0	0387M	QPSK	1	99	10 mm	bottom	1:1	0.792	1.072	0.849	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20	19.5	18.99	-0.12	0	0387M	QPSK	1	99	10 mm	bottom	1:1	0.895	1.125	1.007	
1905.00	26590	High	LTE Band 25 (PCS)	20	20	19.5	18.91	-0.01	0	0387M	QPSK	1	50	10 mm	bottom	1:1	0.863	1.146	0.989	
1860.00	26140	Low	LTE Band 25 (PCS)	20	20	19.5	19.19	-0.04	0	0387M	QPSK	50	25	10 mm	bottom	1:1	0.828	1.074	0.889	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20	19.5	18.95	-0.08	0	0387M	QPSK	50	50	10 mm	bottom	1:1	0.925	1.135	1.050	A45
1905.00	26590	High	LTE Band 25 (PCS)	20	20	19.5	19.13	-0.09	0	0387M	QPSK	50	50	10 mm	bottom	1:1	0.907	1.089	0.988	
1905.00	26590	High	LTE Band 25 (PCS)	20	20	19.5	19.18	-0.02	0	0387M	QPSK	100	0	10 mm	bottom	1:1	0.877	1.076	0.944	
1860.00	26140	Low	LTE Band 25 (PCS)	20	20	19.5	19.20	-0.01	0	0387M	QPSK	1	99	10 mm	right	1:1	0.047	1.072	0.050	
1860.00	26140	Low	LTE Band 25 (PCS)	20	20	19.5	19.19	0.10	0	0387M	QPSK	50	25	10 mm	right	1:1	0.049	1.074	0.053	
1860.00	26140	Low	LTE Band 25 (PCS)	20	20	19.5	19.20	-0.14	0	0387M	QPSK	1	99	10 mm	left	1:1	0.056	1.072	0.060	
1860.00	26140	Low	LTE Band 25 (PCS)	20	20	19.5	19.19	-0.04	0	0387M	QPSK	50	25	10 mm	left	1:1	0.062	1.074	0.067	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20	19.5	18.95	-0.01	0	0387M	QPSK	50	50	10 mm	bottom	1:1	0.872	1.135	0.990	
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 11-38
LTE Band 30 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
2310.00	27710	Mid	LTE Band 30	10	19.2	18.56	-0.02	0	0317M	QPSK	1	0	10 mm	back	1:1	0.441	1.159	0.511	
2310.00	27710	Mid	LTE Band 30	10	19.2	18.34	0.00	0	0317M	QPSK	25	12	10 mm	back	1:1	0.443	1.219	0.540	
2310.00	27710	Mid	LTE Band 30	10	19.2	18.56	-0.07	0	0317M	QPSK	1	0	10 mm	front	1:1	0.427	1.159	0.495	
2310.00	27710	Mid	LTE Band 30	10	19.2	18.34	-0.08	0	0317M	QPSK	25	12	10 mm	front	1:1	0.433	1.219	0.528	
2310.00	27710	Mid	LTE Band 30	10	19.2	18.56	-0.07	0	0317M	QPSK	1	0	10 mm	bottom	1:1	0.918	1.159	1.064	
2310.00	27710	Mid	LTE Band 30	10	19.2	18.34	-0.06	0	0317M	QPSK	25	12	10 mm	bottom	1:1	0.935	1.219	1.140	A47
2310.00	27710	Mid	LTE Band 30	10	19.2	18.23	-0.03	0	0317M	QPSK	50	0	10 mm	bottom	1:1	0.930	1.250	1.163	
2310.00	27710	Mid	LTE Band 30	10	19.2	18.56	-0.18	0	0317M	QPSK	1	0	10 mm	right	1:1	0.028	1.159	0.032	
2310.00	27710	Mid	LTE Band 30	10	19.2	18.34	0.10	0	0317M	QPSK	25	12	10 mm	right	1:1	0.029	1.219	0.035	
2310.00	27710	Mid	LTE Band 30	10	19.2	18.56	0.04	0	0317M	QPSK	1	0	10 mm	left	1:1	0.031	1.159	0.036	
2310.00	27710	Mid	LTE Band 30	10	19.2	18.34	0.13	0	0317M	QPSK	25	12	10 mm	left	1:1	0.030	1.219	0.037	
2310.00	27710	Mid	LTE Band 30	10	19.2	18.34	-0.08	0	0317M	QPSK	25	12	10 mm	bottom	1:1	0.934	1.219	1.139	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						Body 1.6 W/kg (mW/g) averaged over 1 gram													

Note: Blue entries represent variability measurements.

Table 11-39
LTE Band 7 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
2510.00	20850	Low	LTE Band 7	20	20.5	19.25	-0.21	0	0332M	QPSK	1	50	10 mm	back	1:1	0.328	1.334	0.438	
2510.00	20850	Low	LTE Band 7	20	20.5	19.32	-0.15	0	0332M	QPSK	50	25	10 mm	back	1:1	0.323	1.312	0.424	
2510.00	20850	Low	LTE Band 7	20	20.5	19.25	-0.08	0	0332M	QPSK	1	50	10 mm	front	1:1	0.298	1.334	0.398	
2510.00	20850	Low	LTE Band 7	20	20.5	19.32	-0.02	0	0332M	QPSK	50	25	10 mm	front	1:1	0.309	1.312	0.405	
2510.00	20850	Low	LTE Band 7	20	20.5	19.25	0.01	0	0332M	QPSK	1	50	10 mm	bottom	1:1	0.662	1.334	0.883	
2535.00	21100	Mid	LTE Band 7	20	20.5	19.14	-0.11	0	0332M	QPSK	1	0	10 mm	bottom	1:1	0.665	1.368	0.910	
2560.00	21350	High	LTE Band 7	20	20.5	18.97	-0.08	0	0332M	QPSK	1	0	10 mm	bottom	1:1	0.707	1.422	1.005	
2510.00	20850	Low	LTE Band 7	20	20.5	19.32	0.06	0	0332M	QPSK	50	25	10 mm	bottom	1:1	0.698	1.312	0.916	
2535.00	21100	Mid	LTE Band 7	20	20.5	19.17	0.06	0	0332M	QPSK	50	0	10 mm	bottom	1:1	0.677	1.358	0.919	
2560.00	21350	High	LTE Band 7	20	20.5	19.03	0.10	0	0332M	QPSK	50	0	10 mm	bottom	1:1	0.710	1.403	0.996	A49
2510.00	20850	Low	LTE Band 7	20	20.5	19.15	-0.11	0	0332M	QPSK	100	0	10 mm	bottom	1:1	0.675	1.365	0.921	
2510.00	20850	Low	LTE Band 7	20	20.5	19.25	-0.13	0	0332M	QPSK	1	50	10 mm	left	1:1	0.058	1.334	0.077	
2510.00	20850	Low	LTE Band 7	20	20.5	19.32	0.00	0	0332M	QPSK	50	25	10 mm	left	1:1	0.065	1.312	0.085	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						Body 1.6 W/kg (mW/g) averaged over 1 gram													

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Table 11-40
LTE Band 41 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
2506.00	39750	Low	LTE Band 41	20	22.0	21.63	0.02	0	0317M	QPSK	1	50	10 mm	back	1:1.58	0.286	1.089	0.311	
2506.00	39750	Low	LTE Band 41	20	22.0	21.70	0.06	0	0317M	QPSK	50	25	10 mm	back	1:1.58	0.293	1.072	0.314	
2506.00	39750	Low	LTE Band 41	20	22.0	21.63	0.01	0	0317M	QPSK	1	50	10 mm	front	1:1.58	0.269	1.089	0.293	
2506.00	39750	Low	LTE Band 41	20	22.0	21.70	0.05	0	0317M	QPSK	50	25	10 mm	front	1:1.58	0.278	1.072	0.298	
2506.00	39750	Low	LTE Band 41	20	22.0	21.63	-0.19	0	0317M	QPSK	1	50	10 mm	bottom	1:1.58	0.674	1.089	0.734	
2549.50	40185	Low-Mid	LTE Band 41	20	22.0	21.61	-0.13	0	0317M	QPSK	1	50	10 mm	bottom	1:1.58	0.650	1.094	0.711	
2593.00	40620	Mid	LTE Band 41	20	22.0	21.40	-0.16	0	0317M	QPSK	1	50	10 mm	bottom	1:1.58	0.512	1.148	0.588	
2636.50	41055	Mid-High	LTE Band 41	20	22.0	21.48	-0.15	0	0317M	QPSK	1	50	10 mm	bottom	1:1.58	0.529	1.127	0.596	
2680.00	41490	High	LTE Band 41	20	22.0	21.44	-0.13	0	0317M	QPSK	1	50	10 mm	bottom	1:1.58	0.548	1.138	0.624	
2506.00	39750	Low	LTE Band 41	20	22.0	21.70	-0.10	0	0317M	QPSK	50	25	10 mm	bottom	1:1.58	0.693	1.072	0.743	A51
2549.50	40185	Low-Mid	LTE Band 41	20	22.0	21.62	-0.17	0	0317M	QPSK	50	0	10 mm	bottom	1:1.58	0.670	1.091	0.731	
2593.00	40620	Mid	LTE Band 41	20	22.0	21.53	-0.17	0	0317M	QPSK	50	25	10 mm	bottom	1:1.58	0.521	1.114	0.580	
2636.50	41055	Mid-High	LTE Band 41	20	22.0	21.67	-0.15	0	0317M	QPSK	50	25	10 mm	bottom	1:1.58	0.552	1.079	0.596	
2680.00	41490	High	LTE Band 41	20	22.0	21.61	-0.17	0	0317M	QPSK	50	50	10 mm	bottom	1:1.58	0.561	1.094	0.614	
2506.00	39750	Low	LTE Band 41	20	22.0	21.61	-0.17	0	0317M	QPSK	100	0	10 mm	bottom	1:1.58	0.675	1.094	0.738	
2506.00	39750	Low	LTE Band 41	20	22.0	21.63	-0.01	0	0317M	QPSK	1	50	10 mm	left	1:1.58	0.052	1.089	0.057	
2506.00	39750	Low	LTE Band 41	20	22.0	21.70	0.10	0	0317M	QPSK	50	25	10 mm	left	1:1.58	0.053	1.072	0.057	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram									

Table 11-41
NR Band n71 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Antenna State	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	136100	Mid	NR Band n71	20	43	25.5	25.12	0.02	0	1031M	DFT-S-OFDM QPSK	1	53	10 mm	back	1:1	0.178	1.091	0.194	
680.50	136100	Mid	NR Band n71	20	43	25.5	24.87	0.02	0	1031M	DFT-S-OFDM QPSK	50	28	10 mm	back	1:1	0.182	1.156	0.210	A53
680.50	136100	Mid	NR Band n71	20	43	24.0	23.05	0.03	1.5	1031M	CP-OFDM QPSK	1	1	10 mm	back	1:1	0.122	1.245	0.152	
680.50	136100	Mid	NR Band n71	20	43	25.5	25.12	-0.04	0	1031M	DFT-S-OFDM QPSK	1	53	10 mm	front	1:1	0.144	1.091	0.157	
680.50	136100	Mid	NR Band n71	20	43	25.5	24.87	0.09	0	1031M	DFT-S-OFDM QPSK	50	28	10 mm	front	1:1	0.147	1.156	0.170	
680.50	136100	Mid	NR Band n71	20	43	25.5	25.12	-0.07	0	1031M	DFT-S-OFDM QPSK	1	53	10 mm	bottom	1:1	0.082	1.091	0.089	
680.50	136100	Mid	NR Band n71	20	43	25.5	24.87	-0.02	0	1031M	DFT-S-OFDM QPSK	50	28	10 mm	bottom	1:1	0.087	1.156	0.101	
680.50	136100	Mid	NR Band n71	20	43	25.5	25.12	0.01	0	1031M	DFT-S-OFDM QPSK	1	53	10 mm	right	1:1	0.168	1.091	0.183	
680.50	136100	Mid	NR Band n71	20	43	25.5	24.87	-0.07	0	1031M	DFT-S-OFDM QPSK	50	28	10 mm	right	1:1	0.163	1.156	0.188	
680.50	136100	Mid	NR Band n71	20	43	25.5	25.12	-0.15	0	1031M	DFT-S-OFDM QPSK	1	53	10 mm	left	1:1	0.114	1.091	0.124	
680.50	136100	Mid	NR Band n71	20	43	25.5	24.87	-0.07	0	1031M	DFT-S-OFDM QPSK	50	28	10 mm	left	1:1	0.113	1.156	0.131	
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 11-42
NR Band n66 Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Antenna State	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
1720.00	344000	Low	NR Band n66 (AWS)	20	24	20.8	20.04	-0.03	0	1019M	DFT-S-OFDM QPSK	1	104	10 mm	back	1:1	0.599	1.191	0.713	
1720.00	344000	Low	NR Band n66 (AWS)	20	24	20.8	20.06	-0.04	0	1019M	DFT-S-OFDM QPSK	50	0	10 mm	back	1:1	0.585	1.186	0.694	
1720.00	344000	Low	NR Band n66 (AWS)	20	63	20.8	20.04	-0.16	0	1019M	DFT-S-OFDM QPSK	1	104	10 mm	front	1:1	0.461	1.191	0.549	
1720.00	344000	Low	NR Band n66 (AWS)	20	63	20.8	20.06	-0.02	0	1019M	DFT-S-OFDM QPSK	50	0	10 mm	front	1:1	0.453	1.186	0.537	
1720.00	344000	Low	NR Band n66 (AWS)	20	23	20.8	20.04	-0.11	0	1019M	DFT-S-OFDM QPSK	1	104	10 mm	bottom	1:1	0.930	1.191	1.108	
1745.00	349000	Mid	NR Band n66 (AWS)	20	23	20.8	19.81	0.09	0	1019M	DFT-S-OFDM QPSK	1	1	10 mm	bottom	1:1	0.891	1.256	1.119	
1770.00	354000	High	NR Band n66 (AWS)	20	23	20.8	19.86	-0.02	0	1019M	DFT-S-OFDM QPSK	1	1	10 mm	bottom	1:1	0.956	1.242	1.187	
1720.00	344000	Low	NR Band n66 (AWS)	20	23	20.8	20.06	-0.03	0	1019M	DFT-S-OFDM QPSK	50	0	10 mm	bottom	1:1	0.940	1.186	1.115	
1745.00	349000	Mid	NR Band n66 (AWS)	20	23	20.8	19.86	0.00	0	1019M	DFT-S-OFDM QPSK	50	0	10 mm	bottom	1:1	0.911	1.242	1.131	
1770.00	354000	High	NR Band n66 (AWS)	20	23	20.8	19.85	-0.10	0	1019M	DFT-S-OFDM QPSK	50	0	10 mm	bottom	1:1	0.977	1.245	1.216	A55
1720.00	344000	Low	NR Band n66 (AWS)	20	23	20.8	20.17	0.02	0	1019M	CP-OFDM QPSK	1	1	10 mm	bottom	1:1	0.932	1.156	1.077	
1720.00	344000	Low	NR Band n66 (AWS)	20	23	20.8	20.00	0.00	0	1019M	DFT-S-OFDM QPSK	100	0	10 mm	bottom	1:1	0.937	1.202	1.126	
1720.00	344000	Low	NR Band n66 (AWS)	20	25	20.8	20.04	0.05	0	1019M	DFT-S-OFDM QPSK	1	104	10 mm	right	1:1	0.075	1.191	0.089	
1720.00	344000	Low	NR Band n66 (AWS)	20	25	20.8	20.06	0.04	0	1019M	DFT-S-OFDM QPSK	50	0	10 mm	right	1:1	0.085	1.186	0.101	
1720.00	344000	Low	NR Band n66 (AWS)	20	24	20.8	20.04	0.08	0	1019M	DFT-S-OFDM QPSK	1	104	10 mm	left	1:1	0.085	1.191	0.101	
1720.00	344000	Low	NR Band n66 (AWS)	20	24	20.8	20.06	0.16	0	1019M	DFT-S-OFDM QPSK	50	0	10 mm	left	1:1	0.085	1.186	0.101	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Body 1.6 W/kg (mW/g) averaged over 1 gram									

Table 11-43
NR Band n41 Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
2592.99	518598	Mid	NR Band n41	100	24.5	23.66	-0.05	0	0410M	DFT-S-OFDM QPSK	1	1	10 mm	back	1:4	0.290	1.213	0.352	
2592.99	518598	Mid	NR Band n41	100	24.5	23.39	-0.04	0	0410M	DFT-S-OFDM QPSK	135	69	10 mm	back	1:4	0.327	1.291	0.422	
2592.99	518598	Mid	NR Band n41	100	24.5	23.66	0.07	0	0410M	DFT-S-OFDM QPSK	1	1	10 mm	front	1:4	0.152	1.213	0.184	
2592.99	518598	Mid	NR Band n41	100	24.5	23.39	-0.06	0	0410M	DFT-S-OFDM QPSK	135	69	10 mm	front	1:4	0.173	1.291	0.223	
2592.99	518598	Mid	NR Band n41	100	24.5	23.66	0.05	0	0410M	DFT-S-OFDM QPSK	1	1	10 mm	top	1:4	0.402	1.213	0.488	
2592.99	518598	Mid	NR Band n41	100	24.5	23.39	0.18	0	0410M	DFT-S-OFDM QPSK	135	69	10 mm	top	1:4	0.447	1.291	0.577	A57
2592.99	518598	Mid	NR Band n41	100	23.0	22.08	0.10	1.5	0410M	CP-OFDM QPSK	1	1	10 mm	top	1:4	0.164	1.236	0.203	
2592.99	518598	Mid	NR Band n41	100	24.5	23.66	0.05	0	0410M	DFT-S-OFDM QPSK	1	1	10 mm	left	1:4	0.084	1.213	0.102	
2592.99	518598	Mid	NR Band n41	100	24.5	23.39	-0.04	0	0410M	DFT-S-OFDM QPSK	135	69	10 mm	left	1:4	0.109	1.291	0.141	
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 11-44
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	21.0	20.77	0.16	10 mm	1	0388M	1	back	99.9	0.202	0.131	1.054	1.001	0.138	
2462	11	802.11b	DSSS	22	21.0	20.77	0.13	10 mm	1	0388M	1	front	99.9	0.159	-	1.054	1.001	-	
2462	11	802.11b	DSSS	22	21.0	20.77	0.18	10 mm	1	0388M	1	top	99.9	0.510	0.307	1.054	1.001	**0.324**	A59
2462	11	802.11b	DSSS	22	21.0	20.77	0.16	10 mm	1	0388M	1	left	99.9	0.097	-	1.054	1.001	-	
2437	6	802.11b	DSSS	22	21.0	20.88	0.19	10 mm	2	0388M	1	back	99.9	0.281	0.172	1.028	1.001	0.177	
2437	6	802.11b	DSSS	22	21.0	20.88	0.00	10 mm	2	0388M	1	front	99.9	0.015	-	1.028	1.001	-	
2437	6	802.11b	DSSS	22	21.0	20.88	0.14	10 mm	2	0388M	1	top	99.9	0.033	-	1.028	1.001	-	
2437	6	802.11b	DSSS	22	21.0	20.88	0.14	10 mm	2	0388M	1	left	99.9	0.059	-	1.028	1.001	-	
5745	149	802.11a	OFDM	20	18.0	17.98	0.07	10 mm	1	0337M	6	back	98.8	0.628	0.279	1.005	1.012	0.284	
5745	149	802.11a	OFDM	20	18.0	17.98	-0.19	10 mm	1	0337M	6	front	98.8	0.160	-	1.005	1.012	-	
5745	149	802.11a	OFDM	20	18.0	17.98	0.20	10 mm	1	0337M	6	top	98.8	0.333	-	1.005	1.012	-	
5745	149	802.11a	OFDM	20	18.0	17.98	0.15	10 mm	1	0337M	6	left	98.8	0.548	-	1.005	1.012	-	
5745	149	802.11a	OFDM	20	18.0	17.13	0.03	10 mm	2	0337M	6	back	98.9	0.919	0.390	1.222	1.011	0.482	
5785	157	802.11a	OFDM	20	18.0	17.25	0.08	10 mm	2	0337M	6	back	98.9	1.238	0.553	1.189	1.011	**0.665**	
5825	165	802.11a	OFDM	20	18.0	16.98	0.15	10 mm	2	0337M	6	back	98.9	1.167	0.487	1.265	1.011	0.623	
5785	157	802.11a	OFDM	20	18.0	17.25	0.18	10 mm	2	0337M	6	front	98.9	0.036	-	1.189	1.011	-	
5785	157	802.11a	OFDM	20	18.0	17.25	0.18	10 mm	2	0337M	6	top	98.9	0.225	-	1.189	1.011	-	
5785	157	802.11a	OFDM	20	18.0	17.25	0.19	10 mm	2	0337M	6	left	98.9	0.246	0.103	1.189	1.011	0.124	
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 11-45
WLAN MIMO Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5745	149	802.11n	OFDM	20	18.0	17.35	18.0	17.36	0.07	10 mm	MIMO	0337M	13	back	98.7	1.174	0.472	1.161	1.013	0.555	
5785	157	802.11n	OFDM	20	18.0	17.74	18.0	17.19	0.13	10 mm	MIMO	0337M	13	back	98.7	1.441	0.574	1.205	1.013	0.701	
5825	165	802.11n	OFDM	20	18.0	17.84	18.0	17.96	0.11	10 mm	MIMO	0337M	13	back	98.7	1.673	0.714	1.038	1.013	0.751	A61
5825	165	802.11n	OFDM	20	18.0	17.84	18.0	17.96	0.19	10 mm	MIMO	0337M	13	front	98.7	0.216	-	1.038	1.013	-	
5825	165	802.11n	OFDM	20	18.0	17.84	18.0	17.96	0.19	10 mm	MIMO	0337M	13	top	98.7	0.556	-	1.038	1.013	-	
5825	165	802.11n	OFDM	20	18.0	17.84	18.0	17.96	0.17	10 mm	MIMO	0337M	13	left	98.7	0.768	0.347	1.038	1.013	0.365	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram											

Note: To achieve the 21.0 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 18.0 dBm

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Table 11-46
WLAN MIMO Hotspot SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5775	155	802.11ac	OFDM	80	14.0	13.24	14.0	13.58	0.19	10 mm	MIMO	0337M	58.5	back	91.2	0.513	0.206	1.191	1.096	0.269	
5775	155	802.11ac	OFDM	80	14.0	13.24	14.0	13.58	0.16	10 mm	MIMO	0337M	58.5	front	91.2	0.040	-	1.191	1.096	-	
5775	155	802.11ac	OFDM	80	14.0	13.24	14.0	13.58	0.12	10 mm	MIMO	0337M	58.5	top	91.2	0.164	-	1.191	1.096	-	
5775	155	802.11ac	OFDM	80	14.0	13.24	14.0	13.58	0.01	10 mm	MIMO	0337M	58.5	left	91.2	0.186	-	1.191	1.096	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram											

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

Table 11-47
DSS Hotspot SAR

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	SAR (1g)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)			(W/kg)	
2441	39	Bluetooth	FHSS	15.0	14.91	0.14	10 mm	0388M	1	back	77.1	0.014	1.021	1.297	0.019	
2441	39	Bluetooth	FHSS	15.0	14.91	-0.17	10 mm	0388M	1	front	77.1	0.016	1.021	1.297	0.021	
2441	39	Bluetooth	FHSS	15.0	14.91	-0.01	10 mm	0388M	1	top	77.1	0.038	1.021	1.297	**0.050**	A63
2441	39	Bluetooth	FHSS	15.0	14.91	-0.17	10 mm	0388M	1	left	77.1	0.003	1.021	1.297	0.004	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram									

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11.4 Standalone Phablet SAR Data

Table 11-48
GPRS/UMTS/CDMA Phablet SAR Data

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna State	Device Serial Number	# of Time Slots	Duty Cycle	Side	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.												(W/kg)		(W/kg)	
1880.00	661	GSM 1900	GPRS	26.5	25.61	-0.07	8 mm	N/A	0317M	3	1:2.76	back	0.430	1.227	0.528	
1880.00	661	GSM 1900	GPRS	26.5	25.61	-0.13	6 mm	N/A	0317M	3	1:2.76	front	0.633	1.227	0.777	
1880.00	661	GSM 1900	GPRS	26.5	25.61	0.14	11 mm	N/A	0317M	3	1:2.76	bottom	0.535	1.227	0.656	
1880.00	661	GSM 1900	GPRS	26.5	25.61	-0.13	0 mm	N/A	0317M	3	1:2.76	right	0.157	1.227	0.193	
1880.00	661	GSM 1900	GPRS	26.5	25.61	-0.19	0 mm	N/A	0317M	3	1:2.76	left	0.234	1.227	0.287	
1880.00	661	GSM 1900	GPRS	23.0	22.43	0.04	0 mm	N/A	0387M	4	1:2.076	back	0.908	1.140	1.035	
1880.00	661	GSM 1900	GPRS	23.0	22.43	-0.06	0 mm	N/A	0387M	4	1:2.076	front	1.580	1.140	1.801	
1850.20	512	GSM 1900	GPRS	23.0	21.95	-0.03	0 mm	N/A	0387M	4	1:2.076	bottom	1.740	1.274	2.217	
1880.00	661	GSM 1900	GPRS	23.0	22.43	-0.13	0 mm	N/A	0387M	4	1:2.076	bottom	1.990	1.140	2.269	A64
1909.80	810	GSM 1900	GPRS	23.0	22.16	-0.03	0 mm	N/A	0387M	4	1:2.076	bottom	1.800	1.213	2.183	
1732.40	1412	UMTS 1750	RMC	24.5	24.16	-0.02	8 mm	24	0867M	N/A	1:1	back	1.110	1.081	1.200	
1732.40	1412	UMTS 1750	RMC	24.5	24.16	-0.05	6 mm	24	0867M	N/A	1:1	front	1.260	1.081	1.362	
1732.40	1412	UMTS 1750	RMC	24.5	24.16	0.02	11 mm	24	0867M	N/A	1:1	bottom	1.150	1.081	1.243	
1732.40	1412	UMTS 1750	RMC	24.5	24.16	0.03	0 mm	24	0867M	N/A	1:1	right	0.375	1.081	0.405	
1732.40	1412	UMTS 1750	RMC	24.5	24.16	0.00	0 mm	24	0867M	N/A	1:1	left	0.394	1.081	0.426	
1732.40	1412	UMTS 1750	RMC	20.0	19.85	-0.02	0 mm	24	0390M	N/A	1:1	back	1.520	1.035	1.573	
1732.40	1412	UMTS 1750	RMC	20.0	19.85	-0.12	0 mm	24	0390M	N/A	1:1	front	1.560	1.035	1.615	
1712.40	1312	UMTS 1750	RMC	20.0	19.87	-0.04	0 mm	24	0390M	N/A	1:1	bottom	1.900	1.030	1.957	
1732.40	1412	UMTS 1750	RMC	20.0	19.85	-0.03	0 mm	24	0390M	N/A	1:1	bottom	2.100	1.035	2.174	
1752.60	1513	UMTS 1750	RMC	20.0	20.00	-0.05	0 mm	24	0390M	N/A	1:1	bottom	2.240	1.000	2.240	A65
1880.00	9400	UMTS 1900	RMC	24.5	24.02	0.04	8 mm	20	0387M	N/A	1:1	back	0.845	1.117	0.944	
1880.00	9400	UMTS 1900	RMC	24.5	24.02	-0.10	6 mm	20	0387M	N/A	1:1	front	0.948	1.117	1.059	
1880.00	9400	UMTS 1900	RMC	24.5	24.02	-0.08	11 mm	20	0387M	N/A	1:1	bottom	1.130	1.117	1.262	
1880.00	9400	UMTS 1900	RMC	24.5	24.02	-0.02	0 mm	20	0387M	N/A	1:1	right	0.321	1.117	0.359	
1880.00	9400	UMTS 1900	RMC	24.5	24.02	-0.03	0 mm	20	0387M	N/A	1:1	left	0.443	1.117	0.495	
1880.00	9400	UMTS 1900	RMC	19.5	18.54	-0.03	0 mm	20	0387M	N/A	1:1	back	1.380	1.247	1.721	
1880.00	9400	UMTS 1900	RMC	19.5	18.54	-0.17	0 mm	20	0387M	N/A	1:1	front	1.200	1.247	1.496	
1852.40	9262	UMTS 1900	RMC	19.5	18.44	-0.06	0 mm	20	0387M	N/A	1:1	bottom	1.710	1.276	2.182	A66
1880.00	9400	UMTS 1900	RMC	19.5	18.54	-0.06	0 mm	20	0387M	N/A	1:1	bottom	1.690	1.247	2.107	
1907.60	9538	UMTS 1900	RMC	19.5	18.24	-0.03	0 mm	20	0387M	N/A	1:1	bottom	1.550	1.337	2.072	
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 11-49
LTE Band 66 (AWS) Phablet SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Antenna State	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
1770.00	132572	High	LTE Band 66 (AWS)	20	23	25.0	24.28	-0.04	0	0390M	QPSK	1	50	8 mm	back	1:1	1.260	1.180	1.487	
1770.00	132572	High	LTE Band 66 (AWS)	20	23	24.0	23.52	-0.02	1	0390M	QPSK	50	25	8 mm	back	1:1	1.030	1.117	1.151	
1770.00	132572	High	LTE Band 66 (AWS)	20	23	25.0	24.28	-0.04	0	0390M	QPSK	1	50	6 mm	front	1:1	1.530	1.180	1.805	
1770.00	132572	High	LTE Band 66 (AWS)	20	23	24.0	23.52	-0.06	1	0390M	QPSK	50	25	6 mm	front	1:1	1.260	1.117	1.407	
1770.00	132572	High	LTE Band 66 (AWS)	20	23	25.0	24.28	-0.01	0	0390M	QPSK	1	50	11 mm	bottom	1:1	1.570	1.180	1.853	
1770.00	132572	High	LTE Band 66 (AWS)	20	23	24.0	23.52	-0.04	1	0390M	QPSK	50	25	11 mm	bottom	1:1	1.300	1.117	1.452	
1770.00	132572	High	LTE Band 66 (AWS)	20	23	25.0	24.28	0.10	0	0390M	QPSK	1	50	0 mm	right	1:1	0.411	1.180	0.485	
1770.00	132572	High	LTE Band 66 (AWS)	20	23	24.0	23.52	0.02	1	0390M	QPSK	50	25	0 mm	right	1:1	0.341	1.117	0.381	
1770.00	132572	High	LTE Band 66 (AWS)	20	23	25.0	24.28	0.03	0	0390M	QPSK	1	50	0 mm	left	1:1	0.556	1.180	0.656	
1770.00	132572	High	LTE Band 66 (AWS)	20	23	24.0	23.52	-0.04	1	0390M	QPSK	50	25	0 mm	left	1:1	0.477	1.117	0.533	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24	20.3	20.05	0.06	0	0390M	QPSK	1	50	0 mm	back	1:1	1.830	1.059	1.938	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24	20.3	20.07	0.07	0	0390M	QPSK	50	25	0 mm	back	1:1	1.960	1.054	2.066	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24	20.3	19.85	0.01	0	0390M	QPSK	50	25	0 mm	back	1:1	1.900	1.109	2.107	
1770.00	132572	High	LTE Band 66 (AWS)	20	24	20.3	20.05	0.07	0	0390M	QPSK	50	50	0 mm	back	1:1	1.960	1.059	2.076	
1770.00	132572	High	LTE Band 66 (AWS)	20	24	20.3	20.04	0.08	0	0390M	QPSK	100	0	0 mm	back	1:1	1.950	1.062	2.071	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23	20.3	20.05	-0.09	0	0390M	QPSK	1	50	0 mm	front	1:1	1.640	1.059	1.737	
1720.00	132072	Low	LTE Band 66 (AWS)	20	23	20.3	20.07	-0.08	0	0390M	QPSK	50	25	0 mm	front	1:1	1.900	1.054	2.003	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	23	20.3	19.85	-0.04	0	0390M	QPSK	50	25	0 mm	front	1:1	1.840	1.109	2.041	
1770.00	132572	High	LTE Band 66 (AWS)	20	23	20.3	20.05	-0.05	0	0390M	QPSK	50	50	0 mm	front	1:1	1.880	1.059	1.991	
1770.00	132572	High	LTE Band 66 (AWS)	20	23	20.3	20.04	-0.08	0	0390M	QPSK	100	0	0 mm	front	1:1	1.880	1.062	1.997	
1720.00	132072	Low	LTE Band 66 (AWS)	20	19	20.3	20.05	-0.10	0	0390M	QPSK	1	50	0 mm	bottom	1:1	2.580	1.059	2.732	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	19	20.3	19.78	-0.07	0	0390M	QPSK	1	50	0 mm	bottom	1:1	2.520	1.127	2.840	
1770.00	132572	High	LTE Band 66 (AWS)	20	19	20.3	19.75	-0.08	0	0390M	QPSK	1	50	0 mm	bottom	1:1	2.670	1.135	3.030	
1720.00	132072	Low	LTE Band 66 (AWS)	20	19	20.3	20.07	-0.06	0	0390M	QPSK	50	25	0 mm	bottom	1:1	2.720	1.054	2.867	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	19	20.3	19.85	-0.06	0	0390M	QPSK	50	25	0 mm	bottom	1:1	2.770	1.109	3.072	
1770.00	132572	High	LTE Band 66 (AWS)	20	19	20.3	20.05	-0.06	0	0390M	QPSK	50	50	0 mm	bottom	1:1	2.970	1.059	**3.145**	A67
1770.00	132572	High	LTE Band 66 (AWS)	20	19	20.3	20.04	-0.07	0	0390M	QPSK	100	0	0 mm	bottom	1:1	2.800	1.062	2.974	
1770.00	132572	High	LTE Band 66 (AWS)	20	19	20.3	20.05	0.15	0	0390M	QPSK	50	50	0 mm	bottom	1:1	2.930	1.059	3.103	
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 entries represent variability measurements.

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Table 11-50
LTE Band 25 (PCS) Phablet SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Antenna State	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	20	24.5	24.36	0.15	0	0317M	QPSK	1	99	8 mm	back	1:1	0.873	1.033	0.902	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20	23.5	23.48	-0.04	1	0317M	QPSK	50	50	8 mm	back	1:1	0.694	1.005	0.697	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20	24.5	24.36	-0.01	0	0317M	QPSK	1	99	6 mm	front	1:1	1.170	1.033	1.209	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20	23.5	23.48	0.01	1	0317M	QPSK	50	50	6 mm	front	1:1	0.962	1.005	0.967	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20	24.5	24.36	-0.05	0	0317M	QPSK	1	99	11 mm	bottom	1:1	1.060	1.033	1.095	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20	23.5	23.48	-0.05	1	0317M	QPSK	50	50	11 mm	bottom	1:1	0.886	1.005	0.890	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20	24.5	24.36	0.13	0	0317M	QPSK	1	99	0 mm	right	1:1	0.300	1.033	0.310	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20	23.5	23.48	-0.11	1	0317M	QPSK	50	50	0 mm	right	1:1	0.248	1.005	0.249	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20	24.5	24.36	-0.06	0	0317M	QPSK	1	99	0 mm	left	1:1	0.409	1.033	0.422	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20	23.5	23.48	-0.08	1	0317M	QPSK	50	50	0 mm	left	1:1	0.343	1.005	0.345	
1860.00	26140	Low	LTE Band 25 (PCS)	20	20	19.5	19.20	0.02	0	0387M	QPSK	1	99	0 mm	back	1:1	1.360	1.072	1.458	
1860.00	26140	Low	LTE Band 25 (PCS)	20	20	19.5	19.19	0.06	0	0387M	QPSK	50	25	0 mm	back	1:1	1.460	1.074	1.568	
1860.00	26140	Low	LTE Band 25 (PCS)	20	20	19.5	19.20	-0.02	0	0387M	QPSK	1	99	0 mm	front	1:1	1.250	1.072	1.340	
1860.00	26140	Low	LTE Band 25 (PCS)	20	20	19.5	19.19	0.02	0	0387M	QPSK	50	25	0 mm	front	1:1	1.360	1.074	1.461	
1860.00	26140	Low	LTE Band 25 (PCS)	20	20	19.5	19.20	-0.05	0	0387M	QPSK	1	99	0 mm	bottom	1:1	1.730	1.072	1.855	
1860.00	26140	Low	LTE Band 25 (PCS)	20	20	19.5	19.19	-0.07	0	0387M	QPSK	50	25	0 mm	bottom	1:1	1.860	1.074	1.998	A68
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20	19.5	18.95	-0.06	0	0387M	QPSK	50	50	0 mm	bottom	1:1	1.840	1.135	2.088	
1905.00	26590	High	LTE Band 25 (PCS)	20	20	19.5	19.13	-0.03	0	0387M	QPSK	50	50	0 mm	bottom	1:1	1.810	1.089	1.971	
1905.00	26590	High	LTE Band 25 (PCS)	20	20	19.5	19.18	0.01	0	0387M	QPSK	100	0	0 mm	bottom	1:1	1.820	1.076	1.958	
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 11-51
LTE Band 30 Phablet SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.18	-0.08	0	0317M	QPSK	1	0	8 mm	back	1:1	0.807	1.208	0.975	
2310.00	27710	Mid	LTE Band 30	10	22.0	21.26	-0.11	1	0317M	QPSK	25	0	6 mm	back	1:1	0.630	1.186	0.747	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.18	-0.09	0	0317M	QPSK	1	0	6 mm	front	1:1	1.090	1.208	1.317	
2310.00	27710	Mid	LTE Band 30	10	22.0	21.26	-0.11	1	0317M	QPSK	25	0	6 mm	front	1:1	0.862	1.186	1.022	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.18	0.03	0	0317M	QPSK	1	0	11 mm	bottom	1:1	1.140	1.208	1.377	
2310.00	27710	Mid	LTE Band 30	10	22.0	21.26	-0.03	1	0317M	QPSK	25	0	11 mm	bottom	1:1	0.933	1.186	1.107	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.18	-0.09	0	0317M	QPSK	1	0	0 mm	right	1:1	0.260	1.208	0.314	
2310.00	27710	Mid	LTE Band 30	10	22.0	21.26	-0.09	1	0317M	QPSK	25	0	0 mm	right	1:1	0.201	1.186	0.238	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.18	-0.18	0	0317M	QPSK	1	0	0 mm	left	1:1	0.271	1.208	0.327	
2310.00	27710	Mid	LTE Band 30	10	22.0	21.26	-0.02	1	0317M	QPSK	25	0	0 mm	left	1:1	0.220	1.186	0.261	
2310.00	27710	Mid	LTE Band 30	10	21.5	20.91	0.02	0	0317M	QPSK	1	49	0 mm	back	1:1	1.800	1.146	2.063	
2310.00	27710	Mid	LTE Band 30	10	21.5	20.86	0.00	0	0317M	QPSK	25	12	0 mm	back	1:1	1.870	1.159	2.167	
2310.00	27710	Mid	LTE Band 30	10	21.5	20.77	-0.03	0	0317M	QPSK	50	0	0 mm	back	1:1	1.860	1.183	2.200	
2310.00	27710	Mid	LTE Band 30	10	21.5	20.91	0.17	0	0317M	QPSK	1	49	0 mm	front	1:1	1.800	1.146	2.063	
2310.00	27710	Mid	LTE Band 30	10	21.5	20.86	-0.15	0	0317M	QPSK	25	12	0 mm	front	1:1	1.900	1.159	2.202	A69
2310.00	27710	Mid	LTE Band 30	10	21.5	20.77	-0.06	0	0317M	QPSK	50	0	0 mm	front	1:1	1.850	1.183	2.189	
2310.00	27710	Mid	LTE Band 30	10	21.5	20.91	-0.05	0	0317M	QPSK	1	49	0 mm	bottom	1:1	1.720	1.146	1.971	
2310.00	27710	Mid	LTE Band 30	10	21.5	20.86	-0.08	0	0317M	QPSK	25	12	0 mm	bottom	1:1	1.790	1.159	2.075	
2310.00	27710	Mid	LTE Band 30	10	21.5	20.77	-0.08	0	0317M	QPSK	50	0	0 mm	bottom	1:1	1.780	1.183	2.106	
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 11-52
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)	
2560.00	21350	High	LTE Band 7	20	24.0	23.35	0.02	0	0888M	QPSK	1	0	8 mm	back	1:1	0.453	1.161	0.526	
2560.00	21350	High	LTE Band 7	20	23.0	22.52	0.02	1	0888M	QPSK	50	0	8 mm	back	1:1	0.357	1.117	0.399	
2560.00	21350	High	LTE Band 7	20	24.0	23.35	0.00	0	0888M	QPSK	1	0	6 mm	front	1:1	0.617	1.161	0.716	
2560.00	21350	High	LTE Band 7	20	23.0	22.52	-0.07	1	0888M	QPSK	50	0	6 mm	front	1:1	0.487	1.117	0.544	
2560.00	21350	High	LTE Band 7	20	24.0	23.35	-0.01	0	0888M	QPSK	1	0	11 mm	bottom	1:1	0.670	1.161	0.778	
2560.00	21350	High	LTE Band 7	20	23.0	22.52	-0.06	1	0888M	QPSK	50	0	11 mm	bottom	1:1	0.525	1.117	0.586	
2560.00	21350	High	LTE Band 7	20	24.0	23.35	0.11	0	0888M	QPSK	1	0	0 mm	left	1:1	0.317	1.161	0.368	
2560.00	21350	High	LTE Band 7	20	23.0	22.52	0.16	1	0888M	QPSK	50	0	0 mm	left	1:1	0.254	1.117	0.284	
2535.00	21100	Mid	LTE Band 7	20	21.5	20.03	-0.12	0	0332M	QPSK	1	0	0 mm	back	1:1	0.927	1.403	1.301	
2510.00	20850	Low	LTE Band 7	20	21.5	20.15	-0.12	0	0332M	QPSK	50	25	0 mm	back	1:1	1.050	1.365	1.433	
2535.00	21100	Mid	LTE Band 7	20	21.5	20.03	0.04	0	0332M	QPSK	1	0	0 mm	front	1:1	0.801	1.403	1.124	
2510.00	20850	Low	LTE Band 7	20	21.5	20.15	0.06	0	0332M	QPSK	50	25	0 mm	front	1:1	0.926	1.365	1.264	
2535.00	21100	Mid	LTE Band 7	20	21.5	20.03	-0.11	0	0332M	QPSK	1	0	0 mm	bottom	1:1	1.080	1.403	1.515	
2510.00	20850	Low	LTE Band 7	20	21.5	20.15	-0.09	0	0332M	QPSK	50	25	0 mm	bottom	1:1	1.240	1.365	1.693	A70
2535.00	21100	Mid	LTE Band 7	20	21.5	20.10	-0.15	0	0332M	QPSK	50	0	0 mm	bottom	1:1	1.080	1.380	1.490	
2560.00	21350	High	LTE Band 7	20	21.5	19.88	-0.12	0	0332M	QPSK	50	0	0 mm	bottom	1:1	0.948	1.452	1.376	
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 11-53
LTE Band 41 Phablet SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
2506.00	39750	Low	LTE Band 41	20	25.0	24.51	-0.06	0	0902M	QPSK	1	0	8 mm	back	1:1.58	0.372	1.119	0.416	
2506.00	39750	Low	LTE Band 41	20	24.0	23.50	-0.04	1	0902M	QPSK	50	0	8 mm	back	1:1.58	0.300	1.122	0.337	
2506.00	39750	Low	LTE Band 41	20	25.0	24.51	0.02	0	0902M	QPSK	1	0	6 mm	front	1:1.58	0.477	1.119	0.534	
2506.00	39750	Low	LTE Band 41	20	24.0	23.50	-0.07	1	0902M	QPSK	50	0	6 mm	front	1:1.58	0.383	1.122	0.430	
2506.00	39750	Low	LTE Band 41	20	25.0	24.51	-0.08	0	0902M	QPSK	1	0	11 mm	bottom	1:1.58	0.570	1.119	0.638	
2506.00	39750	Low	LTE Band 41	20	24.0	23.50	-0.07	1	0902M	QPSK	50	0	11 mm	bottom	1:1.58	0.455	1.122	0.511	
2506.00	39750	Low	LTE Band 41	20	25.0	24.51	-0.18	0	0902M	QPSK	1	0	0 mm	left	1:1.58	0.220	1.119	0.246	
2506.00	39750	Low	LTE Band 41	20	24.0	23.50	-0.18	1	0902M	QPSK	50	0	0 mm	left	1:1.58	0.177	1.122	0.199	
2506.00	39750	Low	LTE Band 41	20	24.5	24.09	-0.01	0	0317M	QPSK	1	0	0 mm	back	1:1.58	1.400	1.099	1.539	
2549.50	40185	Low-Mid	LTE Band 41	20	24.5	24.19	0.10	0	0317M	QPSK	1	50	0 mm	back	1:1.58	1.190	1.074	1.278	
2593.00	40620	Mid	LTE Band 41	20	24.5	24.02	0.09	0	0317M	QPSK	1	50	0 mm	back	1:1.58	1.900	1.117	2.122	A71
2636.50	41055	Mid-High	LTE Band 41	20	24.5	24.49	-0.08	0	0317M	QPSK	1	50	0 mm	back	1:1.58	1.880	1.002	1.884	
2680.00	41490	High	LTE Band 41	20	24.5	24.50	-0.14	0	0317M	QPSK	1	50	0 mm	back	1:1.58	1.580	1.000	1.580	
2680.00	41490	High	LTE Band 41	20	24.0	23.76	-0.17	0.5	0317M	QPSK	50	50	0 mm	back	1:1.58	1.250	1.057	1.321	
2549.50	40185	Low-Mid	LTE Band 41	20	24.0	23.67	0.16	0.5	0317M	QPSK	100	0	0 mm	back	1:1.58	0.971	1.079	1.048	
2680.00	41490	High	LTE Band 41	20	24.5	24.50	-0.02	0	0317M	QPSK	1	50	0 mm	front	1:1.58	1.030	1.000	1.030	
2680.00	41490	High	LTE Band 41	20	24.0	23.76	-0.01	0.5	0317M	QPSK	50	50	0 mm	front	1:1.58	0.969	1.057	1.024	
2680.00	41490	High	LTE Band 41	20	24.5	24.50	-0.18	0	0317M	QPSK	1	50	0 mm	bottom	1:1.58	1.240	1.000	1.240	
2680.00	41490	High	LTE Band 41	20	24.0	23.76	-0.20	0.5	0317M	QPSK	50	50	0 mm	bottom	1:1.58	1.120	1.057	1.184	
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 11-54
NR Band n66 Phablet SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Antenna State	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	349000	Mid	NR Band n66 (AWS)	20	23	25.0	24.12	-0.12	0	1019M	DFT-S-OFDM QPSK	1	53	8 mm	back	1:1	1.180	1.225	1.446	
1745.00	349000	Mid	NR Band n66 (AWS)	20	23	25.0	23.97	-0.08	0	1019M	DFT-S-OFDM QPSK	50	28	8 mm	back	1:1	1.180	1.268	1.496	
1745.00	349000	Mid	NR Band n66 (AWS)	20	23	25.0	24.12	0.15	0	1019M	DFT-S-OFDM QPSK	1	53	6 mm	front	1:1	1.400	1.225	1.715	
1745.00	349000	Mid	NR Band n66 (AWS)	20	23	25.0	23.97	-0.08	0	1019M	DFT-S-OFDM QPSK	50	28	6 mm	front	1:1	1.350	1.268	1.712	
1745.00	349000	Mid	NR Band n66 (AWS)	20	23	25.0	24.12	0.18	0	1019M	DFT-S-OFDM QPSK	1	53	11 mm	bottom	1:1	1.260	1.225	1.544	
1745.00	349000	Mid	NR Band n66 (AWS)	20	23	25.0	23.97	0.10	0	1019M	DFT-S-OFDM QPSK	50	28	11 mm	bottom	1:1	1.220	1.268	1.547	
1745.00	349000	Mid	NR Band n66 (AWS)	20	23	25.0	24.12	0.14	0	1019M	DFT-S-OFDM QPSK	1	53	0 mm	right	1:1	0.376	1.225	0.461	
1745.00	349000	Mid	NR Band n66 (AWS)	20	23	25.0	23.97	0.03	0	1019M	DFT-S-OFDM QPSK	50	28	0 mm	right	1:1	0.387	1.268	0.491	
1745.00	349000	Mid	NR Band n66 (AWS)	20	23	25.0	24.12	0.18	0	1019M	DFT-S-OFDM QPSK	1	53	0 mm	left	1:1	0.468	1.225	0.573	
1745.00	349000	Mid	NR Band n66 (AWS)	20	23	25.0	23.97	0.00	0	1019M	DFT-S-OFDM QPSK	50	28	0 mm	left	1:1	0.485	1.268	0.615	
1720.00	344000	Low	NR Band n66 (AWS)	20	24	20.8	20.04	0.00	0	1019M	DFT-S-OFDM QPSK	1	104	0 mm	back	1:1	1.650	1.191	1.965	
1720.00	344000	Low	NR Band n66 (AWS)	20	24	20.8	20.06	0.00	0	1019M	DFT-S-OFDM QPSK	50	0	0 mm	back	1:1	1.740	1.186	2.064	
1745.00	349000	Mid	NR Band n66 (AWS)	20	24	20.8	19.86	0.02	0	1019M	DFT-S-OFDM QPSK	50	0	0 mm	back	1:1	1.650	1.242	2.049	
1770.00	354000	High	NR Band n66 (AWS)	20	24	20.8	19.85	0.03	0	1019M	DFT-S-OFDM QPSK	50	0	0 mm	back	1:1	1.600	1.245	1.992	
1720.00	344000	Low	NR Band n66 (AWS)	20	24	20.8	20.00	0.05	0	1019M	DFT-S-OFDM QPSK	100	0	0 mm	back	1:1	1.730	1.202	2.079	
1720.00	344000	Low	NR Band n66 (AWS)	20	23	20.8	20.04	-0.08	0	1019M	DFT-S-OFDM QPSK	1	104	0 mm	front	1:1	1.640	1.191	1.953	
1720.00	344000	Low	NR Band n66 (AWS)	20	23	20.8	20.06	-0.08	0	1019M	DFT-S-OFDM QPSK	50	0	0 mm	front	1:1	1.760	1.186	2.087	
1745.00	349000	Mid	NR Band n66 (AWS)	20	23	20.8	19.86	-0.09	0	1019M	DFT-S-OFDM QPSK	50	0	0 mm	front	1:1	1.570	1.242	1.950	
1770.00	354000	High	NR Band n66 (AWS)	20	23	20.8	19.85	-0.03	0	1019M	DFT-S-OFDM QPSK	50	0	0 mm	front	1:1	1.540	1.245	1.917	
1720.00	344000	Low	NR Band n66 (AWS)	20	23	20.8	20.00	-0.13	0	1019M	DFT-S-OFDM QPSK	100	0	0 mm	front	1:1	1.710	1.202	2.055	
1720.00	344000	Low	NR Band n66 (AWS)	20	19	20.8	20.04	0.08	0	1019M	DFT-S-OFDM QPSK	1	104	0 mm	bottom	1:1	2.360	1.191	2.811	
1745.00	349000	Mid	NR Band n66 (AWS)	20	19	20.8	19.81	0.18	0	1019M	DFT-S-OFDM QPSK	1	1	0 mm	bottom	1:1	2.370	1.256	2.977	
1770.00	354000	High	NR Band n66 (AWS)	20	19	20.8	19.86	0.10	0	1019M	DFT-S-OFDM QPSK	1	1	0 mm	bottom	1:1	2.440	1.242	3.030	
1720.00	344000	Low	NR Band n66 (AWS)	20	19	20.8	20.06	0.12	0	1019M	DFT-S-OFDM QPSK	50	0	0 mm	bottom	1:1	2.450	1.186	2.906	
1745.00	349000	Mid	NR Band n66 (AWS)	20	19	20.8	19.86	0.18	0	1019M	DFT-S-OFDM QPSK	50	0	0 mm	bottom	1:1	2.380	1.242	2.956	
1770.00	354000	High	NR Band n66 (AWS)	20	19	20.8	19.85	0.17	0	1019M	DFT-S-OFDM QPSK	50	0	0 mm	bottom	1:1	2.510	1.245	3.125	A72
1720.00	344000	Low	NR Band n66 (AWS)	20	19	20.8	20.17	0.12	0	1019M	CP-OFDM QPSK	1	1	0 mm	bottom	1:1	2.340	1.156	2.705	
1720.00	344000	Low	NR Band n66 (AWS)	20	19	20.8	20.00	0.11	0	1019M	DFT-S-OFDM QPSK	100	0	0 mm	bottom	1:1	2.420	1.202	2.909	
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 11-55
WLAN SISO Phablet SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (10g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (10g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5280	56	802.11a	OFDM	20	18.0	17.96	-0.06	0 mm	1	0337M	6	back	98.8	10.804	1.280	1.009	1.012	1.307	
5280	56	802.11a	OFDM	20	18.0	17.96	-0.13	0 mm	1	0337M	6	front	98.8	1.620	-	1.009	1.012	-	
5280	56	802.11a	OFDM	20	18.0	17.96	-0.13	0 mm	1	0337M	6	top	98.8	5.271	-	1.009	1.012	-	
5280	56	802.11a	OFDM	20	18.0	17.96	-0.11	0 mm	1	0337M	6	left	98.8	9.239	0.815	1.009	1.012	0.832	
5260	52	802.11a	OFDM	20	18.0	17.26	-0.11	0 mm	2	0337M	6	back	98.9	16.815	1.410	1.186	1.011	1.691	
5280	56	802.11a	OFDM	20	18.0	17.35	0.18	0 mm	2	0337M	6	back	98.9	8.804	1.420	1.161	1.011	1.667	
5300	60	802.11a	OFDM	20	18.0	17.34	-0.09	0 mm	2	0337M	6	back	98.9	10.116	1.450	1.164	1.011	**1.706**	
5280	56	802.11a	OFDM	20	18.0	17.35	0.08	0 mm	2	0337M	6	front	98.9	0.904	-	1.161	1.011	-	
5280	56	802.11a	OFDM	20	18.0	17.35	0.15	0 mm	2	0337M	6	top	98.9	1.647	-	1.161	1.011	-	
5280	56	802.11a	OFDM	20	18.0	17.35	0.02	0 mm	2	0337M	6	left	98.9	4.140	0.398	1.161	1.011	0.467	
5520	104	802.11a	OFDM	20	18.0	17.97	-0.15	0 mm	1	0337M	6	back	98.8	5.450	0.686	1.007	1.012	0.699	
5520	104	802.11a	OFDM	20	18.0	17.97	-0.07	0 mm	1	0337M	6	front	98.8	0.961	-	1.007	1.012	-	
5520	104	802.11a	OFDM	20	18.0	17.97	-0.02	0 mm	1	0337M	6	top	98.8	2.559	-	1.007	1.012	-	
5520	104	802.11a	OFDM	20	18.0	17.97	-0.18	0 mm	1	0337M	6	left	98.8	3.867	-	1.007	1.012	-	
5520	104	802.11a	OFDM	20	18.0	17.77	0.12	0 mm	2	0337M	6	back	98.9	7.390	0.915	1.054	1.011	0.975	
5520	104	802.11a	OFDM	20	18.0	17.77	0.19	0 mm	2	0337M	6	front	98.9	0.211	-	1.054	1.011	-	
5520	104	802.11a	OFDM	20	18.0	17.77	0.18	0 mm	2	0337M	6	top	98.9	0.478	-	1.054	1.011	-	
5520	104	802.11a	OFDM	20	18.0	17.77	0.18	0 mm	2	0337M	6	left	98.9	1.173	-	1.054	1.011	-	
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 11-56
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)	
5260	52	802.11n	OFDM	20	18.0	17.18	18.0	17.25	-0.11	0 mm	MIMO	0337M	13	back	98.7	14.794	2.040	1.208	1.013	2.496	
5280	56	802.11n	OFDM	20	18.0	17.96	18.0	17.37	-0.13	0 mm	MIMO	0337M	13	back	98.7	13.108	2.550	1.156	1.013	2.986	A73
5300	60	802.11n	OFDM	20	18.0	17.77	18.0	17.49	-0.17	0 mm	MIMO	0337M	13	back	98.7	15.864	2.500	1.125	1.013	2.849	
5280	56	802.11n	OFDM	20	18.0	17.96	18.0	17.37	0.00	0 mm	MIMO	0337M	13	front	98.7	1.891	0.322	1.156	1.013	0.377	
5280	56	802.11n	OFDM	20	18.0	17.96	18.0	17.37	0.16	0 mm	MIMO	0337M	13	top	98.7	4.707	0.654	1.156	1.013	0.766	
5280	56	802.11n	OFDM	20	18.0	17.96	18.0	17.37	0.19	0 mm	MIMO	0337M	13	left	98.7	16.247	1.420	1.156	1.013	1.663	
5520	104	802.11n	OFDM	20	18.0	17.95	18.0	17.81	-0.13	0 mm	MIMO	0337M	13	back	98.7	11.917	1.410	1.045	1.013	1.493	
5520	104	802.11n	OFDM	20	18.0	17.95	18.0	17.81	-0.13	0 mm	MIMO	0337M	13	front	98.7	1.313	0.160	1.045	1.013	0.169	
5520	104	802.11n	OFDM	20	18.0	17.95	18.0	17.81	0.12	0 mm	MIMO	0337M	13	top	98.7	3.324	0.398	1.045	1.013	0.421	
5520	104	802.11n	OFDM	20	18.0	17.95	18.0	17.81	0.19	0 mm	MIMO	0337M	13	left	98.7	10.671	0.762	1.045	1.013	0.807	
5280	56	802.11n	OFDM	20	18.0	17.96	18.0	17.37	-0.13	0 mm	MIMO	0337M	13	back	98.7	16.063	2.550	1.156	1.013	2.986	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram											

Note 1: Blue entries represent variability measurements.

Note 2: 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. Blue entries represent variability measurements.

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11.5 SAR Test Notes

General Notes:

1. The test data reported are the worst-case SAR values according to test procedures specified in IEEE 1528-2013, and FCC KDB Publication 447498 D01v06.
2. Batteries are fully charged at the beginning of the SAR measurements.
3. Liquid tissue depth was at least 15.0 cm for all frequencies.
4. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
5. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D01v06.
6. Device was tested using a fixed spacing for body-worn accessory testing. A separation distance of 15 mm was considered because the manufacturer has determined that there will be body-worn accessories available in the marketplace for users to support this separation distance.
7. Per FCC KDB Publication 648474 D04v01r03, body-worn SAR was evaluated without a headset connected to the device. Since the standalone reported body-worn SAR was ≤ 1.2 W/kg, no additional body-worn SAR evaluations using a headset cable were required.
8. Repeated SAR measurements are highlighted in the tables above for clarity. Please see Section 13 for variability analysis.
9. During SAR Testing for the Wireless Router conditions per FCC KDB Publication 941225 D06v02r01, the actual Portable Hotspot operation (with actual simultaneous transmission of a transmitter with WIFI) was not activated (See Section 6.7 for more details).
10. Per FCC KDB Publication 648474 D04v01r03, this device is considered a "phablet" since the diagonal dimension is > 160 mm and < 200 mm. Therefore, phablet SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR > 1.2 W/kg.
11. This device supports dynamic antenna tuning for some bands. Per FCC Guidance, SAR was measured according to the normally required SAR measurement configurations with tuner active. The auto-tune state determined by the device was verified before and after each SAR measurement and is listed in tables above. Please see Section 14 for supplemental data.
12. Additional SAR tests for phablet SAR were evaluated per KDB 616217 Section 6 (See Section 6.9 for more information).
13. Unless otherwise noted, when 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds below.
14. This device uses Qualcomm Smart Transmit for 2G/3G/4G/5G operations to control and manage transmitting power in real time to ensure RF Exposure compliance. Per FCC Guidance, compliance for was assessed at the minimum of the time averaged power and the maximum output power for each band/mode/exposure condition (DSI).

GSM Test Notes:

1. Body-Worn accessory testing is typically associated with voice operations. Therefore, GSM voice was evaluated for body-worn SAR.
2. Justification for reduced test configurations per KDB Publication 941225 D01v03r01 and October 2013 TCB Workshop Notes: The source-based frame-averaged output power was evaluated for all GPRS/EDGE slot configurations. The configuration with the highest target frame averaged output power was evaluated for hotspot SAR. When the maximum frame-averaged powers are equivalent across two or more slots (within 0.25 dB), the configuration with the most number of time slots was tested.
3. Per FCC KDB Publication 447498 D01v06, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg for 1g evaluations then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel was used.

CDMA Notes:

1. Head SAR for CDMA2000 mode was tested under RC3/SO55 per FCC KDB Publication 941225 D01v03r01.

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2. Body-Worn SAR was tested with 1x RTT with TDSO / SO32 FCH Only. EVDO Rev0 and RevA and TDSO / SO32 FCH+SCH SAR tests were not required per the 3G SAR Test Reduction Procedure in FCC KDB Publication 941225 D01v03r01.
3. CDMA Wireless Router SAR is measured using Subtype 0/1 Physical Layer configurations for Rev. 0 according to KDB 941225 D01v03r01 procedures for data devices. Wireless Router SAR tests for Subtype 2 of Rev.A and 1x RTT configurations were not required per the 3G SAR Test Reduction Policy in KDB Publication 941225 D01v03r01.
4. Head SAR was additionally evaluated using EVDO Rev. A to determine compliance for VoIP operations.
5. Per FCC KDB Publication 447498 D01v06, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg for 1g evaluations then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel was used.

UMTS Notes:

1. UMTS mode was tested under RMC 12.2 kbps with HSPA Inactive per KDB Publication 941225 D01v03r01. AMR and HSPA SAR was not required per the 3G Test Reduction Procedure in KDB Publication 941225 D01v03r01.
2. Per FCC KDB Publication 447498 D01v06, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg for 1g evaluations then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel was used.

LTE Notes:

1. LTE test configurations are determined according to SAR Evaluation Considerations for LTE Devices in FCC KDB Publication 941225 D05v02r04. The general test procedures used for testing can be found in Section 8.6.4.
2. MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.
3. A-MPR was disabled for all SAR tests by setting NS=01 and MCC=001 on the base station simulator. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).
4. Per FCC KDB Publication 447498 D01v06, when the reported LTE Band 41 or LTE Band 48 SAR measured at the highest output power channel in a given a test configuration was > 0.6 W/kg for 1g evaluations, testing at the other channels was required for such test configurations.
5. TDD LTE was tested per the guidance provided in FCC KDB Publication 941225 D05v02r04. Testing was performed using UL-DL configuration 0 with 6 UL subframes and 2 S subframes using extended cyclic prefix only and special subframe configuration 6. SAR tests were performed at maximum output power and worst-case transmission duty factor in extended cyclic prefix. Per 3GPP 36.211 Section 4, the duty factor for special subframe configuration 6 using extended cyclic prefix is 0.633.
6. Per KDB Publication 941225 D05Av01r02, SAR for downlink only LTE CA operations was not needed since the maximum average output power in LTE CA mode was not >0.25 dB higher than the maximum output power when downlink carrier aggregation was inactive.

NR Notes:

1. NR implementation of n71, n66, and n41 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.

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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, the device was configured with the tuner state selected by the device in LTE mode with auto-tune active at the same frequency as the NR test results. Additional tuner states were evaluated per April 2019 TCBC Workshop Guidance. Please see Section 14 for supplemental data.
6. Per FCC Guidance, NR modulations and RB Sizes/Offsets were selected for testing such that configurations with the highest output power were evaluated for SAR tests.
7. For final implementation, NR Band n41 slot configuration is synchronized using maximum duty cycle of 25%. SAR testing was performed using FTM mode with a 25% duty cycle applied to match final duty cycle.

WLAN Notes:

1. For held-to-ear, body-worn, hotspot, and phablet operations, the initial test position procedures were applied. The test position with the highest extrapolated peak SAR will be used as the initial test position. When reported SAR for the initial test position is ≤ 0.4 W/kg for 1g evaluations, no additional testing for the remaining test positions was required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is ≤ 0.8 W/kg or all test positions are measured.
2. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 2.4 GHz WIFI single transmission chain operations, the highest measured maximum output power channel for DSSS was selected for SAR measurement. SAR for OFDM modes (2.4 GHz 802.11g/n/ax) was not required due to the maximum allowed powers and the highest reported DSSS SAR. See Section 8.7.5 for more information.
3. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 5 GHz WIFI single transmission chain operations, the initial test configuration was selected according to the transmission mode with the highest maximum allowed powers. Other transmission modes were not investigated since the highest reported SAR for initial test configuration adjusted by the ratio of maximum output powers is less than 1.2 W/kg for 1g evaluations. See Section 8.7.6 for more information.
4. Per KDB Publication 248227 D01v02r02, SAR for MIMO was evaluated by following the simultaneous SAR provisions from KDB Publication 447498 D01v06 by either evaluating the sum of the 1g SAR values of each antenna transmitting independently or making a SAR measurement with both antennas transmitting simultaneously. Please see Section 12 for complete analysis.
5. When the maximum reported 1g averaged SAR is ≤0.8 W/kg, SAR testing on additional channels was not required. Otherwise, SAR for the next highest output power channel was required until the reported SAR result was ≤ 1.20 W/kg for 1g evaluations or all test channels were measured.
6. The device was configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools. The reported SAR was scaled to the 100% transmission duty factor to determine compliance. Procedures used to measure the duty factor are identical to that in the associated EMC test reports.
7. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

Bluetooth Notes

1. Bluetooth SAR was measured with the device connected to a call box with hopping disabled with DH5 operation and Tx Tests test mode type. Per October 2016 TCB Workshop Notes, the reported SAR was scaled to the 100% transmission duty factor to determine compliance. See Section 9.7 for the time domain plot and calculation for the duty factor of the device.
2. Head and Hotspot Bluetooth SAR were evaluated for BT BR tethering applications.

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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 a physical test configuration is ≤1.6 W/kg. The different test positions in an exposure condition may be considered collectively to determine SAR test exclusion according to the sum of 1g or 10g SAR.

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

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

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

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12.3 Head SAR Simultaneous Transmission Analysis

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

Exposure Condition	Mode	2G/3G/4G 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	Cell. CDMA/EVDO	0.235	0.521	0.020	0.756	0.255	0.776
	GSM 850	0.178	0.521	0.020	0.699	0.198	0.719
	GSM 1900	0.049	0.521	0.020	0.570	0.069	0.590
	UMTS 850	0.201	0.521	0.020	0.722	0.221	0.742
	UMTS 1750	0.135	0.521	0.020	0.656	0.155	0.676
	UMTS 1900	0.107	0.521	0.020	0.628	0.127	0.648
	LTE Band 71	0.184	0.521	0.020	0.705	0.204	0.725
	LTE Band 12	0.208	0.521	0.020	0.729	0.228	0.749
	LTE Band 13	0.193	0.521	0.020	0.714	0.213	0.734
	LTE Band 5 (Cell)	0.208	0.521	0.020	0.729	0.228	0.749
	LTE Band 66 (AWS)	0.136	0.521	0.020	0.657	0.156	0.677
	LTE Band 25 (PCS)	0.114	0.521	0.020	0.635	0.134	0.655
	LTE Band 30	0.075	0.521	0.020	0.596	0.095	0.616
	LTE Band 7	0.157	0.521	0.020	0.678	0.177	0.698
	LTE Band 41	0.110	0.521	0.020	0.631	0.130	0.651
	NR Band n71	0.110	0.521	0.020	0.631	0.130	0.651
	NR Band n66 (AWS)	0.153	0.521	0.020	0.674	0.173	0.694
	NR Band n41	0.954	0.521	0.020	1.475	0.974	**1.495**

Note: The above n41 SAR result is the reported time-averaged SAR. The analysis for this calculation can be found in Table 12-6

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Head SAR	Cell. CDMA/EVDO	0.235	0.164	0.132	0.399	0.367	0.531
	GSM 850	0.178	0.164	0.132	0.342	0.310	0.474
	GSM 1900	0.049	0.164	0.132	0.213	0.181	0.345
	UMTS 850	0.201	0.164	0.132	0.365	0.333	0.497
	UMTS 1750	0.135	0.164	0.132	0.299	0.267	0.431
	UMTS 1900	0.107	0.164	0.132	0.271	0.239	0.403
	LTE Band 71	0.184	0.164	0.132	0.348	0.316	0.480
	LTE Band 12	0.208	0.164	0.132	0.372	0.340	0.504
	LTE Band 13	0.193	0.164	0.132	0.357	0.325	0.489
	LTE Band 5 (Cell)	0.208	0.164	0.132	0.372	0.340	0.504
	LTE Band 66 (AWS)	0.136	0.164	0.132	0.300	0.268	0.432
	LTE Band 25 (PCS)	0.114	0.164	0.132	0.278	0.246	0.410
	LTE Band 30	0.075	0.164	0.132	0.239	0.207	0.371
	LTE Band 7	0.157	0.164	0.132	0.321	0.289	0.453
	LTE Band 41	0.110	0.164	0.132	0.274	0.242	0.406
	NR Band n71	0.110	0.164	0.132	0.274	0.242	0.406
	NR Band n66 (AWS)	0.153	0.164	0.132	0.317	0.285	0.449
	NR Band n41	0.954	0.164	0.132	1.118	1.086	**1.250**

Note: The above n41 SAR result is the reported time-averaged SAR. The analysis for this calculation can be found in Table 12-6

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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 SAR (W/kg)	2.4 GHz WLAN MIMO at 16 dBm SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	Cell. CDMA/EVDO	0.235	0.267	0.164	0.132	0.798
	GSM 850	0.178	0.267	0.164	0.132	0.741
	GSM 1900	0.049	0.267	0.164	0.132	0.612
	UMTS 850	0.201	0.267	0.164	0.132	0.764
	UMTS 1750	0.135	0.267	0.164	0.132	0.698
	UMTS 1900	0.107	0.267	0.164	0.132	0.670
	LTE Band 71	0.184	0.267	0.164	0.132	0.747
	LTE Band 12	0.208	0.267	0.164	0.132	0.771
	LTE Band 13	0.193	0.267	0.164	0.132	0.756
	LTE Band 5 (Cell)	0.208	0.267	0.164	0.132	0.771
	LTE Band 66 (AWS)	0.136	0.267	0.164	0.132	0.699
	LTE Band 25 (PCS)	0.114	0.267	0.164	0.132	0.677
	LTE Band 30	0.075	0.267	0.164	0.132	0.638
	LTE Band 7	0.157	0.267	0.164	0.132	0.720
	LTE Band 41	0.110	0.267	0.164	0.132	0.673
	NR Band n71	0.110	0.267	0.164	0.132	0.673
	NR Band n66 (AWS)	0.153	0.267	0.164	0.132	0.716
	NR Band n41	0.954	0.267	0.164	0.132	**1.517**

Note: The above n41 SAR result is the reported time-averaged SAR. The analysis for this calculation can be found in Table 12-6

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Head SAR	Cell. CDMA/EVDO	0.235	0.314	0.549
	GSM 850	0.178	0.314	0.492
	GSM 1900	0.049	0.314	0.363
	UMTS 850	0.201	0.314	0.515
	UMTS 1750	0.135	0.314	0.449
	UMTS 1900	0.107	0.314	0.421
	LTE Band 71	0.184	0.314	0.498
	LTE Band 12	0.208	0.314	0.522
	LTE Band 13	0.193	0.314	0.507
	LTE Band 5 (Cell)	0.208	0.314	0.522
	LTE Band 66 (AWS)	0.136	0.314	0.450
	LTE Band 25 (PCS)	0.114	0.314	0.428
	LTE Band 30	0.075	0.314	0.389
	LTE Band 7	0.157	0.314	0.471
	LTE Band 41	0.110	0.314	0.424
	NR Band n71	0.110	0.314	0.424
	NR Band n66 (AWS)	0.153	0.314	0.467
	NR Band n41	0.954	0.314	**1.268**

Note: The above n41 SAR result is the reported time-averaged SAR. The analysis for this calculation can be found in Table 12-6

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

Exposure Condition	Mode	2G/3G/4G 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	Cell. CDMA/EVDO	0.235	0.314	0.164	0.132	0.713	0.681	0.845
	GSM 850	0.178	0.314	0.164	0.132	0.656	0.624	0.788
	GSM 1900	0.049	0.314	0.164	0.132	0.527	0.495	0.659
	UMTS 850	0.201	0.314	0.164	0.132	0.679	0.647	0.811
	UMTS 1750	0.135	0.314	0.164	0.132	0.613	0.581	0.745
	UMTS 1900	0.107	0.314	0.164	0.132	0.585	0.553	0.717
	LTE Band 71	0.184	0.314	0.164	0.132	0.662	0.630	0.794
	LTE Band 12	0.208	0.314	0.164	0.132	0.686	0.654	0.818
	LTE Band 13	0.193	0.314	0.164	0.132	0.671	0.639	0.803
	LTE Band 5 (Cell)	0.208	0.314	0.164	0.132	0.686	0.654	0.818
	LTE Band 66 (AWS)	0.136	0.314	0.164	0.132	0.614	0.582	0.746
	LTE Band 25 (PCS)	0.114	0.314	0.164	0.132	0.592	0.560	0.724
	LTE Band 30	0.075	0.314	0.164	0.132	0.553	0.521	0.685
	LTE Band 7	0.157	0.314	0.164	0.132	0.635	0.603	0.767
	LTE Band 41	0.110	0.314	0.164	0.132	0.588	0.556	0.720
	NR Band n71	0.110	0.314	0.164	0.132	0.588	0.556	0.720
	NR Band n66 (AWS)	0.153	0.314	0.164	0.132	0.631	0.599	0.763
	NR Band n41	0.954	0.314	0.164	0.132	1.432	1.400	**1.564**

Note: The above n41 SAR result is the reported time-averaged SAR. The analysis for this calculation can be found in Table 12-6

Table 12-6
Time-Averaged n41 Calculation

Target NR Pmax (Frame Average) (dBm)	17.5
Target NR Plimit (dBm)	18.1
NR Plimit * 0.75 (dBm)	16.85
Measured Pmax (Frame Average) (dBm)	17.37
NR Measured SAR at Pmax (W/kg)	0.854
NR Reported SAR at Pmax (W/kg)	1.103
NR Reported time-averaged SAR (W/kg)	0.954

Note: The smart transmit algorithm with reserve power margin 3 limits 5G NR exposure to 75% of the Plimit for that band. Therefore, the time-averaged n41 SAR was calculated with respect to 75% of Plimit. The validation of this time-averaged parameter is included in the Part 2 test report.

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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 1.5 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body-Worn	Cell. CDMA	0.292	0.103	0.076	0.395	0.368	0.471
	GPRS 850	0.161	0.103	0.076	0.264	0.237	0.340
	GPRS 1900	0.299	0.103	0.076	0.402	0.375	0.478
	UMTS 850	0.222	0.103	0.076	0.325	0.298	0.401
	UMTS 1750	0.803	0.103	0.076	0.906	0.879	0.982
	UMTS 1900	0.780	0.103	0.076	0.883	0.856	0.959
	LTE Band 71	0.192	0.103	0.076	0.295	0.268	0.371
	LTE Band 12	0.274	0.103	0.076	0.377	0.350	0.453
	LTE Band 13	0.305	0.103	0.076	0.408	0.381	0.484
	LTE Band 5 (Cell)	0.249	0.103	0.076	0.352	0.325	0.428
	LTE Band 66	1.181	0.103	0.076	1.284	1.257	**1.360**
	LTE Band 25	0.700	0.103	0.076	0.803	0.776	0.879
	LTE Band 30	0.565	0.103	0.076	0.668	0.641	0.744
	LTE Band 7	0.442	0.103	0.076	0.545	0.518	0.621
	LTE Band 41	0.355	0.103	0.076	0.458	0.431	0.534
	NR Band n71	0.171	0.103	0.076	0.274	0.247	0.350
	NR Band n66	1.062	0.103	0.076	1.165	1.138	1.241
	NR Band n41	0.170	0.103	0.076	0.273	0.246	0.349

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Body-Worn	Cell. CDMA	0.292	0.278	0.392	0.570	0.684
	GPRS 850	0.161	0.278	0.392	0.439	0.553
	GPRS 1900	0.299	0.278	0.392	0.577	0.691
	UMTS 850	0.222	0.278	0.392	0.500	0.614
	UMTS 1750	0.803	0.278	0.392	1.081	1.195
	UMTS 1900	0.780	0.278	0.392	1.058	1.172
	LTE Band 71	0.192	0.278	0.392	0.470	0.584
	LTE Band 12	0.274	0.278	0.392	0.552	0.666
	LTE Band 13	0.305	0.278	0.392	0.583	0.697
	LTE Band 5 (Cell)	0.249	0.278	0.392	0.527	0.641
	LTE Band 66	1.181	0.278	0.392	1.459	**1.573**
	LTE Band 25	0.700	0.278	0.392	0.978	1.092
	LTE Band 30	0.565	0.278	0.392	0.843	0.957
	LTE Band 7	0.442	0.278	0.392	0.720	0.834
	LTE Band 41	0.355	0.278	0.392	0.633	0.747
	NR Band n71	0.171	0.278	0.392	0.449	0.563
	NR Band n66	1.062	0.278	0.392	1.340	1.454
	NR Band n41	0.170	0.278	0.392	0.448	0.562

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Table 12-9
Simultaneous Transmission Scenario with 5 GHz WLAN MIMO (Body-Worn at 1.5 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Body-Worn	Cell. CDMA	0.292	0.590	0.882	N/A
	GPRS 850	0.161	0.590	0.751	N/A
	GPRS 1900	0.299	0.590	0.889	N/A
	UMTS 850	0.222	0.590	0.812	N/A
	UMTS 1750	0.803	0.590	**1.393**	N/A
	UMTS 1900	0.780	0.590	1.370	N/A
	LTE Band 71	0.192	0.590	0.782	N/A
	LTE Band 12	0.274	0.590	0.864	N/A
	LTE Band 13	0.305	0.590	0.895	N/A
	LTE Band 5 (Cell)	0.249	0.590	0.839	N/A
	LTE Band 66	1.181	0.590	See Note 1	0.02
	LTE Band 25	0.700	0.590	1.290	N/A
	LTE Band 30	0.565	0.590	1.155	N/A
	LTE Band 7	0.442	0.590	1.032	N/A
	LTE Band 41	0.355	0.590	0.945	N/A
	NR Band n71	0.171	0.590	0.761	N/A
	NR Band n66	1.062	0.590	See Note 1	0.01
	NR Band n41	0.170	0.590	0.760	N/A

Note 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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Table 12-10
Simultaneous Transmission Scenario with 2.4 GHz WLAN MIMO and 5 GHz WLAN MIMO (Body-Worn at 1.5 cm)

Exposure Condition	Mode	2G/3G/4G 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 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body-Worn	Cell. CDMA	0.292	0.103	0.076	0.167	0.638
	GSM 850	0.161	0.103	0.076	0.167	0.507
	GSM 1900	0.299	0.103	0.076	0.167	0.645
	UMTS 850	0.222	0.103	0.076	0.167	0.568
	UMTS 1750	0.803	0.103	0.076	0.167	1.149
	UMTS 1900	0.780	0.103	0.076	0.167	1.126
	LTE Band 71	0.192	0.103	0.076	0.167	0.538
	LTE Band 12	0.274	0.103	0.076	0.167	0.620
	LTE Band 13	0.305	0.103	0.076	0.167	0.651
	LTE Band 5 (Cell)	0.249	0.103	0.076	0.167	0.595
	LTE Band 66 (AWS)	1.181	0.103	0.076	0.167	**1.527**
	LTE Band 25 (PCS)	0.700	0.103	0.076	0.167	1.046
	LTE Band 30	0.565	0.103	0.076	0.167	0.911
	LTE Band 7	0.442	0.103	0.076	0.167	0.788
	LTE Band 41	0.355	0.103	0.076	0.167	0.701
	NR Band n71	0.171	0.103	0.076	0.167	0.517
	NR Band n66 (AWS)	1.062	0.103	0.076	0.167	1.408
	NR Band n41	0.170	0.103	0.076	0.167	0.516

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Table 12-11
Simultaneous Transmission Scenario with Bluetooth (Body-Worn at 1.5 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body-Worn	Cell. CDMA	0.292	0.012	0.304
	GSM 850	0.161	0.012	0.173
	GSM 1900	0.299	0.012	0.311
	UMTS 850	0.222	0.012	0.234
	UMTS 1750	0.803	0.012	0.815
	UMTS 1900	0.780	0.012	0.792
	LTE Band 71	0.192	0.012	0.204
	LTE Band 12	0.274	0.012	0.286
	LTE Band 13	0.305	0.012	0.317
	LTE Band 5 (Cell)	0.249	0.012	0.261
	LTE Band 66 (AWS)	1.181	0.012	**1.193**
	LTE Band 25 (PCS)	0.700	0.012	0.712
	LTE Band 30	0.565	0.012	0.577
	LTE Band 7	0.442	0.012	0.454
	LTE Band 41	0.355	0.012	0.367
	NR Band n71	0.171	0.012	0.183
	NR Band n66 (AWS)	1.062	0.012	1.074
	NR Band n41	0.170	0.012	0.182

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

Exposure Condition	Mode	2G/3G/4G 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
Body-Worn	Cell. CDMA	0.292	0.012	0.278	0.392	0.582	0.696
	GSM 850	0.161	0.012	0.278	0.392	0.451	0.565
	GSM 1900	0.299	0.012	0.278	0.392	0.589	0.703
	UMTS 850	0.222	0.012	0.278	0.392	0.512	0.626
	UMTS 1750	0.803	0.012	0.278	0.392	1.093	1.207
	UMTS 1900	0.780	0.012	0.278	0.392	1.070	1.184
	LTE Band 71	0.192	0.012	0.278	0.392	0.482	0.596
	LTE Band 12	0.274	0.012	0.278	0.392	0.564	0.678
	LTE Band 13	0.305	0.012	0.278	0.392	0.595	0.709
	LTE Band 5 (Cell)	0.249	0.012	0.278	0.392	0.539	0.653
	LTE Band 66 (AWS)	1.181	0.012	0.278	0.392	1.471	**1.585**
	LTE Band 25 (PCS)	0.700	0.012	0.278	0.392	0.990	1.104
	LTE Band 30	0.565	0.012	0.278	0.392	0.855	0.969
	LTE Band 7	0.442	0.012	0.278	0.392	0.732	0.846
	LTE Band 41	0.355	0.012	0.278	0.392	0.645	0.759
	NR Band n71	0.171	0.012	0.278	0.392	0.461	0.575
	NR Band n66 (AWS)	1.062	0.012	0.278	0.392	1.352	1.466
	NR Band n41	0.170	0.012	0.278	0.392	0.460	0.574

Exposure Condition	Mode	2G/3G/4G 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	Cell. CDMA	0.292	0.012	0.590	0.894	N/A	N/A	N/A
	GPRS 850	0.161	0.012	0.590	0.763	N/A	N/A	N/A
	GPRS 1900	0.299	0.012	0.590	0.901	N/A	N/A	N/A
	UMTS 850	0.222	0.012	0.590	0.824	N/A	N/A	N/A
	UMTS 1750	0.803	0.012	0.590	**1.405**	N/A	N/A	N/A
	UMTS 1900	0.780	0.012	0.590	1.382	N/A	N/A	N/A
	LTE Band 71	0.192	0.012	0.590	0.794	N/A	N/A	N/A
	LTE Band 12	0.274	0.012	0.590	0.876	N/A	N/A	N/A
	LTE Band 13	0.305	0.012	0.590	0.907	N/A	N/A	N/A
	LTE Band 5 (Cell)	0.249	0.012	0.590	0.851	N/A	N/A	N/A
	LTE Band 66	1.181	0.012	0.590	See Note 1	0.01	0.02	0.01
	LTE Band 25	0.700	0.012	0.590	1.302	N/A	N/A	N/A
	LTE Band 30	0.565	0.012	0.590	1.167	N/A	N/A	N/A
	LTE Band 7	0.442	0.012	0.590	1.044	N/A	N/A	N/A
	LTE Band 41	0.355	0.012	0.590	0.957	N/A	N/A	N/A
	NR Band n71	0.171	0.012	0.590	0.773	N/A	N/A	N/A
	NR Band n66	1.062	0.012	0.590	See Note 1	0.01	0.01	0.01
	NR Band n41	0.170	0.012	0.590	0.772	N/A	N/A	N/A

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

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12.5 Hotspot SAR Simultaneous Transmission Analysis

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Cell. EVDO	0.774	0.324	0.177	1.098	0.951	1.275
	GPRS 850	0.488	0.324	0.177	0.812	0.665	0.989
	GPRS 1900	0.941	0.324	0.177	1.265	1.118	1.442
	UMTS 850	0.560	0.324	0.177	0.884	0.737	1.061
	UMTS 1750	0.966	0.324	0.177	1.290	1.143	1.467
	UMTS 1900	1.165	0.324	0.177	1.489	1.342	See Table Below
	LTE Band 71	0.254	0.324	0.177	0.578	0.431	0.755
	LTE Band 12	0.354	0.324	0.177	0.678	0.531	0.855
	LTE Band 13	0.386	0.324	0.177	0.710	0.563	0.887
	LTE Band 5 (Cell)	0.582	0.324	0.177	0.906	0.759	1.083
	LTE Band 66 (AWS)	1.249	0.324	0.177	**1.573**	1.426	See Table Below
	LTE Band 25 (PCS)	1.050	0.324	0.177	1.374	1.227	1.551
	LTE Band 30	1.163	0.324	0.177	1.487	1.340	See Table Below
	LTE Band 7	1.005	0.324	0.177	1.329	1.182	1.506
	LTE Band 41	0.743	0.324	0.177	1.067	0.920	1.244
	NR Band n71	0.210	0.324	0.177	0.534	0.387	0.711
	NR Band n66 (AWS)	1.216	0.324	0.177	1.540	1.393	See Table Below
	NR Band n41	0.577	0.324	0.177	0.901	0.754	1.078

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 66 (AWS) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Hotspot SAR	Back	0.508	0.138	0.177	0.823	Hotspot SAR	Back	0.609	0.138	0.177	0.924
	Front	0.475	0.324*	0.177*	0.976		Front	0.518	0.324*	0.177*	1.019
	Top	-	0.324	0.177*	0.501		Top	-	0.324	0.177*	0.501
	Bottom	1.165	-	-	**1.165**		Bottom	1.249	-	-	**1.249**
	Right	0.047	-	-	0.047		Right	0.092	-	-	0.092
	Left	0.229	0.324*	0.177*	0.730		Left	0.098	0.324*	0.177*	0.599

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Hotspot SAR	Back	0.540	0.138	0.177	0.855	Hotspot SAR	Back	0.713	0.138	0.177	1.028
	Front	0.528	0.324*	0.177*	1.029		Front	0.549	0.324*	0.177*	1.050
	Top	-	0.324	0.177*	0.501		Top	-	0.324	0.177*	0.501
	Bottom	1.163	-	-	**1.163**		Bottom	1.216	-	-	**1.216**
	Right	0.035	-	-	0.035		Right	0.101	-	-	0.101
	Left	0.037	0.324*	0.177*	0.538		Left	0.101	0.324*	0.177*	0.602

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Hotspot SAR	Cell. EVDO	0.774	0.284	0.665	1.058	1.439
	GPRS 850	0.488	0.284	0.665	0.772	1.153
	GPRS 1900	0.941	0.284	0.665	1.225	See Table Below
	UMTS 850	0.560	0.284	0.665	0.844	1.225
	UMTS 1750	0.966	0.284	0.665	1.250	See Table Below
	UMTS 1900	1.165	0.284	0.665	1.449	See Table Below
	LTE Band 71	0.254	0.284	0.665	0.538	0.919
	LTE Band 12	0.354	0.284	0.665	0.638	1.019
	LTE Band 13	0.386	0.284	0.665	0.670	1.051
	LTE Band 5 (Cell)	0.582	0.284	0.665	0.866	1.247
	LTE Band 66 (AWS)	1.249	0.284	0.665	**1.533**	See Table Below
	LTE Band 25 (PCS)	1.050	0.284	0.665	1.334	See Table Below
	LTE Band 30	1.163	0.284	0.665	1.447	See Table Below
	LTE Band 7	1.005	0.284	0.665	1.289	See Table Below
	LTE Band 41	0.743	0.284	0.665	1.027	1.408
	NR Band n71	0.210	0.284	0.665	0.494	0.875
	NR Band n66 (AWS)	1.216	0.284	0.665	1.500	See Table Below
	NR Band n41	0.577	0.284	0.665	0.861	1.242

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.353	0.665	**1.018**
	Front	0.264	0.665*	0.929
	Top	-	0.665*	0.665
	Bottom	0.941	-	0.941
	Right	0.029	-	0.029
	Left	0.041	0.124	0.165

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.540	0.665	**1.205**
	Front	0.446	0.665*	1.111
	Top	-	0.665*	0.665
	Bottom	0.966	-	0.966
	Right	0.191	-	0.191
	Left	0.249	0.124	0.373

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.508	0.665	**1.173**
	Front	0.475	0.665*	1.140
	Top	-	0.665*	0.665
	Bottom	1.165	-	1.165
	Right	0.047	-	0.047
	Left	0.229	0.124	0.353

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.609	0.665	**1.274**
	Front	0.518	0.665*	1.183
	Top	-	0.665*	0.665
	Bottom	1.249	-	1.249
	Right	0.092	-	0.092
	Left	0.098	0.124	0.222

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.510	0.665	**1.175**
	Front	0.434	0.665*	1.099
	Top	-	0.665*	0.665
	Bottom	1.050	-	1.050
	Right	0.053	-	0.053
	Left	0.067	0.124	0.191

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.540	0.665	**1.205**
	Front	0.528	0.665*	1.193
	Top	-	0.665*	0.665
	Bottom	1.163	-	1.163
	Right	0.035	-	0.035
	Left	0.037	0.124	0.161

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.438	0.665	**1.103**
	Front	0.405	0.665*	1.070
	Top	-	0.665*	0.665
	Bottom	1.005	-	1.005
	Left	0.085	0.124	0.209

Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	3	1+2
Hotspot SAR	Back	0.713	0.665	**1.378**
	Front	0.549	0.665*	1.214
	Top	-	0.665*	0.665
	Bottom	1.216	-	1.216
	Right	0.101	-	0.101
	Left	0.101	0.124	0.225

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Cell. EVDO	0.774	0.751	**1.525**
	GPRS 850	0.488	0.751	1.239
	GPRS 1900	0.941	0.751	See Table Below
	UMTS 850	0.560	0.751	1.311
	UMTS 1750	0.966	0.751	See Table Below
	UMTS 1900	1.165	0.751	See Table Below
	LTE Band 71	0.254	0.751	1.005
	LTE Band 12	0.354	0.751	1.105
	LTE Band 13	0.386	0.751	1.137
	LTE Band 5 (Cell)	0.582	0.751	1.333
	LTE Band 66 (AWS)	1.249	0.751	See Table Below
	LTE Band 25 (PCS)	1.050	0.751	See Table Below
	LTE Band 30	1.163	0.751	See Table Below
	LTE Band 7	1.005	0.751	See Table Below
	LTE Band 41	0.743	0.751	1.494
	NR Band n71	0.210	0.751	0.961
	NR Band n66 (AWS)	1.216	0.751	See Table Below
	NR Band n41	0.577	0.751	1.328

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.353	0.751	**1.104**
	Front	0.264	0.751*	1.015
	Top	-	0.751*	0.751
	Bottom	0.941	-	0.941
	Right	0.029	-	0.029
	Left	0.041	0.365	0.406

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.540	0.751	**1.291**
	Front	0.446	0.751*	1.197
	Top	-	0.751*	0.751
	Bottom	0.966	-	0.966
	Right	0.191	-	0.191
	Left	0.249	0.365	0.614

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.508	0.751	**1.259**
	Front	0.475	0.751*	1.226
	Top	-	0.751*	0.751
	Bottom	1.165	-	1.165
	Right	0.047	-	0.047
	Left	0.229	0.365	0.594

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.609	0.751	**1.360**
	Front	0.518	0.751*	1.269
	Top	-	0.751*	0.751
	Bottom	1.249	-	1.249
	Right	0.092	-	0.092
	Left	0.098	0.365	0.463

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.510	0.751	**1.261**
	Front	0.434	0.751*	1.185
	Top	-	0.751*	0.751
	Bottom	1.050	-	1.050
	Right	0.053	-	0.053
	Left	0.067	0.365	0.432

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.540	0.751	**1.291**
	Front	0.528	0.751*	1.279
	Top	-	0.751*	0.751
	Bottom	1.163	-	1.163
	Right	0.035	-	0.035
	Left	0.037	0.365	0.402

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.438	0.751	**1.189**
	Front	0.405	0.751*	1.156
	Top	-	0.751*	0.751
	Bottom	1.005	-	1.005
	Left	0.085	0.365	0.450

Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.713	0.751	**1.464**
	Front	0.549	0.751*	1.300
	Top	-	0.751*	0.751
	Bottom	1.216	-	1.216
	Right	0.101	-	0.101
	Left	0.101	0.365	0.466

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Table 12-16
Simultaneous Transmission Scenario with 2.4 GHz WLAN MIMO and 5 GHz WLAN MIMO (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G 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 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Cell. EVDO	0.774	0.324	0.177	0.269	**1.544**
	GPRS 850	0.488	0.324	0.177	0.269	1.258
	GPRS 1900	0.941	0.324	0.177	0.269	See Table Below
	UMTS 850	0.560	0.324	0.177	0.269	1.330
	UMTS 1750	0.966	0.324	0.177	0.269	See Table Below
	UMTS 1900	1.165	0.324	0.177	0.269	See Table Below
	LTE Band 71	0.254	0.324	0.177	0.269	1.024
	LTE Band 12	0.354	0.324	0.177	0.269	1.124
	LTE Band 13	0.386	0.324	0.177	0.269	1.156
	LTE Band 5 (Cell)	0.582	0.324	0.177	0.269	1.352
	LTE Band 66 (AWS)	1.249	0.324	0.177	0.269	See Table Below
	LTE Band 25 (PCS)	1.050	0.324	0.177	0.269	See Table Below
	LTE Band 30	1.163	0.324	0.177	0.269	See Table Below
	LTE Band 7	1.005	0.324	0.177	0.269	See Table Below
	LTE Band 41	0.743	0.324	0.177	0.269	1.513
	NR Band n71	0.210	0.324	0.177	0.269	0.980
	NR Band n66 (AWS)	1.216	0.324	0.177	0.269	See Table Below
	NR Band n41	0.577	0.324	0.177	0.269	1.347

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.353	0.138	0.177	0.269	0.937
	Front	0.264	0.324*	0.177*	0.269*	**1.034**
	Top	-	0.324	0.177*	0.269*	0.770
	Bottom	0.941	-	-	-	0.941
	Right	0.029	-	-	-	0.029
	Left	0.041	0.324*	0.177*	0.269*	0.811

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.540	0.138	0.177	0.269	1.124
	Front	0.446	0.324*	0.177*	0.269*	**1.216**
	Top	-	0.324	0.177*	0.269*	0.770
	Bottom	0.966	-	-	-	0.966
	Right	0.191	-	-	-	0.191
	Left	0.249	0.324*	0.177*	0.269*	1.019

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)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.508	0.138	0.177	0.269	1.092
	Front	0.475	0.324*	0.177*	0.269*	**1.245**
	Top	-	0.324	0.177*	0.269*	0.770
	Bottom	1.165	-	-	-	1.165
	Right	0.047	-	-	-	0.047
	Left	0.229	0.324*	0.177*	0.269*	0.999

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.609	0.138	0.177	0.269	1.193
	Front	0.518	0.324*	0.177*	0.269*	**1.288**
	Top	-	0.324	0.177*	0.269*	0.770
	Bottom	1.249	-	-	-	1.249
	Right	0.092	-	-	-	0.092
	Left	0.098	0.324*	0.177*	0.269*	0.868

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.510	0.138	0.177	0.269	1.094
	Front	0.434	0.324*	0.177*	0.269*	**1.204**
	Top	-	0.324	0.177*	0.269*	0.770
	Bottom	1.050	-	-	-	1.050
	Right	0.053	-	-	-	0.053
	Left	0.067	0.324*	0.177*	0.269*	0.837

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.540	0.138	0.177	0.269	1.124
	Front	0.528	0.324*	0.177*	0.269*	**1.298**
	Top	-	0.324	0.177*	0.269*	0.770
	Bottom	1.163	-	-	-	1.163
	Right	0.035	-	-	-	0.035
	Left	0.037	0.324*	0.177*	0.269*	0.807

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.438	0.138	0.177	0.269	1.022
	Front	0.405	0.324*	0.177*	0.269*	**1.175**
	Top	-	0.324	0.177*	0.269*	0.770
	Bottom	1.005	-	-	-	1.005
	Left	0.085	0.324*	0.177*	0.269*	0.855

Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.713	0.138	0.177	0.269	1.297
	Front	0.549	0.324*	0.177*	0.269*	**1.319**
	Top	-	0.324	0.177*	0.269*	0.770
	Bottom	1.216	-	-	-	1.216
	Right	0.101	-	-	-	0.101
	Left	0.101	0.324*	0.177*	0.269*	0.871

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Table 12-17
Simultaneous Transmission Scenario with Bluetooth (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Cell. EVDO	0.774	0.050	0.824
	GPRS 850	0.488	0.050	0.538
	GPRS 1900	0.941	0.050	0.991
	UMTS 850	0.560	0.050	0.610
	UMTS 1750	0.966	0.050	1.016
	UMTS 1900	1.165	0.050	1.215
	LTE Band 71	0.254	0.050	0.304
	LTE Band 12	0.354	0.050	0.404
	LTE Band 13	0.386	0.050	0.436
	LTE Band 5 (Cell)	0.582	0.050	0.632
	LTE Band 66 (AWS)	1.249	0.050	**1.299**
	LTE Band 25 (PCS)	1.050	0.050	1.100
	LTE Band 30	1.163	0.050	1.213
	LTE Band 7	1.005	0.050	1.055
	LTE Band 41	0.743	0.050	0.793
	NR Band n71	0.210	0.050	0.260
	NR Band n66 (AWS)	1.216	0.050	1.266
	NR Band n41	0.577	0.050	0.627

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	4	1+2+3	1+2+4
Hotspot SAR	Cell. EVDO	0.774	0.050	0.284	0.665	1.108	1.489
	GPRS 850	0.488	0.050	0.284	0.665	0.822	1.203
	GPRS 1900	0.941	0.050	0.284	0.665	1.275	See Note 1
	UMTS 850	0.560	0.050	0.284	0.665	0.894	1.275
	UMTS 1750	0.966	0.050	0.284	0.665	1.300	See Note 1
	UMTS 1900	1.165	0.050	0.284	0.665	1.499	See Note 1
	LTE Band 71	0.254	0.050	0.284	0.665	0.588	0.969
	LTE Band 12	0.354	0.050	0.284	0.665	0.688	1.069
	LTE Band 13	0.386	0.050	0.284	0.665	0.720	1.101
	LTE Band 5 (Cell)	0.582	0.050	0.284	0.665	0.916	1.297
	LTE Band 66 (AWS)	1.249	0.050	0.284	0.665	**1.583**	See Note 1
	LTE Band 25 (PCS)	1.050	0.050	0.284	0.665	1.384	See Note 1
	LTE Band 30	1.163	0.050	0.284	0.665	1.497	See Note 1
	LTE Band 7	1.005	0.050	0.284	0.665	1.339	See Note 1
	LTE Band 41	0.743	0.050	0.284	0.665	1.077	1.458
	NR Band n71	0.210	0.050	0.284	0.665	0.544	0.925
	NR Band n66 (AWS)	1.216	0.050	0.284	0.665	1.550	See Note 1
	NR Band n41	0.577	0.050	0.284	0.665	0.911	1.292

Simult Tx	Configuration	GPRS 1900 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	Back	0.353	0.019	0.665	**1.037**
	Front	0.264	0.021	0.665*	0.950
	Top	-	0.050	0.665*	0.715
	Bottom	0.941	-	-	0.941
	Right	0.029	-	-	0.029
	Left	0.041	0.004	0.124	0.169

Simult Tx	Configuration	UMTS 1750 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	Back	0.540	0.019	0.665	**1.224**
	Front	0.446	0.021	0.665*	1.132
	Top	-	0.050	0.665*	0.715
	Bottom	0.966	-	-	0.966
	Right	0.191	-	-	0.191
	Left	0.249	0.004	0.124	0.377

Simult Tx	Configuration	UMTS 1900 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	Back	0.508	0.019	0.665	**1.192**
	Front	0.475	0.021	0.665*	1.161
	Top	-	0.050	0.665*	0.715
	Bottom	1.165	-	-	1.165
	Right	0.047	-	-	0.047
	Left	0.229	0.004	0.124	0.357

Simult Tx	Configuration	LTE Band 66 (AWS) 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	Back	0.609	0.019	0.665	**1.293**
	Front	0.518	0.021	0.665*	1.204
	Top	-	0.050	0.665*	0.715
	Bottom	1.249	-	-	1.249
	Right	0.092	-	-	0.092
	Left	0.098	0.004	0.124	0.226

Simult Tx	Configuration	LTE Band 25 (PCS) 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	Back	0.510	0.019	0.665	**1.194**
	Front	0.434	0.021	0.665*	1.120
	Top	-	0.050	0.665*	0.715
	Bottom	1.050	-	-	1.050
	Right	0.053	-	-	0.053
	Left	0.067	0.004	0.124	0.195

Simult Tx	Configuration	LTE Band 30 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	Back	0.540	0.019	0.665	**1.224**
	Front	0.528	0.021	0.665*	1.214
	Top	-	0.050	0.665*	0.715
	Bottom	1.163	-	-	1.163
	Right	0.035	-	-	0.035
	Left	0.037	0.004	0.124	0.165

Simult Tx	Configuration	LTE Band 7 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	Back	0.438	0.019	0.665	**1.122**
	Front	0.405	0.021	0.665*	1.091
	Top	-	0.050	0.665*	0.715
	Bottom	1.005	-	-	1.005
	Left	0.085	0.004	0.124	0.213

Simult Tx	Configuration	NR Band n66 (AWS) 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	Back	0.713	0.019	0.665	**1.397**
	Front	0.549	0.021	0.665*	1.235
	Top	-	0.050	0.665*	0.715
	Bottom	1.216	-	-	1.216
	Right	0.101	-	-	0.101
	Left	0.101	0.004	0.124	0.229

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Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Cell. EVDO	0.774	0.050	0.751	**1.575**
	GPRS 850	0.488	0.050	0.751	1.289
	GPRS 1900	0.941	0.050	0.751	See Table Below
	UMTS 850	0.560	0.050	0.751	1.361
	UMTS 1750	0.966	0.050	0.751	See Table Below
	UMTS 1900	1.165	0.050	0.751	See Table Below
	LTE Band 71	0.254	0.050	0.751	1.055
	LTE Band 12	0.354	0.050	0.751	1.155
	LTE Band 13	0.386	0.050	0.751	1.187
	LTE Band 5 (Cell)	0.582	0.050	0.751	1.383
	LTE Band 66 (AWS)	1.249	0.050	0.751	See Table Below
	LTE Band 25 (PCS)	1.050	0.050	0.751	See Table Below
	LTE Band 30	1.163	0.050	0.751	See Table Below
	LTE Band 7	1.005	0.050	0.751	See Table Below
	LTE Band 41	0.743	0.050	0.751	1.544
	NR Band n71	0.210	0.050	0.751	1.011
	NR Band n66 (AWS)	1.216	0.050	0.751	See Table Below
	NR Band n41	0.577	0.050	0.751	1.378

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.353	0.019	0.751	**1.123**
	Front	0.264	0.021	0.751*	1.036
	Top	-	0.050	0.751*	0.801
	Bottom	0.941	-	-	0.941
	Right	0.029	-	-	0.029
	Left	0.041	0.004	0.365	0.410

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.540	0.019	0.751	**1.310**
	Front	0.446	0.021	0.751*	1.218
	Top	-	0.050	0.751*	0.801
	Bottom	0.966	-	-	0.966
	Right	0.191	-	-	0.191
	Left	0.249	0.004	0.365	0.618

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.508	0.019	0.751	**1.278**
	Front	0.475	0.021	0.751*	1.247
	Top	-	0.050	0.751*	0.801
	Bottom	1.165	-	-	1.165
	Right	0.047	-	-	0.047
	Left	0.229	0.004	0.365	0.598

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.609	0.019	0.751	**1.379**
	Front	0.518	0.021	0.751*	1.290
	Top	-	0.050	0.751*	0.801
	Bottom	1.249	-	-	1.249
	Right	0.092	-	-	0.092
	Left	0.098	0.004	0.365	0.467

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.510	0.019	0.751	**1.280**
	Front	0.434	0.021	0.751*	1.206
	Top	-	0.050	0.751*	0.801
	Bottom	1.050	-	-	1.050
	Right	0.053	-	-	0.053
	Left	0.067	0.004	0.365	0.436

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.540	0.019	0.751	**1.310**
	Front	0.528	0.021	0.751*	1.300
	Top	-	0.050	0.751*	0.801
	Bottom	1.163	-	-	1.163
	Right	0.035	-	-	0.035
	Left	0.037	0.004	0.365	0.406

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.438	0.019	0.751	**1.208**
	Front	0.405	0.021	0.751*	1.177
	Top	-	0.050	0.751*	0.801
	Bottom	1.005	-	-	1.005
	Left	0.085	0.004	0.365	0.454

Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.713	0.019	0.751	**1.483**
	Front	0.549	0.021	0.751*	1.321
	Top	-	0.050	0.751*	0.801
	Bottom	1.216	-	-	1.216
	Right	0.101	-	-	0.101
	Left	0.101	0.004	0.365	0.470

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12.6 Phablet Simultaneous Transmission Analysis

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

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

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Phablet SAR	GPRS 1900	2.269	1.307	1.706	3.576	**3.975**
	UMTS 1750	2.240	1.307	1.706	3.547	3.946
	UMTS 1900	2.182	1.307	1.706	3.489	3.888
	LTE Band 66 (AWS)	3.145	1.307	1.706	See Table Below	See Table Below
	LTE Band 25 (PCS)	2.088	1.307	1.706	3.395	3.794
	LTE Band 30	2.202	1.307	1.706	3.509	3.908
	LTE Band 7	1.693	1.307	1.706	3.000	3.399
	LTE Band 41	2.122	1.307	1.706	3.429	3.828
	NR Band n66 (AWS)	3.125	1.307	1.706	See Table Below	See Table Below

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 66 (AWS) 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	2.107	1.307	3.414	Phablet SAR	Back	2.107	1.706	**3.813**
	Front	2.041	1.307*	**3.348**		Front	2.041	1.706*	3.747
	Top	-	1.307*	1.307		Top	-	1.706*	1.706
	Bottom	3.145	-	3.145		Bottom	3.145	-	3.145
	Right	0.485	-	0.485		Right	0.485	-	0.485
	Left	0.656	0.832	1.488		Left	0.656	0.467	1.123

Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	NR Band n66 (AWS) 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	2.079	1.307	3.386	Phablet SAR	Back	2.079	1.706	3.785
	Front	2.087	1.307*	**3.394**		Front	2.087	1.706*	**3.793**
	Top	-	1.307*	1.307		Top	-	1.706*	1.706
	Bottom	3.125	-	3.125		Bottom	3.125	-	3.125
	Right	0.491	-	0.491		Right	0.491	-	0.491
	Left	0.615	0.832	1.447		Left	0.615	0.467	1.082

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

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	1.035	2.986	See Note 1	0.06
	Front	1.801	0.377	2.178	N/A
	Top	-	0.766	0.766	N/A
	Bottom	2.269	-	**2.269**	N/A
	Right	0.193	-	0.193	N/A
	Left	0.287	1.663	1.950	N/A

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	1.573	2.986	See Note 1	0.07
	Front	1.615	0.377	1.992	N/A
	Top	-	0.766	0.766	N/A
	Bottom	2.240	-	**2.240**	N/A
	Right	0.405	-	0.405	N/A
	Left	0.426	1.663	2.089	N/A

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	1.721	2.986	See Note 1	0.08
	Front	1.496	0.377	1.873	N/A
	Top	-	0.766	0.766	N/A
	Bottom	2.182	-	**2.182**	N/A
	Right	0.359	-	0.359	N/A
	Left	0.495	1.663	2.158	N/A

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	2.107	2.986	See Note 1	0.09
	Front	2.041	0.377	2.418	N/A
	Top	-	0.766	0.766	N/A
	Bottom	3.145	-	**3.145**	N/A
	Right	0.485	-	0.485	N/A
	Left	0.656	1.663	2.319	N/A

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	1.568	2.986	See Note 1	0.07
	Front	1.461	0.377	1.838	N/A
	Top	-	0.766	0.766	N/A
	Bottom	2.088	-	**2.088**	N/A
	Right	0.310	-	0.310	N/A
	Left	0.422	1.663	2.085	N/A

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	2.200	2.986	See Note 1	0.08
	Front	2.202	0.377	**2.579**	N/A
	Top	-	0.766	0.766	N/A
	Bottom	2.106	-	2.106	N/A
	Right	0.314	-	0.314	N/A
	Left	0.327	1.663	1.990	N/A

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	1.433	2.986	See Note 1	0.07
	Front	1.264	0.377	1.641	N/A
	Top	-	0.766	0.766	N/A
	Bottom	1.693	-	1.693	N/A
	Left	0.368	1.663	**2.031**	N/A

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	2.122	2.986	See Note 1	0.08
	Front	1.030	0.377	1.407	N/A
	Top	-	0.766	0.766	N/A
	Bottom	1.240	-	1.240	N/A
	Left	0.246	1.663	**1.909**	N/A

Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	2.079	2.986	See Note 1	0.08
	Front	2.087	0.377	2.464	N/A
	Top	-	0.766	0.766	N/A
	Bottom	3.125	-	**3.125**	N/A
	Right	0.491	-	0.491	N/A
	Left	0.615	1.663	2.278	N/A

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

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12.7 SPLSR Evaluation and Analysis

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

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

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

12.7.1 Body-worn Back Side SPLSR Evaluation and Analysis

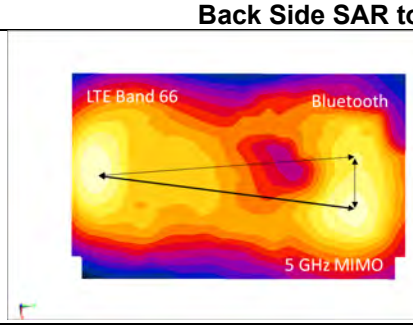
Table 12-21
Peak SAR Locations for Body-worn Back Side

Mode/Band	x (mm)	y (mm)
5 GHz WLAN MIMO	-2.00	66.00
Bluetooth	-41.80	69.60
LTE B66	-28.00	-85.50
n66	-29.50	-84.00

Table 12-22
Body-worn Back Side SAR to Peak Location Separation Ratio Calculations

Antenna Pair		Standalone SAR (W/kg)		Standalone SAR Sum (W/kg)	Peak SAR Separation Distance (mm)	SPLS Ratio	Plot Number
Ant "a"	Ant "b"	a	b	a+b	D_{a-b}	$(a+b)^{1.5}/D_{a-b}$	
5 GHz WLAN MIMO	Bluetooth	0.590	0.012	0.602	39.96	0.01	1, 3
5 GHz WLAN MIMO	LTE B66	0.590	1.181	1.771	153.71	0.02	1, 2
5 GHz WLAN MIMO	n66	0.590	1.062	1.652	152.50	0.01	3, 4
Bluetooth	LTE B66	0.012	1.181	1.193	155.71	0.01	1
Bluetooth	n66	0.012	1.062	1.074	154.09	0.01	3

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



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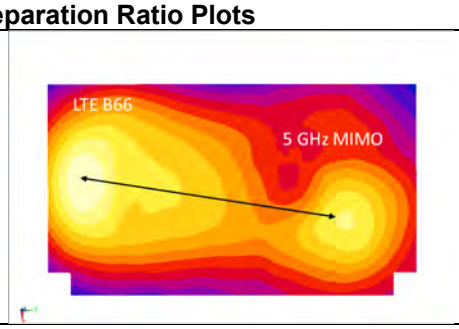

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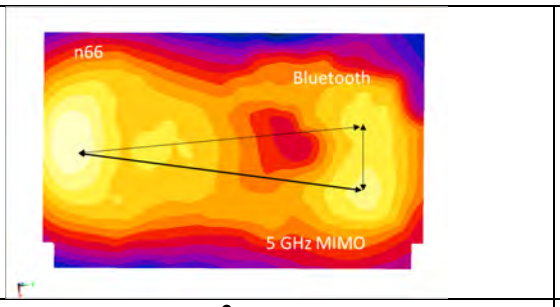	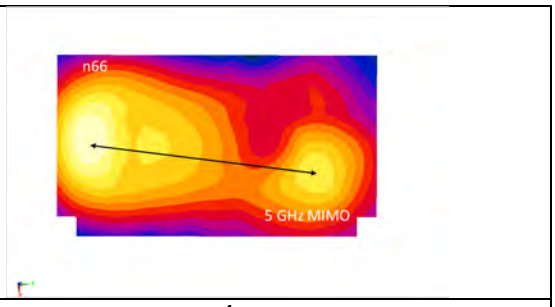
3	4

12.7.2 Phablet Back Side SPLSR Evaluation and Analysis

Table 12-24
Peak SAR Locations for Phablet Back Side

Mode/Band	x (mm)	y (mm)
5 GHz WLAN MIMO	-6.80	55.50
GPRS 1900	-20.00	-76.50
UMTS 1750	-32.50	-81.00
UMTS 1900	-21.50	-79.50
LTE B66	-25.00	-78.00
LTE Band 25 (PCS)	-15.50	-79.50
LTE Band 30	-29.80	-81.60
LTE Band 7	5.00	-81.20
LTE Band 41	-9.60	-80.60
n66 Phablet	-25.00	-81.00

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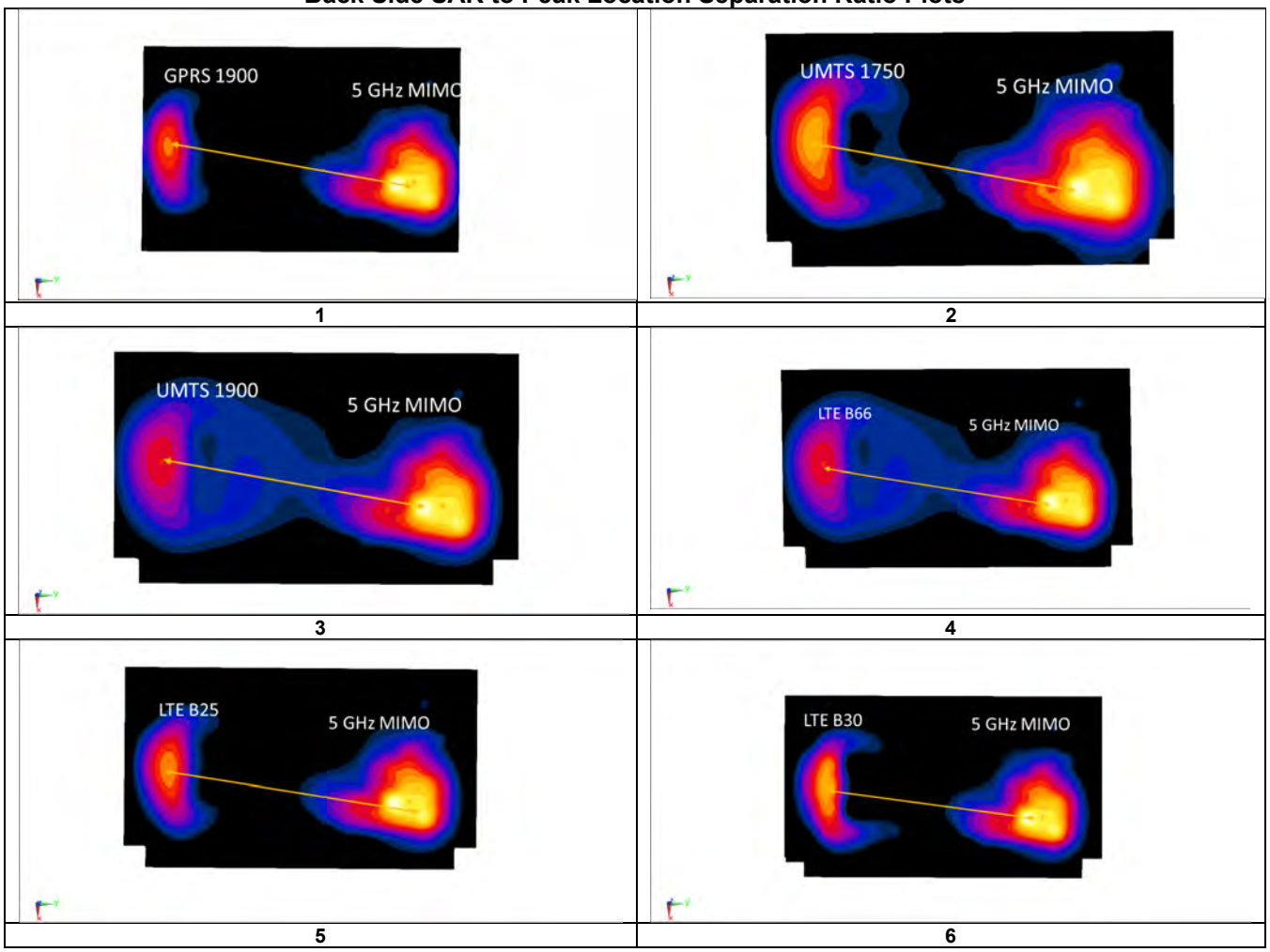
Table 12-25
Phablet Back Side SAR to Peak Location Separation Ratio Calculations

Antenna Pair		Standalone SAR (W/kg)		Standalone SAR Sum (W/kg)	Peak SAR Separation Distance (mm)	SPLS Ratio	Plot Number
Ant "a"	Ant "b"	a	b	a+b	D_{a-b}	$(a+b)^{1.5}/D_{a-b}$	
5 GHz WLAN MIMO	GPRS 1900	2.986	1.035	4.021	132.66	0.06	1
5 GHz WLAN MIMO	UMTS 1750	2.986	1.573	4.559	138.90	0.07	2
5 GHz WLAN MIMO	UMTS 1900	2.986	1.721	4.707	135.80	0.08	3
5 GHz WLAN MIMO	LTE B66	2.986	2.107	5.093	134.73	0.09	4
5 GHz WLAN MIMO	LTE Band 25 (PCS)	2.986	1.568	4.554	135.28	0.07	5
5 GHz WLAN MIMO	LTE Band 30	2.986	2.200	5.186	139.02	0.08	6
5 GHz WLAN MIMO	LTE Band 7	2.986	1.433	4.419	137.21	0.07	7
5 GHz WLAN MIMO	LTE Band 41	2.986	2.122	5.108	136.13	0.08	8
5 GHz WLAN MIMO	n66 Phablet	2.986	2.079	5.065	137.71	0.08	9

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



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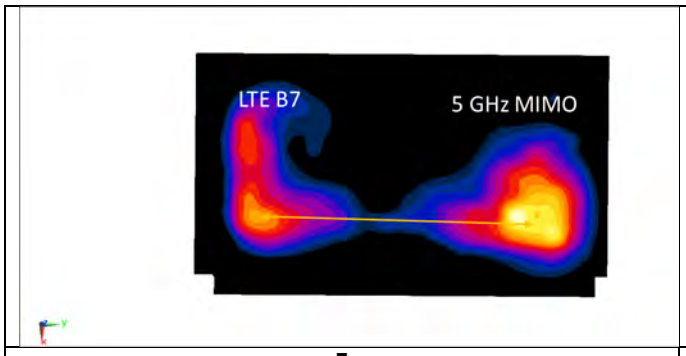

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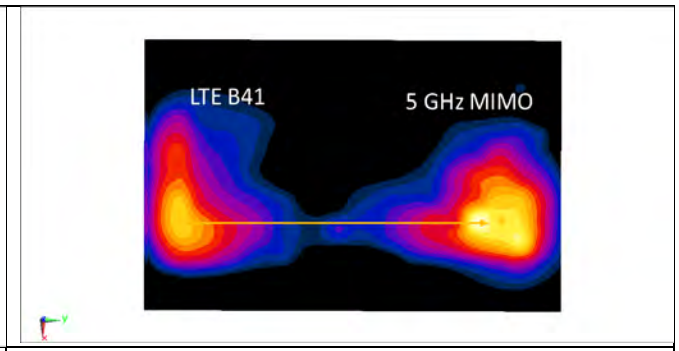

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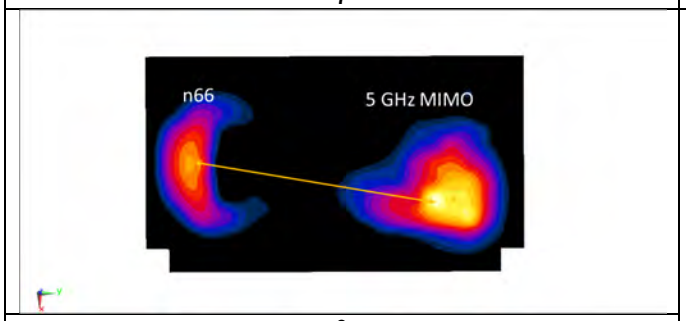

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12.8 Simultaneous Transmission Conclusion

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

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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
Head SAR Measurement Variability Results

HEAD VARIABILITY RESULTS													
Band	FREQUENCY		Mode	Service	Side	Test Position	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)	
2600	2592.99	518598	NR Band n41, 100 MHz Bandwidth	DFT-S-OFDM QPSK, 1 RB, 1 RB Offset	Right	Tilt	0.876	0.802	1.09	N/A	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					Head 1.6 W/kg (mW/g) averaged over 1 gram								

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Table 13-2
Body SAR Measurement Variability Results

BODY VARIABILITY RESULTS														
Band	FREQUENCY		Mode	Service	Side	Spacing	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	Ratio	3rd Repeated SAR (1g)	Ratio
	MHz	Ch.					(W/kg)	(W/kg)		(W/kg)		(W/kg)	
1750	1770.00	132572	LTE Band 66 (AWS), 20 MHz Bandwidth	QPSK, 50 RB, 50 RB Offset	bottom	10 mm	1.130	1.130	1.00	N/A	N/A	N/A	N/A
1900	1882.50	26365	LTE Band 25 (PCS), 20 MHz Bandwidth	QPSK, 50 RB, 50 RB Offset	bottom	10 mm	0.925	0.872	1.06	N/A	N/A	N/A	N/A
2300	2310.00	27710	LTE Band 30, 10 MHz Bandwidth	QPSK, 25 RB, 12 RB Offset	bottom	10 mm	0.935	0.934	1.00	N/A	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 13-3
Phablet SAR Measurement Variability Results

PHABLET VARIABILITY RESULTS														
Band	FREQUENCY		Mode	Service	Data Rate (Mbps)	Side	Spacing	Measured SAR (10g)	1st Repeated SAR (10g)	Ratio	2nd Repeated SAR (10g)	Ratio	3rd Repeated SAR (10g)	Ratio
	MHz	Ch.						(W/kg)	(W/kg)		(W/kg)		(W/kg)	
1750	1770.00	132572	LTE Band 66 (AWS), 20 MHz Bandwidth	QPSK, 50 RB, 50 RB Offset	N/A	bottom	0 mm	2.970	2.930	1.01	N/A	N/A	N/A	N/A
5250	5280.00	56	802.11n, 20 MHz Bandwidth	OFDM, MIMO	13	back	0 mm	2.550	2.550	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 Tuner Testing

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

To evaluate all the tuner states, the 120 tuner states were divided among the aggregate band, mode and exposure combinations. Single point time-sweep measurements were performed at the peak SAR location determined by the zoom scan of the configuration with the highest reported SAR for each combination. The tuner state was able to be established remotely so that the device was not moved for the entire series of single point SAR for the tuner states in each combination. The SAR probe remained stationary at the same position throughout the entire series of single point measurements for each combination. When the single point SAR or 1g SAR was > 1.2 W/kg for a particular band/mode/exposure condition, point SAR measurements were made for all 120 states.

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

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Table 14-1
UMTS/CDMA Supplemental Head SAR Data

Supplemental Head SAR Data							
UMTS B5		UMTS B4		UMTS B2		CDMA BC0	
RMC		RMC		RMC		EVDO Rev A	
Test Position	Right Cheek	Test Position	Left Cheek	Test Position	Left Cheek	Test Position	Right Cheek
Frequency (MHz)	836.6	Frequency (MHz)	1732.4	Frequency (MHz)	1880.0	Frequency (MHz)	836.52
Channel	4183	Channel	1412	Channel	9400	Channel	384
Measured 1g SAR (W/kg)	0.168	Measured 1g SAR (W/kg)	0.125	Measured 1g SAR (W/kg)	0.096	Measured 1g SAR (W/kg)	0.198
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 0)	0.218	Auto-tune (State 23)	0.182	Auto-tune (State 13)	0.140	Auto-tune (State 0)	0.259
Default (State 0)	0.212	Default (State 0)	0.104	Default (State 0)	0.133	Default (State 0)	0.268
State 0	0.212	State 2	0.104	State 1	0.129	State 23	0.103
State 4	0.169	State 9	0.093	State 13	0.136	State 34	0.119
State 13	0.184	State 23	0.174	State 17	0.134	State 48	0.038
State 30	0.160	State 25	0.179	State 36	0.062	State 62	0.092
State 41	0.111	State 47	0.013	State 63	0.067	State 85	0.075
State 107	0.140	State 73	0.030	State 70	0.014		

Table 14-2
LTE Supplemental Head SAR Data

Supplemental Head SAR Data											
LTE B71		LTE B12		LTE B13		LTE B5		LTE B66/4		LTE B25/2	
QPSK, 20MHz Bandwidth, 1RB, 50RB offset		QPSK, 10MHz Bandwidth, 1RB, 49 RB offset		QPSK, 10MHz Bandwidth, 1RB, 0 RB offset		QPSK, 10 MHz, 1 RB, 0 RB Offset		QPSK, 20 MHz Bandwidth, 1 RB, 50 RB Offset		QPSK, 20 MHz Bandwidth, 1 RB, 99 RB Offset	
Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Left Cheek	Test Position	Left Cheek
Frequency (MHz)	680.5	Frequency (MHz)	707.5	Frequency (MHz)	782.0	Frequency (MHz)	836.5	Frequency (MHz)	1770.0	Frequency (MHz)	1882.5
Channel	133297	Channel	23095	Channel	23230	Channel	20525	Channel	132572	Channel	26365
Measured 1g SAR (W/kg)	0.156	Measured 1g SAR (W/kg)	0.164	Measured 1g SAR (W/kg)	0.162	Measured 1g SAR (W/kg)	0.175	Measured 1g SAR (W/kg)	0.115	Measured 1g SAR (W/kg)	0.110
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 33)	0.176	Auto-tune (State 7)	0.207	Auto-tune (State 0)	0.217	Auto-tune (State 0)	0.229	Auto-tune (State 22)	0.159	Auto-tune (State 18)	0.143
Default (State 0)	0.098	Default (State 0)	0.119	Default (State 0)	0.227	Default (State 0)	0.228	Default (State 0)	0.125	Default (State 0)	0.147
State 33	0.168	State 7	0.207	State 3	0.151	State 66	0.202	State 22	0.161	State 18	0.144
State 64	0.001	State 56	0.087	State 8	0.058	State 89	0.020	State 50	0.007	State 43	0.012
State 81	0.142	State 86	0.164	State 15	0.225	State 105	0.198	State 84	0.011	State 72	0.014
State 101	0.000	State 97	0.044	State 29	0.139	State 113	0.194	State 104	0.115	State 88	0.003
State 106	0.097	State 111	0.092	State 55	0.227	State 118	0.145	State 115	0.012	State 103	0.001
State 117	0.064	State 116	0.065							State 112	0.146

Table 14-3
NR Supplemental Head SAR Data

Supplemental Head SAR Data			
NR Band n71		NR Band n66	
DFT-s-OFDM, QPSK, 20MHz Bandwith, 50 RB 28 RB offset		DFT-s-OFDM, QPSK, 20 MHz Bandwidth, 50 RB, 28 RB Offset	
Test Position	Right cheek	Test Position	Left Cheek
Frequency (MHz)	680.5	Frequency (MHz)	1745.0
Channel	136100	Channel	349000
Measured 1g SAR (W/kg)	0.095	Measured 1g SAR (W/kg)	0.121
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 33)	0.121	Auto-tune (State 22)	0.168
Default (State 0)	0.071	Default (State 0)	0.122
State 12	0.011	State 18	0.142
State 16	0.037	State 22	0.168
State 33	0.121	State 32	0.090
State 65	0.047	State 53	0.120
State 79	0.110	State 98	0.016
		State 108	0.109

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Table 14-4
UMTS/CDMA Supplemental Body SAR Data

Supplemental Body SAR Data							
UMTS B5		UMTS B4		UMTS B2		CDMA BC0	
RMC		RMC		RMC		EVDO	
Test Position	Back Side	Test Position	Bottom Edge	Test Position	Bottom Edge	Test Position	Back Side
Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm
Frequency (MHz)	836.6	Frequency (MHz)	1732.0	Frequency (MHz)	1907.6	Frequency (MHz)	848.31
Channel	4183	Channel	1412	Channel	9538	Channel	777
Measured 1g SAR (W/kg)	0.467	Measured 1g SAR (W/kg)	0.933	Measured 1g SAR (W/kg)	0.871	Measured 1g SAR (W/kg)	0.639
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 0)	0.765	Auto-tune (State 24)	1.384	Auto-tune (State 20)	1.292	Auto-tune (State 0)	1.000
Default (State 0)	0.754	Default (State 0)	0.868	Default (State 0)	1.243	Default (State 0)	1.000
State 21	0.483	State 0	0.868	State 0	1.243	State 5	0.755
State 38	0.118	State 1	0.843	State 1	1.229	State 51	0.062
State 61	0.314	State 2	0.846	State 2	1.221	State 54	0.961
State 90	0.058	State 3	0.849	State 3	1.21	State 58	0.781
State 95	0.577	State 4	0.855	State 4	1.192	State 100	0.21
		State 5	0.856	State 5	1.186		
		State 6	0.869	State 6	1.132		
		State 7	0.881	State 7	1.111		
		State 8	0.893	State 8	1.041		
		State 9	0.906	State 9	0.952		
		State 10	0.914	State 10	0.875		
		State 11	0.915	State 11	0.759		
		State 12	0.89	State 12	0.605		
		State 13	0.755	State 13	1.283		
		State 14	0.819	State 14	1.288		
		State 15	0.834	State 15	1.288		
		State 16	0.844	State 16	1.288		
		State 17	0.872	State 17	1.284		
		State 18	0.879	State 18	1.285		
		State 19	0.955	State 19	1.269		
		State 20	1.018	State 20	1.27		
		State 21	1.112	State 21	1.222		
		State 22	1.253	State 22	1.159		
		State 23	1.354	State 23	1.099		
		State 24	1.439	State 24	0.984		
		State 25	1.319	State 25	0.794		
		State 26	0.733	State 26	1.017		
		State 27	0.749	State 27	0.992		
		State 28	0.752	State 28	0.98		
		State 29	0.755	State 29	0.969		
		State 30	0.759	State 30	0.956		
		State 31	0.76	State 31	0.95		
		State 32	0.771	State 32	0.904		
		State 33	0.781	State 33	0.866		
		State 34	0.79	State 34	0.811		
		State 35	0.802	State 35	0.725		
		State 36	0.807	State 36	0.656		
		State 37	0.804	State 37	0.565		
		State 38	0.776	State 38	0.434		
		State 39	0.139	State 39	0.119		
		State 40	0.16	State 40	0.136		
		State 41	0.158	State 41	0.132		
		State 42	0.157	State 42	0.129		
		State 43	0.158	State 43	0.125		
		State 44	0.167	State 44	0.133		
		State 45	0.167	State 45	0.122		
		State 46	0.173	State 46	0.118		
		State 47	0.174	State 47	0.105		
		State 48	0.175	State 48	0.09		
		State 49	0.174	State 49	0.075		
		State 50	0.17	State 50	0.06		
		State 51	0.158	State 51	0.04		
		State 52	0.729	State 52	1.095		
		State 53	0.795	State 53	1.103		
		State 54	0.811	State 54	1.099		
		State 55	0.822	State 55	1.102		
		State 56	0.851	State 56	1.091		
		State 57	0.859	State 57	1.094		
		State 58	0.937	State 58	1.073		
		State 59	1.003	State 59	1.055		
		State 60	1.101	State 60	1.016		
		State 61	1.239	State 61	0.949		
		State 62	1.323	State 62	0.881		
		State 63	1.363	State 63	0.773		
		State 64	1.179	State 64	0.602		
		State 65	0.146	State 65	0.121		
		State 66	0.189	State 66	0.147		
		State 67	0.192	State 67	0.146		
		State 68	0.195	State 68	0.143		
		State 69	0.205	State 69	0.143		
		State 70	0.221	State 70	0.153		
		State 71	0.249	State 71	0.151		
		State 72	0.284	State 72	0.152		
		State 73	0.327	State 73	0.145		
		State 74	0.402	State 74	0.133		
		State 75	0.454	State 75	0.118		
		State 76	0.481	State 76	0.097		
		State 77	0.369	State 77	0.068		
		State 78	0.118	State 78	0.107		
		State 79	0.134	State 79	0.118		
		State 80	0.133	State 80	0.115		
		State 81	0.133	State 81	0.112		
		State 82	0.133	State 82	0.11		
		State 83	0.139	State 83	0.116		
		State 84	0.141	State 84	0.106		
		State 85	0.145	State 85	0.102		
		State 86	0.146	State 86	0.092		
		State 87	0.149	State 87	0.078		
		State 88	0.148	State 88	0.067		
		State 89	0.145	State 89	0.053		
		State 90	0.135	State 90	0.036		
		State 91	0.124	State 91	0.107		
		State 92	0.157	State 92	0.129		
		State 93	0.16	State 93	0.128		
		State 94	0.162	State 94	0.126		
		State 95	0.171	State 95	0.126		
		State 96	0.183	State 96	0.135		
		State 97	0.207	State 97	0.133		
		State 98	0.236	State 98	0.135		
		State 99	0.273	State 99	0.129		
		State 100	0.34	State 100	0.118		
		State 101	0.388	State 101	0.106		
		State 102	0.417	State 102	0.087		
		State 103	0.323	State 103	0.061		
		State 104	0.814	State 104	1.253		
		State 105	0.747	State 105	1.29		
		State 106	0.723	State 106	1.037		
		State 107	0.135	State 107	0.115		
		State 108	0.72	State 108	1.124		
		State 109	0.144	State 109	0.116		
		State 110	0.116	State 110	0.105		
		State 111	0.122	State 111	0.106		
		State 112	0.816	State 112	1.253		
		State 113	0.749	State 113	1.293		
		State 114	0.726	State 114	1.038		
		State 115	0.137	State 115	0.12		
		State 116	0.721	State 116	1.125		
		State 117	0.145	State 117	0.122		
		State 118	0.117	State 118	0.11		
		State 119	0.123	State 119	0.112		

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Table 14-5
LTE Supplemental Body SAR Data

Supplemental Body SAR Data											
LTE B71		LTE B12		LTE B13		LTE B5		LTE B66/4		LTE B25/2	
QPSK, 20 MHz Bandwidth, 1 RB, 50 RB Offset		QPSK, 10 MHz Bandwidth, 1 RB, 49 RB Offset		QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offset		QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offset		QPSK 20 MHz Bandwidth, 1 RB 50 RB Offset		QPSK 20 MHz Bandwidth, 50 RB 50 RB Offset	
Test Position	Back Side	Test Position	Back Side	Test Position	Back Side	Test Position	Back Side	Test Position	Bottom	Test Position	Bottom
Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm
Frequency (MHz)	680.5	Frequency (MHz)	707.5	Frequency (MHz)	782.0	Frequency (MHz)	836.6	Frequency (MHz)	1770.0	Frequency (MHz)	1882.5
Channel	133297	Channel	23095	Channel	23230	Channel	20525	Channel	132572	Channel	26365
Measured 1g SAR (W/kg)	0.216	Measured 1g SAR (W/kg)	0.279	Measured 1g SAR (W/kg)	0.324	Measured 1g SAR (W/kg)	0.491	Measured 1g SAR (W/kg)	1.100	Measured 1g SAR (W/kg)	0.925
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 43)	0.307	Auto-tune (State 43)	0.383	Auto-tune (State 0)	0.497	Auto-tune (State 0)	0.805	Auto-tune (State 23)	1.822	Auto-tune (State 20)	1.561
Default (State 0)	0.183	Default (State 0)	0.231	Default (State 0)	0.510	Default (State 0)	0.779	Default (State 0)	1.329	Default (State 0)	1.364
State 14	0.083	State 10	0.159	State 20	0.382	State 24	0.151	State 0	1.329	State 0	1.364
State 37	0.055	State 27	0.325	State 82	0.199	State 40	0.484	State 1	1.341	State 1	1.475
State 43	0.314	State 43	0.386	State 91	0.353	State 48	0.172	State 2	1.341	State 2	1.473
State 68	0.082	State 44	0.387	State 102	0.044	State 69	0.62	State 3	1.343	State 3	1.46
State 83	0.301	State 57	0.1	State 109	0.363	State 80	0.434	State 4	1.345	State 4	1.449
		State 110	0.238					State 5	1.345	State 5	1.437
								State 6	1.351	State 6	1.391
								State 7	1.352	State 7	1.359
								State 8	1.348	State 8	1.299
								State 9	1.32	State 9	1.196
								State 10	1.293	State 10	1.11
								State 11	1.251	State 11	0.98
								State 12	1.131	State 12	0.792
								State 13	1.233	State 13	1.521
								State 14	1.302	State 14	1.533
								State 15	1.319	State 15	1.541
								State 16	1.334	State 16	1.554
								State 17	1.367	State 17	1.555
								State 18	1.374	State 18	1.56
								State 19	1.456	State 19	1.557
								State 20	1.521	State 20	1.512
								State 21	1.606	State 21	1.541
								State 22	1.715	State 22	1.479
								State 23	1.817	State 23	1.406
								State 24	1.791	State 24	1.288
								State 25	1.634	State 25	1.072
								State 26	1.177	State 26	1.252
								State 27	1.187	State 27	1.221
								State 28	1.189	State 28	1.217
								State 29	1.187	State 29	1.211
								State 30	1.182	State 30	1.212
								State 31	1.181	State 31	1.215
								State 32	1.18	State 32	1.159
								State 33	1.178	State 33	1.108
								State 34	1.168	State 34	1.052
								State 35	1.145	State 35	0.949
								State 36	1.119	State 36	0.862
								State 37	1.066	State 37	0.753
								State 38	0.952	State 38	0.595
								State 39	0.201	State 39	0.145
								State 40	0.23	State 40	0.166
								State 41	0.228	State 41	0.162
								State 42	0.228	State 42	0.157
								State 43	0.226	State 43	0.152
								State 44	0.238	State 44	0.163
								State 45	0.234	State 45	0.15
								State 46	0.237	State 46	0.145
								State 47	0.232	State 47	0.132
								State 48	0.226	State 48	0.114
								State 49	0.215	State 49	0.1
								State 50	0.198	State 50	0.08
								State 51	0.165	State 51	0.055
								State 52	1.169	State 52	1.377
								State 53	1.251	State 53	1.4
								State 54	1.268	State 54	1.393
								State 55	1.282	State 55	1.382
								State 56	1.31	State 56	1.373
								State 57	1.318	State 57	1.373
								State 58	1.398	State 58	1.354
								State 59	1.457	State 59	1.356
								State 60	1.54	State 60	1.32
								State 61	1.637	State 61	1.253
								State 62	1.68	State 62	1.178
								State 63	1.661	State 63	1.054
								State 64	1.439	State 64	0.843
								State 65	0.211	State 65	0.15
								State 66	0.269	State 66	0.184
								State 67	0.271	State 67	0.183
								State 68	0.273	State 68	0.181
								State 69	0.283	State 69	0.181
								State 70	0.304	State 70	0.194
								State 71	0.331	State 71	0.191
								State 72	0.365	State 72	0.194
								State 73	0.397	State 73	0.191
								State 74	0.446	State 74	0.177
								State 75	0.466	State 75	0.163
								State 76	0.456	State 76	0.138
								State 77	0.356	State 77	0.097
								State 78	0.172	State 78	0.131
								State 79	0.193	State 79	0.145
								State 80	0.191	State 80	0.143
								State 81	0.189	State 81	0.14
								State 82	0.188	State 82	0.136
								State 83	0.198	State 83	0.144
								State 84	0.195	State 84	0.133
								State 85	0.198	State 85	0.129
								State 86	0.194	State 86	0.119
								State 87	0.189	State 87	0.103
								State 88	0.18	State 88	0.089
								State 89	0.166	State 89	0.071
								State 90	0.141	State 90	0.049
								State 91	0.178	State 91	0.132
								State 92	0.221	State 92	0.159
								State 93	0.224	State 93	0.159
								State 94	0.227	State 94	0.157
								State 95	0.235	State 95	0.159
								State 96	0.251	State 96	0.171
								State 97	0.274	State 97	0.17
								State 98	0.302	State 98	0.175
								State 99	0.331	State 99	0.17
								State 100	0.375	State 100	0.16
								State 101	0.396	State 101	0.145
								State 102	0.391	State 102	0.124
								State 103	0.308	State 103	0.088
								State 104	1.303	State 104	1.515
								State 105	1.209	State 105	1.545
								State 106	1.149	State 106	1.275
								State 107	0.197	State 107	0.142
								State 108	1.161	State 108	1.378
								State 109	0.206	State 109	0.146
								State 110	0.169	State 110	0.13
								State 111	0.176	State 111	0.132
								State 112	1.305	State 112	1.549
								State 113	1.212	State 113	1.554
								State 114	1.154	State 114	1.289
								State 115	0.197	State 115	0.146
								State 116	1.158	State 116	1.383
								State 117	0.208	State 117	0.149
								State 118	0.171	State 118	0.132
								State 119	0.179	State 119	0.135

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Table 14-6
NR Supplemental Body SAR Data

Supplemental Body SAR Data			
NR Band n71		NR Band n66	
DFT-s-OFDM QPSK, 20 MHz Bandwidth, 50 RB, 28 RB Offset		DFT-s-OFDM QPSK, 20 MHz Bandwidth, 50 RB, 0 RB Offset	
Test Position	Back Side	Test Position	Bottom
Spacing	10 mm	Spacing	10 mm
Frequency (MHz)	680.5	Frequency (MHz)	1770.0
Channel	136100	Channel	354000
Measured 1g SAR (W/kg)	0.182	Measured 1g SAR (W/kg)	0.977
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 43)	0.289	Auto-tune (State 23)	1.589
Default (State 0)	0.180	Default (State 0)	1.024
State 30	0.277	State 0	1.024
State 35	0.151	State 1	1.034
State 43	0.289	State 2	1.050
State 45	0.28	State 3	1.051
State 78	0.189	State 4	1.049
State 93	0.101	State 5	1.049
		State 6	1.047
		State 7	1.047
		State 8	1.044
		State 9	1.018
		State 10	0.991
		State 11	0.953
		State 12	0.867
		State 13	1.023
		State 14	1.1
		State 15	1.118
		State 16	1.133
		State 17	1.15
		State 18	1.196
		State 19	1.251
		State 20	1.326
		State 21	1.408
		State 22	1.526
		State 23	1.589
		State 24	1.619
		State 25	1.423
		State 26	0.908
		State 27	0.915
		State 28	0.911
		State 29	0.911
		State 30	0.907
		State 31	0.905
		State 32	0.902
		State 33	0.9
		State 34	0.895
		State 35	0.879
		State 36	0.86
		State 37	0.824
		State 38	0.741
		State 39	0.163
		State 40	0.187
		State 41	0.185
		State 42	0.176
		State 43	0.182
		State 44	0.193
		State 45	0.19
		State 46	0.192
		State 47	0.188
		State 48	0.182
		State 49	0.174
		State 50	0.161
		State 51	0.137
		State 52	0.933
		State 53	1.015
		State 54	1.033
		State 55	1.001
		State 56	1.077
		State 57	1.086
		State 58	1.165
		State 59	1.23
		State 60	1.327
		State 61	1.434
		State 62	1.438
		State 63	1.426
		State 64	1.196
		State 65	0.167
		State 66	0.215
		State 67	0.218
		State 68	0.22
		State 69	0.229
		State 70	0.247
		State 71	0.272
		State 72	0.302
		State 73	0.335
		State 74	0.385
		State 75	0.412
		State 76	0.414
		State 77	0.318
		State 78	0.138
		State 79	0.156
		State 80	0.155
		State 81	0.153
		State 82	0.153
		State 83	0.161
		State 84	0.159
		State 85	0.16
		State 86	0.157
		State 87	0.152
		State 88	0.146
		State 89	0.135
		State 90	0.115
		State 91	0.145
		State 92	0.184
		State 93	0.187
		State 94	0.189
		State 95	0.197
		State 96	0.211
		State 97	0.233
		State 98	0.26
		State 99	0.29
		State 100	0.336
		State 101	0.362
		State 102	0.366
		State 103	0.284
		State 104	0.993
		State 105	0.964
		State 106	0.859
		State 107	0.154
		State 108	0.89
		State 109	0.163
		State 110	0.137
		State 111	0.143
		State 112	0.996
		State 113	0.969
		State 114	0.861
		State 115	0.156
		State 116	0.892
		State 117	0.164
		State 118	0.138
		State 119	0.144

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15 EQUIPMENT LIST

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	8594A	(9kHz-2.9GHz) Spectrum Analyzer	N/A	N/A	N/A	3051A00187
Agilent	E4438C	ESG Vector Signal Generator	3/8/2019	Biennial	3/8/2021	MY42082385
Agilent	E4438C	ESG Vector Signal Generator	3/11/2019	Biennial	3/11/2021	MY45090700
Agilent	N9020A	MXA Signal Analyzer	4/20/2019	Annual	4/20/2020	US46470561
Agilent	N5182A	MXG Vector Signal Generator	7/10/2019	Annual	7/10/2020	MY47420800
Agilent	N9030A	PXA Signal Analyzer (44GHz)	6/12/2019	Annual	6/12/2020	MY52350166
Agilent	8753ES	S-Parameter Network Analyzer	8/26/2019	Annual	8/26/2020	MY40000670
Agilent	8753ES	S-Parameter Vector Network Analyzer	9/19/2019	Annual	9/19/2020	MY40003841
Agilent	E5515C	Wireless Communications Test Set	9/25/2019	Annual	9/25/2020	GB43304278
Agilent	E5515C	Wireless Communications Test Set	2/7/2018	Triennial	2/7/2021	GB43304447
Agilent	E5515C	Wireless Communications Test Set	6/26/2019	Annual	6/26/2020	MY50267125
Agilent	E5515C	Wireless Communications Test Set	N/A	CBT	N/A	US41140256
Agilent	N4010A	Wireless Connectivity Test Set	N/A	N/A	N/A	GB44450273
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	353317
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	353468
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	353469
Anritsu	MA2411B	Pulse Power Sensor	6/11/2019	Annual	6/11/2020	1207364
Anritsu	MA2411B	Pulse Power Sensor	8/8/2019	Annual	8/8/2020	1339008
Anritsu	MA2411B	Pulse Power Sensor	3/6/2019	Annual	3/6/2020	1339018
Anritsu	MT8820C	Radio Communication Analyzer	3/29/2019	Annual	3/29/2020	6201300731
Anritsu	MT8821C	Radio Communication Analyzer	3/6/2019	Annual	3/6/2020	6201381794
Anritsu	MT8862A	Wireless Connectivity Test Set	8/8/2019	Annual	8/8/2020	6261782395
Anritsu	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	ML2496A	Power Meter	10/29/2019	Annual	10/29/2020	1840005
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	192282744
Control Company	4040	Therm./ Clock/ Humidity Monitor	10/9/2018	Biennial	10/9/2020	181647802
Control Company	4040	Therm./ Clock/ Humidity Monitor	10/9/2018	Biennial	10/9/2020	181647811
Control Company	4352	Ultra Long Stem Thermometer	11/29/2018	Biennial	11/29/2020	181766777
Keysight	772D	Dual Directional Coupler	N/A	CBT	N/A	MY52180215
Keysight Technologies	N6705B	DC Power Analyzer	4/27/2019	Biennial	4/27/2021	MY53004059
Keysight Technologies	85033E	Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm)	7/2/2019	Annual	7/2/2020	MY53401181
MCL	BW-N6W5+	6dB Attenuator	N/A	CBT	N/A	1139
Mini Circuits	PWR-SEN-4GHS	USB Power Sensor	4/19/2019	Annual	4/19/2020	11401010036
MiniCircuits	VLF-6000+	Low Pass Filter	N/A	CBT	N/A	N/A
MiniCircuits	VLF-6000+	Low Pass Filter	N/A	CBT	N/A	N/A
MiniCircuits	SLP-2400+	Low Pass Filter	N/A	CBT	N/A	R8979500903
Mini-Circuits	NLP-1200+	Low Pass Filter DC to 1000 MHz	N/A	CBT	N/A	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	N/A	CBT	N/A	N/A
Mini-Circuits	BW-N20W5	Power Attenuator	N/A	CBT	N/A	1226
Mitutoyo	CD-6"CSX	Digital Caliper	4/18/2018	Biennial	4/18/2020	13264165
Pasternack	PE2208-6	Bidirectional Coupler	N/A	CBT	N/A	N/A
Pasternack	PE2209-10	Bidirectional Coupler	N/A	CBT	N/A	N/A
Pasternack	NC-100	Torque Wrench	5/23/2018	Biennial	5/23/2020	N/A
Rohde & Schwarz	CMU200	Base Station Simulator	6/3/2019	Annual	6/3/2020	109892
Rohde & Schwarz	CMW500	Radio Communication Tester	8/26/2019	Annual	8/26/2020	100976
Rohde & Schwarz	CMW500	Radio Communication Tester	10/15/2019	Annual	10/15/2020	109366
Rohde & Schwarz	CMW500	Radio Communication Tester	6/26/2019	Annual	6/26/2020	112347
Rohde & Schwarz	CMW500	Radio Communication Tester	8/27/2019	Annual	8/27/2020	116743
Rohde & Schwarz	CMW500	Radio Communication Tester	4/19/2019	Annual	4/19/2020	128633
Rohde & Schwarz	ZNLE6	Vector Network Analyzer	10/11/2019	Annual	10/11/2020	101307
Seekonk	NC-100	Torque Wrench	4/18/2018	Biennial	4/18/2020	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	5d080
SPEAG	D1900V2	1900 MHz SAR Dipole	2/21/2019	Annual	2/21/2020	5d148
SPEAG	D1900V2	1900 MHz SAR Dipole	10/23/2018	Biennial	10/23/2020	5d149
SPEAG	D2300V2	2300 MHz SAR Dipole	8/13/2018	Biennial	8/13/2020	1073
SPEAG	D2300V2	2300 MHz SAR Dipole	11/12/2019	Annual	11/12/2020	1064
SPEAG	D2450V2	2450 MHz SAR Dipole	8/14/2019	Annual	8/14/2020	719
SPEAG	D2450V2	2450 MHz SAR Dipole	9/11/2017	Triennial	9/11/2020	797
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	D5GHzV2	5 GHz SAR Dipole	9/17/2019	Annual	9/17/2020	1191
SPEAG	D750V3	750 MHz 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	4d047
SPEAG	D835V2	835 MHz SAR Dipole	1/22/2019	Annual	1/22/2020	4d132
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	DAE4	Dasy Data Acquisition Electronics	1/15/2019	Annual	1/15/2020	1530
SPEAG	DAE4	Data Acquisition Electronics	12/5/2019	Annual	12/5/2020	1533
SPEAG	DAK-3.5	Dielectric Assessment Kit	10/22/2019	Annual	10/22/2020	1091
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	1/24/2019	Annual	1/24/2020	7488
SPEAG	EX3DV4	SAR Probe	7/15/2019	Annual	7/15/2020	7547
SPEAG	EX3DV4	SAR Probe	9/19/2019	Annual	9/19/2020	7551
SPEAG	EX3DV4	SAR Probe	12/11/2019	Annual	12/11/2020	7571

Note:

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

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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 Unceritainty	0.6	R	1.73	0.23	0.26	0.1	0.1	∞
Liquid Conductivity - deviation from target values	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Permittivity - deviation from target values	5.0	R	1.73	0.60	0.49	1.7	1.4	∞
Combined Standard Uncertainty (k=1)		RSS				11.5	11.3	60
Expanded Uncertainty (95% CONFIDENCE LEVEL)		k=2				23.0	22.6	

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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

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PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 1026M

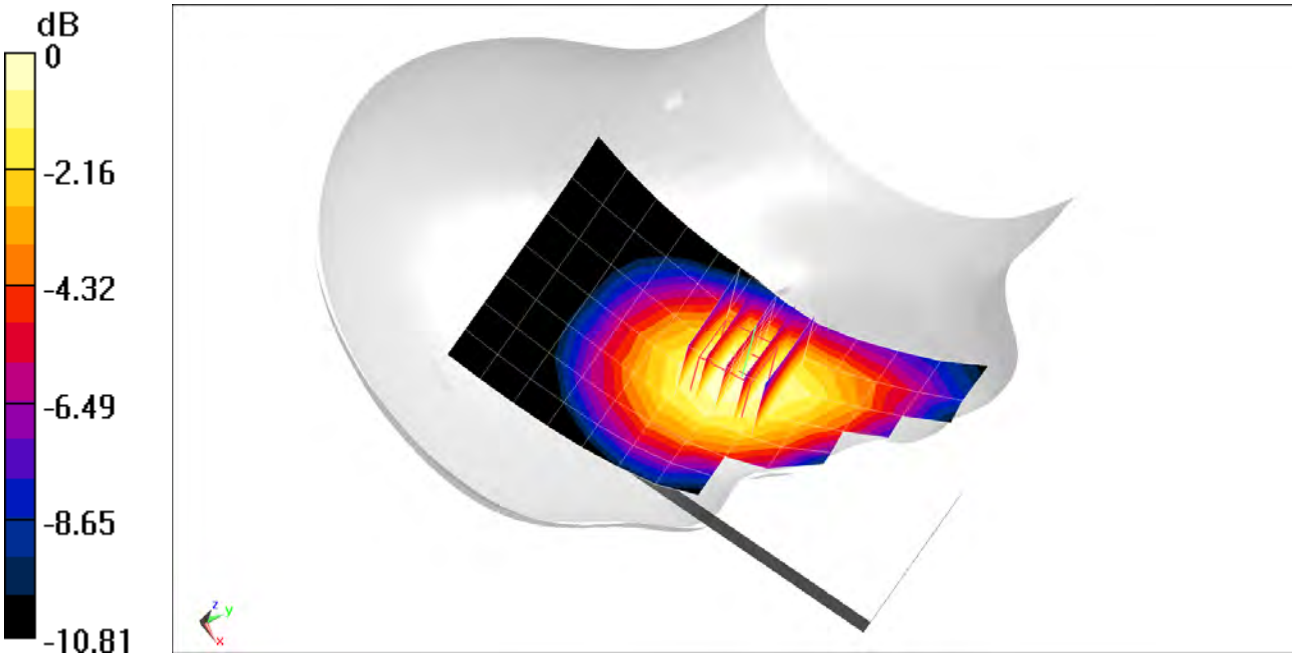
Communication System: UID 0, CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1
Medium: 835 Head; Medium parameters used (interpolated):
f = 836.52 MHz; σ = 0.916 S/m; ε_r = 40.62; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 12/09/2019; Ambient Temp: 21.0°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN7410; ConvF(9.88, 9.88, 9.88) @ 836.52 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: Cell. EVDO Rev. A, BC 0, Right Head, Cheek, Mid.ch

Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.50 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.260 W/kg
SAR(1 g) = 0.198 W/kg



0 dB = 0.235 W/kg = -6.29 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0387M

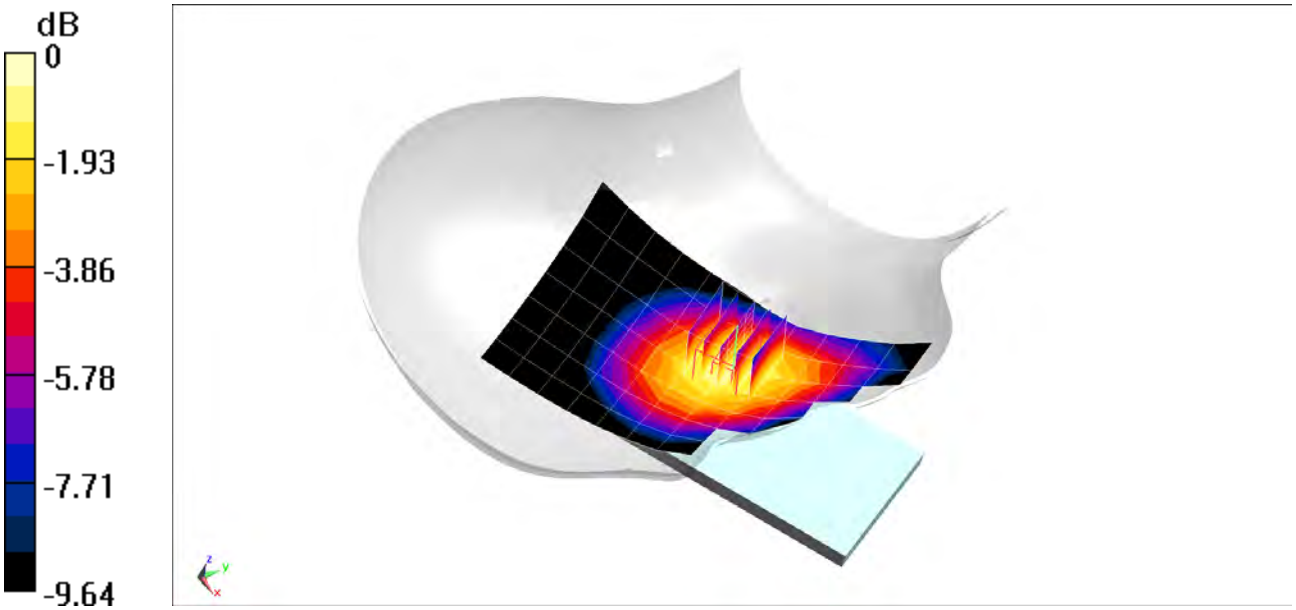
Communication System: UID 0, GSM; Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: 835 Head; Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.916 S/m; ε_r = 40.62; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 12/09/2019; Ambient Temp: 21.0°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN7410; ConvF(9.88, 9.88, 9.88) @ 836.6 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: GSM 850, Right Head, Cheek, Mid.ch

Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.78 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.182 W/kg
SAR(1 g) = 0.145 W/kg



0 dB = 0.170 W/kg = -7.70 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0387M

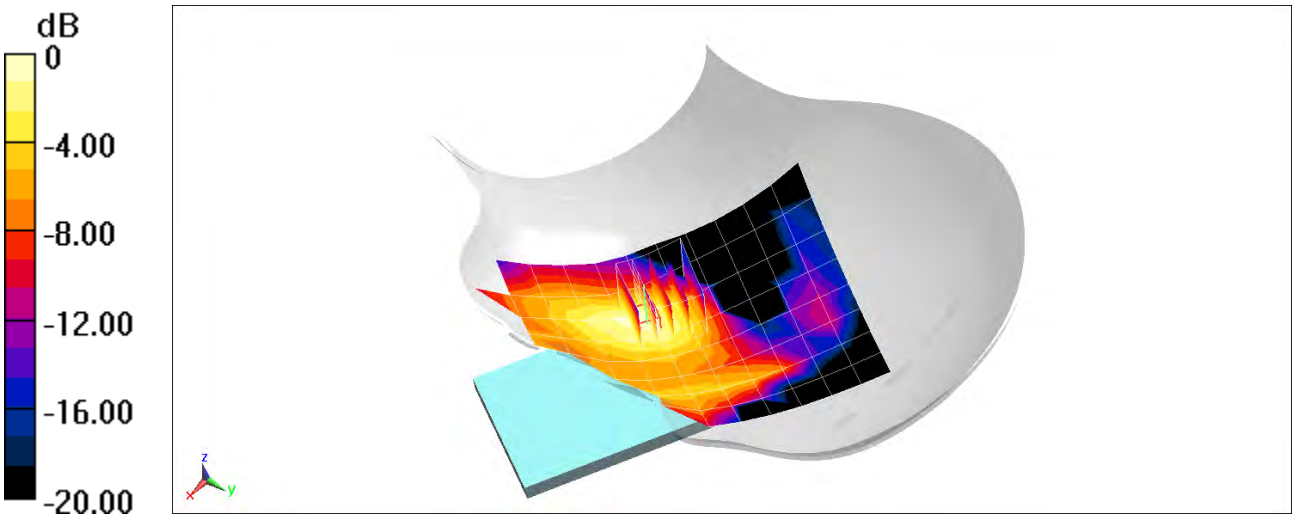
Communication System: UID 0, GSM; Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: 1900 Head; Medium parameters used:
f = 1880 MHz; σ = 1.423 S/m; ε_r = 39.364; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 01/04/2020; Ambient Temp: 23.2°C; Tissue Temp: 21.6°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: GSM 1900, Left Head, Cheek, Mid.ch

Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.095 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 0.0580 W/kg
SAR(1 g) = 0.038 W/kg



0 dB = 0.0511 W/kg = -12.92 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 1026M

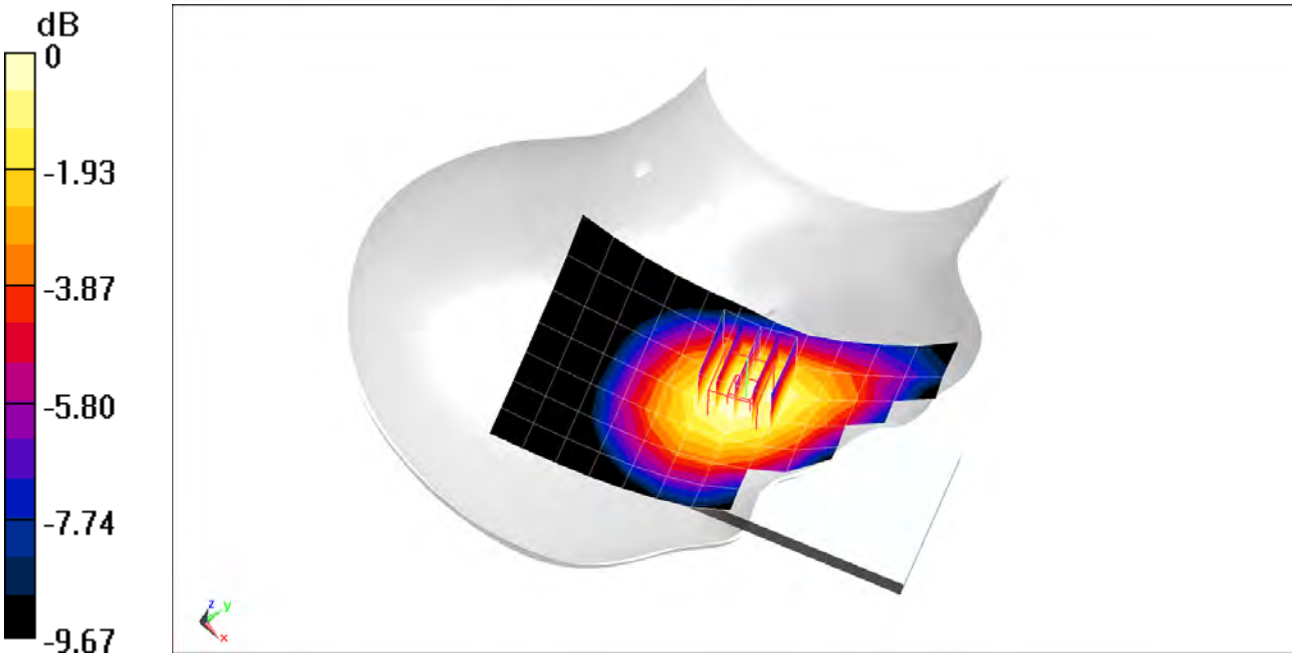
Communication System: UID 0, UMTS; Frequency: 836.6 MHz; Duty Cycle: 1:1
Medium: 835 Head; Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.916 S/m; ε_r = 40.62; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 12/09/2019; Ambient Temp: 21.0°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN7410; ConvF(9.88, 9.88, 9.88) @ 836.6 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: UMTS 850, Right Head, Cheek, Mid.ch

Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.97 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.212 W/kg
SAR(1 g) = 0.168 W/kg



0 dB = 0.198 W/kg = -7.03 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0867M

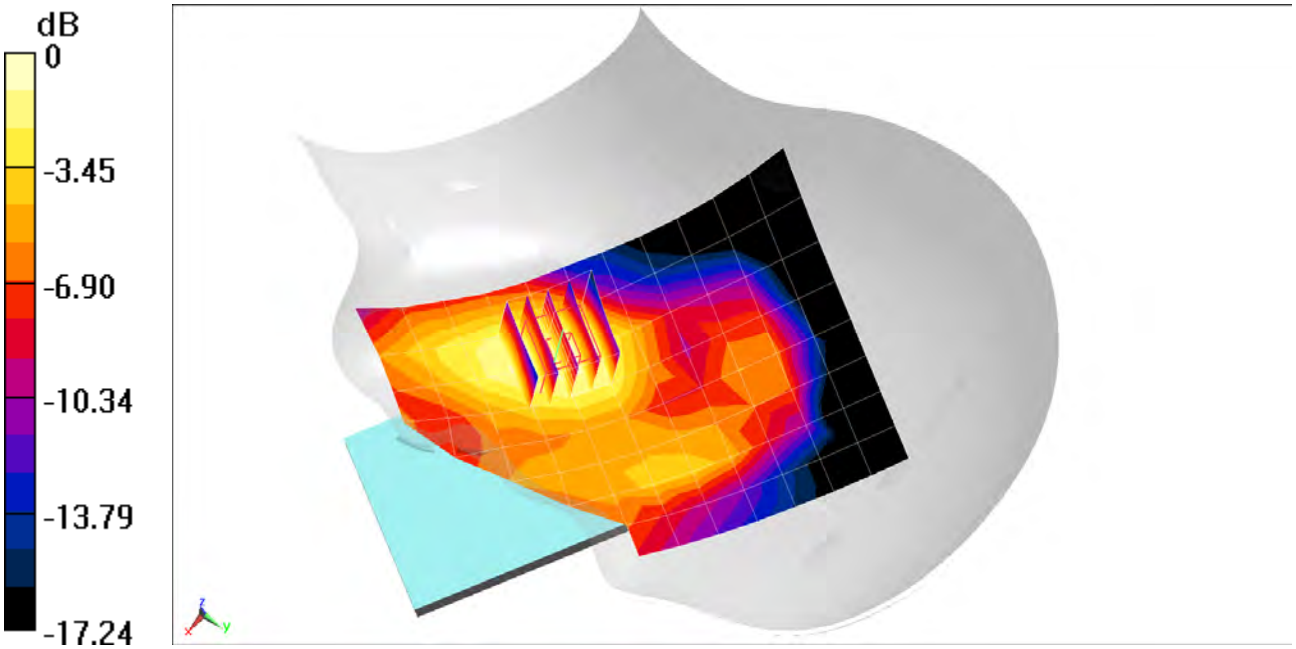
Communication System: UID 0, UMTS; Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium: 1750 Head; Medium parameters used (interpolated):
f = 1732.4 MHz; σ = 1.367 S/m; ε_r = 39.17; ρ = 1000 kg/m^3
Phantom section: Left Section

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=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.991 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.191 W/kg
SAR(1 g) = 0.125 W/kg



0 dB = 0.165 W/kg = -7.83 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0387M

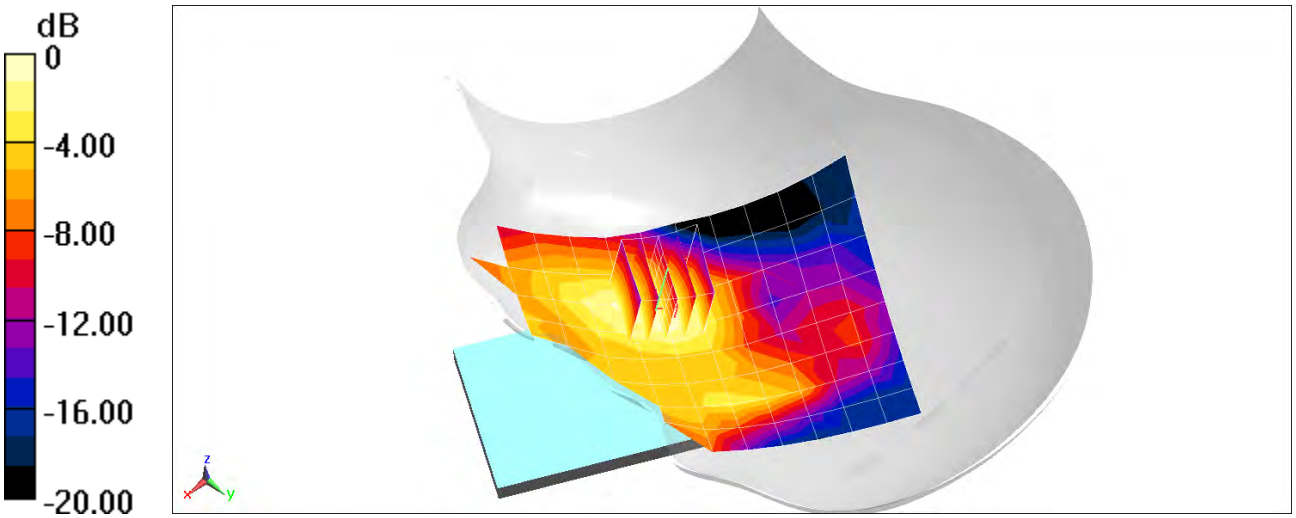
Communication System: UID 0, UMTS; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: 1900 Head; Medium parameters used:
f = 1880 MHz; σ = 1.423 S/m; ε_r = 39.364; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 01/04/2020; Ambient Temp: 23.2°C; Tissue Temp: 21.6°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: UMTS 1900, Left Head, Cheek, Mid.ch

Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.635 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 0.149 W/kg
SAR(1 g) = 0.096 W/kg



0 dB = 0.128 W/kg = -8.93 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0332M

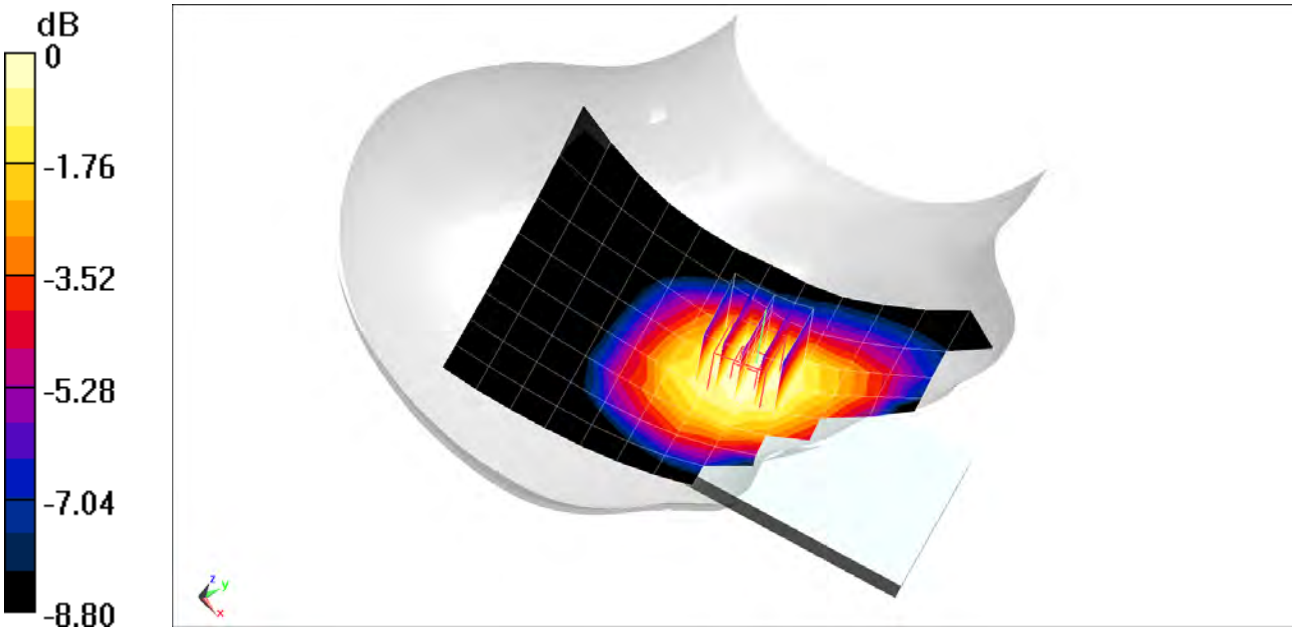
Communication System: UID 0, LTE Band 71; Frequency: 680.5 MHz; Duty Cycle: 1:1
Medium: 700 Head; Medium parameters used (interpolated):
f = 680.5 MHz; σ = 0.844 S/m; ε_r = 41.64; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 01/05/2020; Ambient Temp: 21.9°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN7308; ConvF(10.2, 10.2, 10.2) @ 680.5 MHz; Calibrated: 8/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/14/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
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, 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 = 14.25 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.203 W/kg
SAR(1 g) = 0.156 W/kg



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

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0387M

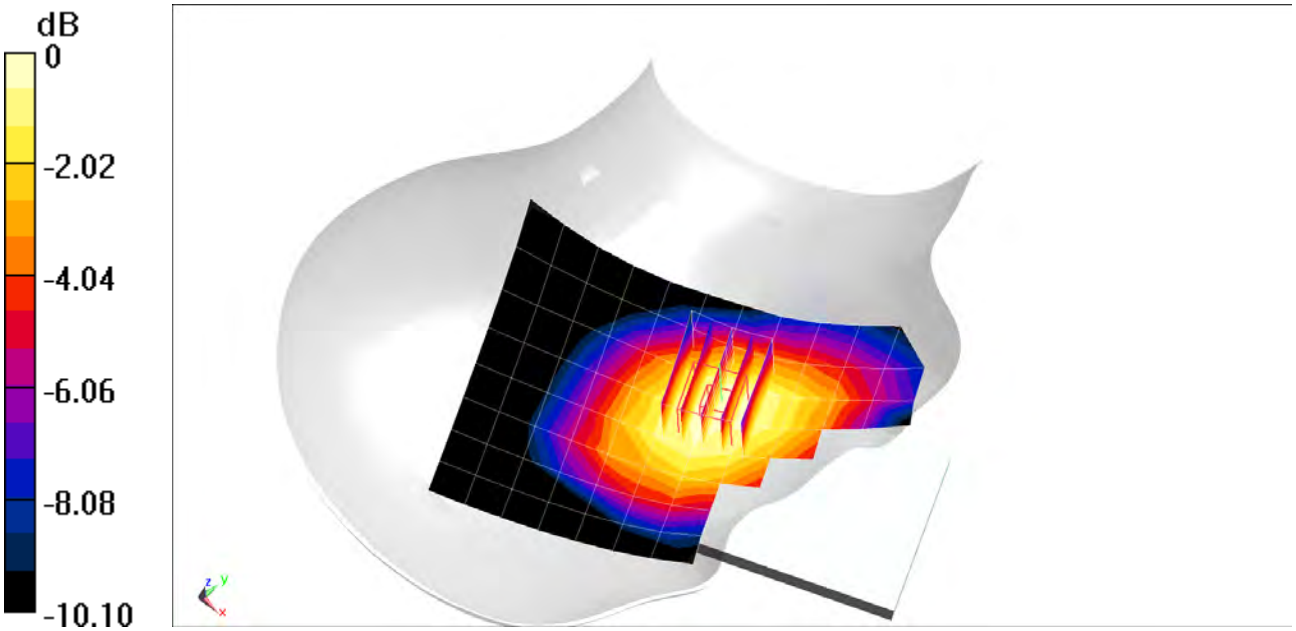
Communication System: UID 0, LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: 700 Head; Medium parameters used (interpolated):
f = 707.5 MHz; σ = 0.854 S/m; ε_r = 41.551; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 01/05/2020; Ambient Temp: 21.9°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN7308; ConvF(10.2, 10.2, 10.2) @ 707.5 MHz; Calibrated: 8/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/14/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

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

Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.31 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.210 W/kg
SAR(1 g) = 0.164 W/kg



0 dB = 0.195 W/kg = -7.10 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0332M

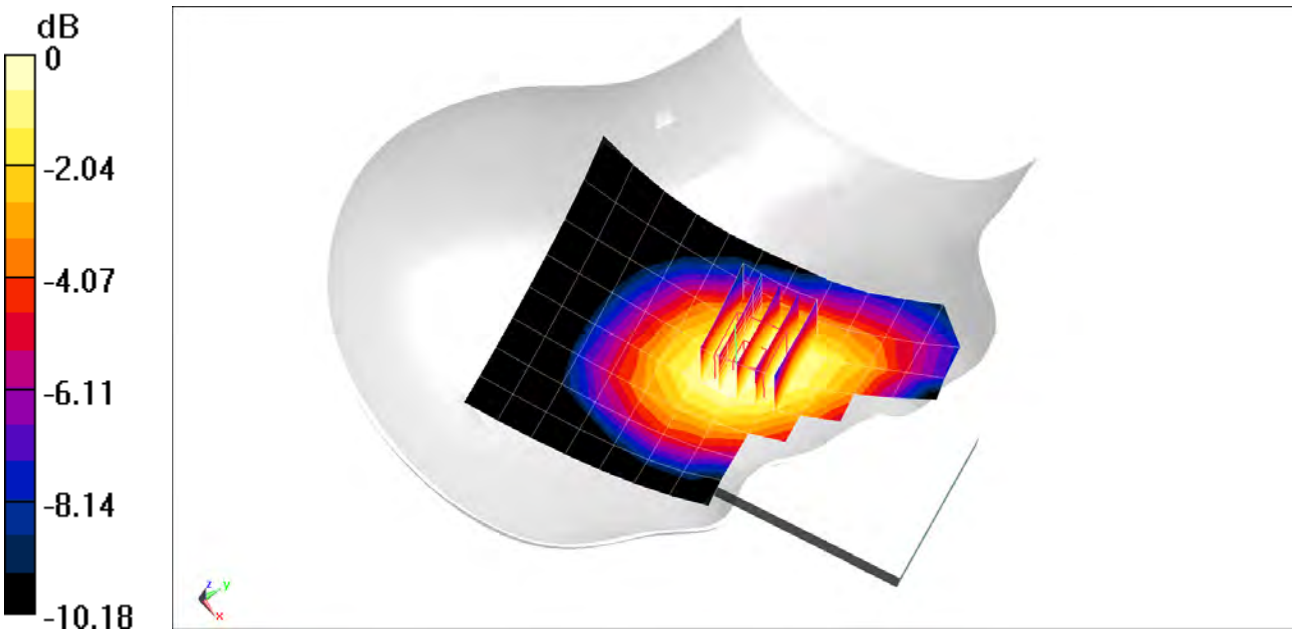
Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1
Medium: 700 Head; Medium parameters used (interpolated):
f = 782 MHz; σ = 0.881 S/m; ε_r = 41.307; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 01/05/2020; Ambient Temp: 21.9°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN7308; ConvF(10.2, 10.2, 10.2) @ 782 MHz; Calibrated: 8/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/14/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

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

Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.56 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 0.204 W/kg
SAR(1 g) = 0.162 W/kg



0 dB = 0.188 W/kg = -7.26 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 1001M

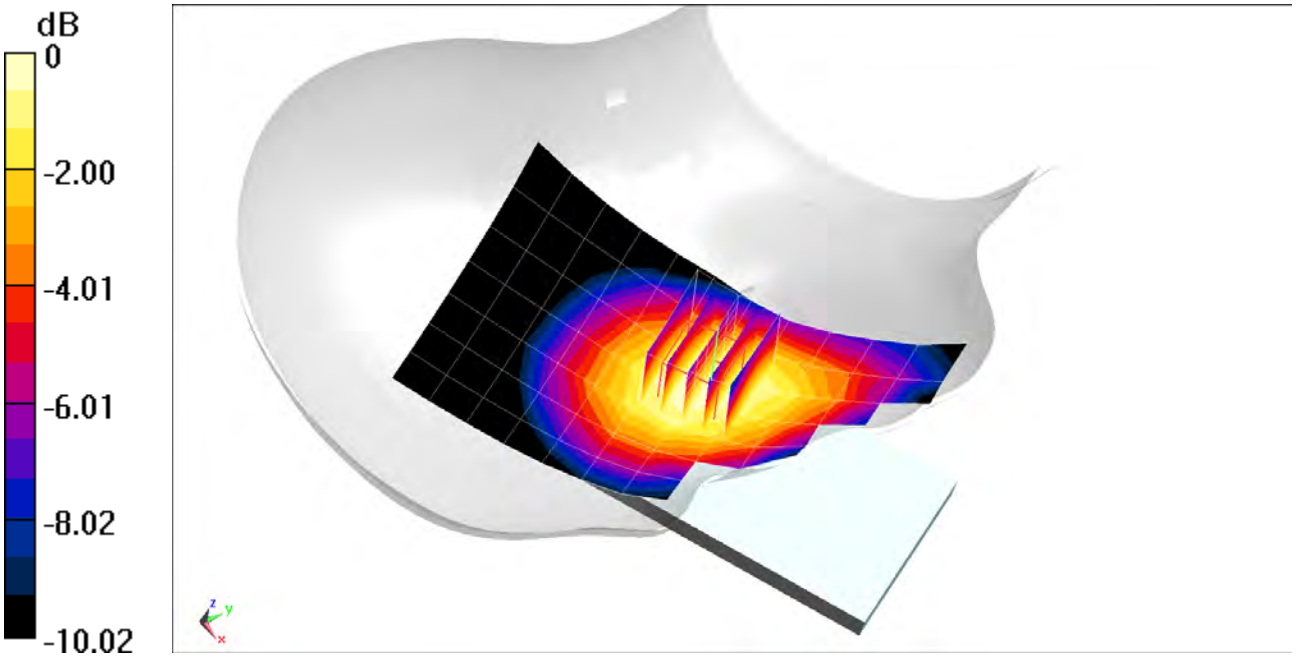
Communication System: UID 0, LTE Band 5 (Cell.); Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: 835 Head; Medium parameters used (interpolated):
f = 836.5 MHz; σ = 0.916 S/m; ε_r = 40.62; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 12/09/2019; Ambient Temp: 21.0°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN7410; ConvF(9.88, 9.88, 9.88) @ 836.5 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 5 (Cell.), Right Head, Cheek, Mid.ch
10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.57 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 0.223 W/kg
SAR(1 g) = 0.175 W/kg



0 dB = 0.208 W/kg = -6.82 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0890M

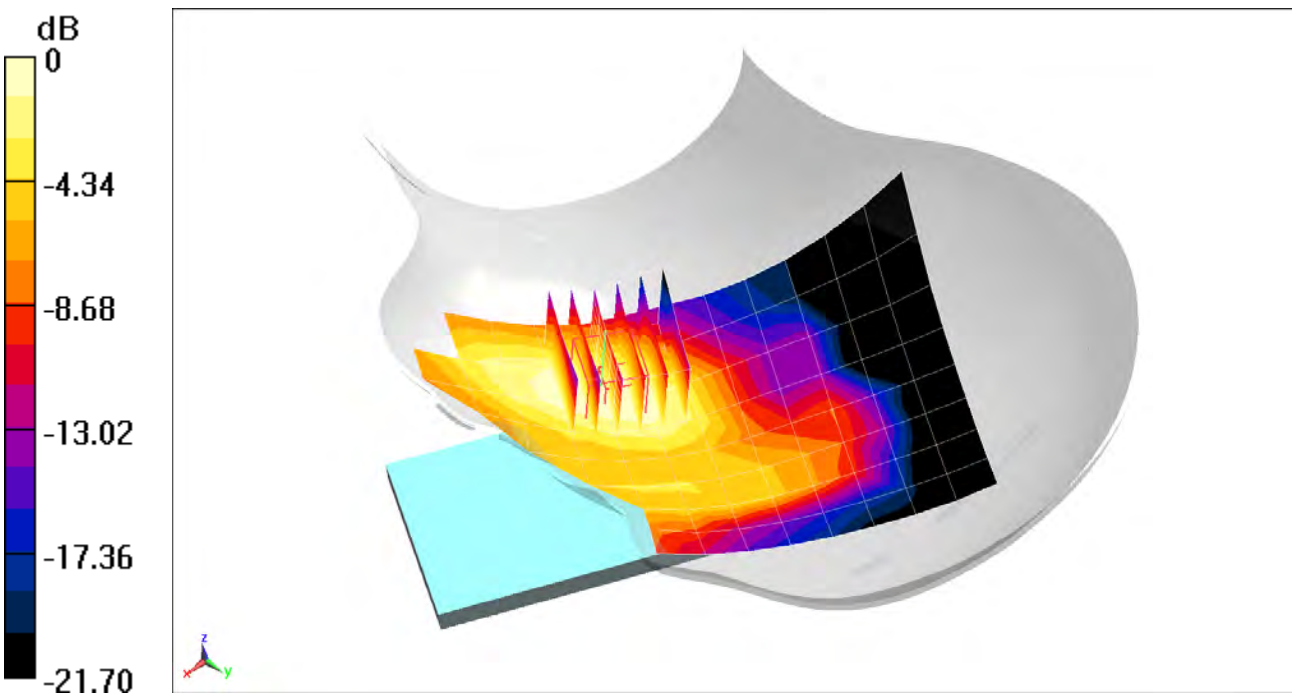
Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1770 MHz; Duty Cycle: 1:1
Medium: 1750 Head; Medium parameters used:
f = 1770 MHz; σ = 1.391 S/m; ε_r = 39.116; ρ = 1000 kg/m^3
Phantom section: Left Section

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) @ 1770 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: LTE Band 66 (AWS), Left Head, Cheek, High.ch
20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.738 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.179 W/kg
SAR(1 g) = 0.115 W/kg



0 dB = 0.149 W/kg = -8.27 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0387M

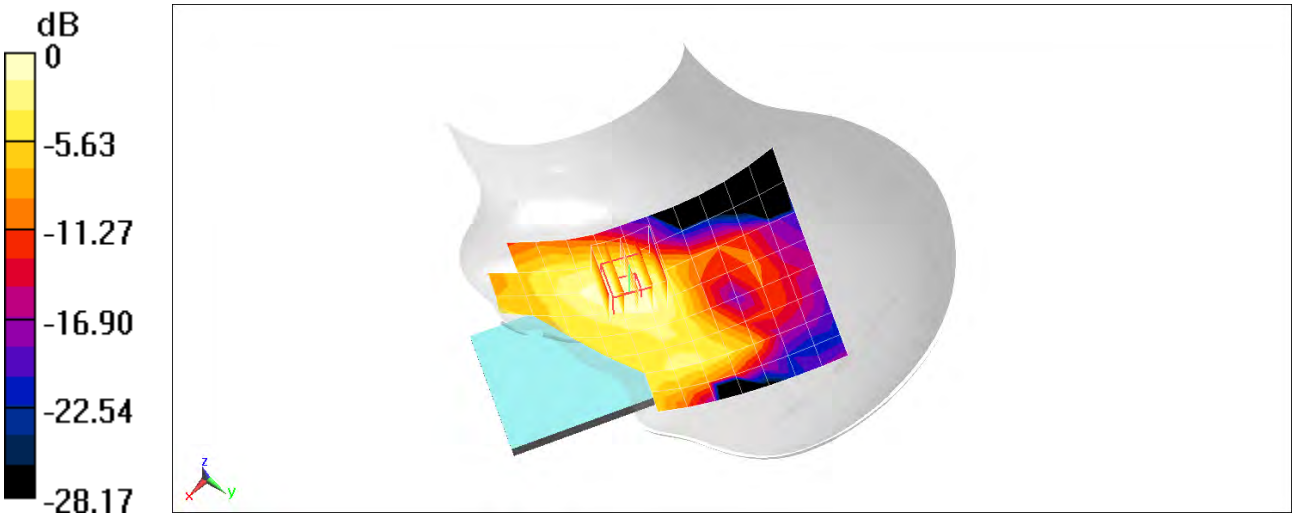
Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1882.5 MHz; Duty Cycle: 1:1
Medium: 1900 Head; Medium parameters used (interpolated):
f = 1882.5 MHz; σ = 1.424 S/m; ε_r = 39.361; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 01/04/2020; Ambient Temp: 23.2°C; Tissue Temp: 21.6°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, 99 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 = 9.764 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.170 W/kg
SAR(1 g) = 0.110 W/kg



0 dB = 0.150 W/kg = -8.24 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0317M

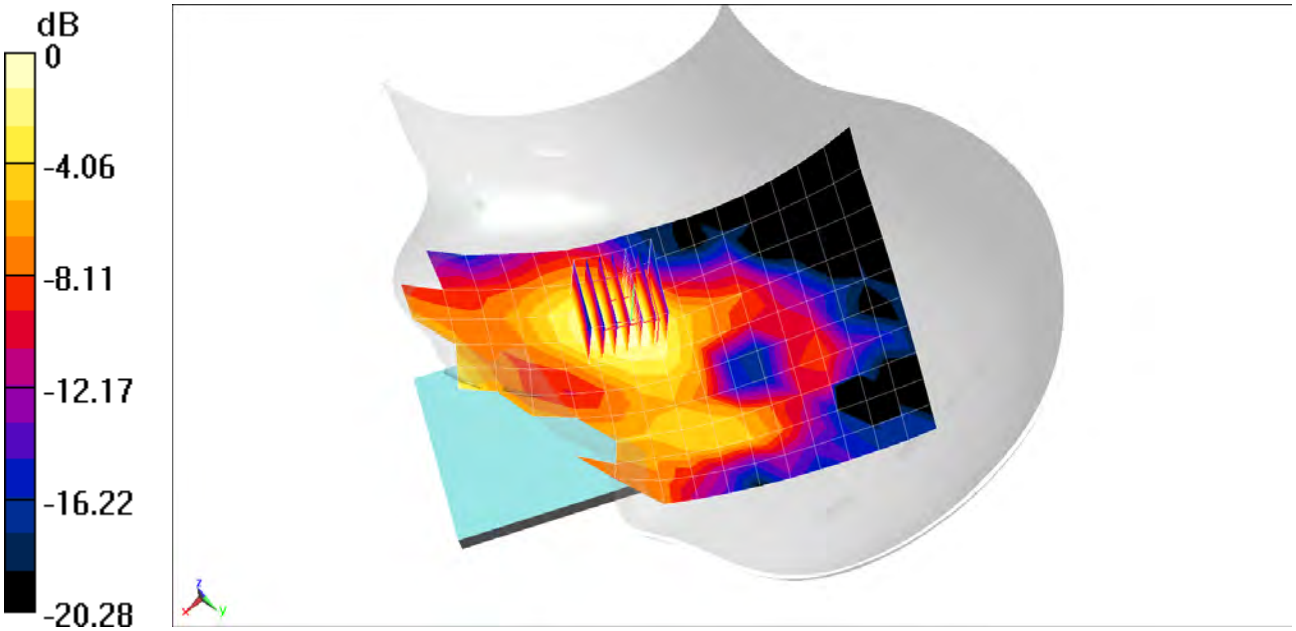
Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1
Medium: 2450 Head; Medium parameters used:
f = 2310 MHz; σ = 1.76 S/m; ε_r = 38.602; ρ = 1000 kg/m^3
Phantom section: Left Section

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, 0 RB Offset

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.514 V/m; Power Drift = 0.21 dB
Peak SAR (extrapolated) = 0.108 W/kg
SAR(1 g) = 0.062 W/kg



0 dB = 0.0899 W/kg = -10.46 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0888M

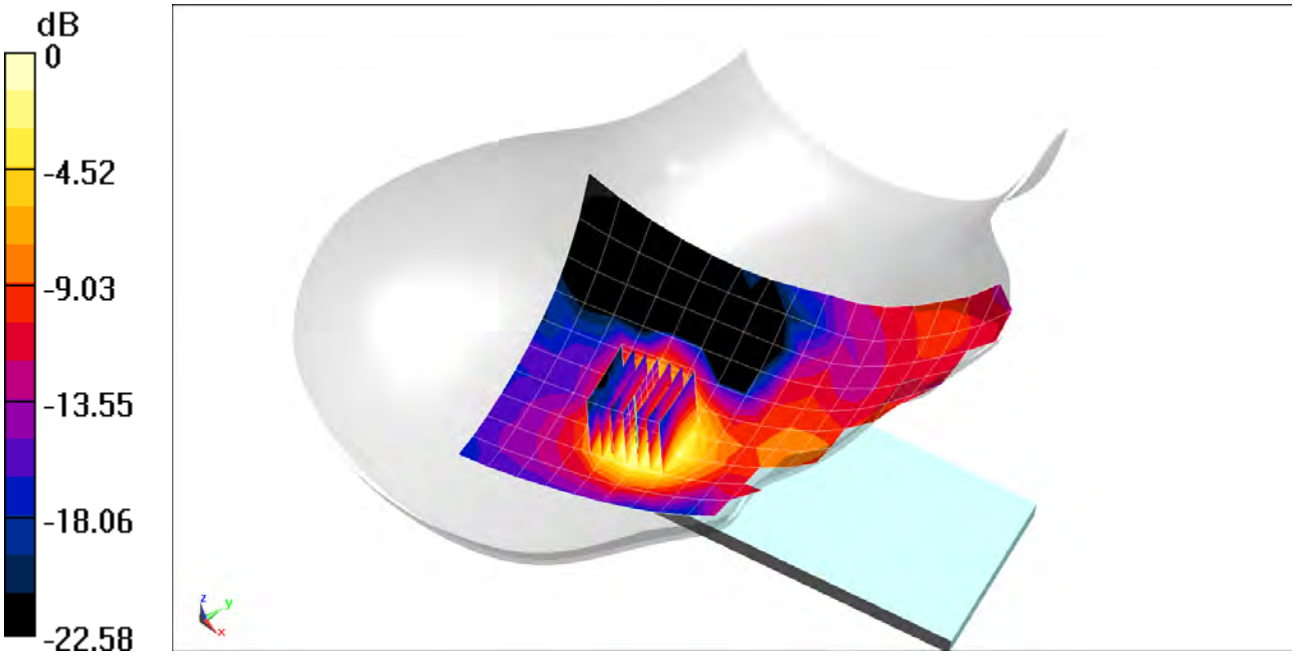
Communication System: UID 0, LTE Band 7; Frequency: 2560 MHz; Duty Cycle: 1:1
Medium: 2450 Head; Medium parameters used:
f = 2560 MHz; σ = 1.916 S/m; ε_r = 38.294; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 11/25/2019; Ambient Temp: 23.2°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN7417; ConvF(7.17, 7.17, 7.17) @ 2560 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, Right Head, Tilt, Mid.ch
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.445 V/m; Power Drift = 0.21 dB
Peak SAR (extrapolated) = 0.253 W/kg
SAR(1 g) = 0.135 W/kg



0 dB = 0.205 W/kg = -6.88 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0902M

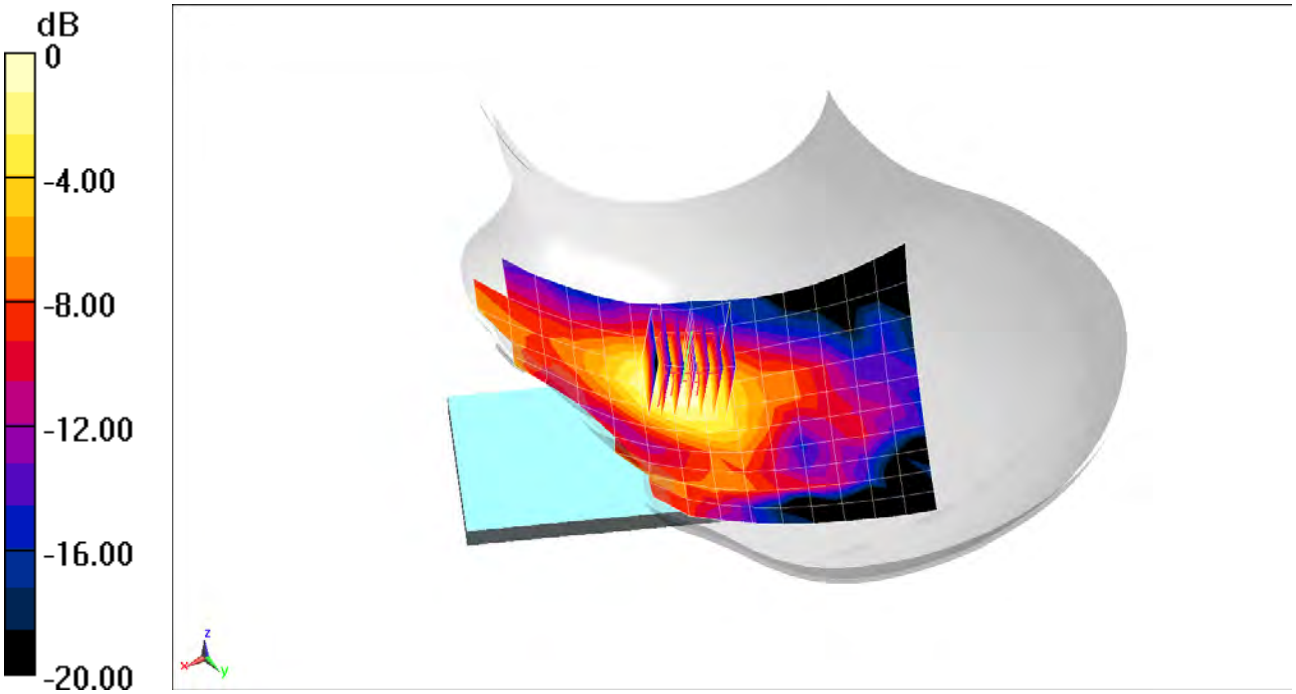
Communication System: UID 0, LTE Band 41 (Class 3); Frequency: 2506 MHz; Duty Cycle: 1:1.58
Medium: 2450 Head; Medium parameters used (interpolated):
f = 2506 MHz; σ = 1.871 S/m; ε_r = 38.371; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 11/25/2019; Ambient Temp: 23.2°C; Tissue Temp: 21.3°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, Left Head, Cheek, Low.ch, QPSK
20 MHz Bandwidth, 1 RB, 0 RB Offset

Area Scan (11x17x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.993 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 0.171 W/kg
SAR(1 g) = 0.098 W/kg



0 dB = 0.143 W/kg = -8.45 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 1031M

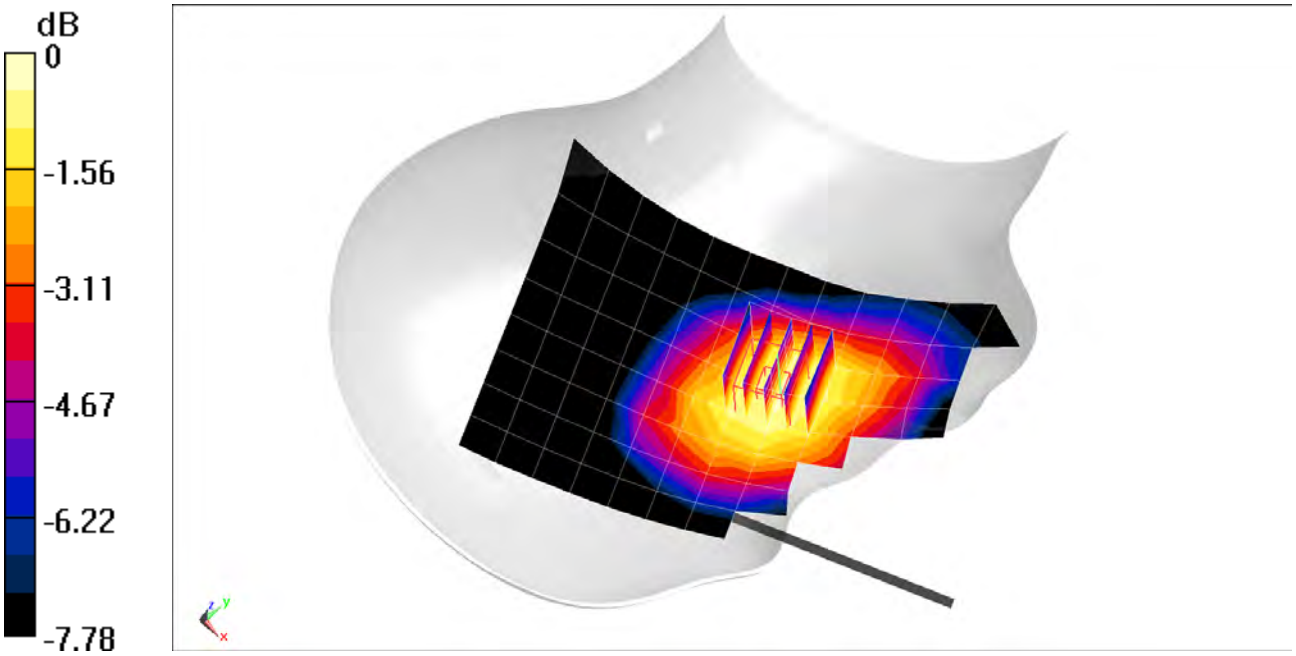
Communication System: UID 0, NR Band n71; Frequency: 680.5 MHz; Duty Cycle: 1:1
Medium: 750 Head; Medium parameters used (interpolated):
f = 680.5 MHz; σ = 0.87 S/m; ε_r = 42.19; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 01/20/2020; Ambient Temp: 21.6°C; Tissue Temp: 20.6°C

Probe: EX3DV4 - SN3914; ConvF(10, 10, 10) @ 680.5 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 2/14/2019
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1646
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, 53 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 = 10.95 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.120 W/kg
SAR(1 g) = 0.096 W/kg



0 dB = 0.111 W/kg = -9.55 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 1019M

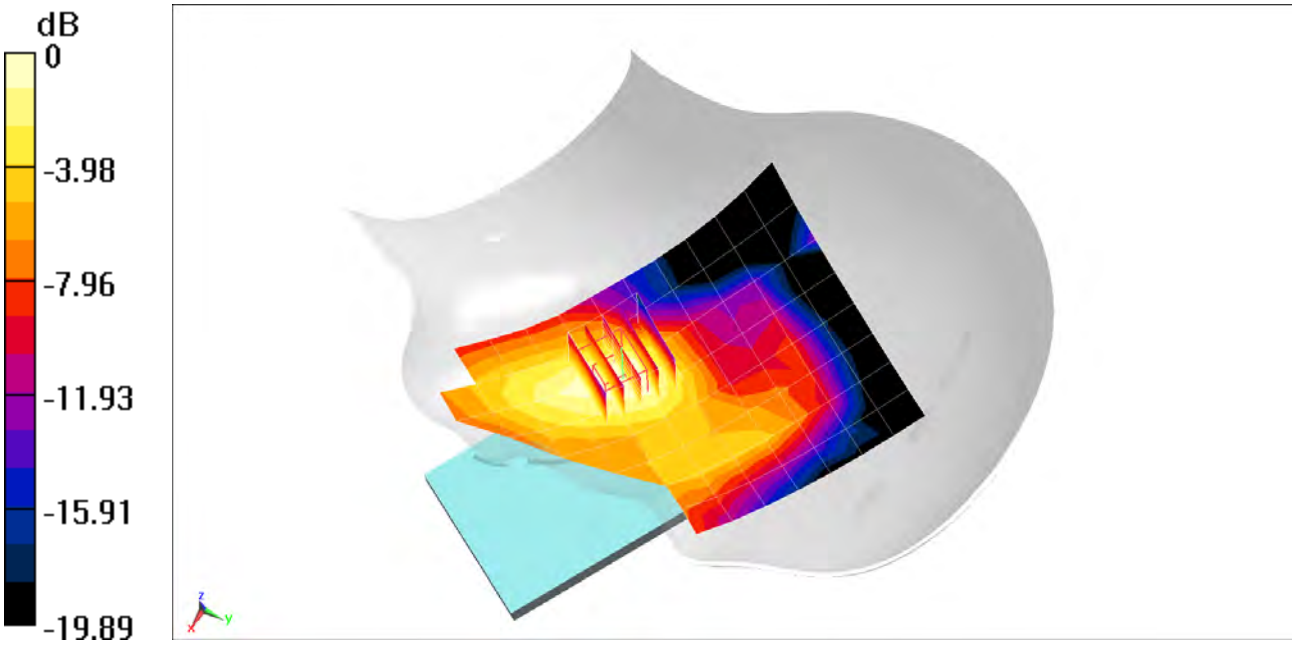
Communication System: UID 0, NR Band n66; Frequency: 1745 MHz; Duty Cycle: 1:1
Medium: 1750 Head; Medium parameters used:
f = 1745 MHz; σ = 1.347 S/m; ε_r = 38.598; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 12/04/2019; Ambient Temp: 22.8°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7551; ConvF(8.34, 8.34, 8.34) @ 1745 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: NR Band n66, Left Head, Cheek, 20 MHz Bandwidth, DFT-s-OFDM QPSK, Ch. 349000, 50 RB, 28 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 = 10.18 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 0.192 W/kg
SAR(1 g) = 0.121 W/kg



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

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0410M

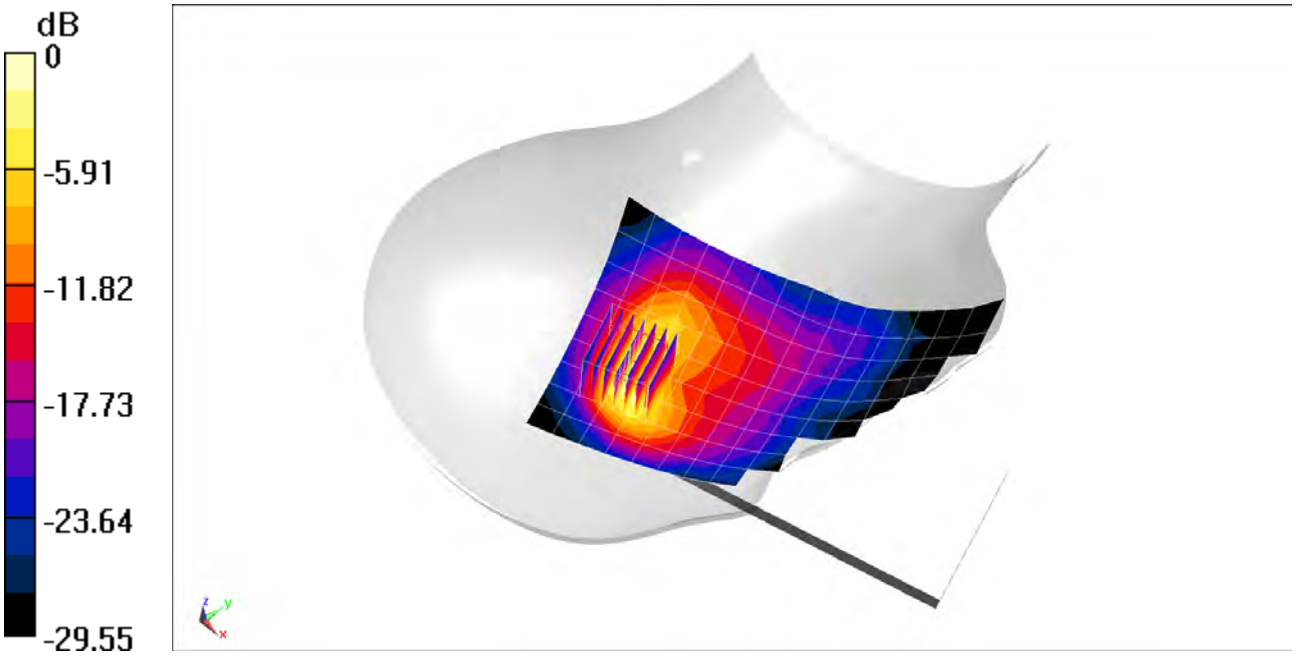
Communication System: UID 0, NR Band n41; Frequency: 2592.99 MHz; Duty Cycle: 1:4
Medium: 2450 Head; Medium parameters used (interpolated):
f = 2592.99 MHz; σ = 1.925 S/m; ε_r = 37.282; ρ = 1000 kg/m^3
Phantom section: Right Section

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, Right Head, Tilt, 100 MHz Bandwidth
DFT-s-OFDM QPSK, Ch. 518598, 1 RB, 1 RB Offset

Area Scan (10x18x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.83 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 2.34 W/kg
SAR(1 g) = 0.876 W/kg



0 dB = 1.76 W/kg = 2.46 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0337M

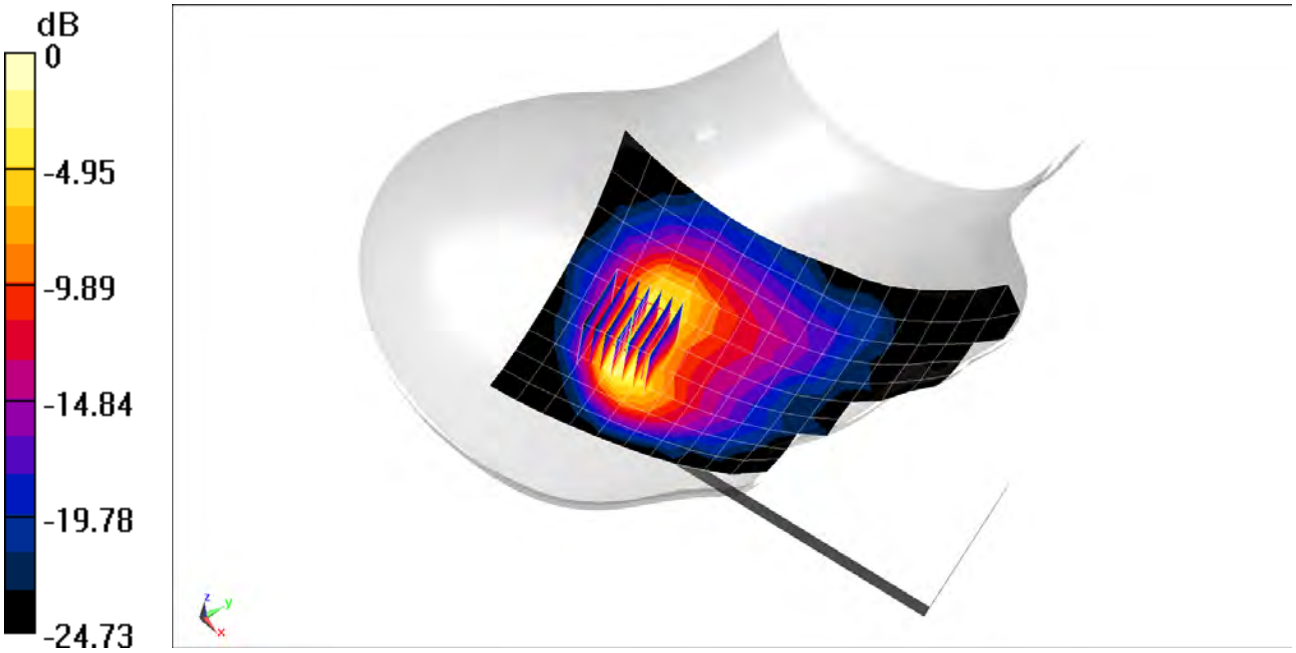
Communication System: UID 0, IEEE 802.11b; Frequency: 2462 MHz; Duty Cycle: 1:1
Medium: 2450 Head; Medium parameters used (interpolated):
f = 2462 MHz; σ = 1.859 S/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Right Section

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

Probe: EX3DV4 - SN7417; ConvF(7.46, 7.46, 7.46) @ 2462 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, Tilt, Ch 11, 1 Mbps

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.10 V/m; Power Drift = 0.20 dB
Peak SAR (extrapolated) = 1.34 W/kg
SAR(1 g) = 0.514 W/kg



0 dB = 1.02 W/kg = 0.09 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0388M

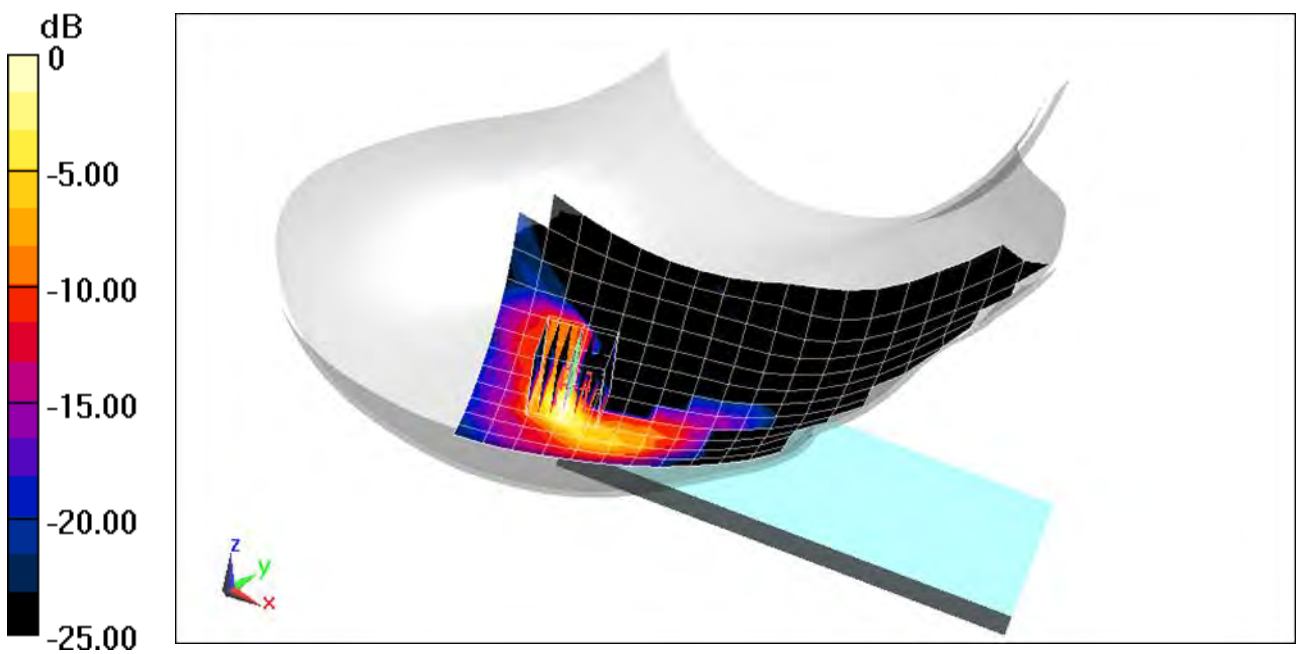
Communication System: UID 0, IEEE 802.11n; Frequency: 5270 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Head; Medium parameters used:
f = 5270 MHz; σ = 4.579 S/m; ε_r = 34.473; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 12/09/2019; Ambient Temp: 22.0°C; Tissue Temp: 23.0°C

Probe: EX3DV4 - SN7406; ConvF(5.54, 5.54, 5.54) @ 5270 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 802.11n, U-NII-2A, Antenna 1
40 MHz Bandwidth, Right Head, Tilt, Ch 54, 13.5 Mbps

Area Scan (13x22x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 0 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 1.10 W/kg
SAR(1 g) = 0.157 W/kg



0 dB = 0.429 W/kg = -3.68 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0388M

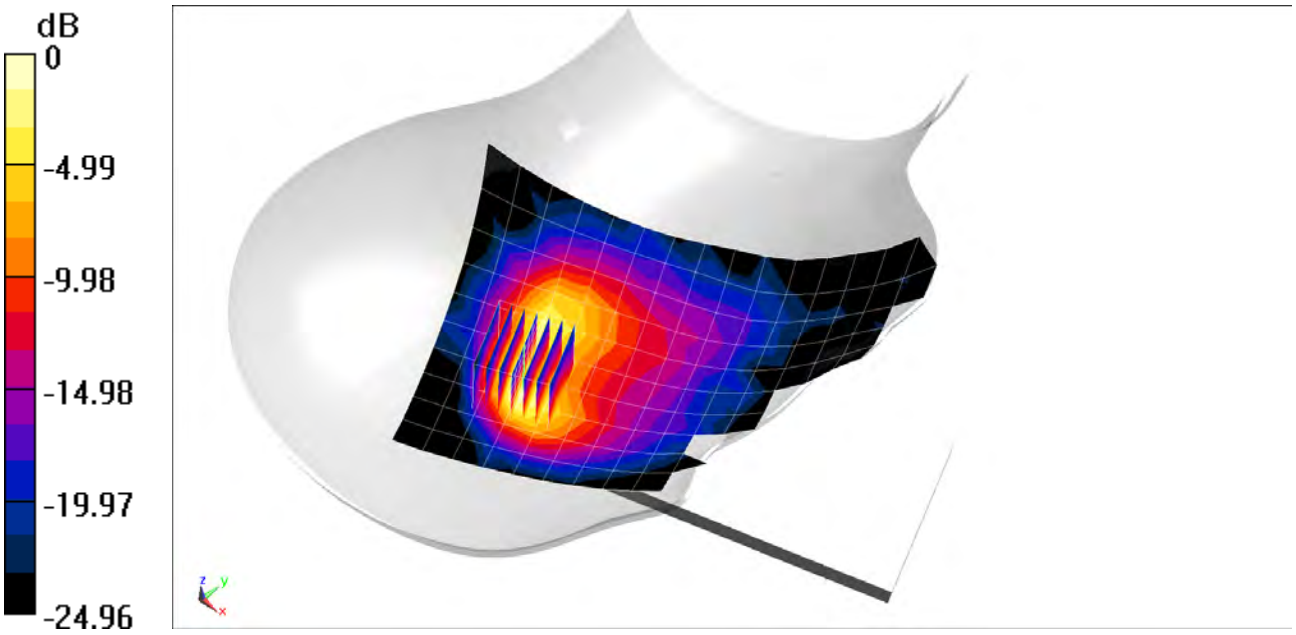
Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.297
Medium: 2450 Head; Medium parameters used (interpolated):
f = 2441 MHz; σ = 1.841 S/m; ε_r = 38.683; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 12/16/2019; Ambient Temp: 20.1°C; Tissue Temp: 19.2°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, Tilt, Ch 39, 1 Mbps

Area Scan (11x19x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.90 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.611 W/kg
SAR(1 g) = 0.237 W/kg



0 dB = 0.429 W/kg = -3.68 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 1026M

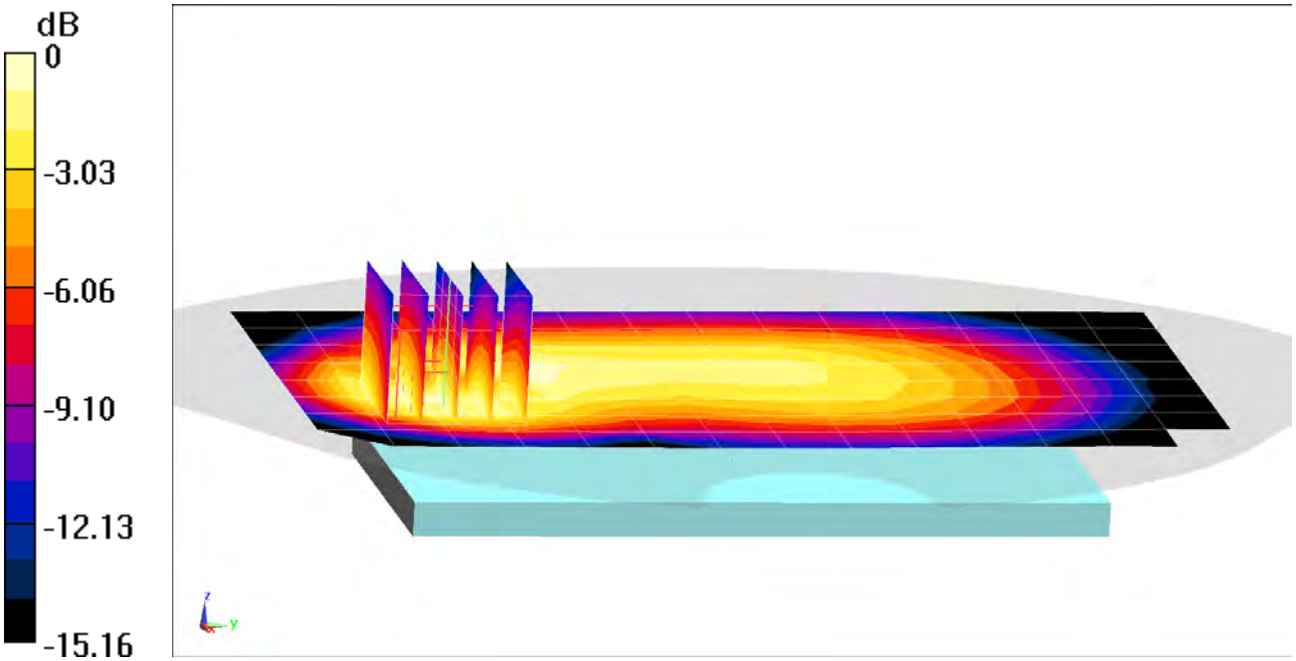
Communication System: UID 0, CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
f = 836.52 MHz; σ = 0.958 S/m; ε_r = 54.678; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11/13/2019; Ambient Temp: 22.0°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7357; ConvF(9.95, 9.95, 9.95) @ 836.52 MHz; Calibrated: 4/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/18/2019
Phantom: Twin-SAM V4.0 (30); Type: QD 000 P40 CC; Serial: 1167
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: Cell. CDMA, BC 0, Body SAR, Back side, Mid.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 = 16.33 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.400 W/kg
SAR(1 g) = 0.241 W/kg



0 dB = 0.336 W/kg = -4.74 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 1026M

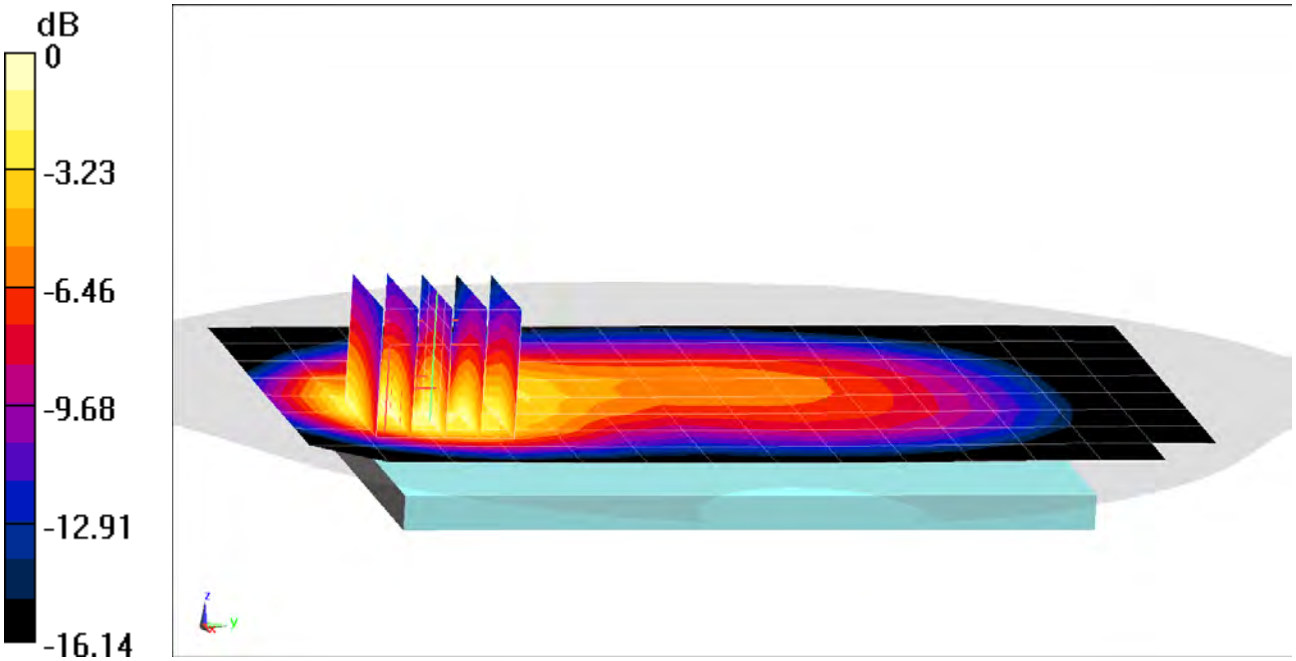
Communication System: UID 0, CDMA; Frequency: 848.31 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
f = 848.31 MHz; σ = 0.97 S/m; ε_r = 54.56; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11/13/2019; Ambient Temp: 22.0°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7357; ConvF(9.95, 9.95, 9.95) @ 848.31 MHz; Calibrated: 4/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/18/2019
Phantom: Twin-SAM V4.0 (30); Type: QD 000 P40 CC; Serial: 1167
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: Cell. EVDO Rev. 0, BC 0, Body SAR, Back side, High.ch

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan 1 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.60 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 1.12 W/kg
SAR(1 g) = 0.639 W/kg



0 dB = 0.929 W/kg = -0.32 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 1026M

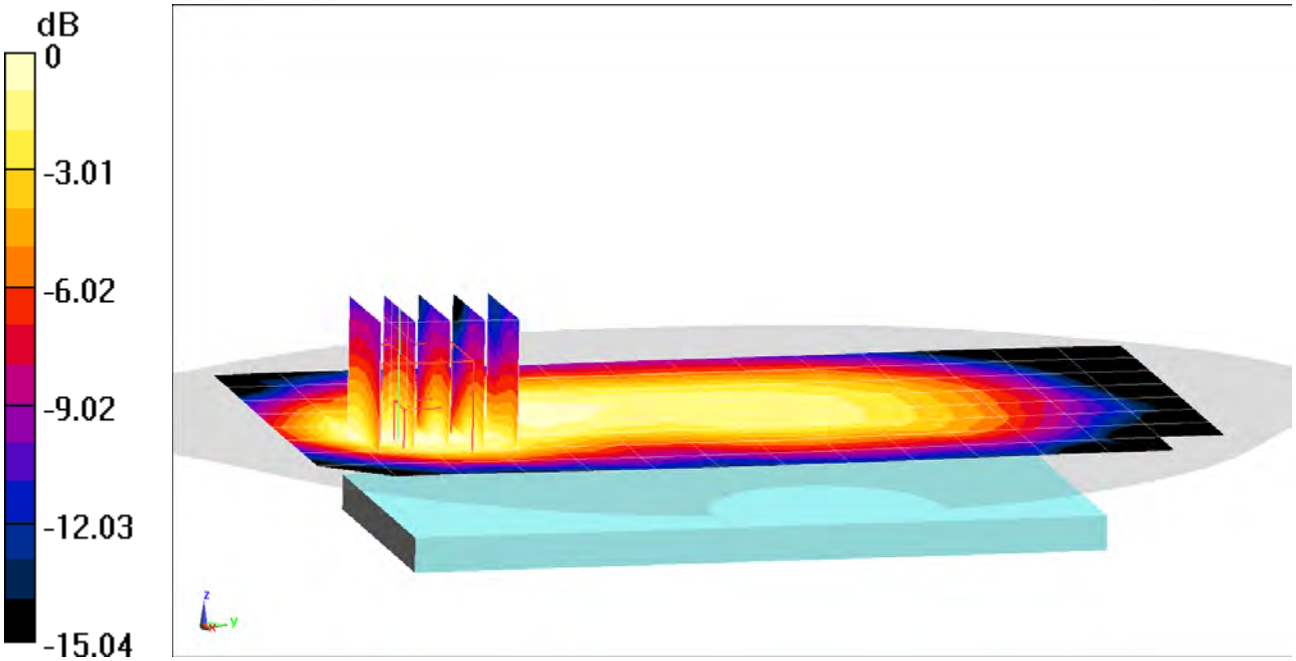
Communication System: UID 0, GSM; Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: 835 Body; Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.958 S/m; ε_r = 54.677; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11/13/2019; Ambient Temp: 22.0°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7357; ConvF(9.95, 9.95, 9.95) @ 836.6 MHz; Calibrated: 4/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/18/2019
Phantom: Twin-SAM V4.0 (30); Type: QD 000 P40 CC; Serial: 1167
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: GSM 850, Body SAR, Back side, Mid.ch

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan 1 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.95 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 0.219 W/kg
SAR(1 g) = 0.131 W/kg



0 dB = 0.182 W/kg = -7.40 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 1026M

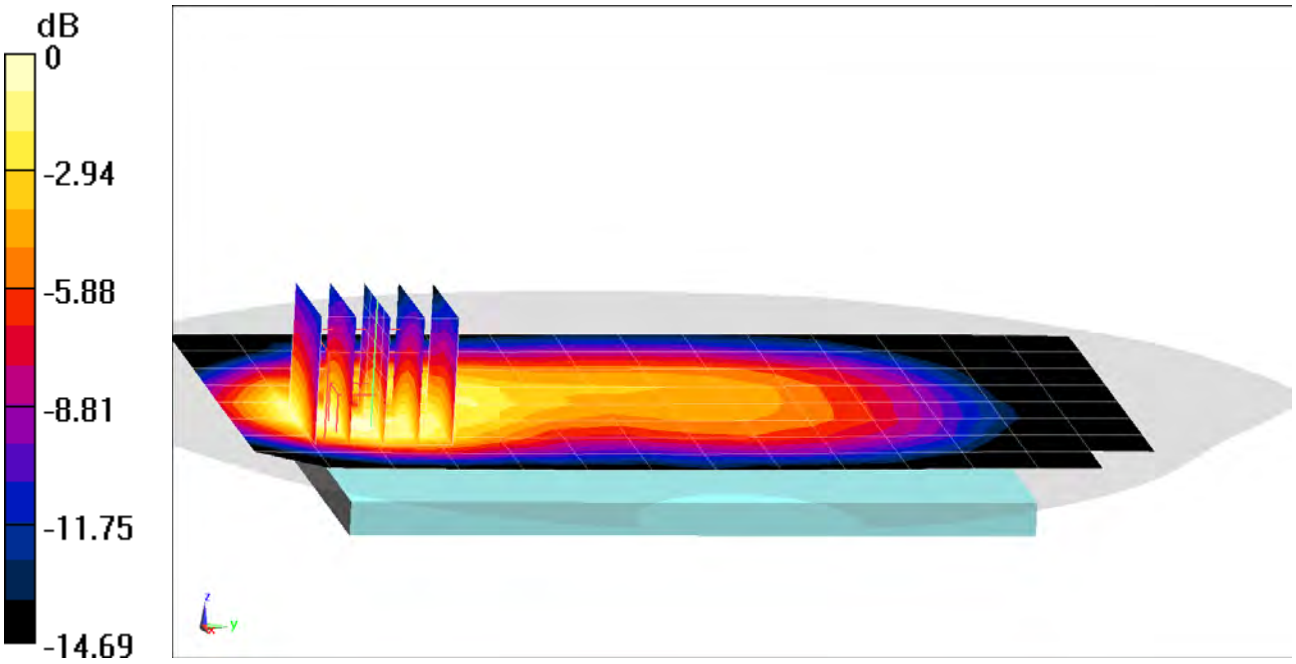
Communication System: UID 0, _GSM GPRS; 3 Tx slots; Frequency: 836.6 MHz; Duty Cycle: 1:2.76
Medium: 835 Body; Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.958 S/m; ε_r = 54.677; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11/13/2019; Ambient Temp: 22.0°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7357; ConvF(9.95, 9.95, 9.95) @ 836.6 MHz; Calibrated: 4/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/18/2019
Phantom: Twin-SAM V4.0 (30); Type: QD 000 P40 CC; Serial: 1167
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: GPRS 850, Body SAR, Back side, Mid.ch, 3 Tx Slots

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan 1 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.41 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.656 W/kg
SAR(1 g) = 0.377 W/kg



0 dB = 0.536 W/kg = -2.71 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0867M

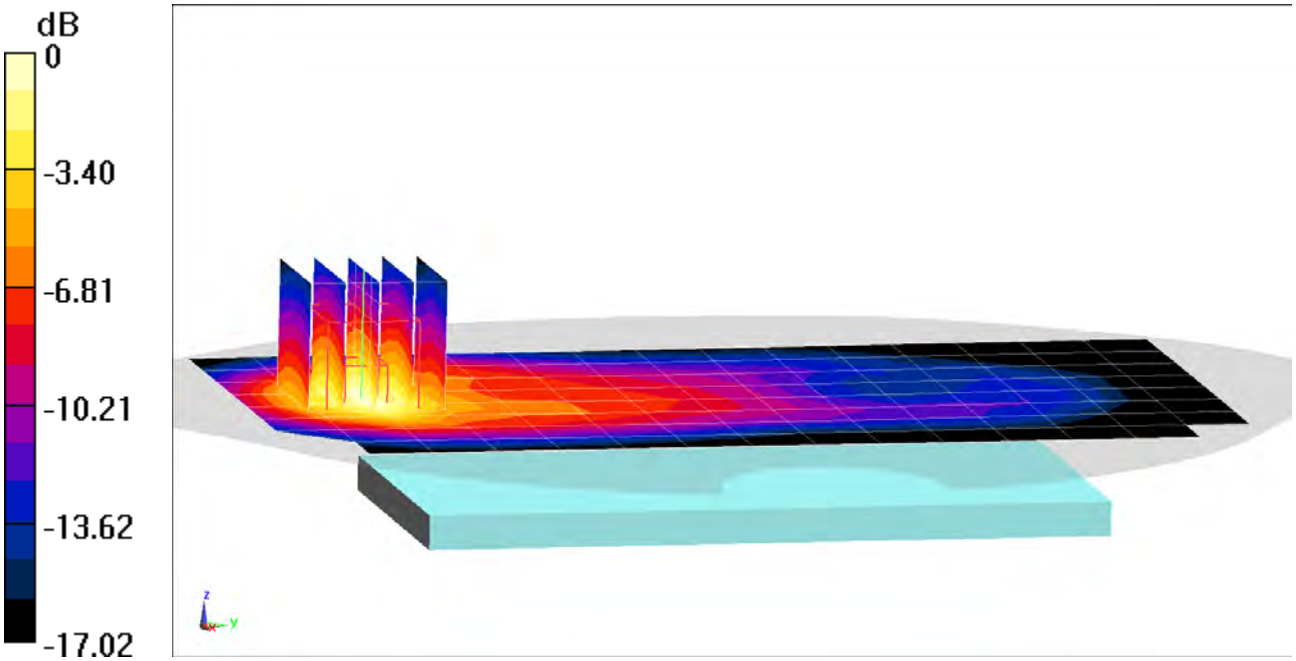
Communication System: UID 0, GSM; Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: 1900 Body; Medium parameters used:
f = 1880 MHz; σ = 1.542 S/m; ε_r = 51.116; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11/18/2019; Ambient Temp: 22.4°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN3914; ConvF(7.6, 7.6, 7.6) @ 1880 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 2/14/2019
Phantom: Twin-SAM V5.0 Front 30; Type: QD 000 P40 CD; Serial: 1646
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: GSM 1900, Body SAR, Back side, Mid.ch

Area Scan (9x16x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.91 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.398 W/kg
SAR(1 g) = 0.232 W/kg



0 dB = 0.338 W/kg = -4.71 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0387M

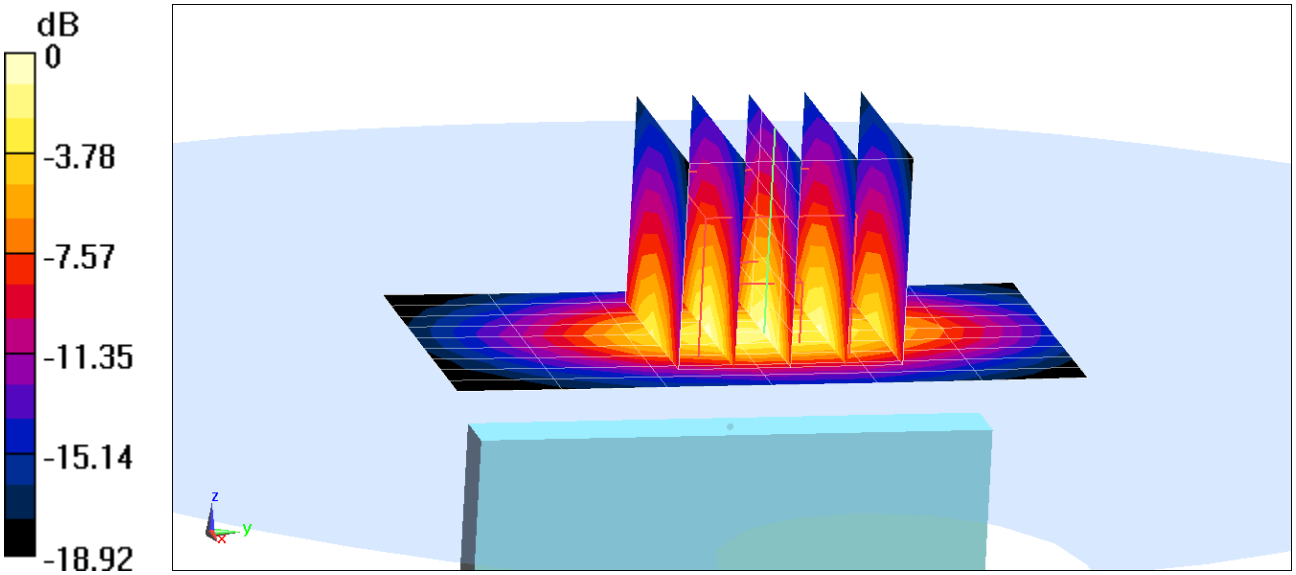
Communication System: UID 0, GSM GPRS; 4 Tx slots; Frequency: 1909.8 MHz; Duty Cycle: 1:2.076
Medium: 1900 Body; Medium parameters used:
f = 1910 MHz; σ = 1.594 S/m; ε_r = 52.078; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/19/2020; Ambient Temp: 22.7°C; Tissue Temp: 24.5°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1909.8 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: GPRS 1900, Body SAR, Bottom Edge, High.ch, 4 Tx Slots

Area Scan (10x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.45 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 1.37 W/kg
SAR(1 g) = 0.776 W/kg



0 dB = 1.17 W/kg = 0.68 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 1026M

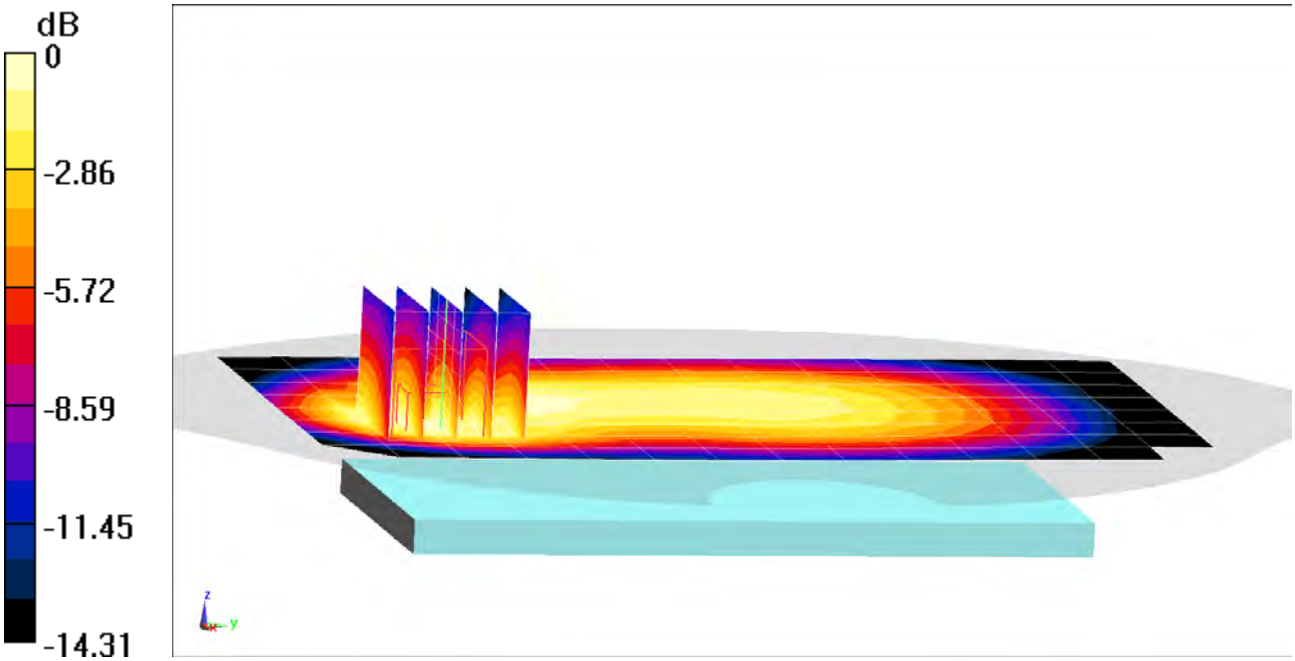
Communication System: UID 0, UMTS; Frequency: 836.6 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.958 S/m; ε_r = 54.677; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11/13/2019; Ambient Temp: 22.0°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7357; ConvF(9.95, 9.95, 9.95) @ 836.6 MHz; Calibrated: 4/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/18/2019
Phantom: Twin-SAM V4.0 (30); Type: QD 000 P40 CC; Serial: 1167
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=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.39 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.306 W/kg
SAR(1 g) = 0.185 W/kg



0 dB = 0.256 W/kg = -5.92 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 1026M

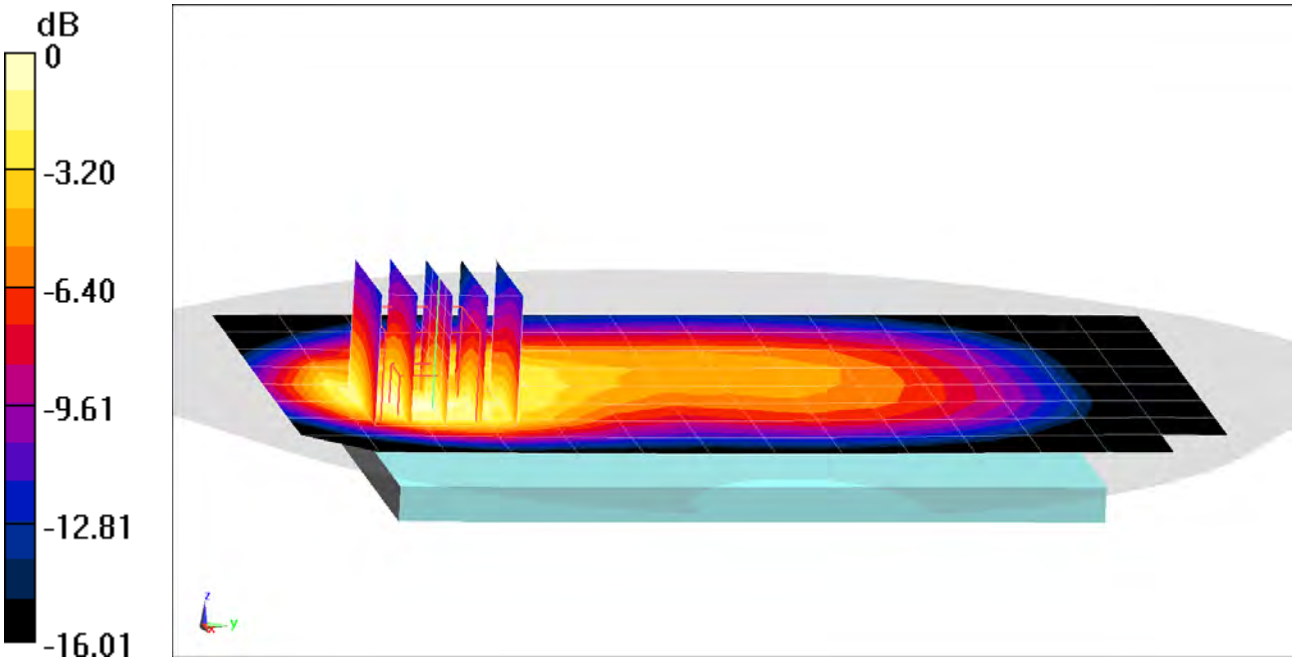
Communication System: UID 0, UMTS; Frequency: 836.6 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.958 S/m; ε_r = 54.677; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11/13/2019; Ambient Temp: 22.0°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7357; ConvF(9.95, 9.95, 9.95) @ 836.6 MHz; Calibrated: 4/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/18/2019
Phantom: Twin-SAM V4.0 (30); Type: QD 000 P40 CC; Serial: 1167
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=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.88 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.826 W/kg
SAR(1 g) = 0.467 W/kg



0 dB = 0.670 W/kg = -1.74 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0867M

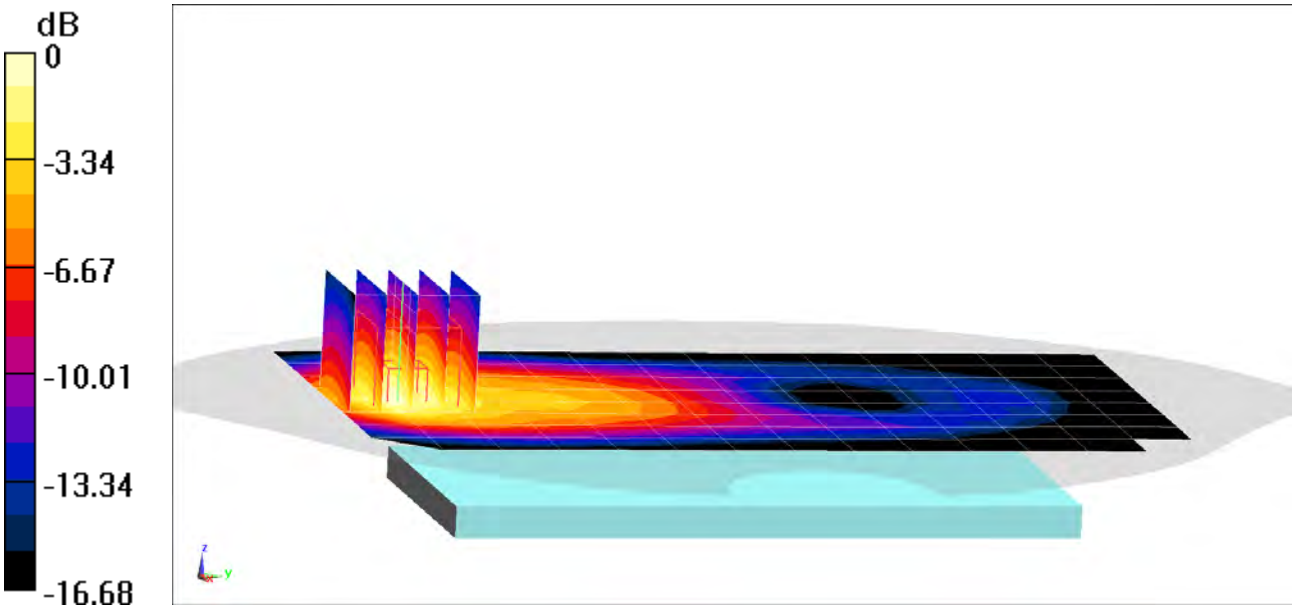
Communication System: UID 0, UMTS; Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used (interpolated):
f = 1752.6 MHz; σ = 1.507 S/m; ε_r = 51.402; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11/11/2019; Ambient Temp: 21.8°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7409; ConvF(7.85, 7.85, 7.85) @ 1752.6 MHz; Calibrated: 6/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 6/20/2019
Phantom: Front; Type: QD 000 P40 CD; Serial: 1686
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: UMTS 1750, Body SAR, Back side, High.ch

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan 1 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.65 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 1.22 W/kg
SAR(1 g) = 0.736 W/kg



0 dB = 1.02 W/kg = 0.09 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0390M

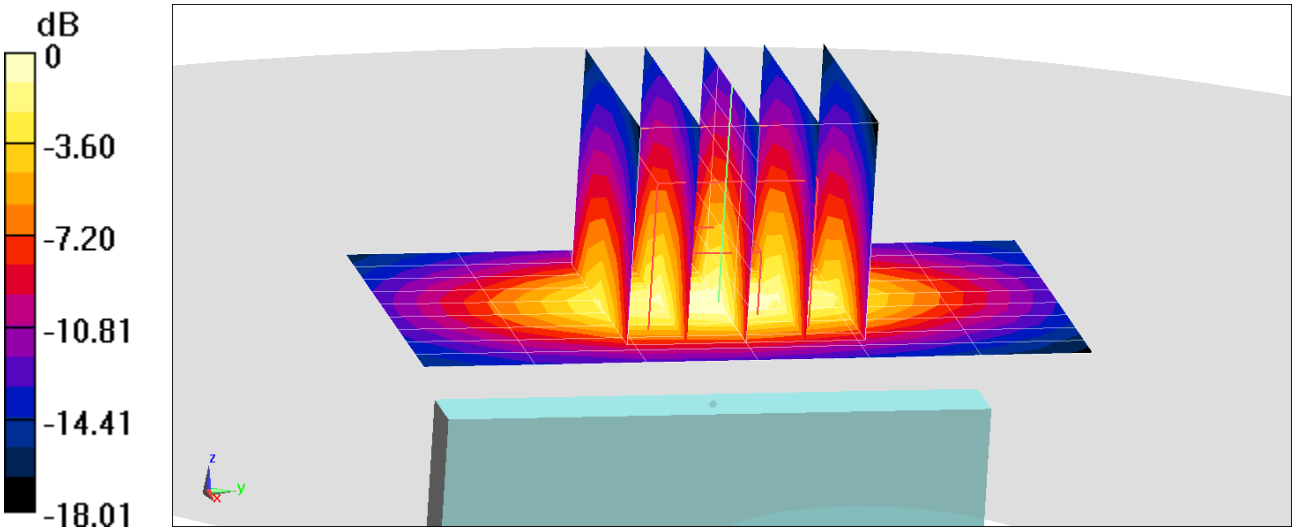
Communication System: UID 0, UMTS; Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used (interpolated):
f = 1732.4 MHz; σ = 1.502 S/m; ε_r = 52.944; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/11/2020; Ambient Temp: 21.4°C; Tissue Temp: 20.6°C

Probe: EX3DV4 - SN7308; ConvF(8.25, 8.25, 8.25) @ 1732.4 MHz; Calibrated: 8/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/14/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: UMTS 1750, Body SAR, Bottom Edge, Mid.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 = 26.35 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 1.66 W/kg
SAR(1 g) = 0.933 W/kg



0 dB = 1.41 W/kg = 1.49 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0867M

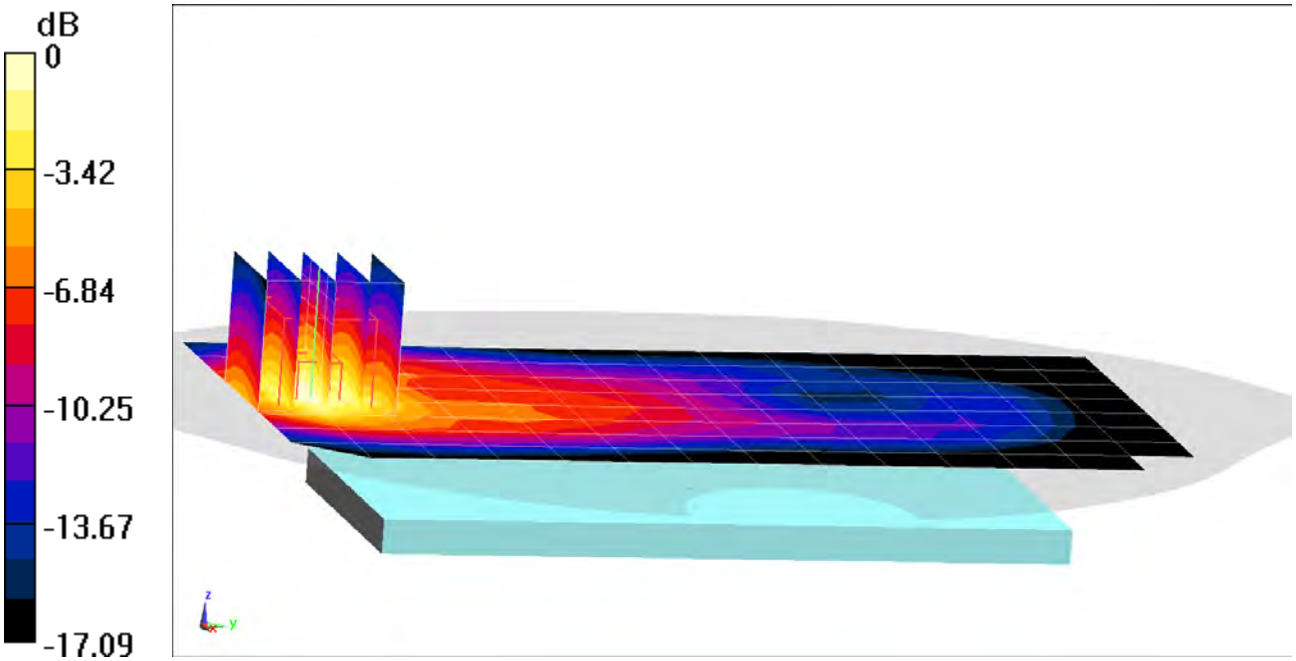
Communication System: UID 0, UMTS; Frequency: 1907.6 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used (interpolated):
f = 1907.6 MHz; σ = 1.573 S/m; ε_r = 51.023; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11/18/2019; Ambient Temp: 22.4°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN3914; ConvF(7.6, 7.6, 7.6) @ 1907.6 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 2/14/2019
Phantom: Twin-SAM V5.0 Front 30; Type: QD 000 P40 CD; Serial: 1646
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 = 21.64 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 1.16 W/kg
SAR(1 g) = 0.678 W/kg



0 dB = 0.981 W/kg = -0.08 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0387M

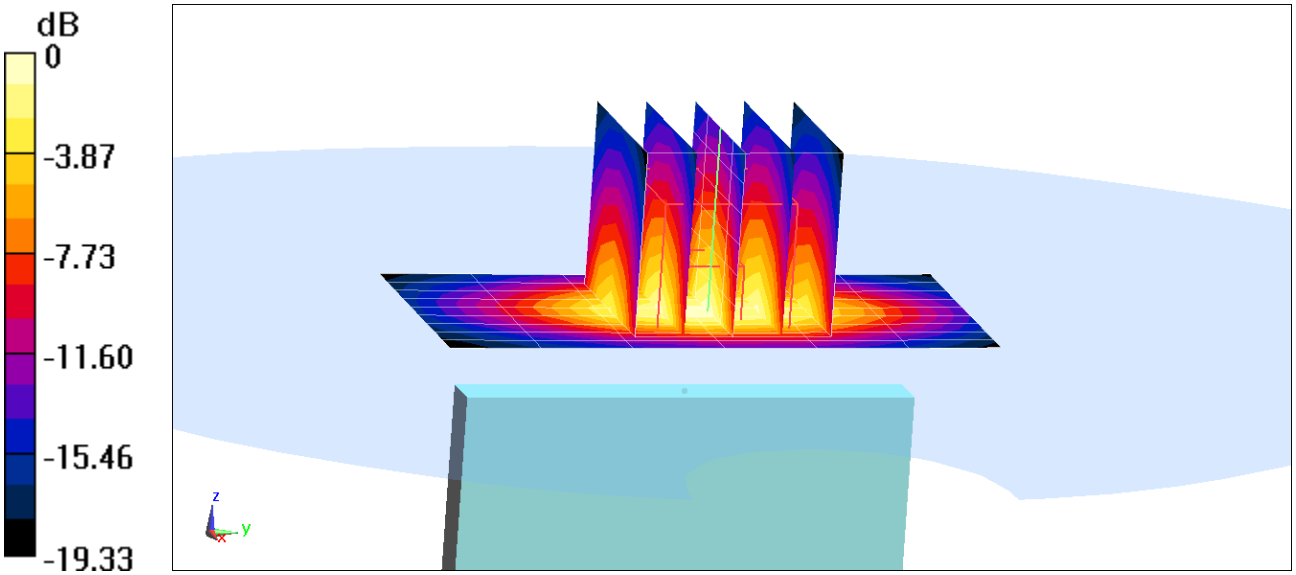
Communication System: UID 0, UMTS; Frequency: 1907.6 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used (interpolated):
f = 1907.6 MHz; σ = 1.592 S/m; ε_r = 52.087; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/19/2020; Ambient Temp: 22.7°C; Tissue Temp: 24.5°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1907.6 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
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 = 24.86 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 1.61 W/kg
SAR(1 g) = 0.871 W/kg



0 dB = 1.35 W/kg = 1.30 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 1007M

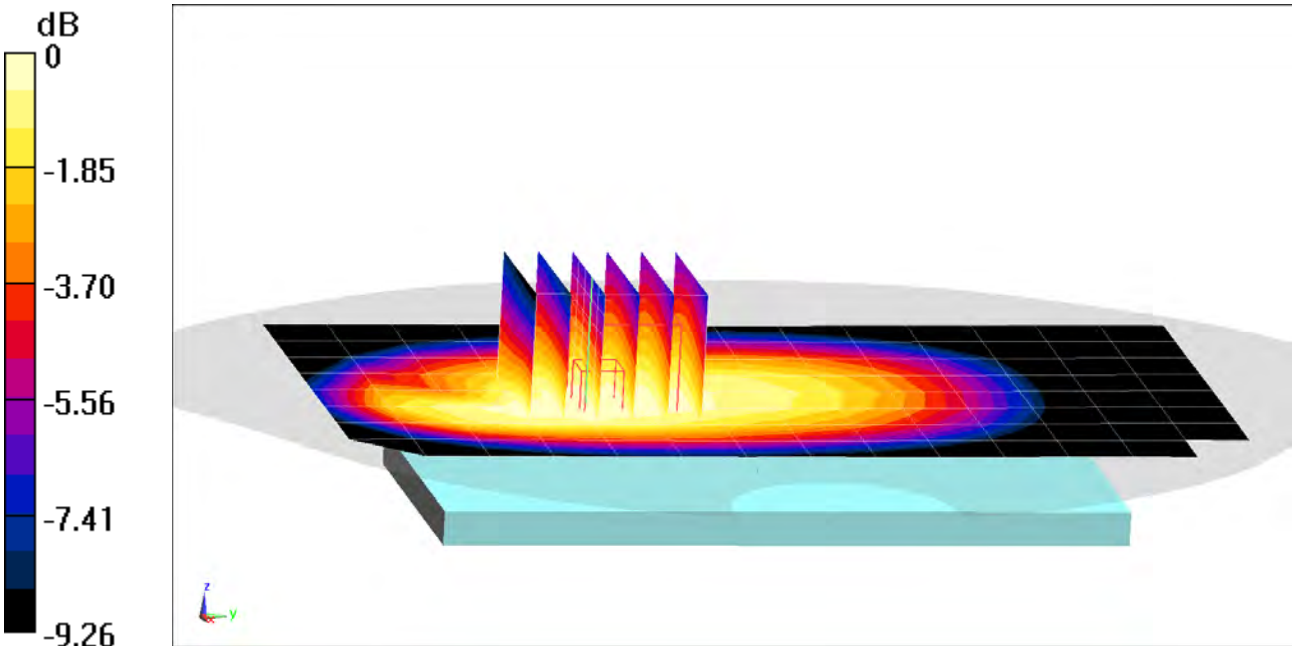
Communication System: UID 0, LTE Band 71; Frequency: 680.5 MHz; Duty Cycle: 1:1
Medium: 700 Body; Medium parameters used (interpolated):
f = 680.5 MHz; σ = 0.929 S/m; ε_r = 57.779; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11/12/2019; Ambient Temp: 22.6°C; Tissue Temp: 24.4°C

Probe: EX3DV4 - SN7410; ConvF(10.01, 10.01, 10.01) @ 680.5 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: LTE Band 71, Body SAR, Back side, Mid.ch
20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.62 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.214 W/kg
SAR(1 g) = 0.163 W/kg



0 dB = 0.194 W/kg = -7.12 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 1007M

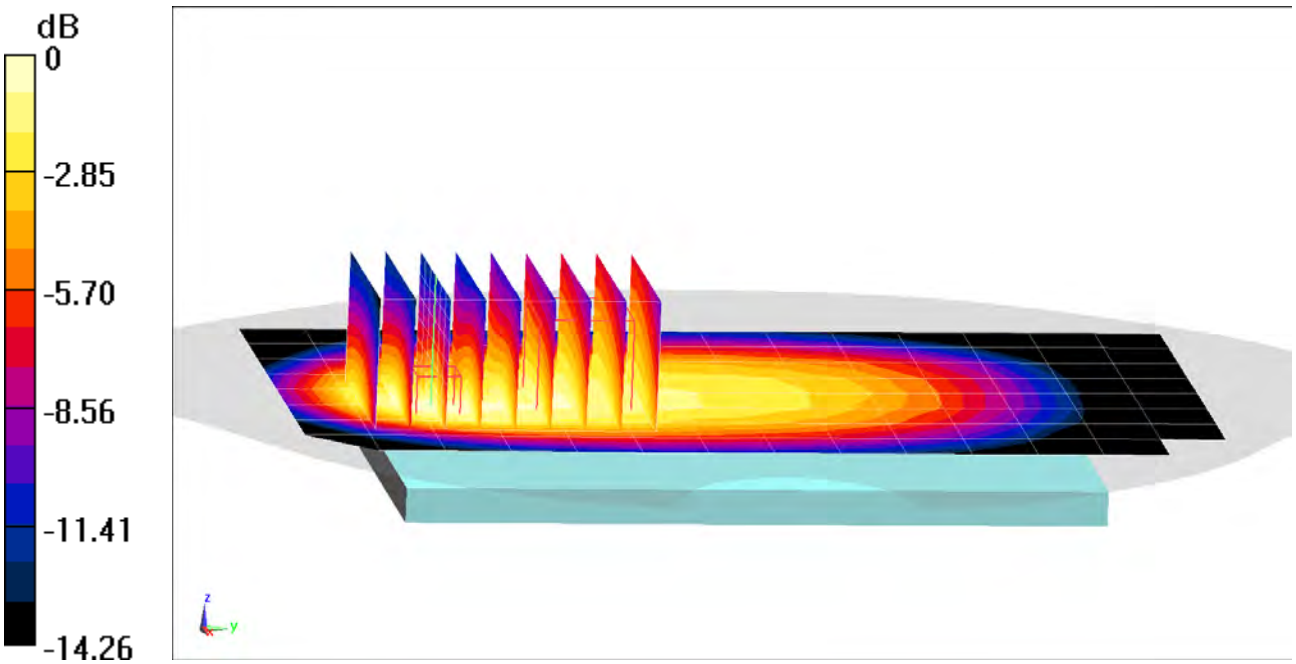
Communication System: UID 0, LTE Band 71; Frequency: 680.5 MHz; Duty Cycle: 1:1
Medium: 700 Body; Medium parameters used (interpolated):
f = 680.5 MHz; σ = 0.929 S/m; ε_r = 57.779; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11/12/2019; Ambient Temp: 22.6°C; Tissue Temp: 24.4°C

Probe: EX3DV4 - SN7410; ConvF(10.01, 10.01, 10.01) @ 680.5 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: LTE Band 71, Body SAR, Back side, Mid.ch
20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (7x9x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.82 V/m; Power Drift = -0.20 dB
Peak SAR (extrapolated) = 0.365 W/kg
SAR(1 g) = 0.216 W/kg



DUT: A3LSMG986W; Type: Portable Handset; Serial: 1007M

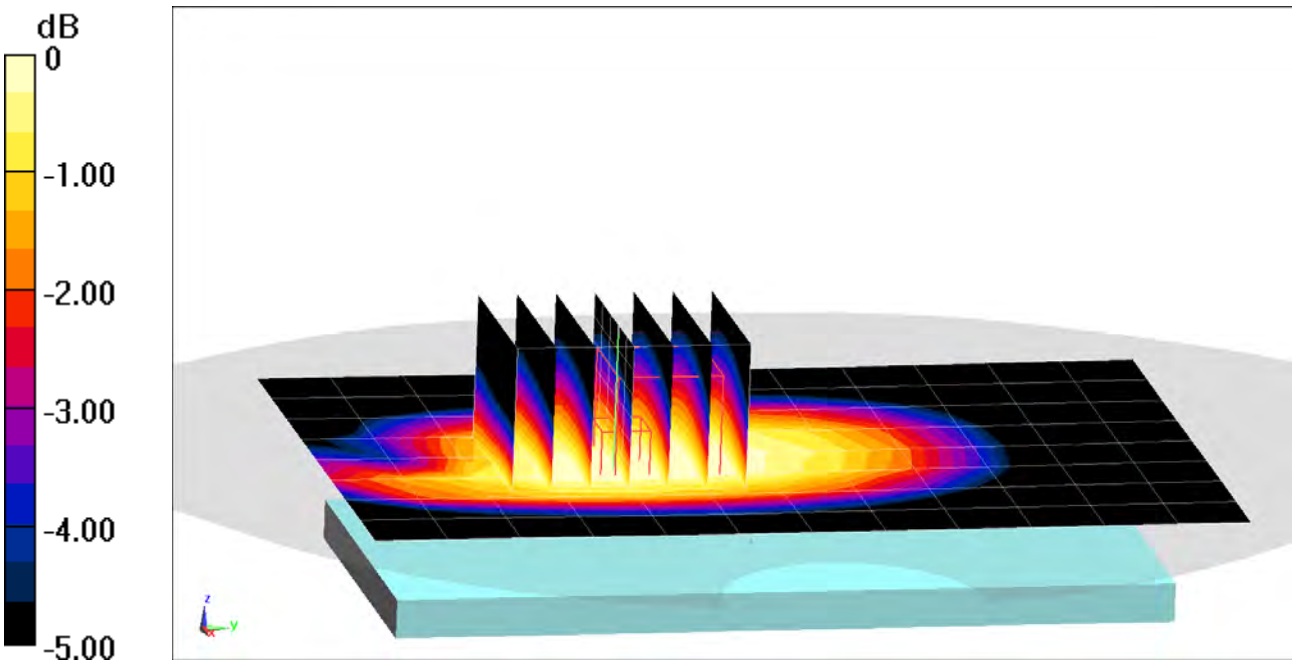
Communication System: UID 0, LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: 700 Body; Medium parameters used (interpolated):
f = 707.5 MHz; σ = 0.952 S/m; ε_r = 57.548; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11/12/2019; Ambient Temp: 22.6°C; Tissue Temp: 24.4°C

Probe: EX3DV4 - SN7410; ConvF(10.01, 10.01, 10.01) @ 707.5 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: LTE Band 12, Body SAR, Back side, Mid.ch
10 MHz Bandwidth, QPSK, 1 RB, 49 RB Offset

Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.28 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.270 W/kg
SAR(1 g) = 0.216 W/kg



0 dB = 0.253 W/kg = -5.97 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 1007M

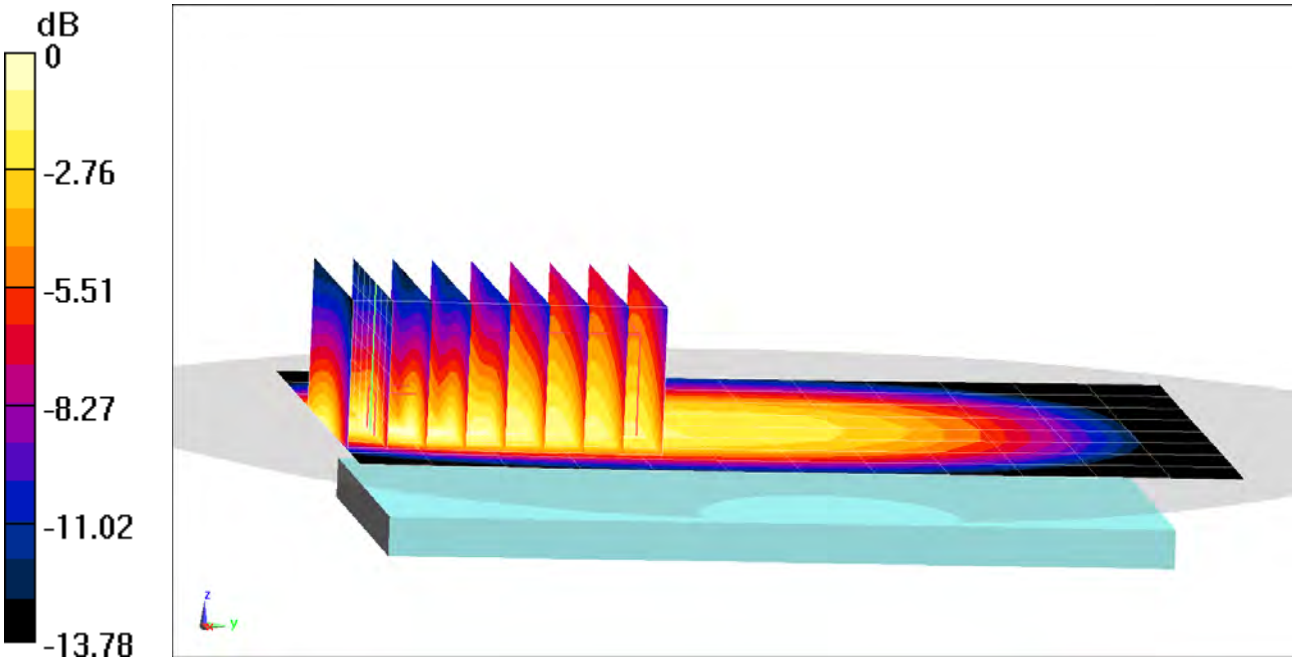
Communication System: UID 0, LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: 700 Body; Medium parameters used (interpolated):
f = 707.5 MHz; σ = 0.952 S/m; ε_r = 57.548; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11/12/2019; Ambient Temp: 22.6°C; Tissue Temp: 24.4°C

Probe: EX3DV4 - SN7410; ConvF(10.01, 10.01, 10.01) @ 707.5 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: LTE Band 12, Body SAR, Back side, Mid.ch
10 MHz Bandwidth, QPSK, 1 RB, 49 RB Offset

Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (8x9x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.65 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.484 W/kg
SAR(1 g) = 0.279 W/kg



0 dB = 0.401 W/kg = -3.97 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 1007M

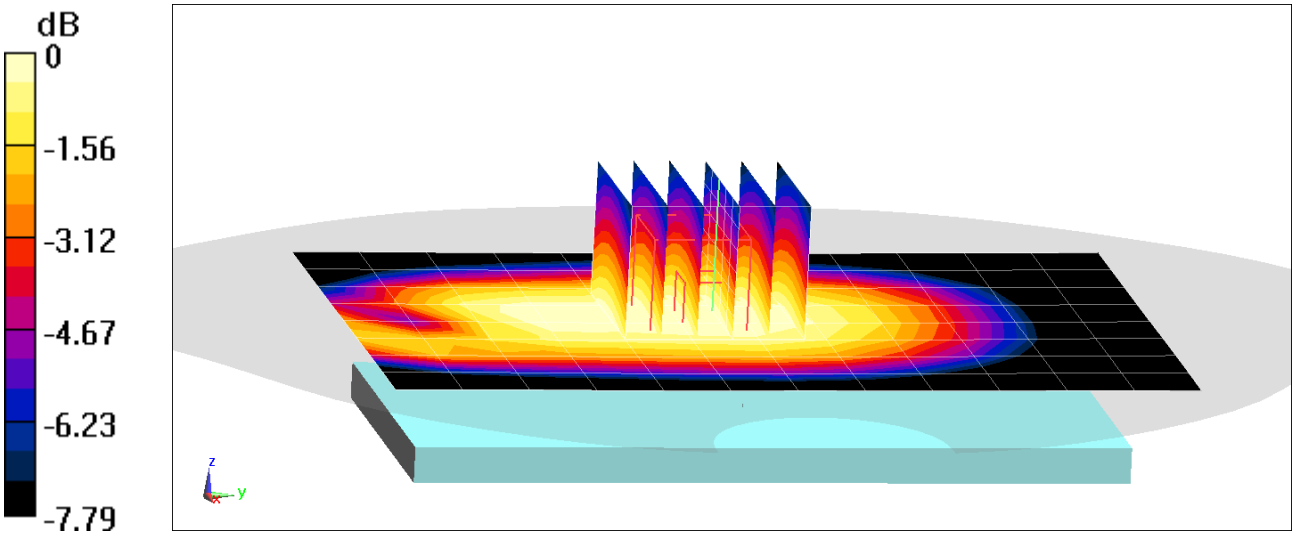
Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1
Medium: 700 Body; Medium parameters used (interpolated):
f = 782 MHz; σ = 1.004 S/m; ε_r = 56.355; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11/14/2019; Ambient Temp: 22.8°C; Tissue Temp: 23.6°C

Probe: EX3DV4 - SN7410; ConvF(10.01, 10.01, 10.01) @ 782 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: LTE Band 13, Body SAR, Back side, Mid.ch
10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.35 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.323 W/kg
SAR(1 g) = 0.256 W/kg



0 dB = 0.302 W/kg = -5.20 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 1007M

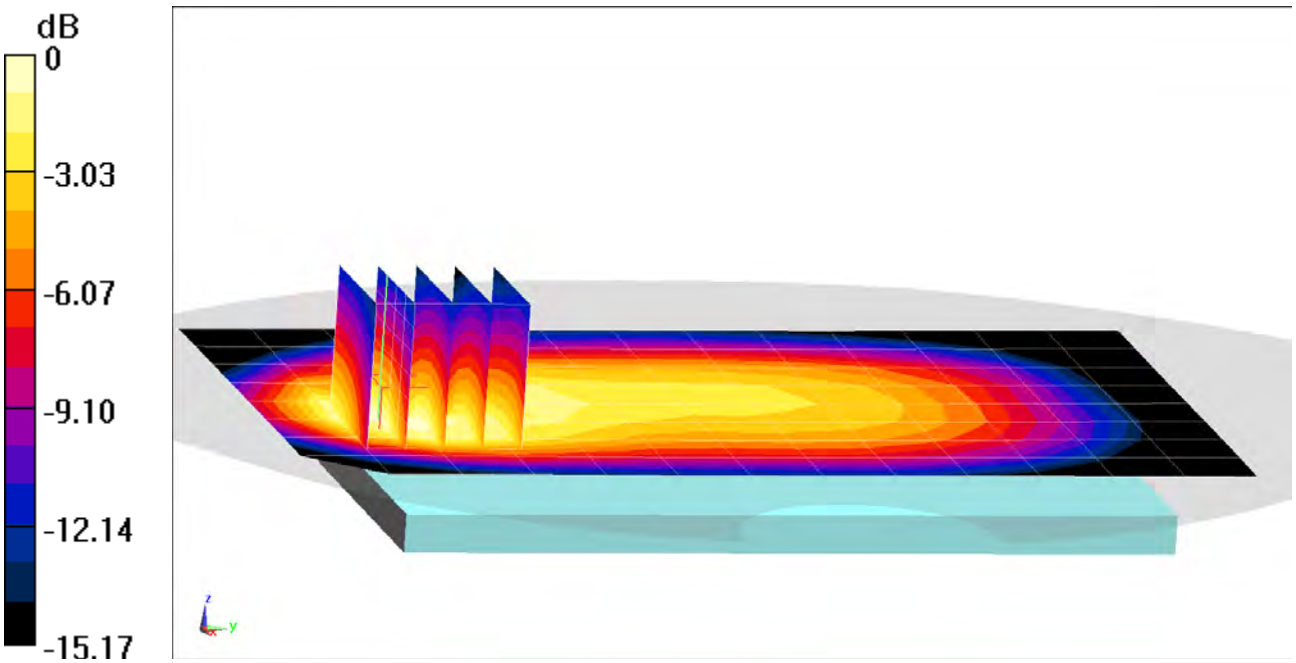
Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1
Medium: 700 Body; Medium parameters used (interpolated):
f = 782 MHz; σ = 1.004 S/m; ε_r = 56.355; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11/14/2019; Ambient Temp: 22.8°C; Tissue Temp: 23.6°C

Probe: EX3DV4 - SN7410; ConvF(10.01, 10.01, 10.01) @ 782 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: LTE Band 13, Body SAR, Back side, Mid.ch
10 MHz Bandwidth, QPSK, 1 RB, 0 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 = 17.19 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 0.559 W/kg
SAR(1 g) = 0.324 W/kg



0 dB = 0.468 W/kg = -3.30 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 1001M

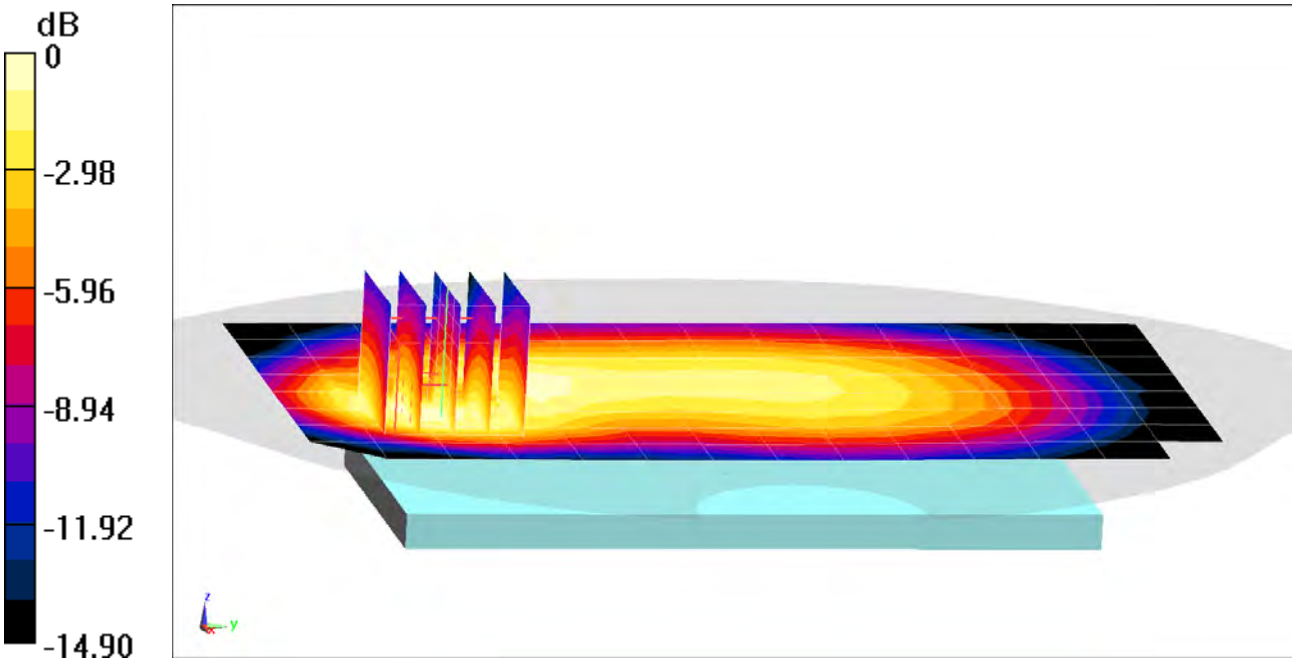
Communication System: UID 0, LTE Band 5; Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
f = 836.5 MHz; σ = 0.958 S/m; ε_r = 54.678; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11/13/2019; Ambient Temp: 22.0°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7357; ConvF(9.95, 9.95, 9.95) @ 836.5 MHz; Calibrated: 4/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/18/2019
Phantom: Twin-SAM V4.0 (30); Type: QD 000 P40 CC; Serial: 1167
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 5 (Cell.), Body SAR, Back side, Mid.ch
10 MHz Bandwidth, QPSK, 1 RB, 0 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 = 15.30 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.344 W/kg
SAR(1 g) = 0.210 W/kg



0 dB = 0.293 W/kg = -5.33 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 1001M

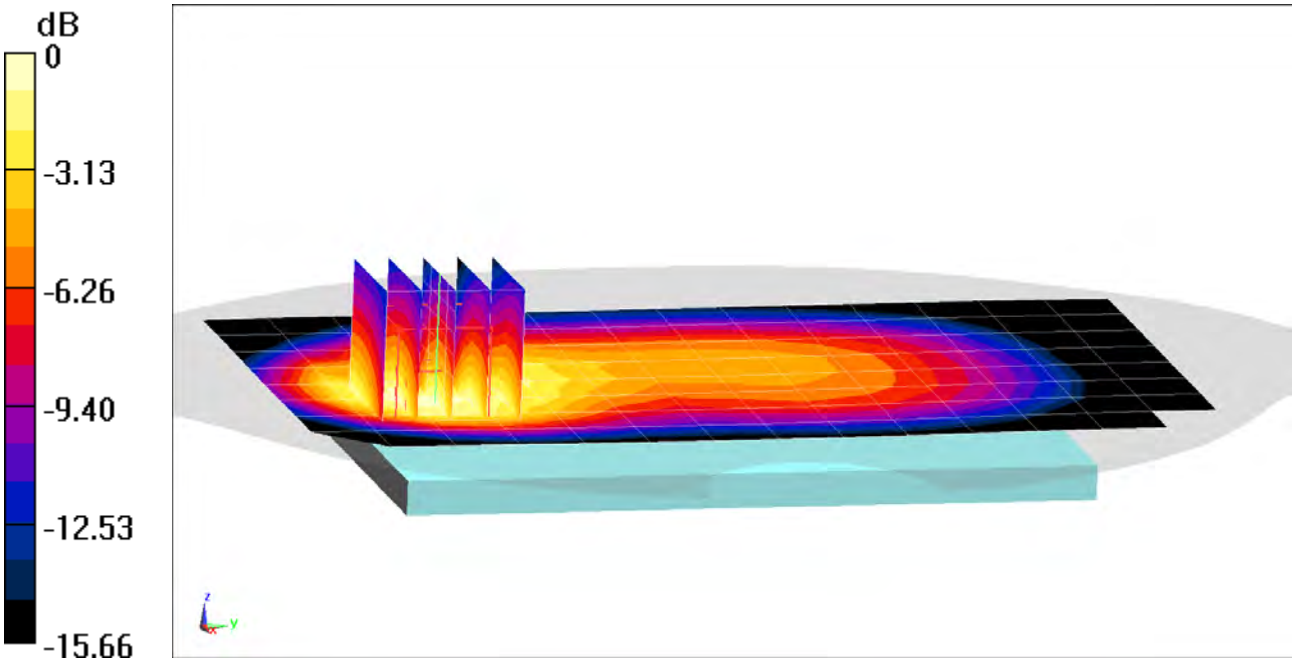
Communication System: UID 0, LTE Band 5; Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
f = 836.5 MHz; σ = 0.958 S/m; ε_r = 54.678; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11/13/2019; Ambient Temp: 22.0°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7357; ConvF(9.95, 9.95, 9.95) @ 836.5 MHz; Calibrated: 4/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/18/2019
Phantom: Twin-SAM V4.0 (30); Type: QD 000 P40 CC; Serial: 1167
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 5 (Cell.), Body SAR, Back side, Mid.ch
10 MHz Bandwidth, QPSK, 1 RB, 0 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 = 23.57 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.860 W/kg
SAR(1 g) = 0.491 W/kg



0 dB = 0.708 W/kg = -1.50 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0390M

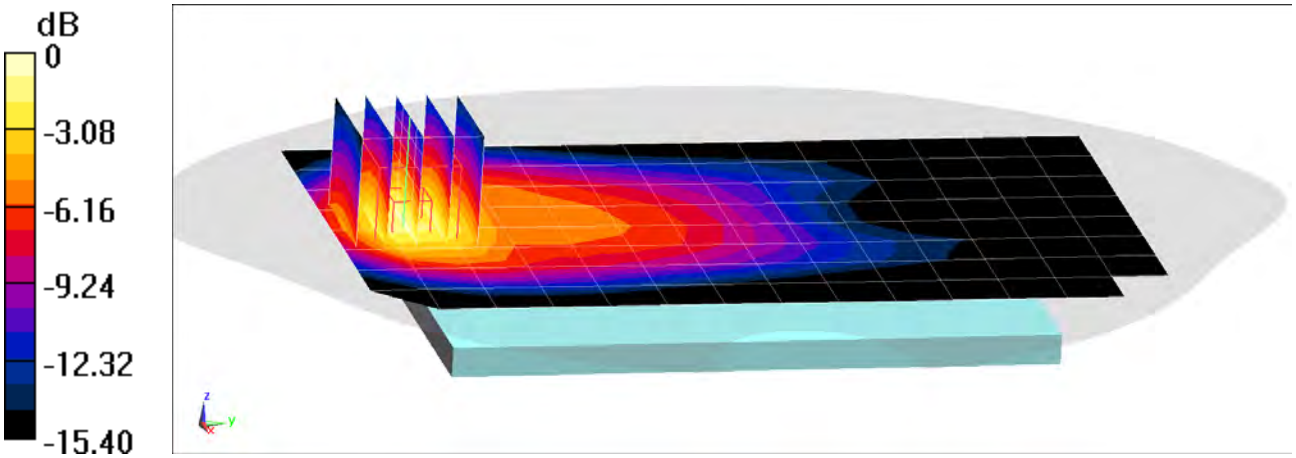
Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1745 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used:
f = 1745 MHz; σ = 1.534 S/m; ε_r = 53.023; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/03/2020; Ambient Temp: 21.4°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN7357; ConvF(8.26, 8.26, 8.26) @ 1745 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: LTE Band 66 (AWS), Body SAR, Back side
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 = 25.84 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 1.61 W/kg
SAR(1 g) = 0.989 W/kg



0 dB = 1.39 W/kg = 1.43 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0390M

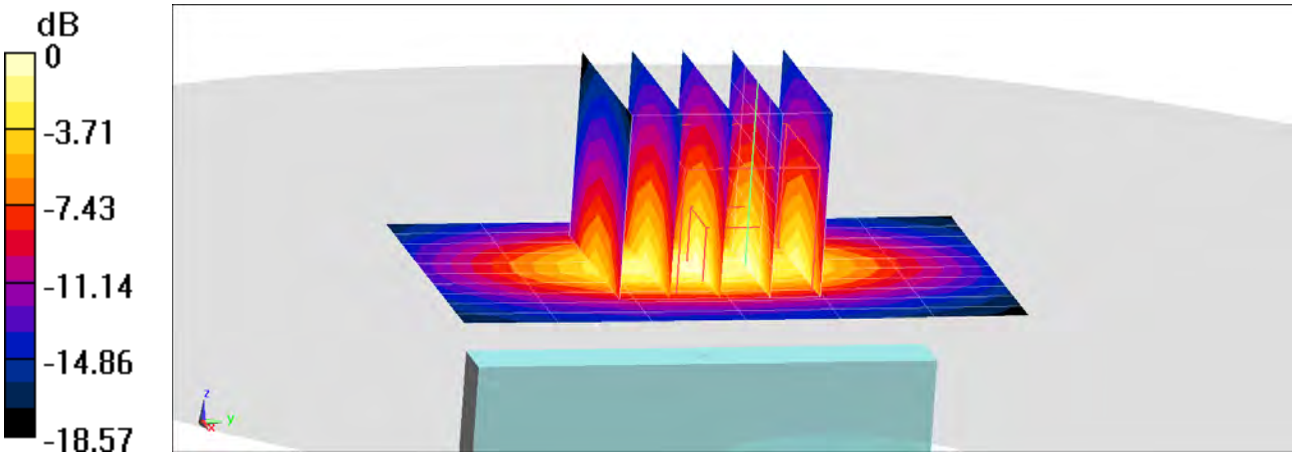
Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1770 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used:
f = 1770 MHz; σ = 1.479 S/m; ε_r = 53.579; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/13/2020; Ambient Temp: 21.2°C; Tissue Temp: 20.8°C

Probe: EX3DV4 - SN7357; ConvF(8.26, 8.26, 8.26) @ 1770 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: LTE Band 66 (AWS), Body SAR, Bottom Edge, High.ch
20 MHz Bandwidth, QPSK, 50 RB, 50 RB Offset

Area Scan (11x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.29 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 2.01 W/kg
SAR(1 g) = 1.13 W/kg



0 dB = 1.63 W/kg = 2.12 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0896M

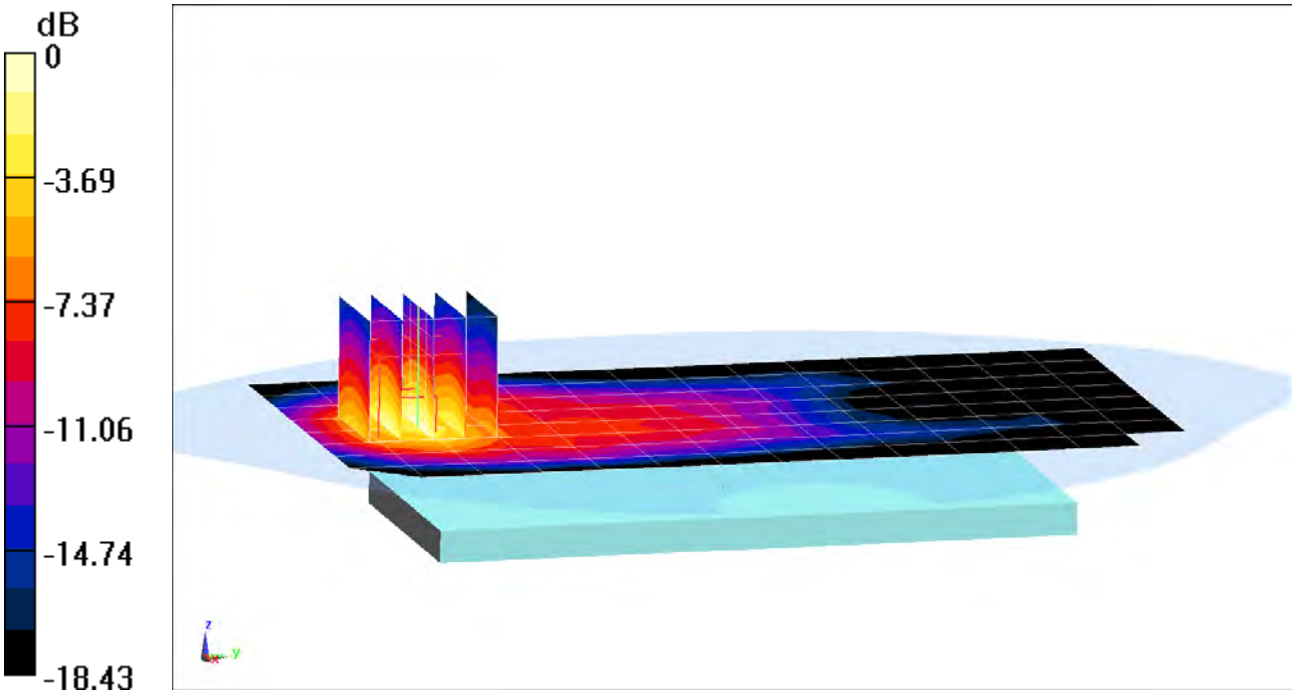
Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1905 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used:
f = 1905 MHz; σ = 1.585 S/m; ε_r = 51.853; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11/23/2019; Ambient Temp: 20.3°C; Tissue Temp: 24.3°C

Probe: EX3DV4 - SN7488; ConvF(8.37, 8.37, 8.37) @ 1905 MHz; Calibrated: 1/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/15/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 25 (PCS), Body SAR, Back side, High.ch
20 MHz Bandwidth, QPSK, 1 RB, 0 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 = 21.34 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 1.13 W/kg
SAR(1 g) = 0.658 W/kg



0 dB = 0.948 W/kg = -0.23 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0387M

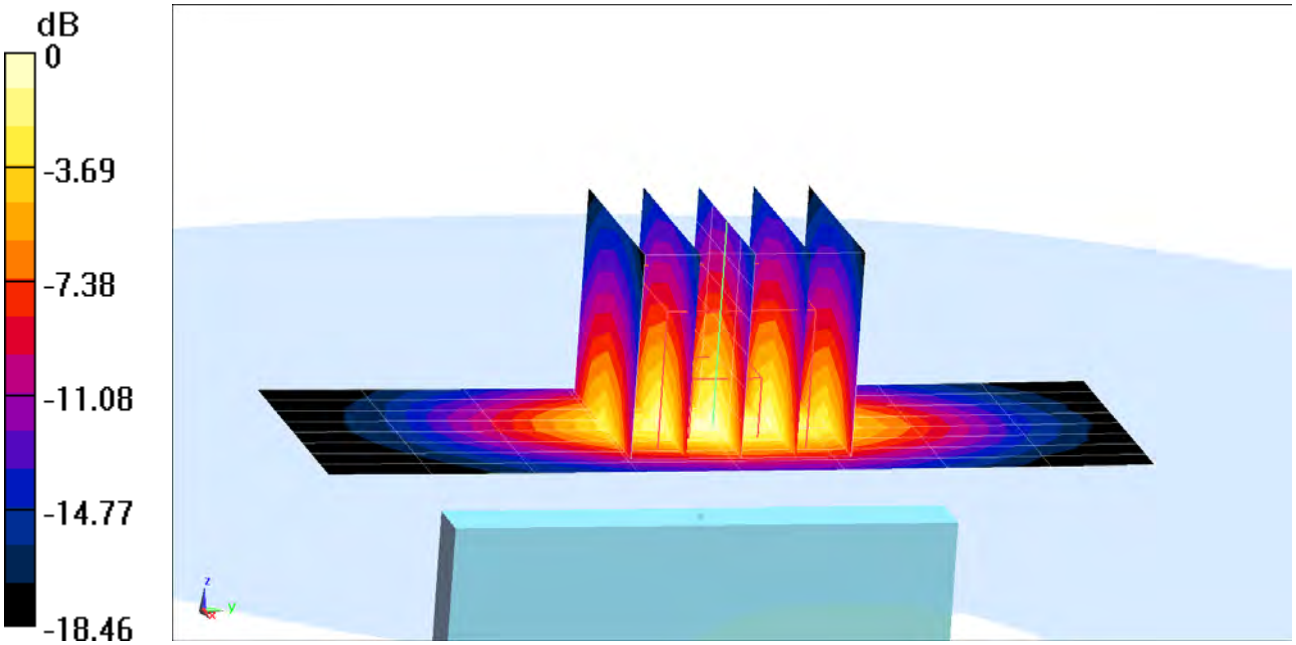
Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1882.5 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used (interpolated):
f = 1882.5 MHz; σ = 1.541 S/m; ε_r = 52.062; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/12/2020; Ambient Temp: 24.1°C; Tissue Temp: 23.5°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1882.5 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 25 (PCS), Body SAR, Bottom Edge, Mid.ch
20 MHz Bandwidth, QPSK, 50 RB, 50 RB Offset

Area Scan (9x9x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.16 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 1.63 W/kg
SAR(1 g) = 0.925 W/kg



0 dB = 1.40 W/kg = 1.46 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0317M

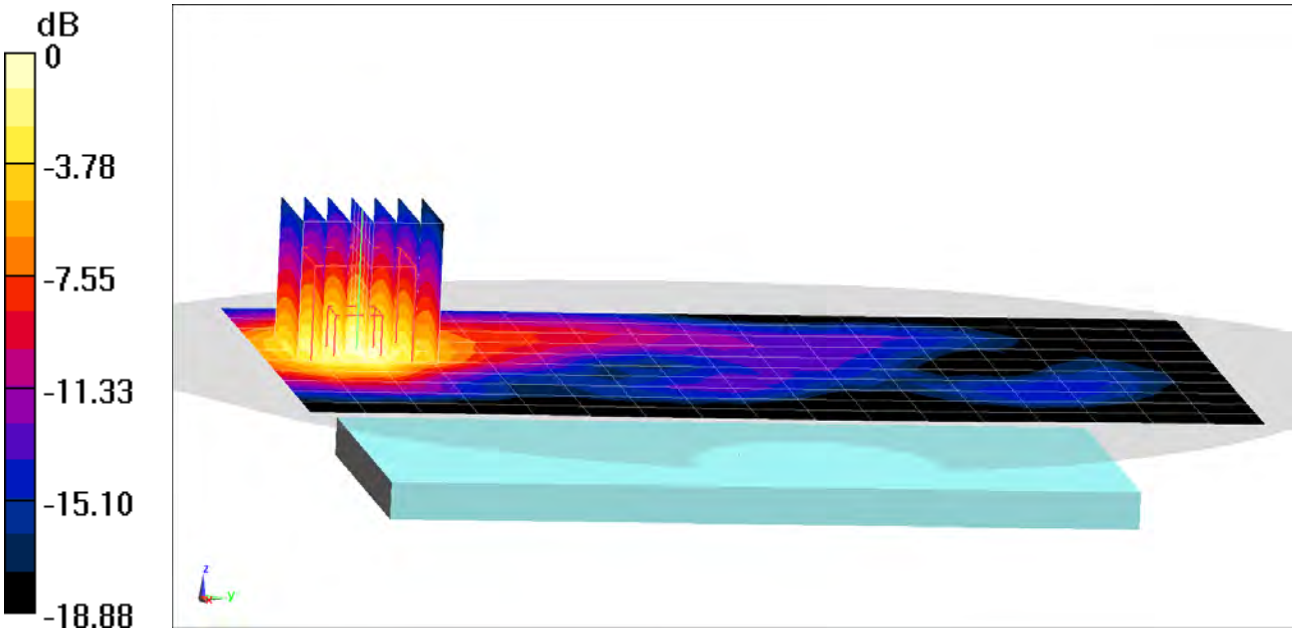
Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2310 MHz; σ = 1.884 S/m; ε_r = 51.378; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/02/2020; Ambient Temp: 23.1°C; Tissue Temp: 23.0°C

Probe: EX3DV4 - SN7547; ConvF(7.47, 7.47, 7.47) @ 2310 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 30, Body SAR, Back side, Mid.ch
10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.60 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.820 W/kg
SAR(1 g) = 0.468 W/kg



0 dB = 0.693 W/kg = -1.59 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0317M

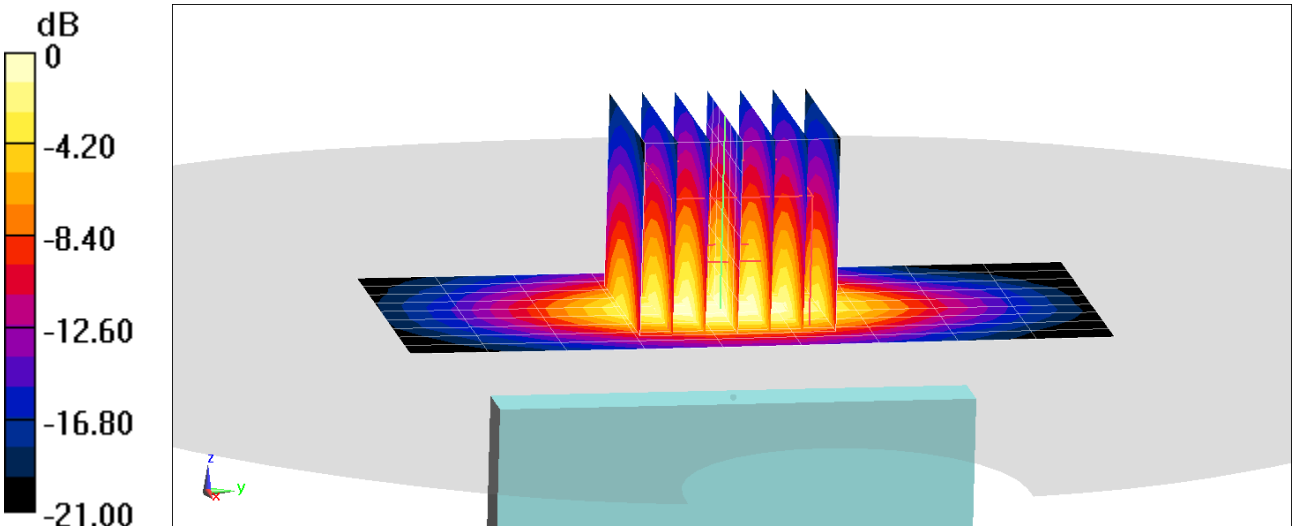
Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2310 MHz; σ = 1.899 S/m; ε_r = 52.58; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/06/2020; Ambient Temp: 20.6°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN7410; ConvF(7.68, 7.68, 7.68) @ 2310 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: LTE Band 30, Body SAR, Bottom Edge, Mid.ch
10 MHz Bandwidth, QPSK, 25 RB, 12 RB Offset

Area Scan (10x10x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.99 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 1.76 W/kg
SAR(1 g) = 0.935 W/kg



0 dB = 1.48 W/kg = 1.70 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0888M

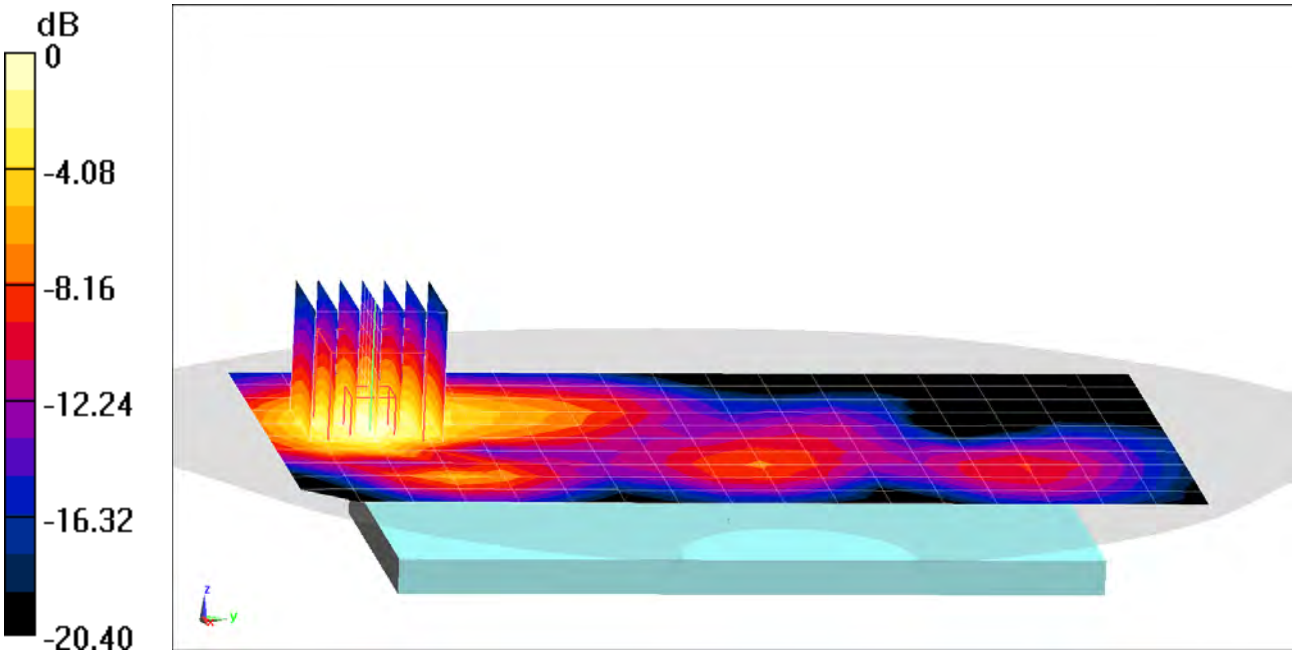
Communication System: UID 0, LTE Band 7; Frequency: 2560 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2560 MHz; σ = 2.105 S/m; ε_r = 52.247; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11/18/2019; Ambient Temp: 23.0°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7410; ConvF(7.43, 7.43, 7.43) @ 2560 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: LTE Band 7, Body SAR, Back side, High.ch
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.14 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.709 W/kg
SAR(1 g) = 0.381 W/kg



0 dB = 0.584 W/kg = -2.34 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0332M

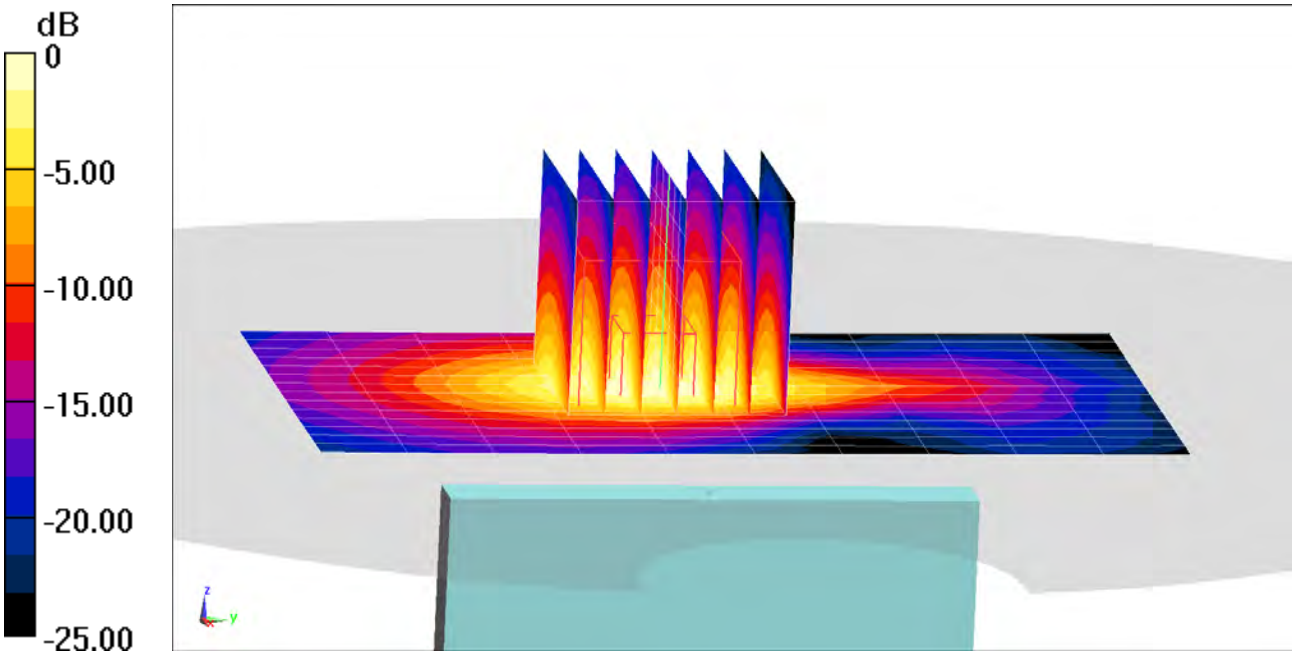
Communication System: UID 0, LTE Band 7; Frequency: 2560 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2560 MHz; σ = 2.2 S/m; ε_r = 51.069; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/27/2020; Ambient Temp: 20.5°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7410; ConvF(7.43, 7.43, 7.43) @ 2560 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: LTE Band 7, Body SAR, Bottom Edge, High.ch
20 MHz Bandwidth, QPSK, 50 RB, 0 RB Offset

Area Scan (15x11x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.91 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 1.51 W/kg
SAR(1 g) = 0.710 W/kg



0 dB = 1.18 W/kg = 0.72 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0317M

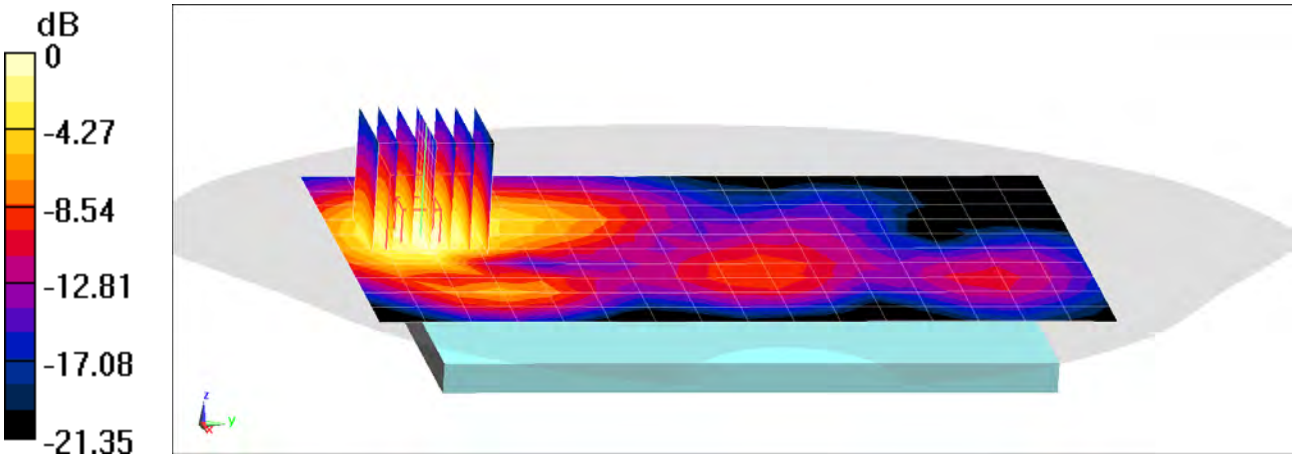
Communication System: UID 0, LTE Band 41 (Class 3); Frequency: 2506 MHz; Duty Cycle: 1:1.58
Medium: 2450 Body; Medium parameters used (interpolated):
f = 2506 MHz; σ = 2.068 S/m; ε_r = 51.432; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/09/2020; Ambient Temp: 21.8°C; Tissue Temp: 20.2°C

Probe: EX3DV4 - SN7410; ConvF(7.44, 7.44, 7.44) @ 2506 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: LTE Band 41, Body SAR, Back side, Low.ch
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (11x17x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.07 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.588 W/kg
SAR(1 g) = 0.317 W/kg



0 dB = 0.487 W/kg = -3.12 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0317M

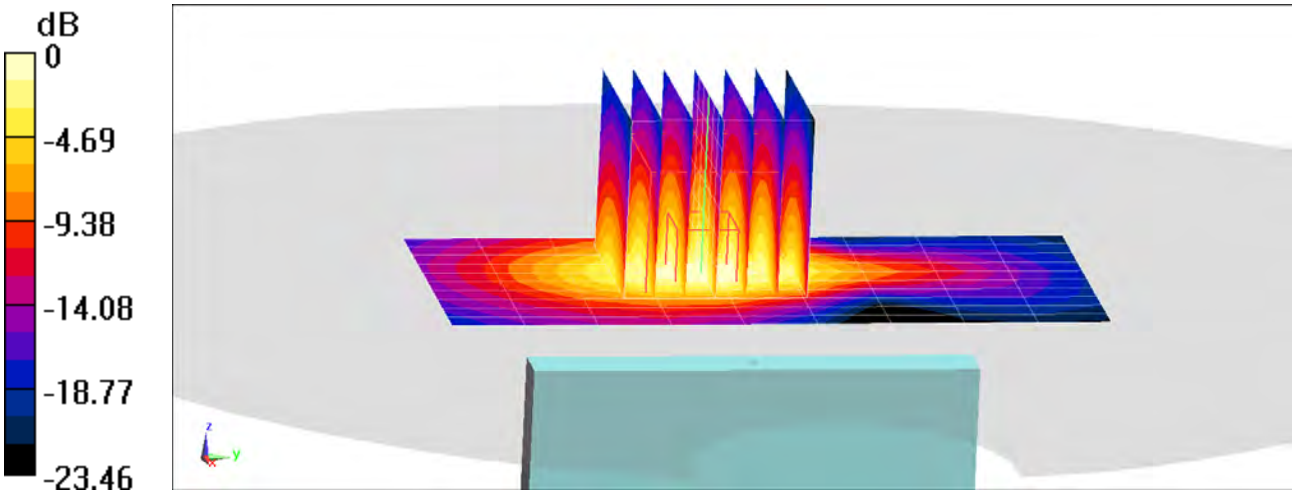
Communication System: UID 0, LTE Band 41 (Class 3); Frequency: 2506 MHz; Duty Cycle: 1:1.58
Medium: 2450 Body; Medium parameters used (interpolated):
f = 2506 MHz; σ = 2.068 S/m; ε_r = 51.432; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/09/2020; Ambient Temp: 21.8°C; Tissue Temp: 20.2°C

Probe: EX3DV4 - SN7410; ConvF(7.44, 7.44, 7.44) @ 2506 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: LTE Band 41, Body SAR, Bottom Edge, Low.ch
20 MHz Bandwidth, QPSK, 50 RB, 25 RB Offset

Area Scan (11x10x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.66 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 1.39 W/kg
SAR(1 g) = 0.693 W/kg



0 dB = 1.14 W/kg = 0.57 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 1031M

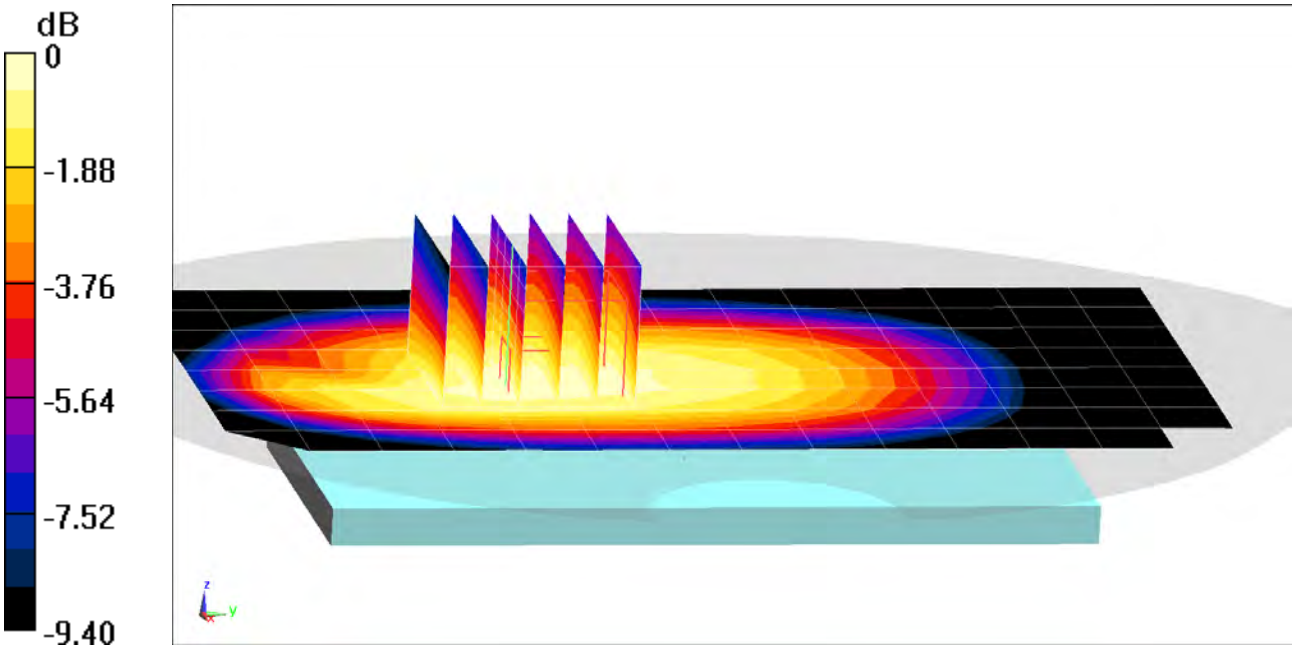
Communication System: UID 0, NR Band n71; Frequency: 680.5 MHz; Duty Cycle: 1:1
Medium: 700 Body; Medium parameters used (interpolated):
f = 680.5 MHz; σ = 0.92 S/m; ε_r = 55.173; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11/20/2019; Ambient Temp: 23.0°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7410; ConvF(10.01, 10.01, 10.01) @ 680.5 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: NR Band n71, Body SAR, Back Side, 20 MHz Bandwidth, DFT-s-OFDM QPSK, Ch. 136100, 50 RB, 28 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.96 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.192 W/kg
SAR(1 g) = 0.148 W/kg



0 dB = 0.178 W/kg = -7.50 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 1031M

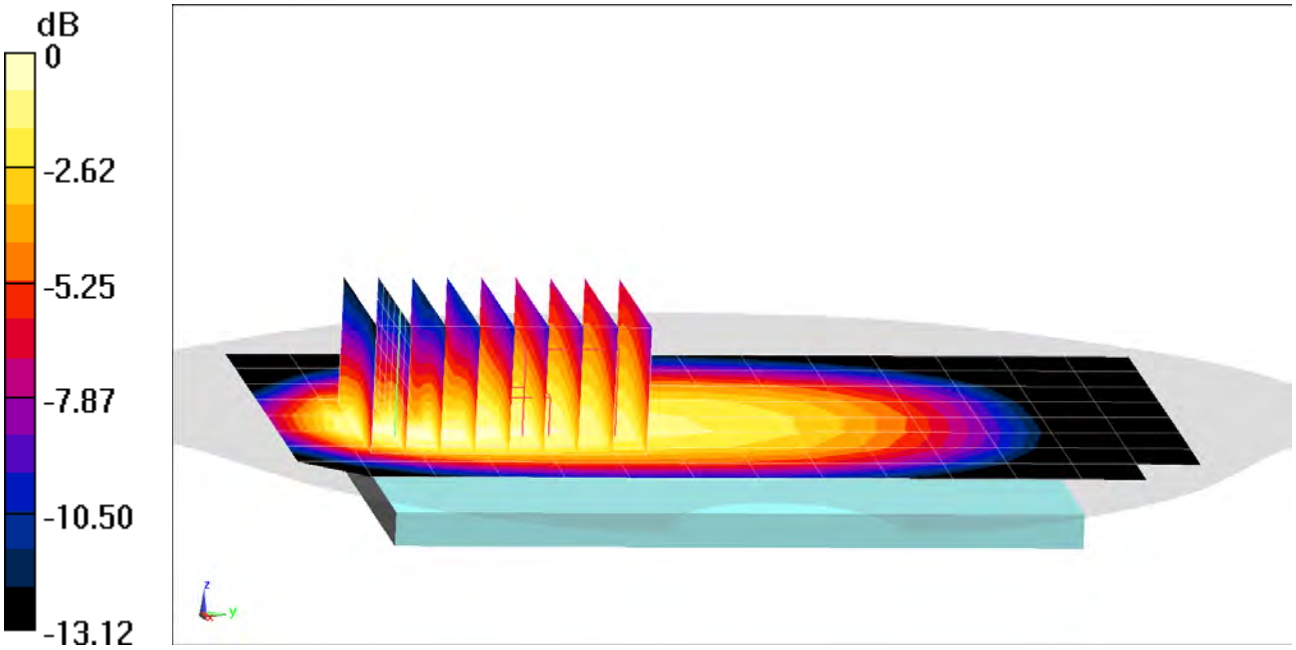
Communication System: UID 0, NR Band n71; Frequency: 680.5 MHz; Duty Cycle: 1:1
Medium: 700 Body; Medium parameters used (interpolated):
f = 680.5 MHz; σ = 0.92 S/m; ε_r = 55.173; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11/20/2019; Ambient Temp: 23.0°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7410; ConvF(10.01, 10.01, 10.01) @ 680.5 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: NR Band n71, Body SAR, Back Side, 20 MHz Bandwidth DFT-s-OFDM QPSK, Ch. 136100, 50 RB, 28 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (7x9x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.58 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.308 W/kg
SAR(1 g) = 0.182 W/kg



0 dB = 0.256 W/kg = -5.92 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 1019M

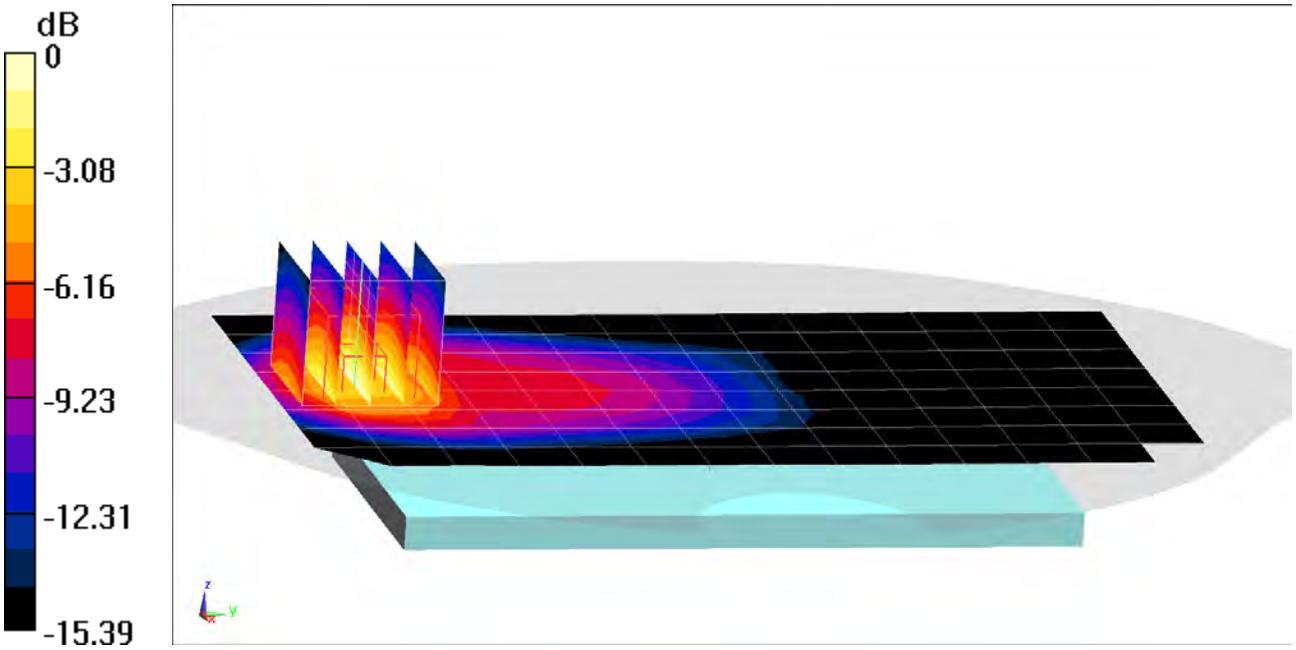
Communication System: UID 0, NR Band n66; Frequency: 1745 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used:
f = 1745 MHz; σ = 1.534 S/m; ε_r = 53.023; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/03/2020; Ambient Temp: 21.4°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN7357; ConvF(8.26, 8.26, 8.26) @ 1745 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: NR Band n66, Body SAR, Back Side, 20 MHz Bandwidth DFT-s-OFDM QPSK, Ch. 349000, 1 RB, 53 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 = 25.02 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 1.41 W/kg
SAR(1 g) = 0.867 W/kg



0 dB = 1.23 W/kg = 0.90 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 1019M

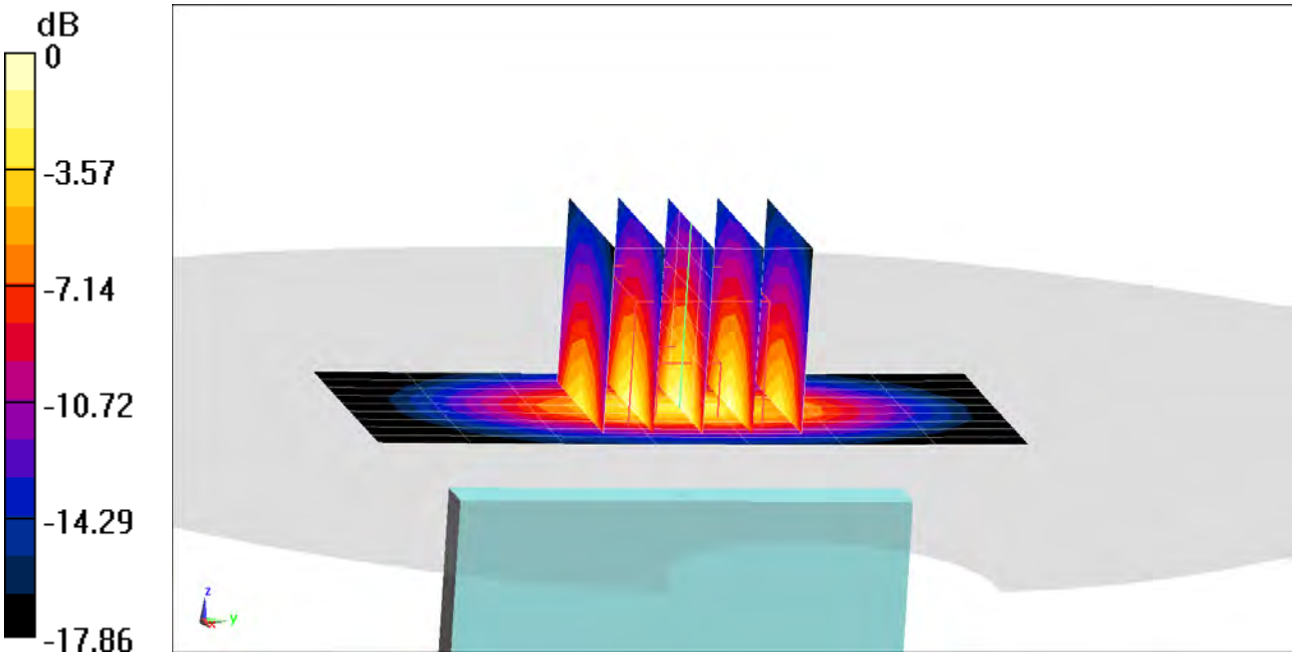
Communication System: UID 0, NR Band n66; Frequency: 1770 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used:
f = 1770 MHz; σ = 1.53 S/m; ε_r = 54.437; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/25/2020; Ambient Temp: 22.2°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN7357; ConvF(8.26, 8.26, 8.26) @ 1770 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: NR Band n66, Body SAR, Bottom Edge, 20 MHz Bandwidth DFT-s-OFDM QPSK, Ch. 354000, 50 RB, 0 RB Offset

Area Scan (10x8x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.70 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 1.72 W/kg
SAR(1 g) = 0.977 W/kg



0 dB = 1.47 W/kg = 1.67 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0410M

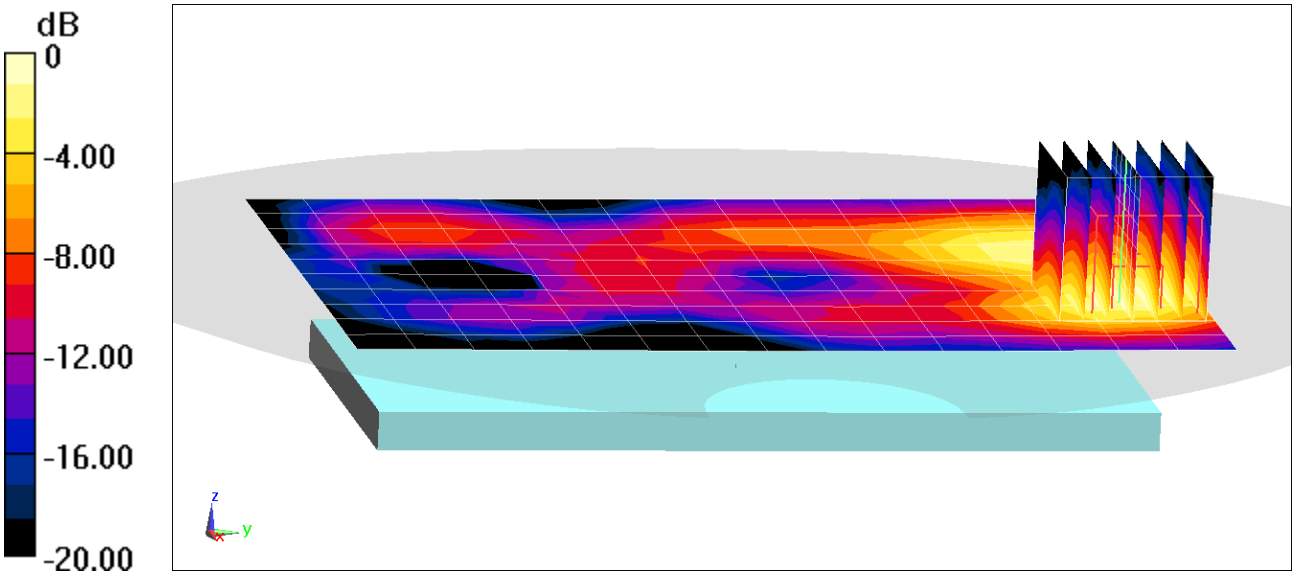
Communication System: UID 0, NR Band n41; Frequency: 2592.99 MHz; Duty Cycle: 1:4
Medium: 2450 Body; Medium parameters used (interpolated):
f = 2592.99 MHz; σ = 2.204 S/m; ε_r = 50.516; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/20/2020; Ambient Temp: 23.9°C; Tissue Temp: 24.1°C

Probe: EX3DV4 - SN7547; ConvF(7.18, 7.18, 7.18) @ 2592.99 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: NR Band n41, Body SAR, Back Side,100 MHz Bandwidth, DFT-s-OFDM QPSK, Ch. 518598, 135 RB, 69 RB Offset

Area Scan (11x16x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.074 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.268 W/kg
SAR(1 g) = 0.132 W/kg



0 dB = 0.211 W/kg = -6.76 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0410M

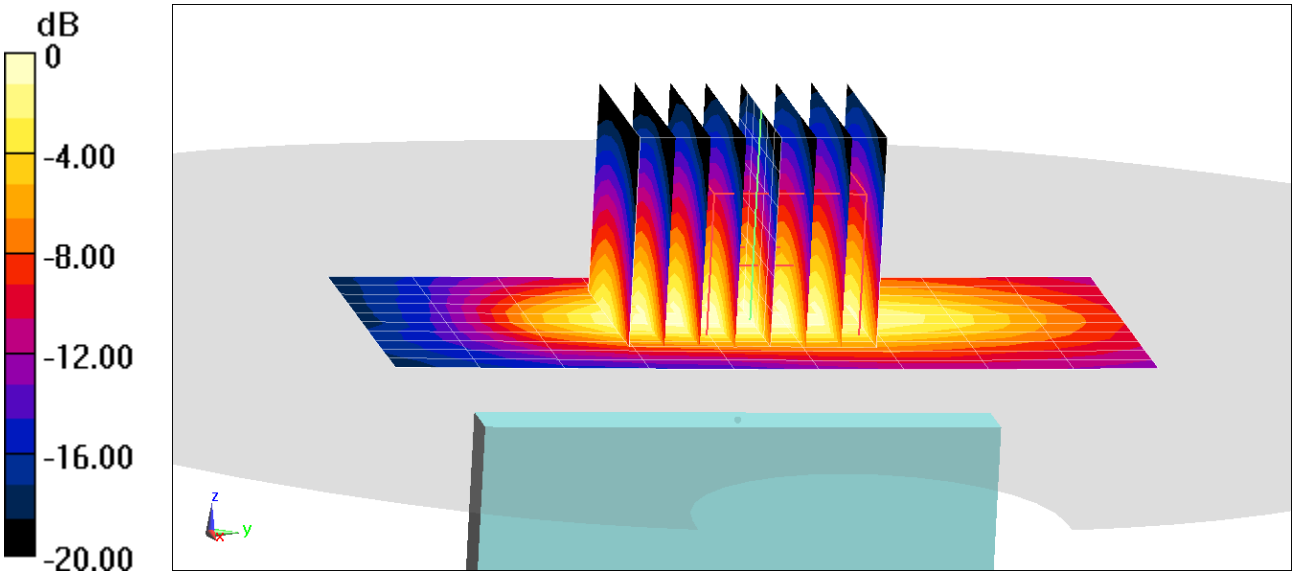
Communication System: UID 0, NR Band n41; Frequency: 2592.99 MHz; Duty Cycle: 1:4
Medium: 2450 Body; Medium parameters used (interpolated):
f = 2592.99 MHz; σ = 2.204 S/m; ε_r = 50.516; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/20/2020; Ambient Temp: 23.9°C; Tissue Temp: 24.1°C

Probe: EX3DV4 - SN7547; ConvF(7.18, 7.18, 7.18) @ 2592.99 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: NR Band n41, Body SAR, Top Edge, 100 MHz Bandwidth, DFT-s-OFDM QPSK, Ch. 518598, 135 RB, 69 RB Offset

Area Scan (11x10x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.45 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 0.956 W/kg
SAR(1 g) = 0.447 W/kg



0 dB = 0.729 W/kg = -1.37 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0388M

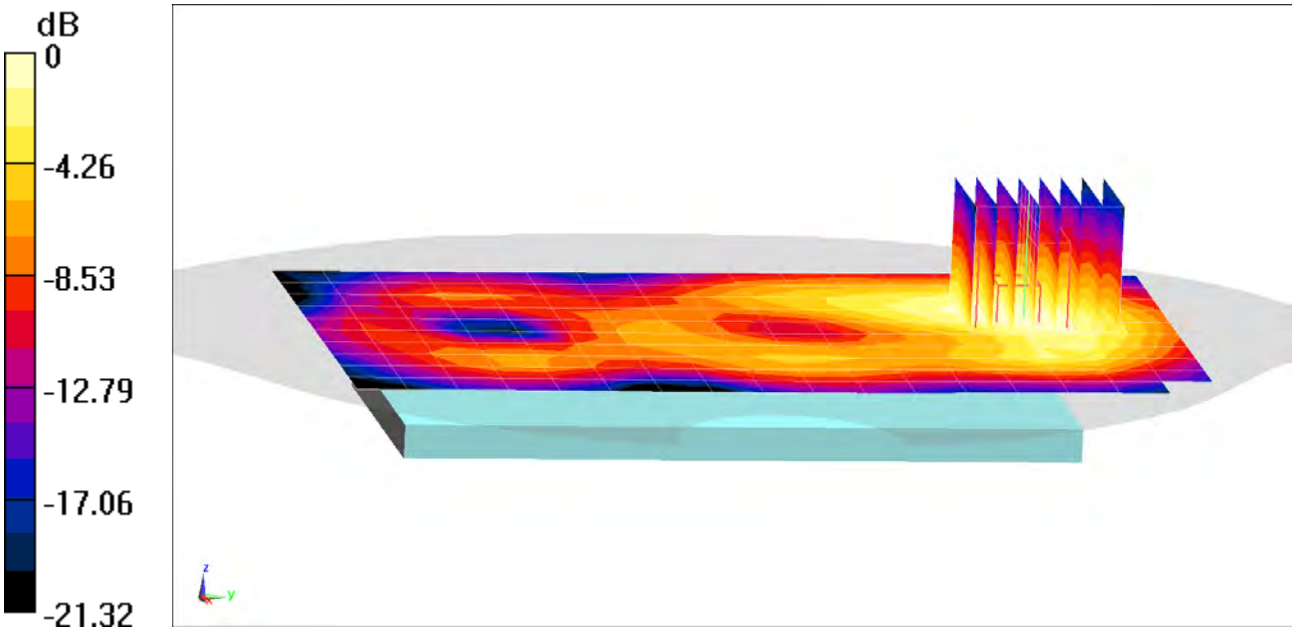
Communication System: UID 0, IEEE 802.11b; Frequency: 2462 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used (interpolated):
f = 2462 MHz; σ = 2.049 S/m; ε_r = 51.305; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 12/27/2019; Ambient Temp: 23.5°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7547; ConvF(7.3, 7.3, 7.3) @ 2462 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: IEEE 802.11b, Antenna 1, 22 MHz Bandwidth, Body SAR, Ch 11, 1 Mbps, Back Side

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.072 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 0.173 W/kg
SAR(1 g) = 0.098 W/kg



0 dB = 0.144 W/kg = -8.42 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0388M

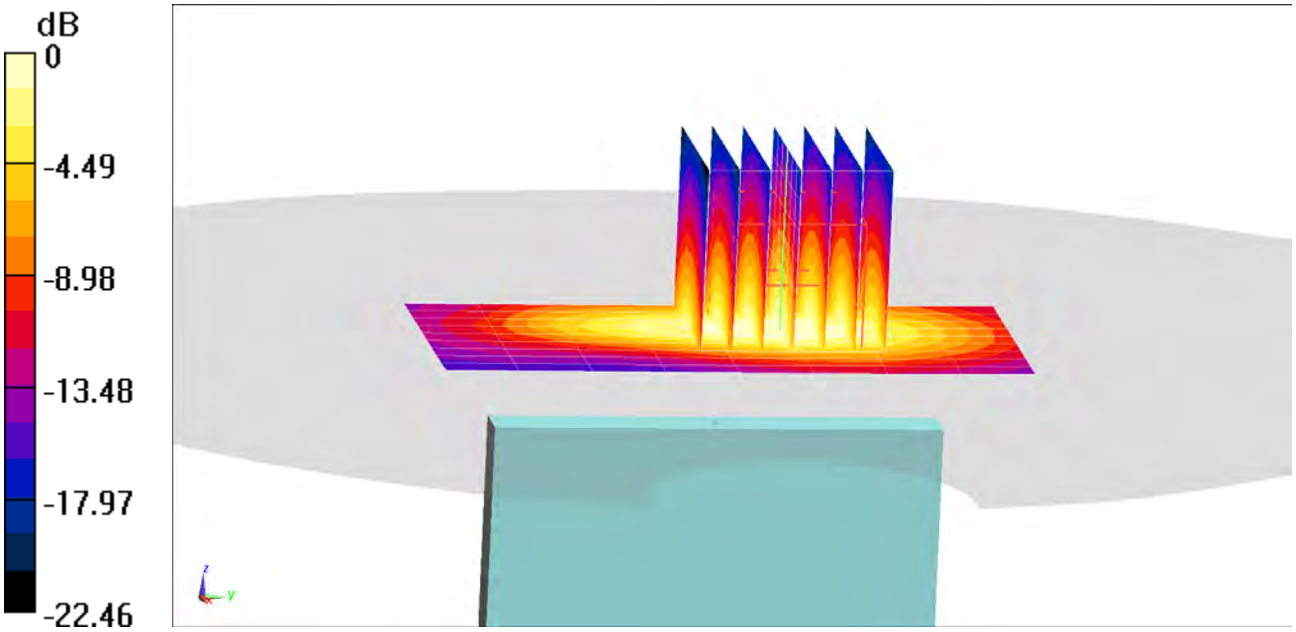
Communication System: UID 0, _IEEE 802.11b; Frequency: 2462 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used (interpolated):
f = 2462 MHz; σ = 2.049 S/m; ε_r = 51.305; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12/27/2019; Ambient Temp: 23.5°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7547; ConvF(7.3, 7.3, 7.3) @ 2462 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: IEEE 802.11b, Antenna 1, 22 MHz Bandwidth, Body SAR, Ch 11, 1 Mbps, Top Edge

Area Scan (10x9x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.820 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 0.18 W/kg
SAR(1 g) = 0.307 W/kg



0 dB = 0.495 W/kg = -3.05 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0337M

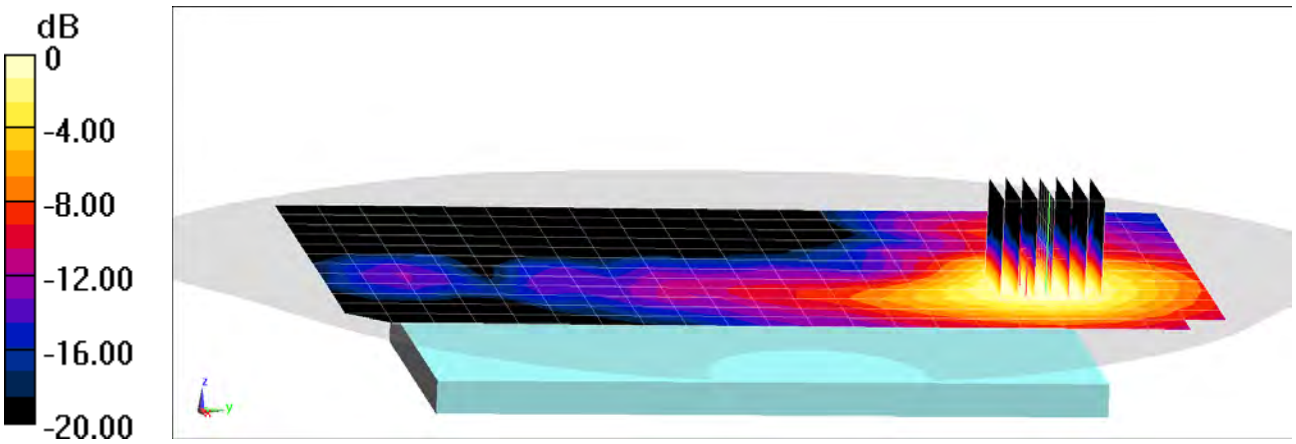
Communication System: UID 0, 802.11n 5.2-5.8 GHz Band; Frequency: 5280 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Body; Medium parameters used:
f = 5280 MHz; σ = 5.563 S/m; ε_r = 47.047; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/13/2020; Ambient Temp: 23.2°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN7409; ConvF(4.7, 4.7, 4.7) @ 5280 MHz; Calibrated: 6/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 6/20/2019
Phantom: Front; Type: QD 000 P40 CD; Serial: 1686
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: IEEE 802.11n, UNII-2A, MIMO, 20 MHz Bandwidth
Body SAR, Ch 56, 13 Mbps, Back Side

Area Scan (13x22x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 9.694 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 1.71 W/kg
SAR(1 g) = 0.504 W/kg



0 dB = 1.06 W/kg = 0.25 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0337M

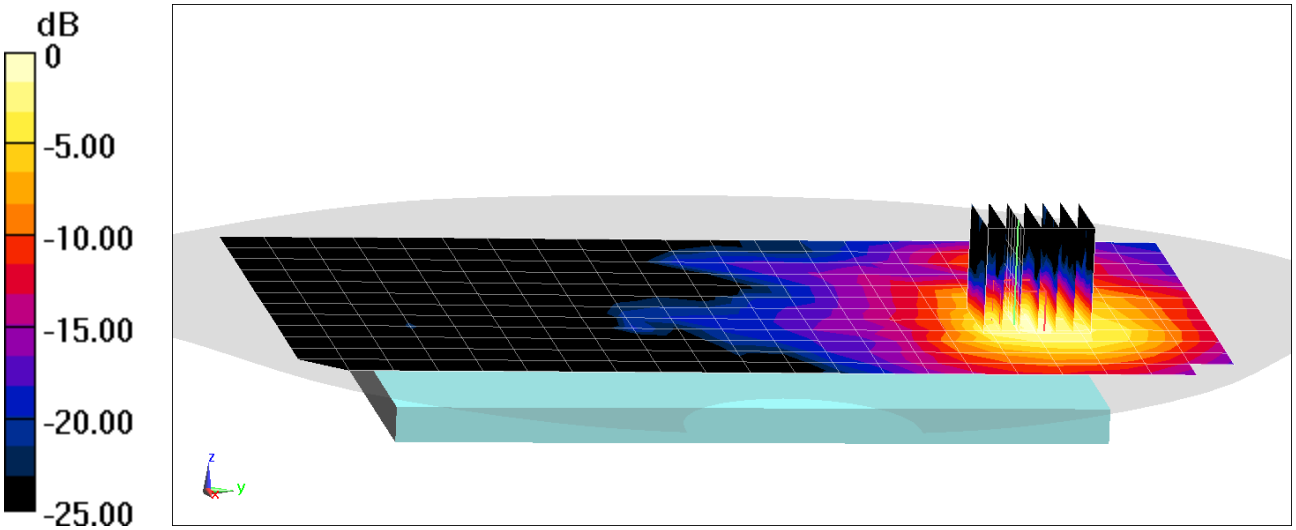
Communication System: UID 0, 802.11n 5.2-5.8 GHz Band; Frequency: 5825 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Body; Medium parameters used:
f = 5825 MHz; σ = 6.252 S/m; ε_r = 47.041; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/05/2020; Ambient Temp: 23.5°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7409; ConvF(4.23, 4.23, 4.23) @ 5825 MHz; Calibrated: 6/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 6/20/2019
Phantom: Front; Type: QD 000 P40 CD; Serial: 1686
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: IEEE 802.11n, MIMO, UNII-3
20 MHz Bandwidth, Body SAR, Ch 165, 13 Mbps, Back Side

Area Scan (13x22x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 10.88 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 3.22 W/kg
SAR(1 g) = 0.714 W/kg



0 dB = 1.76 W/kg = 2.46 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0388M

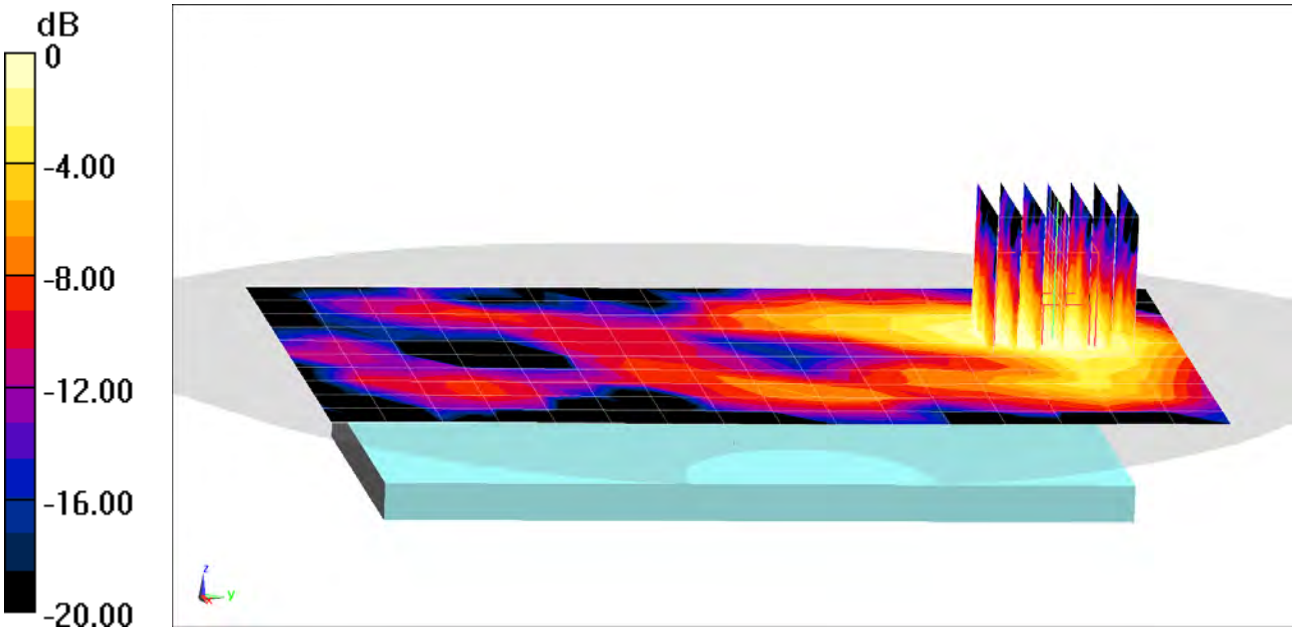
Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.297
Medium: 2450 Body; Medium parameters used (interpolated):
f = 2441 MHz; σ = 2.031 S/m; ε_r = 51.633; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/05/2020; Ambient Temp: 23.4°C; Tissue Temp: 22.2°C

Probe: EX3DV4 - SN7547; ConvF(7.3, 7.3, 7.3) @ 2441 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: Bluetooth, Body SAR, Ch 39, 1 Mbps, Back Side

Area Scan (11x17x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.509 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 0.0200 W/kg
SAR(1 g) = 0.00883 W/kg



0 dB = 0.0152 W/kg = -18.18 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0388M

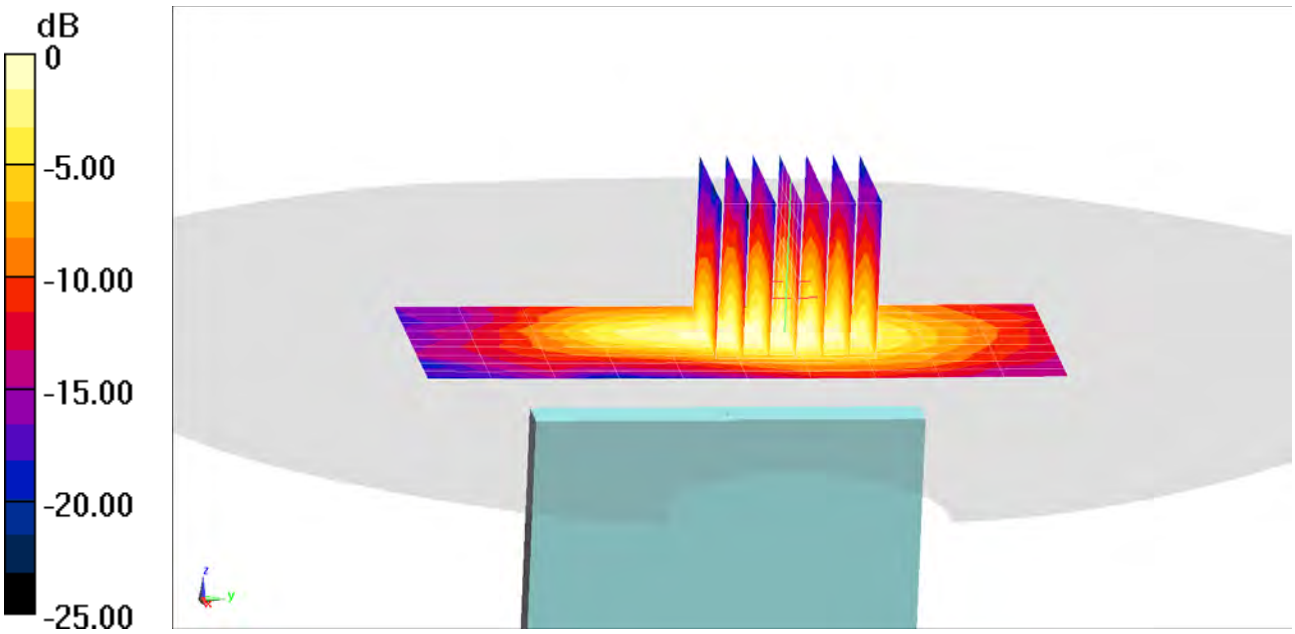
Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.297
Medium: 2450 Body; Medium parameters used (interpolated):
f = 2441 MHz; σ = 2.031 S/m; ε_r = 51.633; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/05/2020; Ambient Temp: 23.4°C; Tissue Temp: 22.2°C

Probe: EX3DV4 - SN7547; ConvF(7.3, 7.3, 7.3) @ 2441 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: Bluetooth, Body SAR, Ch 39, 1 Mbps, Top Edge

Area Scan (10x11x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.744 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.0790 W/kg
SAR(1 g) = 0.038 W/kg



0 dB = 0.0631 W/kg = -12.00 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0387M

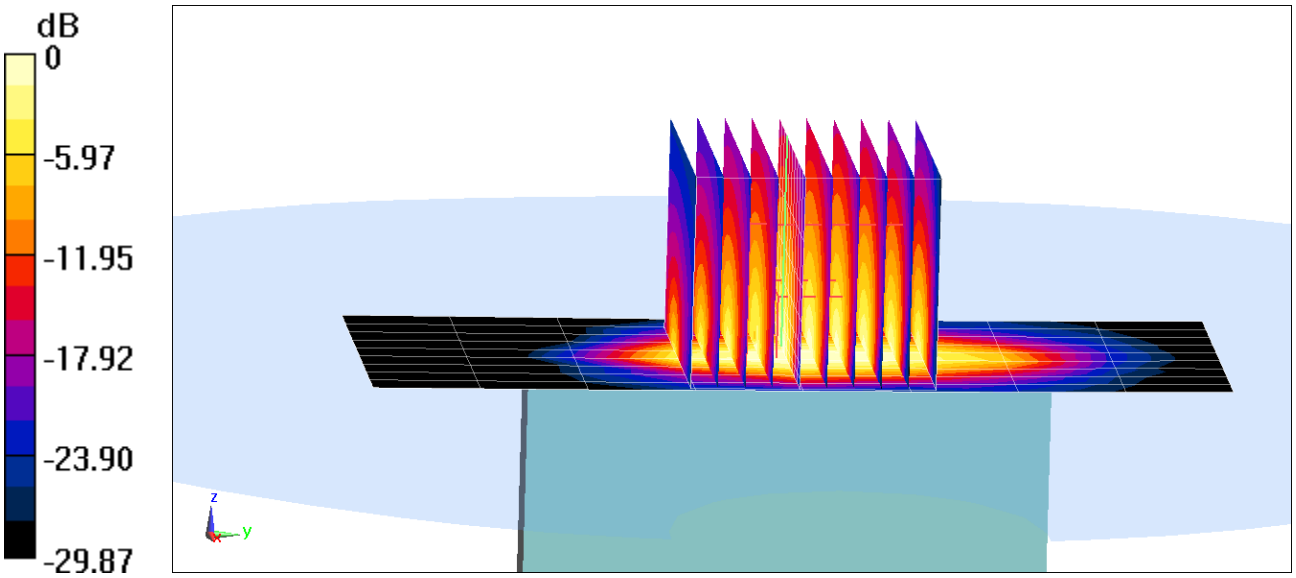
Communication System: UID 0, GSM GPRS; 4 Tx slots; Frequency: 1880 MHz; Duty Cycle: 1:2.076
Medium: 1900 Body; Medium parameters used:
f = 1880 MHz; σ = 1.561 S/m; ε_r = 52.192; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01/19/2020; Ambient Temp: 22.7°C; Tissue Temp: 24.5°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1880 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: GPRS 1900, Phablet SAR, Bottom Edge, Mid.ch, 4 Tx Slots

Area Scan (10x9x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (11x10x8)/Cube 0: Measurement grid: dx=3.8mm, dy=3.8mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 61.79 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 17.9 W/kg
SAR(10 g) = 1.99 W/kg



0 dB = 8.27 W/kg = 9.18 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0390M

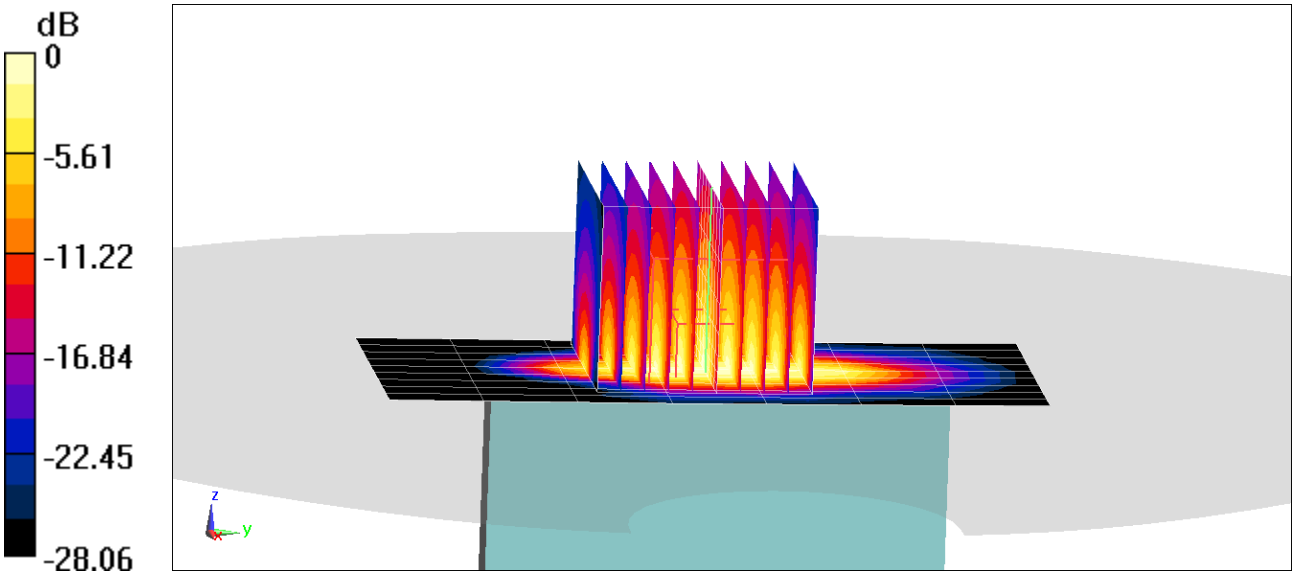
Communication System: UID 0, UMTS; Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used (interpolated):
f = 1752.6 MHz; σ = 1.447 S/m; ε_r = 53.771; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01/20/2020; Ambient Temp: 22.2°C; Tissue Temp: 21.2°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, Phablet SAR, Bottom Edge, High.ch

Area Scan (10x8x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (10x10x8)/Cube 0: Measurement grid: dx=3.8mm, dy=3.8mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 66.87 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 14.7 W/kg
SAR(10 g) = 2.24 W/kg



0 dB = 9.67 W/kg = 9.85 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0387M

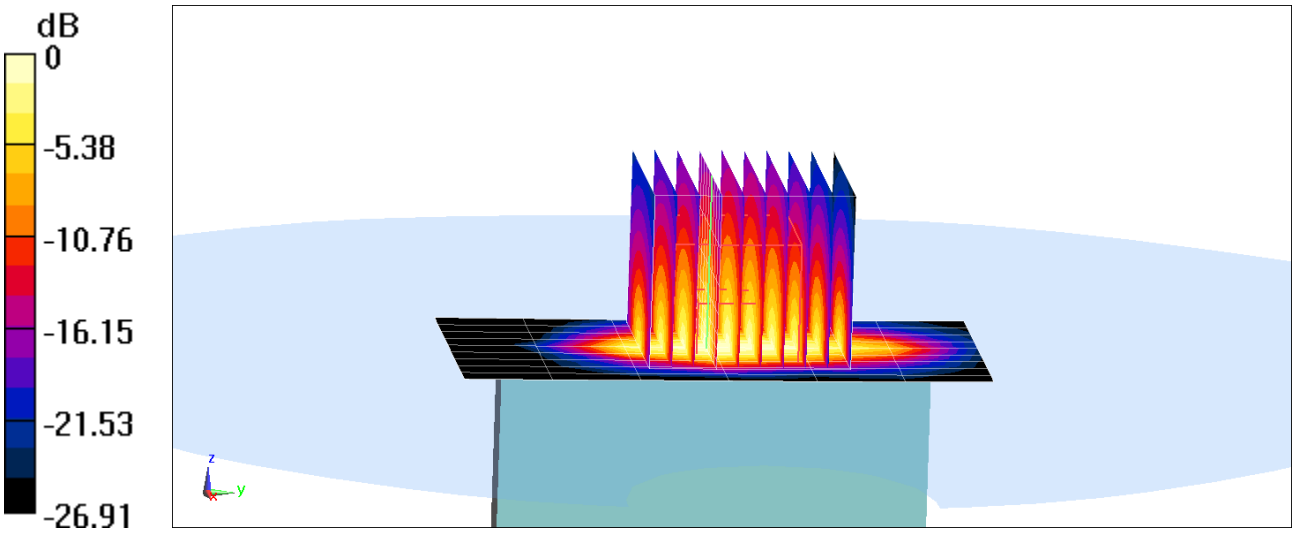
Communication System: UID 0, UMTS; Frequency: 1852.4 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used (interpolated):
f = 1852.4 MHz; σ = 1.509 S/m; ε_r = 52.151; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01/12/2020; Ambient Temp: 24.1°C; Tissue Temp: 23.5°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1852.4 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: UMTS 1900, Phablet SAR, Bottom Edge, Low.ch

Area Scan (10x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (10x10x8)/Cube 0: Measurement grid: dx=3.8mm, dy=3.8mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 57.14 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 11.3 W/kg
SAR(10 g) = 1.71 W/kg



0 dB = 7.52 W/kg = 8.76 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0390M

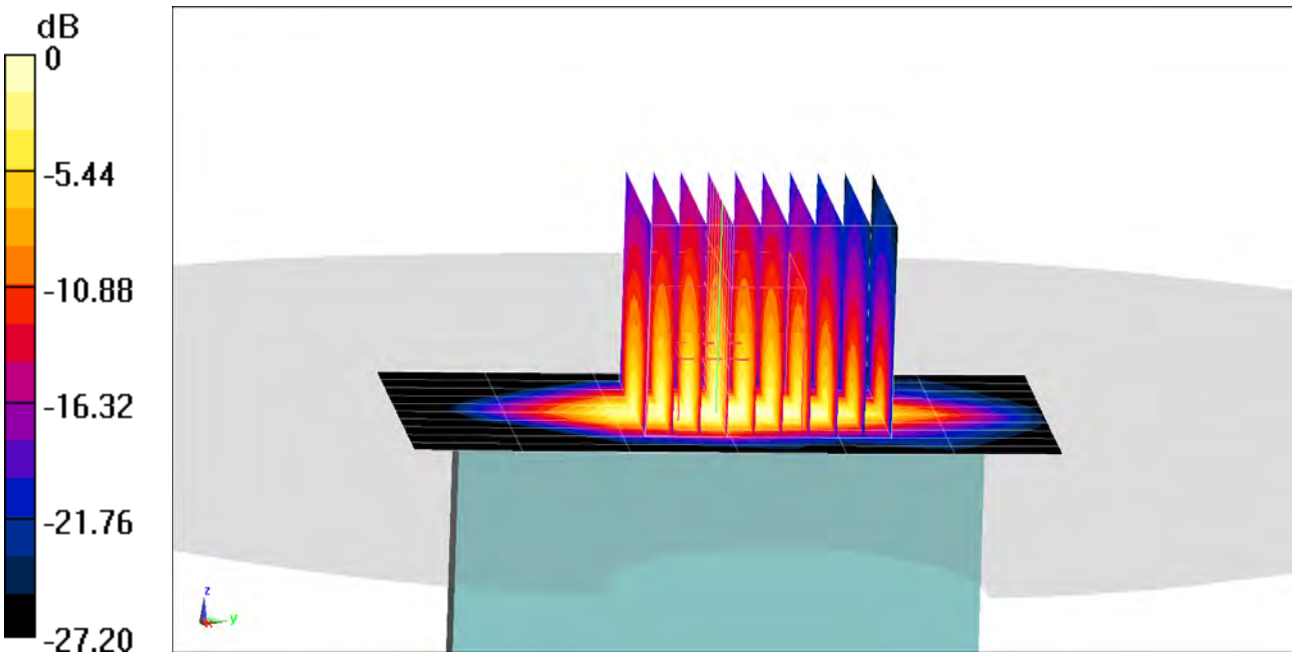
Communication System: UID 0, _LTE Band 66 (AWS); Frequency: 1770 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used:
f = 1770 MHz; σ = 1.531 S/m; ε_r = 53.889; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01/22/2020; Ambient Temp: 21.1°C; Tissue Temp: 22.8°C

Probe: EX3DV4 - SN7357; ConvF(8.26, 8.26, 8.26) @ 1770 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: LTE Band 66 (AWS), Phablet SAR, Bottom Edge, High.ch
20 MHz Bandwidth, QPSK, 50 RB, 50 RB Offset

Area Scan (11x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (10x10x8)/Cube 0: Measurement grid: dx=3.8mm, dy=3.8mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 66.03 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 19.0 W/kg
SAR(10 g) = 2.97 W/kg



0 dB = 13.3 W/kg = 11.24 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0387M

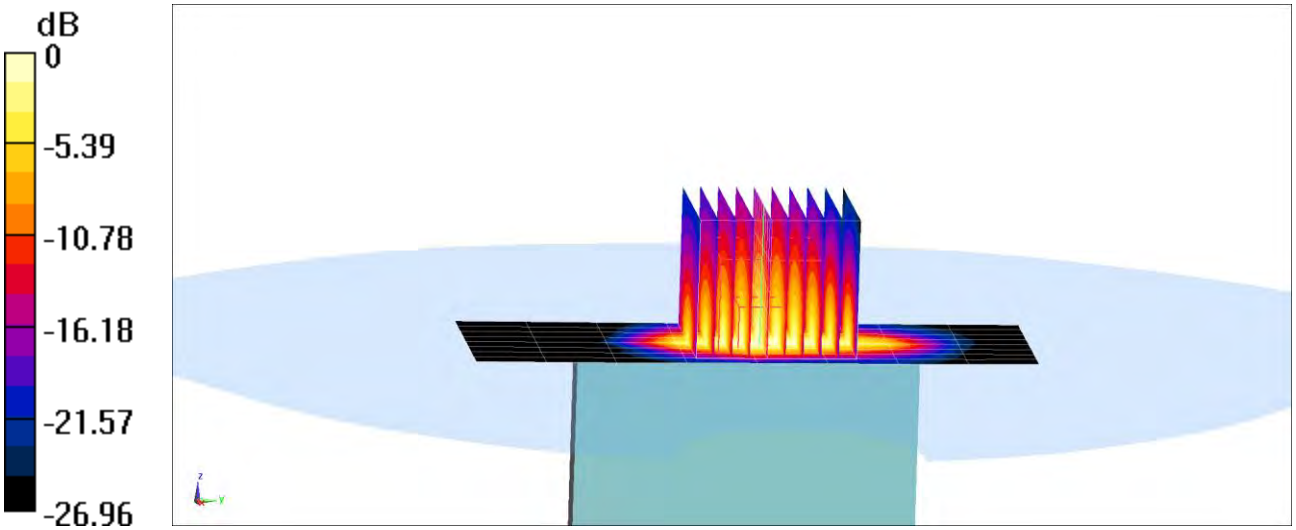
Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1860 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used:
f = 1860 MHz; σ = 1.538 S/m; ε_r = 52.263; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01/19/2020; Ambient Temp: 22.7°C; Tissue Temp: 24.5°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1860 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 25 (PCS), Phablet SAR, Bottom Edge, Low.ch
20 MHz Bandwidth, QPSK, 50 RB, 25 RB Offset

Area Scan (9x9x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (10x10x8)/Cube 0: Measurement grid: dx=3.8mm, dy=3.8mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 58.77 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 12.8 W/kg
SAR(10 g) = 1.86 W/kg



0 dB = 8.08 W/kg = 9.07 dBW/kg

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0317M

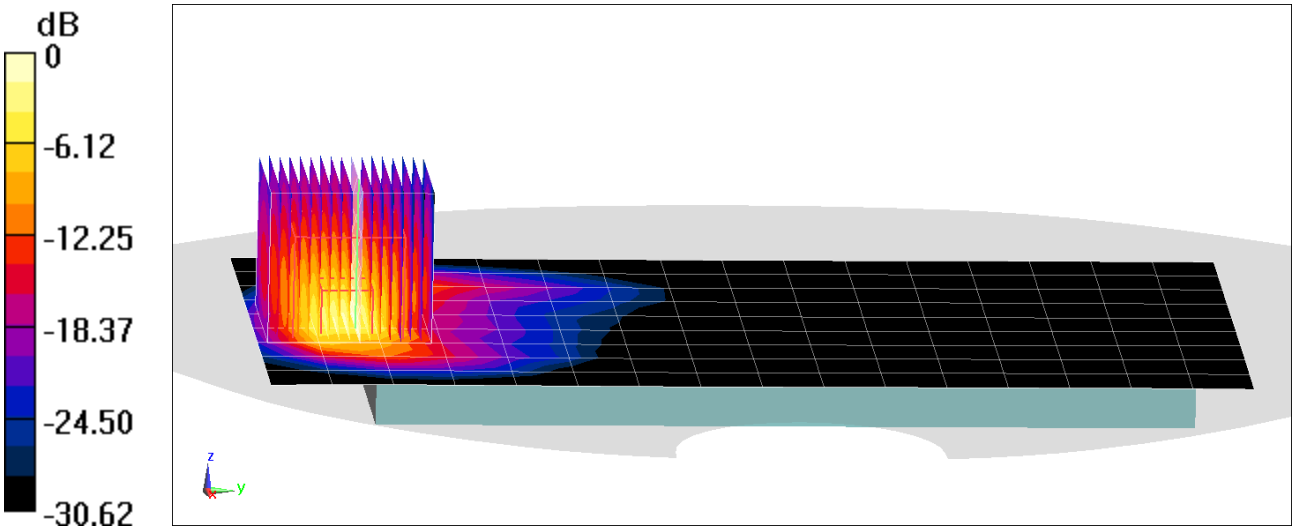
Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2310 MHz; σ = 1.899 S/m; ε_r = 52.58; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01/06/2020; Ambient Temp: 20.6°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN7410; ConvF(7.68, 7.68, 7.68) @ 2310 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: LTE Band 30, Phablet SAR, Front side, Mid.ch
10 MHz Bandwidth, QPSK, 25 RB, 12 RB Offset

Area Scan (10x17x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (17x17x8)/Cube 0: Measurement grid: dx=2mm, dy=2mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 57.17 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 15.9 W/kg
SAR(10 g) = 1.9 W/kg



0 dB = 10.6 W/kg = 10.25 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0332M

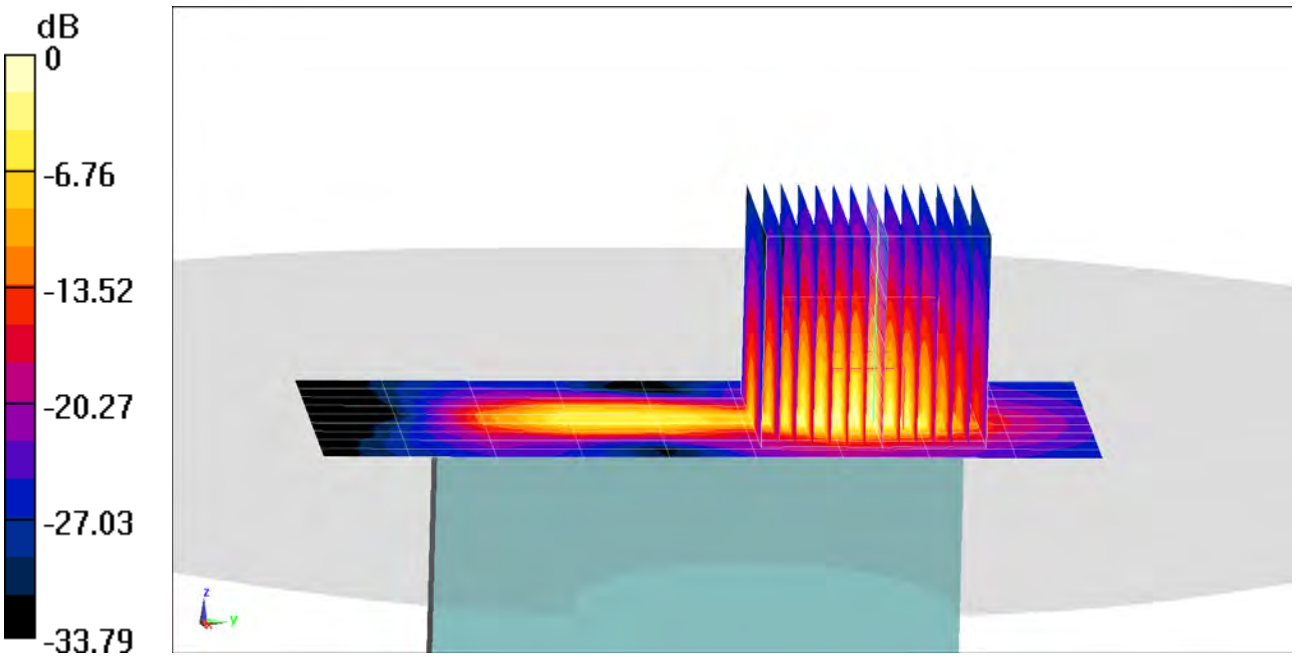
Communication System: UID 0, LTE Band 7; Frequency: 2510 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2510 MHz; σ = 2.127 S/m; ε_r = 51.26; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01/27/2020; Ambient Temp: 20.5°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7410; ConvF(7.44, 7.44, 7.44) @ 2510 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: LTE Band 7, Phablet SAR, Bottom Edge, Low.ch
20 MHz Bandwidth, QPSK, 50 RB, 25 RB Offset

Area Scan (10x10x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (14x14x8)/Cube 0: Measurement grid: dx=2.4mm, dy=2.4mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 50.95 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 19.7 W/kg
SAR(10 g) = 1.24 W/kg



0 dB = 10.9 W/kg = 10.37 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0317M

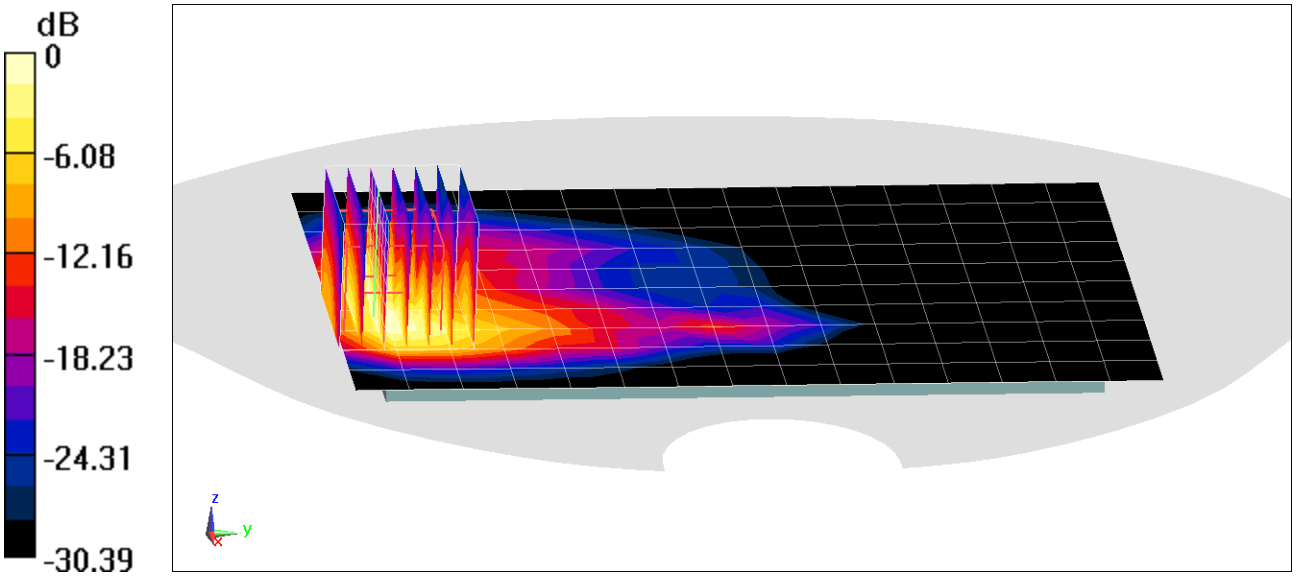
Communication System: UID 0, LTE Band 41 (Class 3); Frequency: 2593 MHz; Duty Cycle: 1:1.58
Medium: 2450 Body; Medium parameters used (interpolated):
f = 2593 MHz; σ = 2.152 S/m; ε_r = 51.33; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01/09/2020; Ambient Temp: 21.8°C; Tissue Temp: 20.2°C

Probe: EX3DV4 - SN7410; ConvF(7.43, 7.43, 7.43) @ 2593 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: LTE Band 41, Phablet SAR, Back side, Mid.ch
20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset

Area Scan (11x16x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (8x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 48.07 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 12.7 W/kg
SAR(10 g) = 1.9 W/kg



0 dB = 9.40 W/kg = 9.73 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 1019M

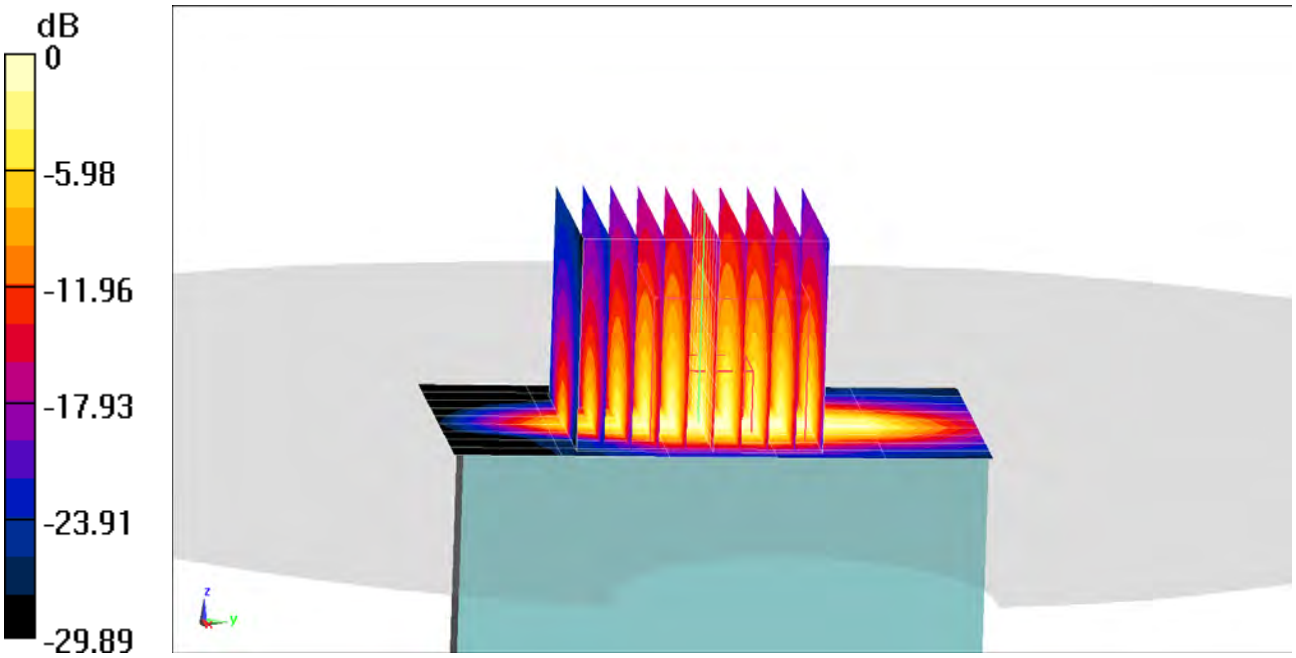
Communication System: UID 0, NR Band n66; Frequency: 1770 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used:
f = 1770 MHz; σ = 1.53 S/m; ε_r = 54.437; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01/25/2020; Ambient Temp:22.2°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN7357; ConvF(8.26, 8.26, 8.26) @ 1770 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: NR Band n66, Phablet SAR, Bottom Edge, 20 MHz Bandwidth DFT-s-OFDM QPSK, Ch. 354000, 50 RB, 0 RB Offset

Area Scan (10x6x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (10x10x8)/Cube 0: Measurement grid: dx=3.8mm, dy=3.8mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 67.67 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 16.1 W/kg
SAR(10 g) = 2.51 W/kg



0 dB = 10.9 W/kg = 10.37 dBW/kg

PCTEST

DUT: A3LSMG986W; Type: Portable Handset; Serial: 0337M

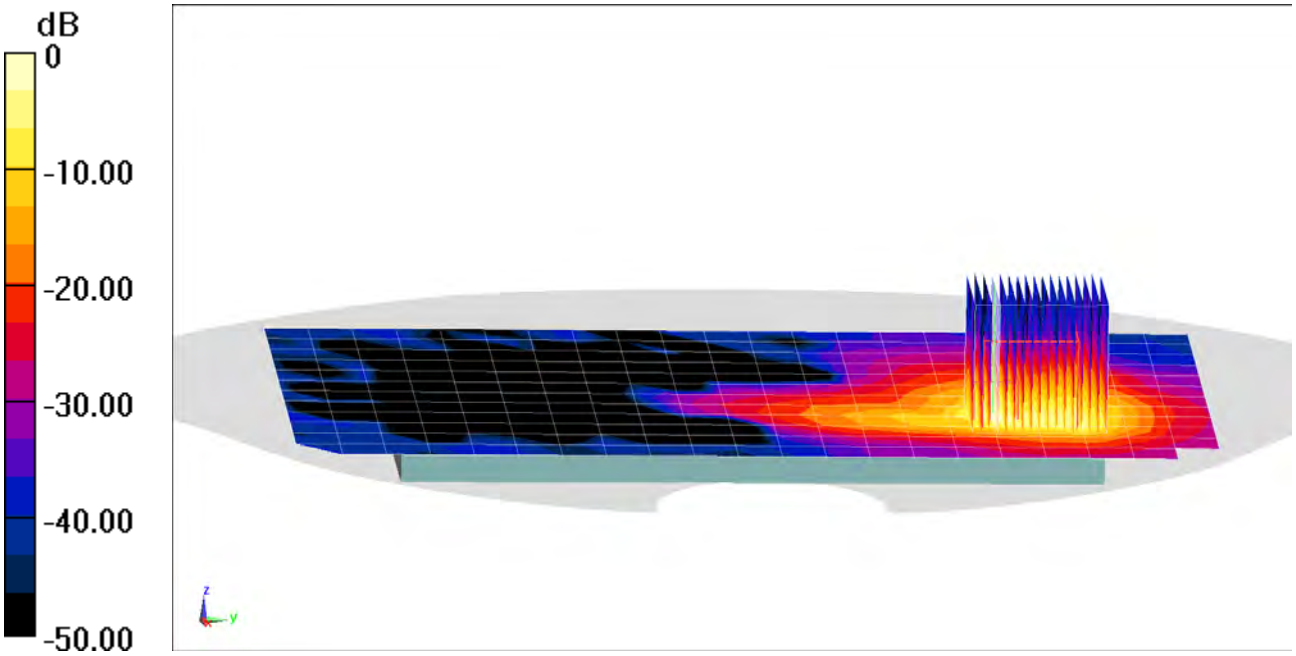
Communication System: UID 0, 802.11n 5.2-5.8 GHz Band; Frequency: 5280 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Body; Medium parameters used:
f = 5280 MHz; σ = 5.501 S/m; ε_r = 48.279; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01/19/2020; Ambient Temp: 23.9°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7409; ConvF(4.7, 4.7, 4.7) @ 5280 MHz; Calibrated: 6/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 6/20/2019
Phantom: Front; Type: QD 000 P40 CD; Serial: 1686
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: IEEE 802.11n, U-NII-2A, MIMO, 20 MHz Bandwidth, Phablet SAR
Ch 56, 13 Mbps, Back Side

Area Scan (13x22x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (17x17x8)/Cube 0: Measurement grid: dx=1.9mm, dy=1.9mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 32.10 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 80.6 W/kg
SAR(10 g) = 2.55 W/kg



0 dB = 30.9 W/kg = 14.90 dBW/kg

APPENDIX B: SYSTEM VERIFICATION

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PCTEST

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1003

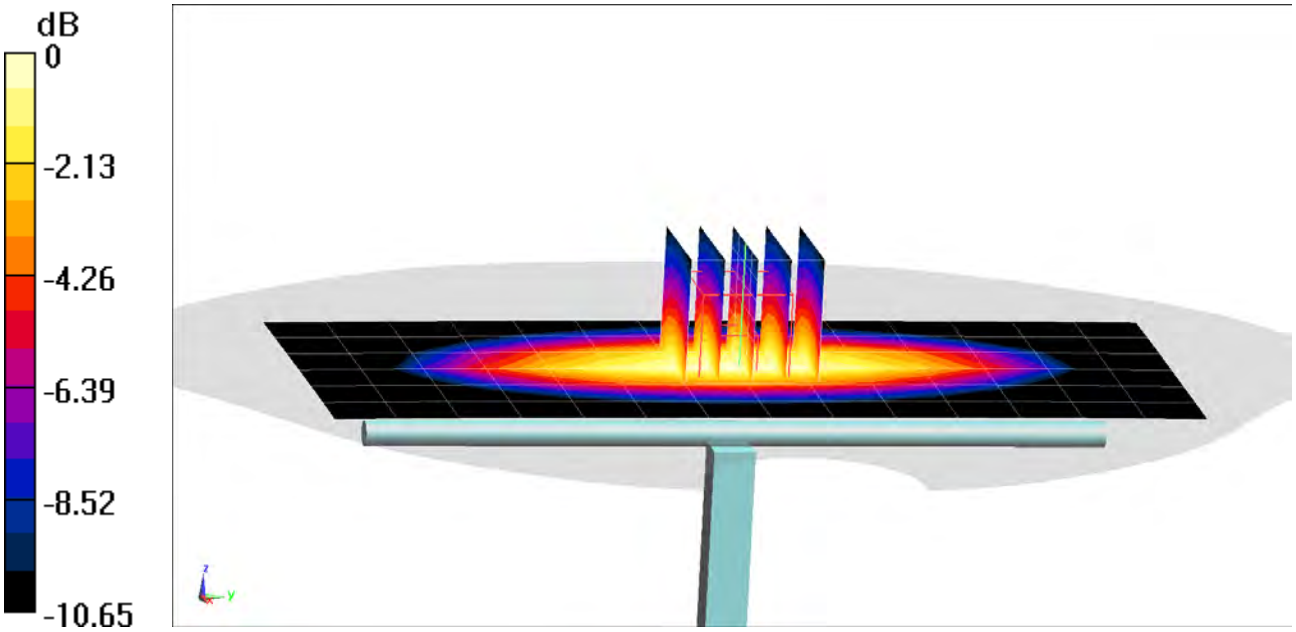
Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1
Medium: 700 Head; Medium parameters used:
f = 750 MHz; σ = 0.87 S/m; ε_r = 41.4; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/05/2020; Ambient Temp: 21.9°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN7308; ConvF(10.2, 10.2, 10.2) @ 750 MHz; Calibrated: 8/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/14/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

750 MHz System Verification at 23.0dBm (200 mW)

Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 2.66 W/kg
SAR(1 g) = 1.74 W/kg
Deviation(1 g) = 5.07%



0 dB = 2.34 W/kg = 3.69 dBW/kg

PCTEST

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1054

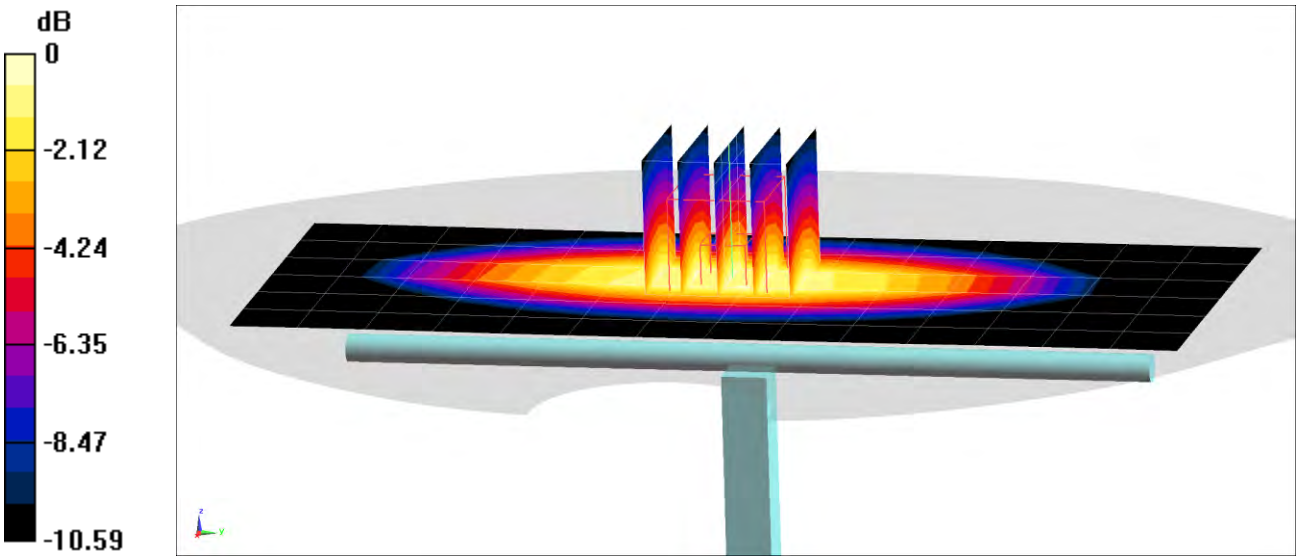
Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1
Medium: 750 Head Medium parameters used:
f = 750 MHz; σ = 0.894 S/m; ε_r = 41.968; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/20/2020; Ambient Temp: 21.6°C; Tissue Temp: 20.6°C

Probe: EX3DV4 - SN3914; ConvF(10, 10, 10) @ 750 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 2/14/2019
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1646
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

750 MHz System Verification at 23.0 dBm (200 mW)

Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 2.56 W/kg
SAR(1 g) = 1.65 W/kg
Deviation(1 g) = -0.48%



0 dB = 2.24 W/kg = 3.50 dBW/kg

PCTEST

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d047

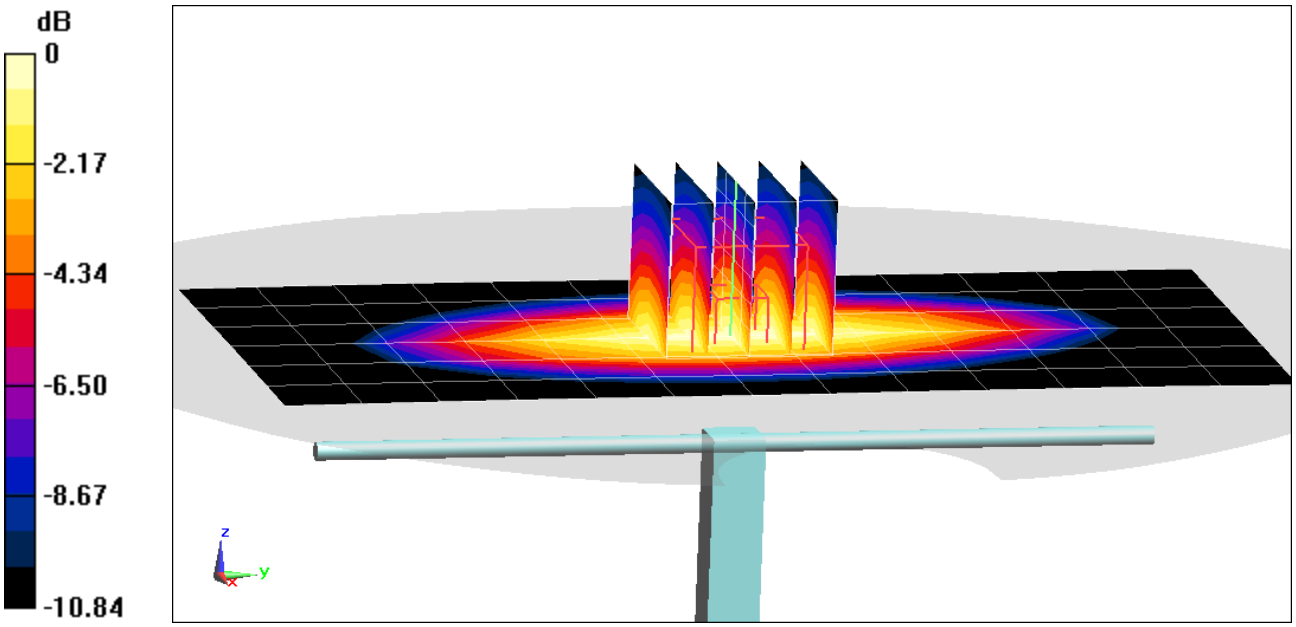
Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: 835 Head Medium parameters used:
f = 835 MHz; σ = 0.915 S/m; ε_r = 40.624; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 12/09/2019; Ambient Temp: 21.0°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN7410; ConvF(9.88, 9.88, 9.88) @ 835 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)

835 MHz System Verification at 23.0 dBm (200 mW)

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 2.86 W/kg
SAR(1 g) = 1.92 W/kg
Deviation(1 g) = 1.91%



0 dB = 2.56 W/kg = 4.08 dBW/kg

PCTEST

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1150

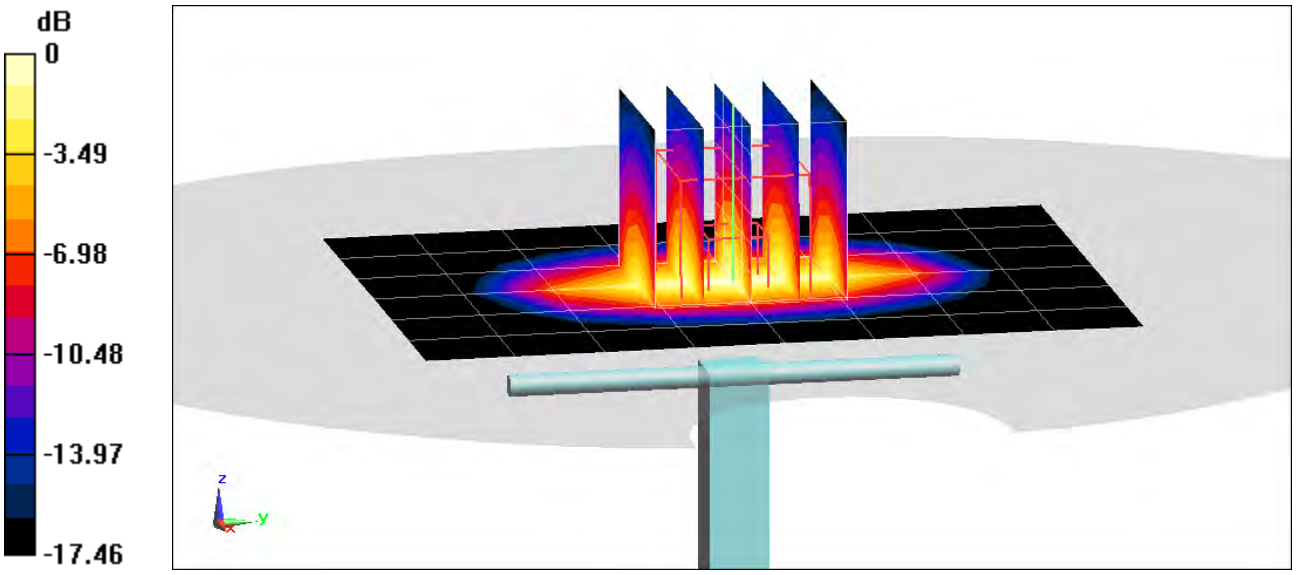
Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Head; Medium parameters used:
f = 1750 MHz; σ = 1.379 S/m; ε_r = 39.153; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

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) @ 1750 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)

1750 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.28 W/kg
SAR(1 g) = 3.78 W/kg
Deviation(1 g) = 3.56%



0 dB = 6.00 W/kg = 7.78 dBW/kg

PCTEST

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1150

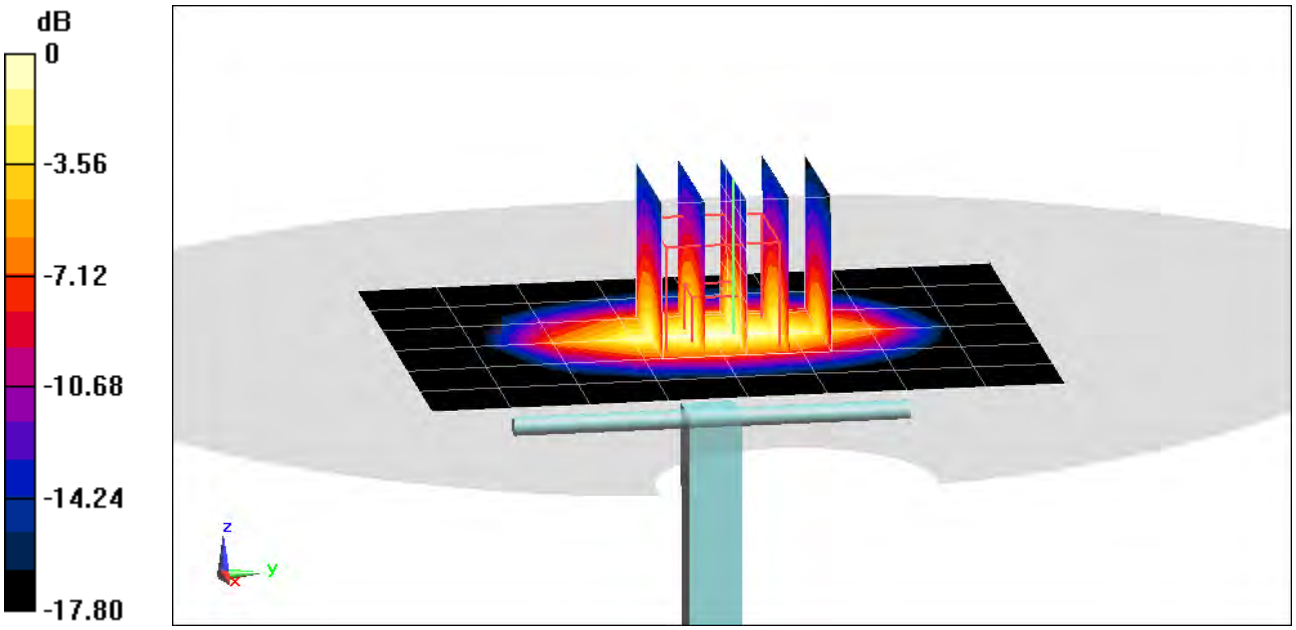
Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Head; Medium parameters used:
f = 1750 MHz; σ = 1.35 S/m; ε_r = 38.601; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12/04/2019; Ambient Temp: 22.8°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7551; ConvF(8.34, 8.34, 8.34) @ 1750 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)

1750 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 6.92 W/kg
SAR(1 g) = 3.68 W/kg
Deviation(1 g) = 0.82%



0 dB = 5.65 W/kg = 7.52 dBW/kg

PCTEST

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d148

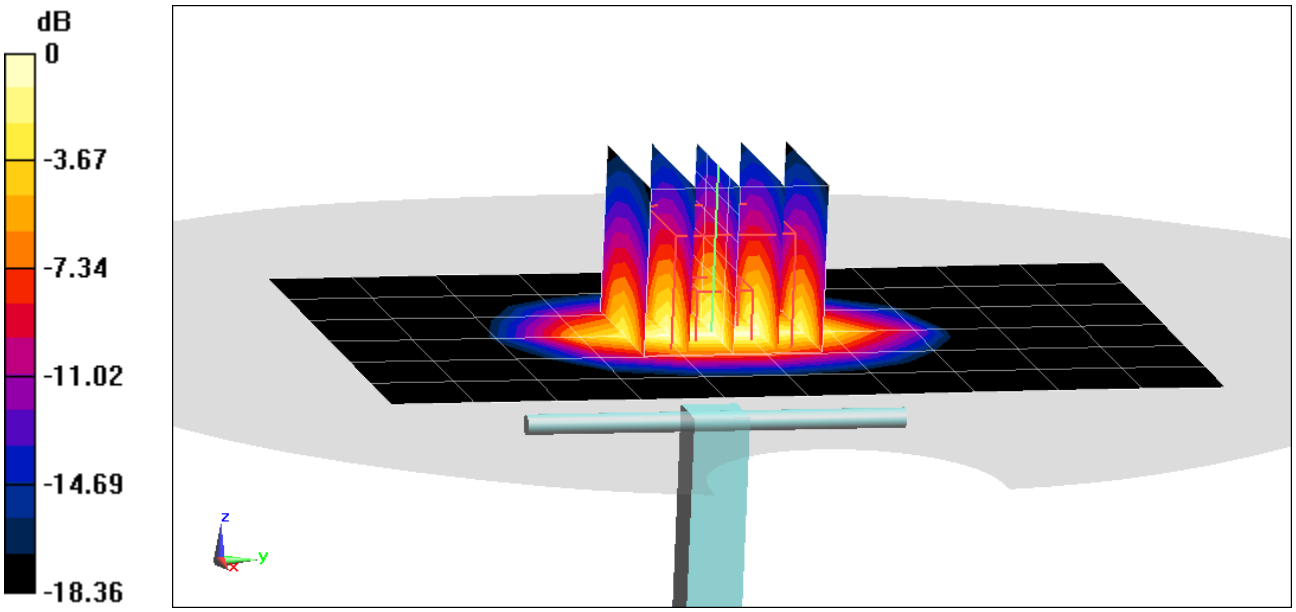
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Head; Medium parameters used:
f = 1900 MHz; σ = 1.433 S/m; ε_r = 39.339; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/04/2020; Ambient Temp: 23.2°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7410; ConvF(8.11, 8.11, 8.11) @ 1900 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)

1900 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.85 W/kg
SAR(1 g) = 4.15 W/kg
Deviation(1 g) = 6.14%



0 dB = 6.55 W/kg = 8.16 dBW/kg

DUT: Dipole 2300 MHz; Type: D2300V2; Serial: 1073

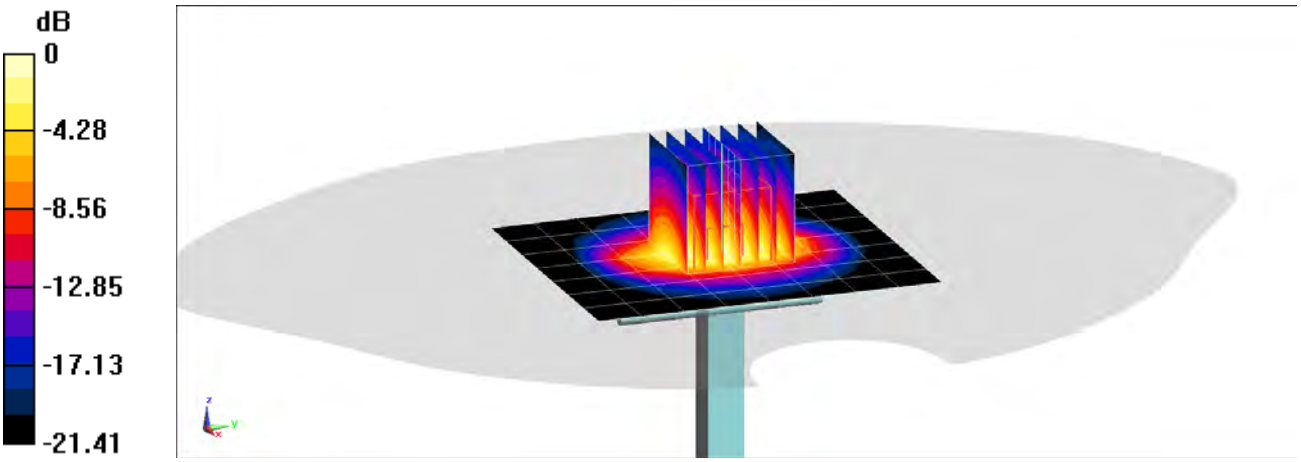
Communication System: UID 0, CW; Frequency: 2300 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2300 MHz; σ = 1.752 S/m; ε_r = 38.62; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

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) @ 2300 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)

2300 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 10.9 W/kg
SAR(1 g) = 5.16 W/kg
Deviation(1 g) = 4.88%



0 dB = 8.65 W/kg = 9.37 dBW/kg

PCTEST

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 981

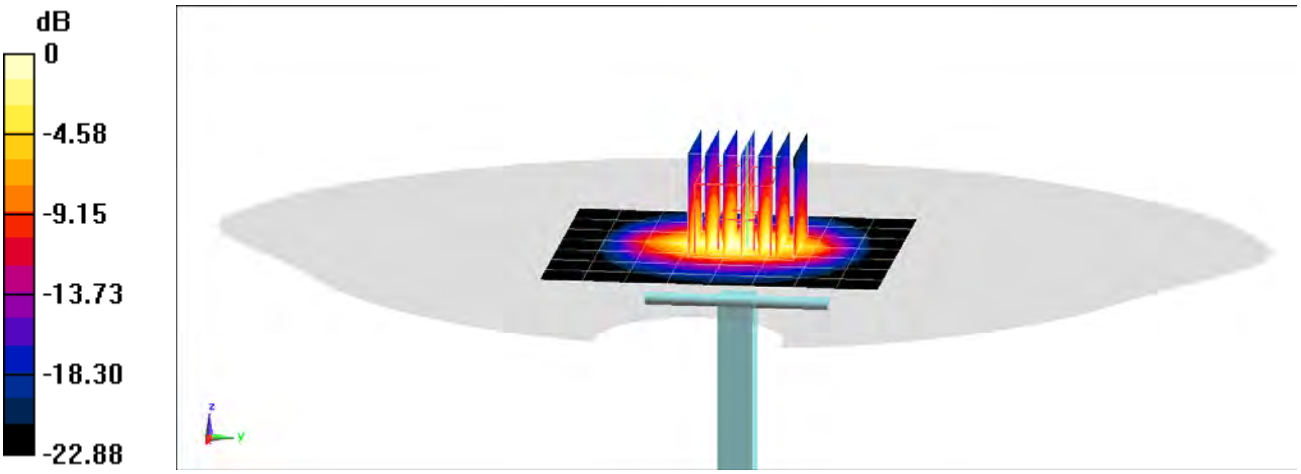
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2450 MHz; σ = 1.829 S/m; ε_r = 38.47; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11/25/2019; Ambient Temp: 23.2°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN7417; ConvF(7.46, 7.46, 7.46) @ 2450 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)

2450 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 11.4 W/kg
SAR(1 g) = 5.39 W/kg
Deviation(1 g) = 3.06%



0 dB = 8.99 W/kg = 9.54 dBW/kg

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 981

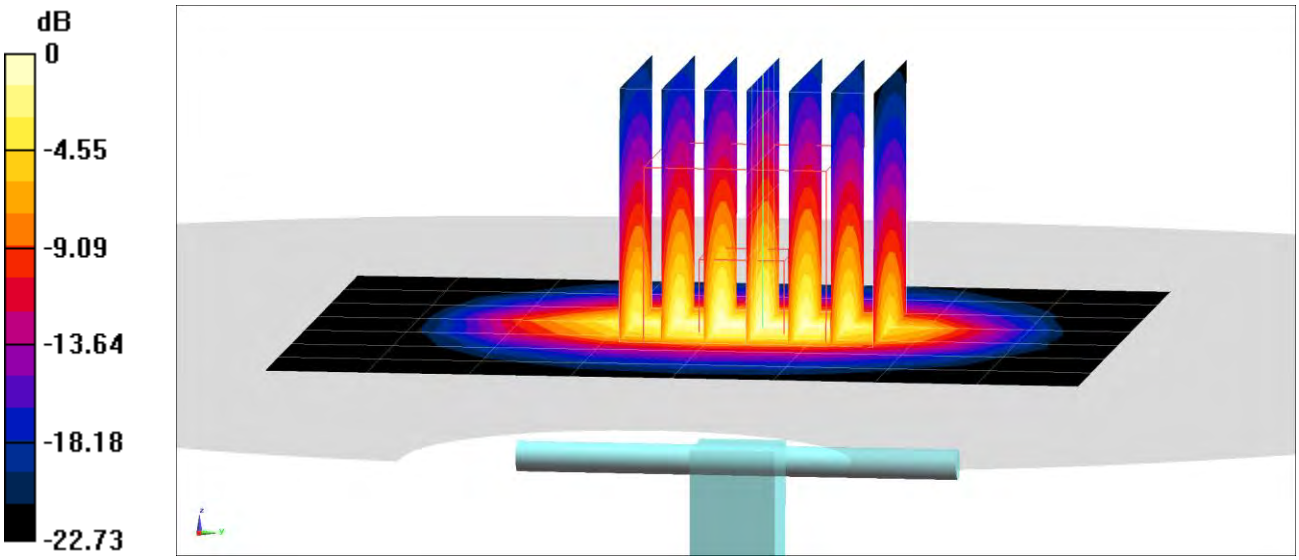
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2450 MHz; σ = 1.849 S/m; ε_r = 38.818; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

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

Probe: EX3DV4 - SN7417; ConvF(7.46, 7.46, 7.46) @ 2450 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)

2450 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 11.3 W/kg
SAR(1 g) = 5.4 W/kg
Deviation(1 g) = 3.25%



0 dB = 9.09 W/kg = 9.59 dBW/kg

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 981

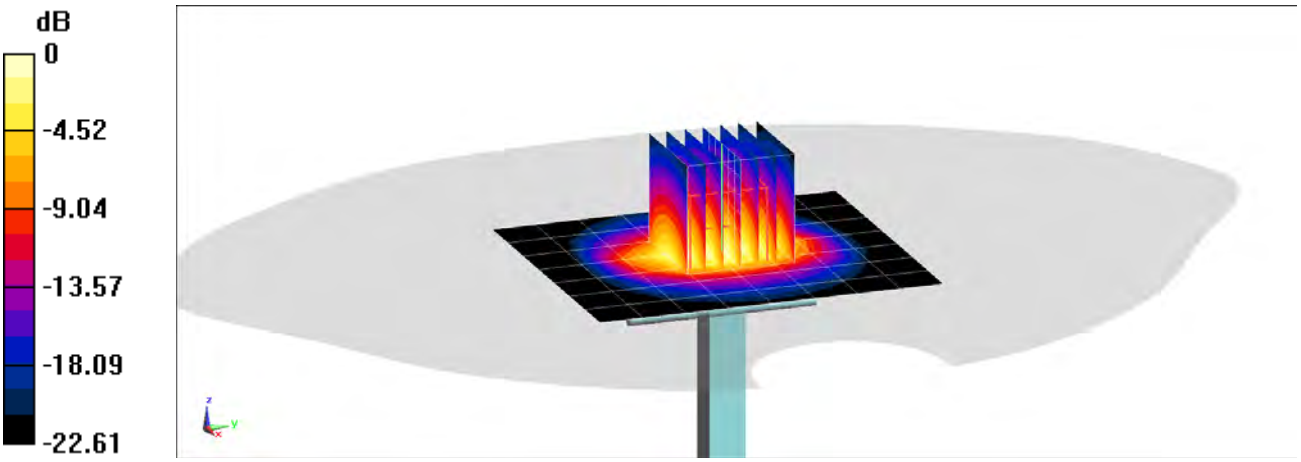
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2450 MHz; σ = 1.849 S/m; ε_r = 38.669; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12/16/2019; Ambient Temp: 20.1°C; Tissue Temp: 19.2°C

Probe: EX3DV4 - SN7417; ConvF(7.46, 7.46, 7.46) @ 2450 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)

2450 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 11.0 W/kg
SAR(1 g) = 5.3 W/kg
Deviation(1 g) = 1.34%



0 dB = 8.90 W/kg = 9.49 dBW/kg

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1064

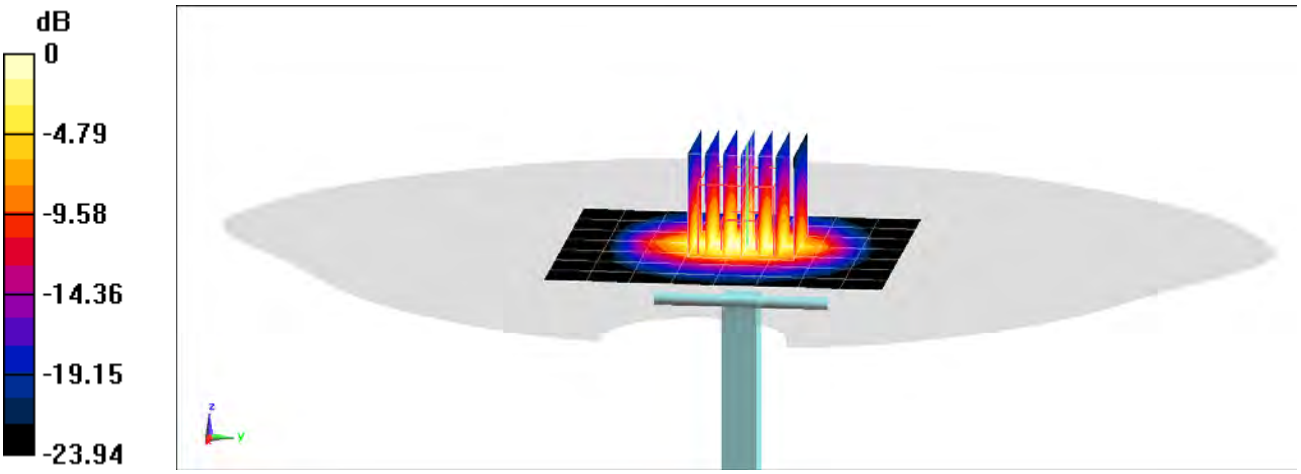
Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2600 MHz; σ = 1.946 S/m; ε_r = 38.234; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11/25/2019; Ambient Temp: 23.2°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN7417; ConvF(7.17, 7.17, 7.17) @ 2600 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)

2600 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 13.3 W/kg
SAR(1 g) = 6.04 W/kg
Deviation(1 g) = 3.96%



0 dB = 10.4 W/kg = 10.17 dBW/kg

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1064

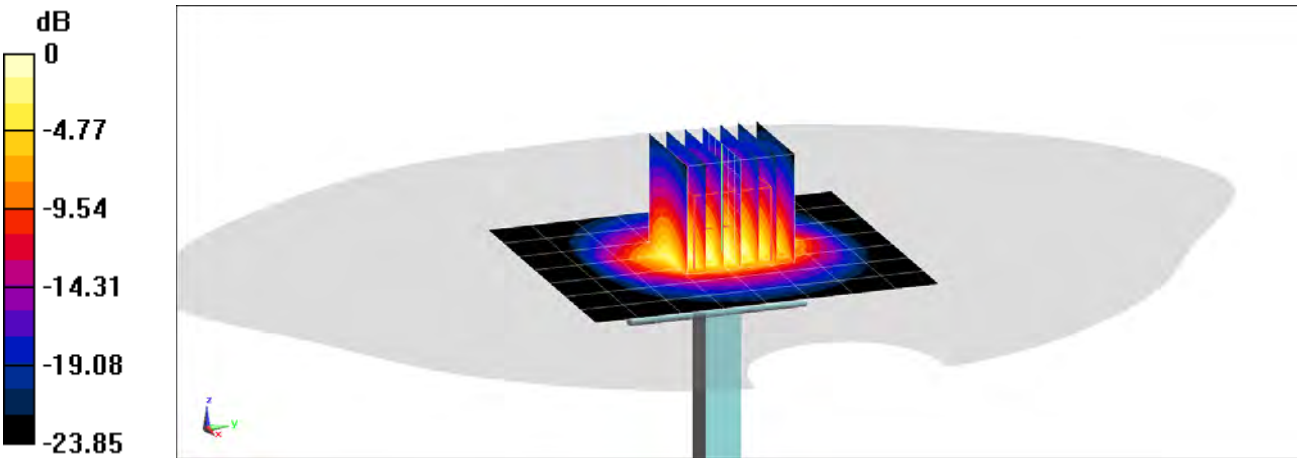
Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2600 MHz; σ = 1.93 S/m; ε_r = 37.273; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

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) @ 2600 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)

2600 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 13.2 W/kg
SAR(1 g) = 6.07 W/kg
Deviation(1 g) = 4.48%



0 dB = 10.5 W/kg = 10.21 dBW/kg

DUT: Dipole 2600 MHz; Type: D2450V2; Serial: 1064

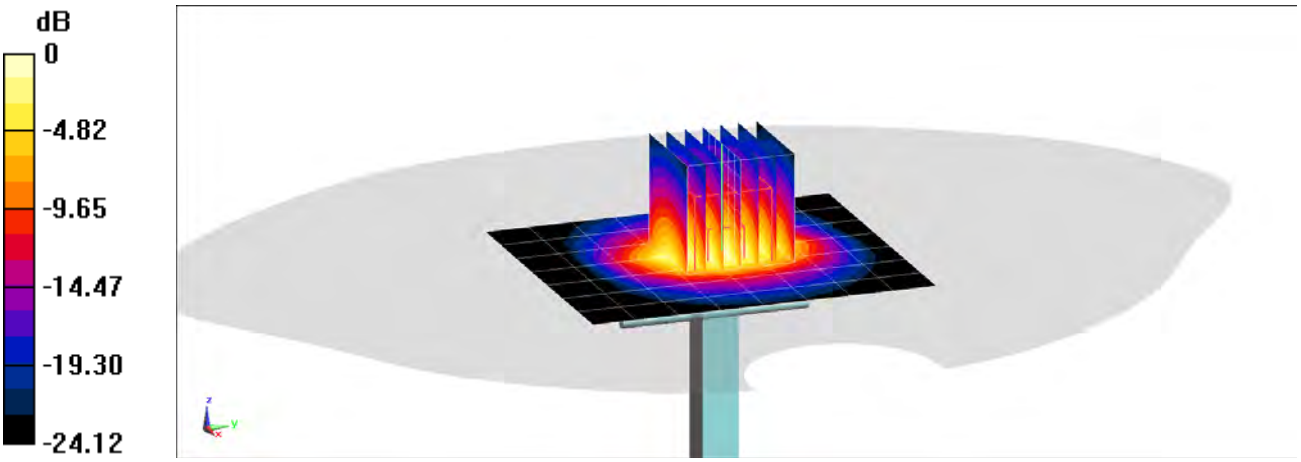
Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2600 MHz; σ = 1.931 S/m; ε_r = 38.079; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/27/2020; Ambient Temp: 24.4°C; Tissue Temp: 23.0°C

Probe: EX3DV4 - SN7417; ConvF(7.17, 7.17, 7.17) @ 2600 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)

2600 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 13.1 W/kg
SAR(1 g) = 5.98 W/kg
Deviation(1 g) = 2.93%



0 dB = 10.3 W/kg = 10.13 dBW/kg

PCTEST

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1191

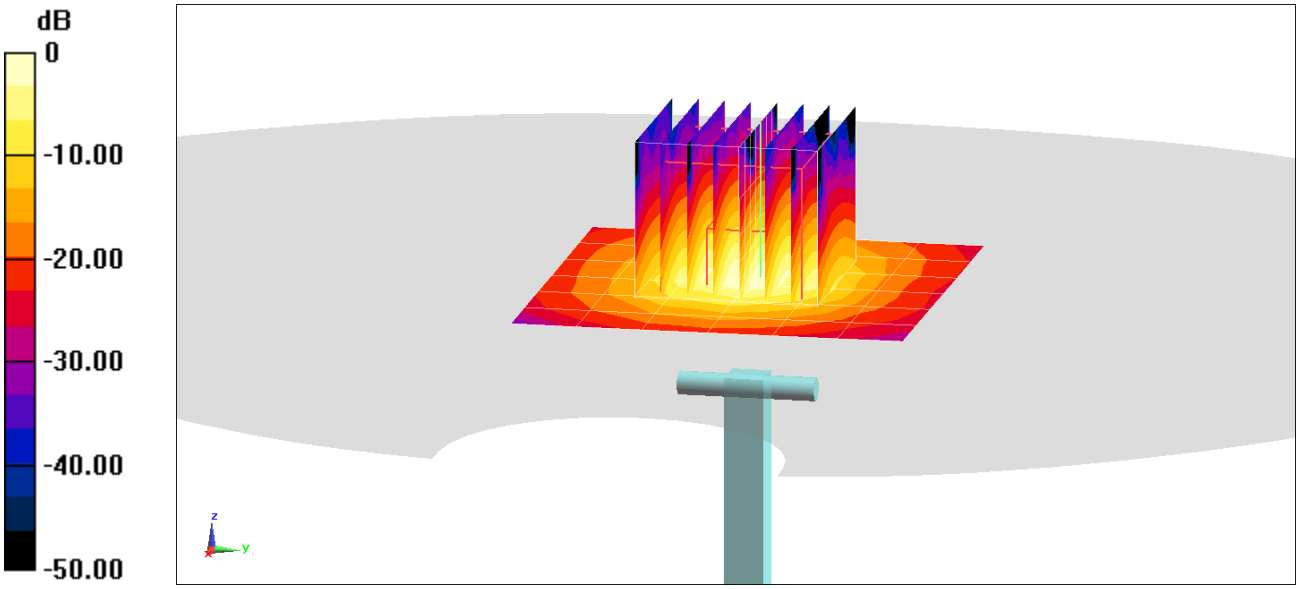
Communication System: UID 0, CW; Frequency: 5250 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Head; Medium parameters used:
f = 5250 MHz; σ = 4.555 S/m; ε_r = 34.508; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12/09/2019; Ambient Temp: 22.0°C; Tissue Temp: 23.0°C

Probe: EX3DV4 - SN7406; ConvF(5.54, 5.54, 5.54) @ 5250 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)

5250 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 15.5 W/kg
SAR(1 g) = 3.78 W/kg
Deviation(1 g) = -6.44%



0 dB = 9.04 W/kg = 9.56 dBW/kg

PCTEST

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1191

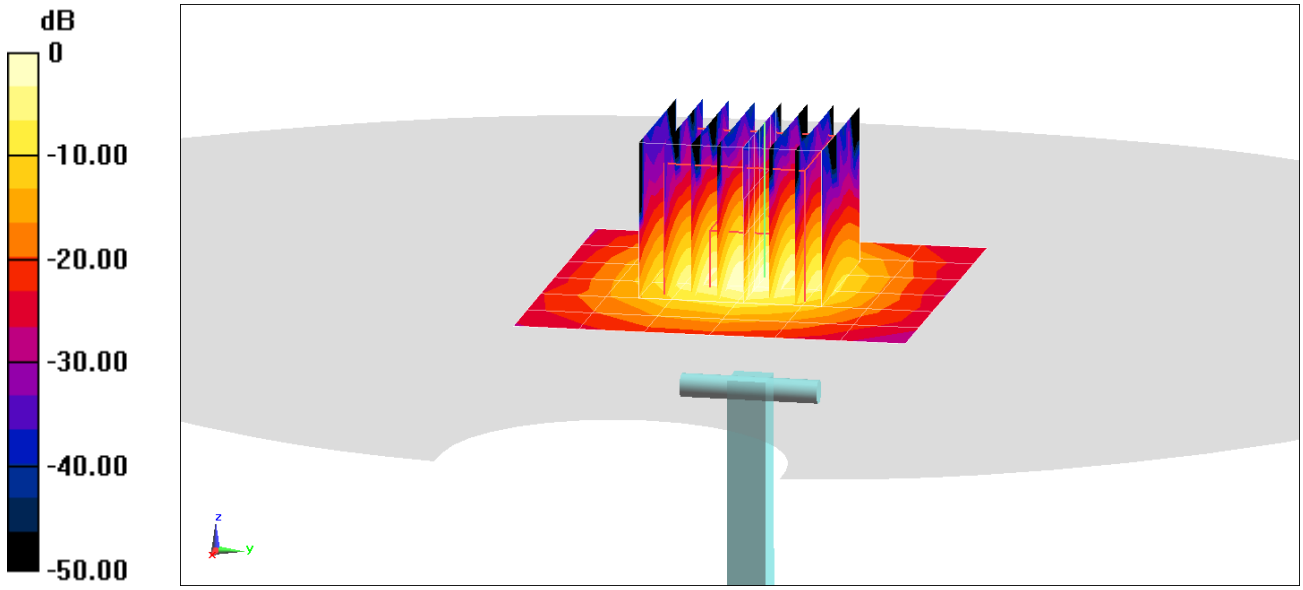
Communication System: UID 0, CW; Frequency: 5600 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Head; Medium parameters used:
f = 5600 MHz; σ = 4.913 S/m; ε_r = 34.013; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12/09/2019; Ambient Temp: 22.0°C; Tissue Temp: 23.0°C

Probe: EX3DV4 - SN7406; ConvF(4.94, 4.94, 4.94) @ 5600 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)

5600 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 16.9 W/kg
SAR(1 g) = 3.91 W/kg
Deviation(1 g) = -5.44%



0 dB = 9.30 W/kg = 9.68 dBW/kg

PCTEST

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1191

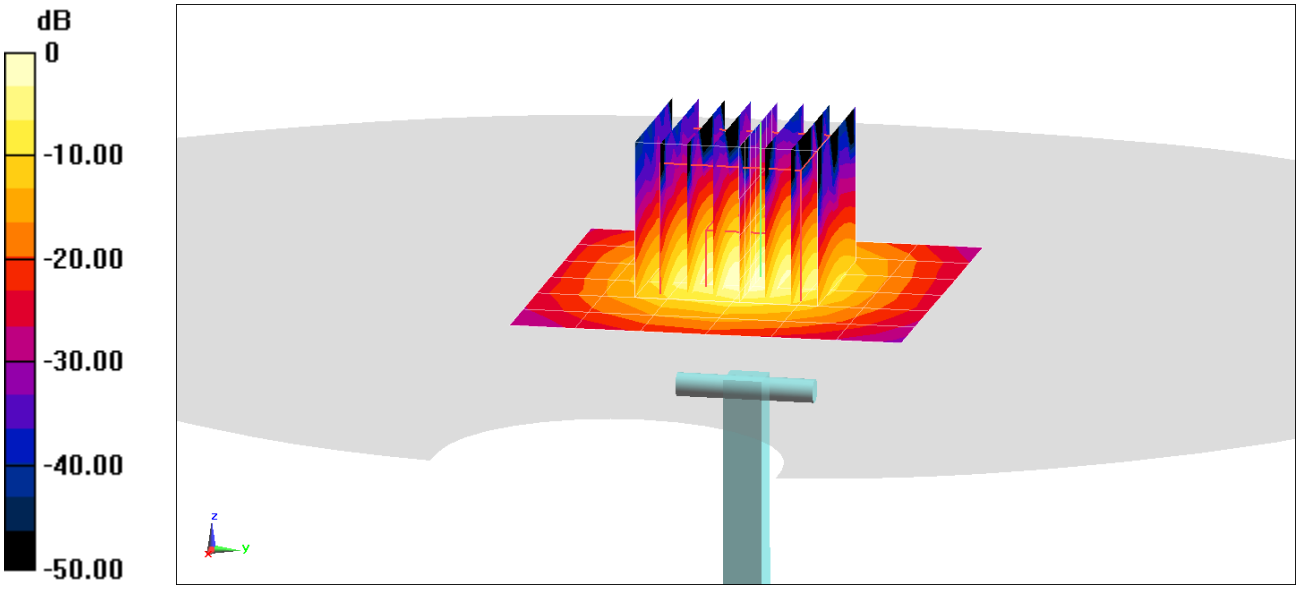
Communication System: UID 0, CW; Frequency: 5750 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Head; Medium parameters used:
f = 5750 MHz; σ = 5.075 S/m; ε_r = 33.826; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12/09/2019; Ambient Temp: 22.0°C; Tissue Temp: 23.0°C

Probe: EX3DV4 - SN7406; ConvF(5.23, 5.23, 5.23) @ 5750 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)

5750 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 16.2 W/kg
SAR(1 g) = 3.61 W/kg
Deviation(1 g) = -9.98%



0 dB = 8.90 W/kg = 9.49 dBW/kg

PCTEST

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1161

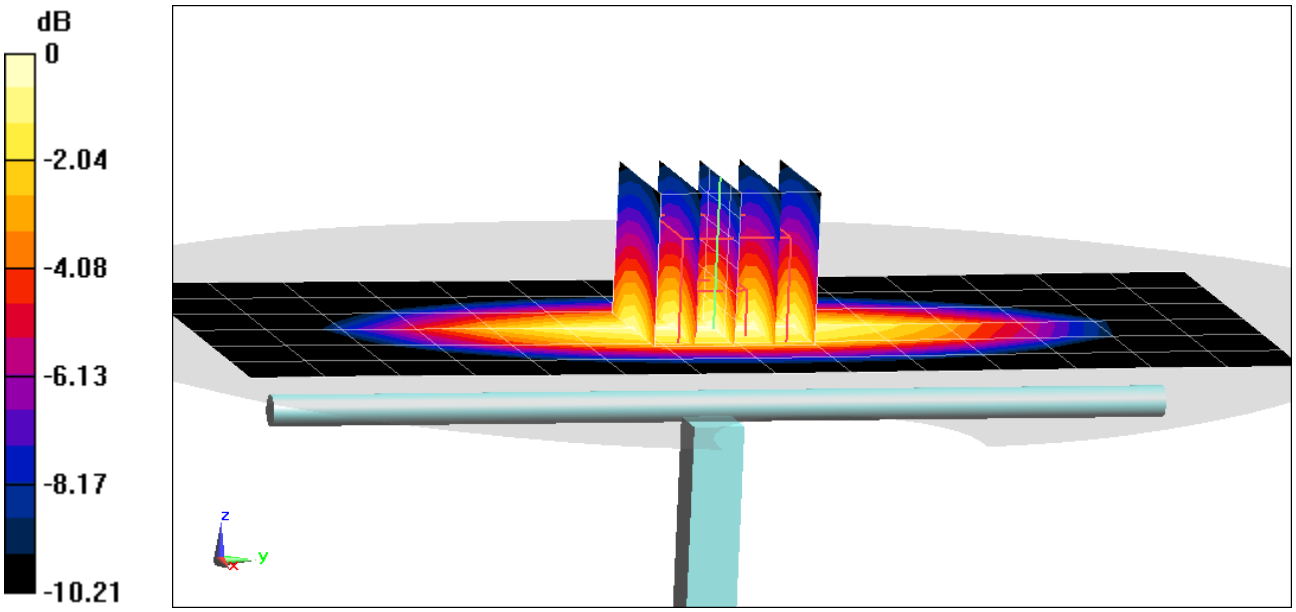
Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1
Medium: 700 Body Medium parameters used:
f = 750 MHz; σ = 0.99 S/m; ε_r = 57.195; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11/12/2019; Ambient Temp: 22.6°C; Tissue Temp: 24.4°C

Probe: EX3DV4 - SN7410; ConvF(10.01, 10.01, 10.01) @ 750 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)

750 MHz System Verification at 23.0 dBm (200 mW)

Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 2.71 W/kg
SAR(1 g) = 1.82 W/kg
Deviation(1 g) = 7.95%



0 dB = 2.42 W/kg = 3.84 dBW/kg

PCTEST

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1161

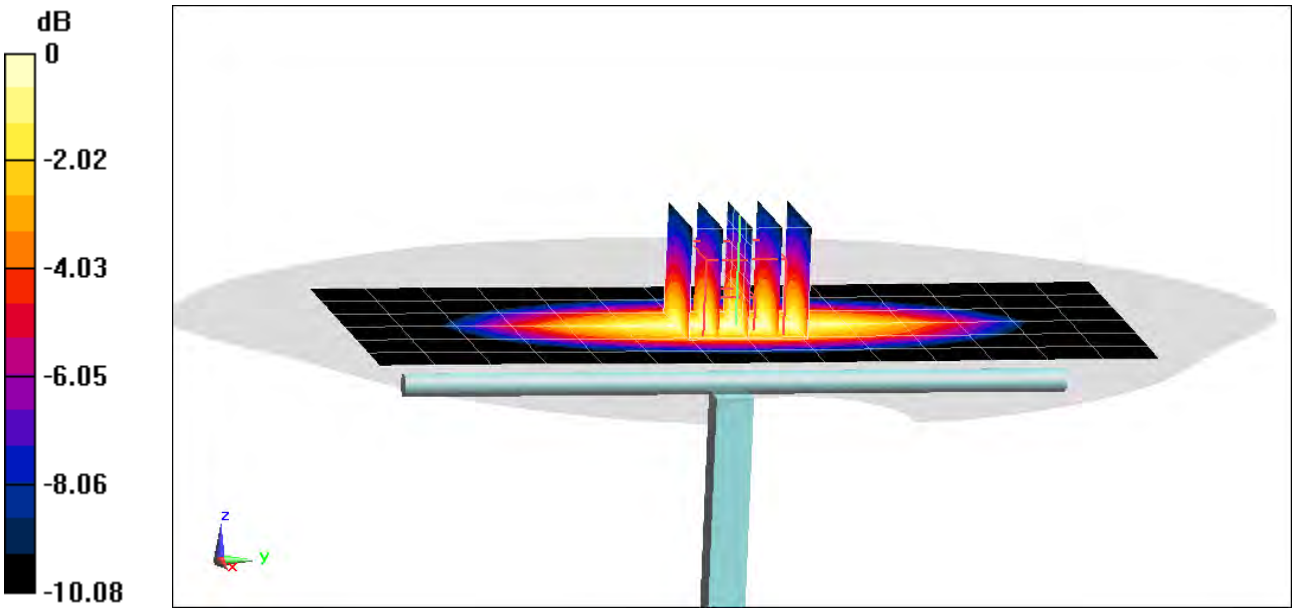
Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1
Medium: 700 Body Medium parameters used:
f = 750 MHz; σ = 0.974 S/m; ε_r = 56.643; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11/14/2019; Ambient Temp: 22.8°C; Tissue Temp: 23.6°C

Probe: EX3DV4 - SN7410; ConvF(10.01, 10.01, 10.01) @ 750 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)

750 MHz System Verification at 23.0 dBm (200 mW)

Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 2.64 W/kg
SAR(1 g) = 1.79 W/kg
Deviation(1 g) = 6.17%



0 dB = 2.36 W/kg = 3.73 dBW/kg

PCTEST

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1161

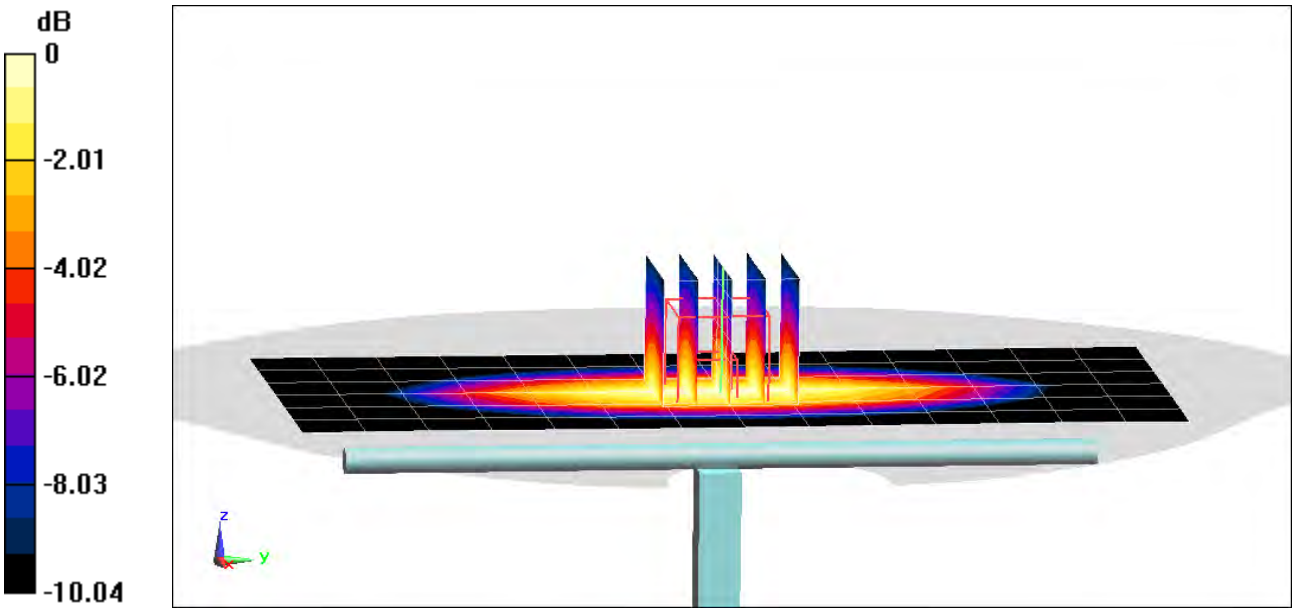
Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1
Medium: 700 Body Medium parameters used:
f = 750 MHz; σ = 0.944 S/m; ε_r = 55.048; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11/20/2019; Ambient Temp: 23.0°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7410; ConvF(10.01, 10.01, 10.01) @ 750 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)

750 MHz System Verification at 23.0 dBm (200 mW)

Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 2.55 W/kg
SAR(1 g) = 1.71 W/kg
Deviation(1 g) = 1.42%



0 dB = 2.25 W/kg = 3.52 dBW/kg

PCTEST

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d132

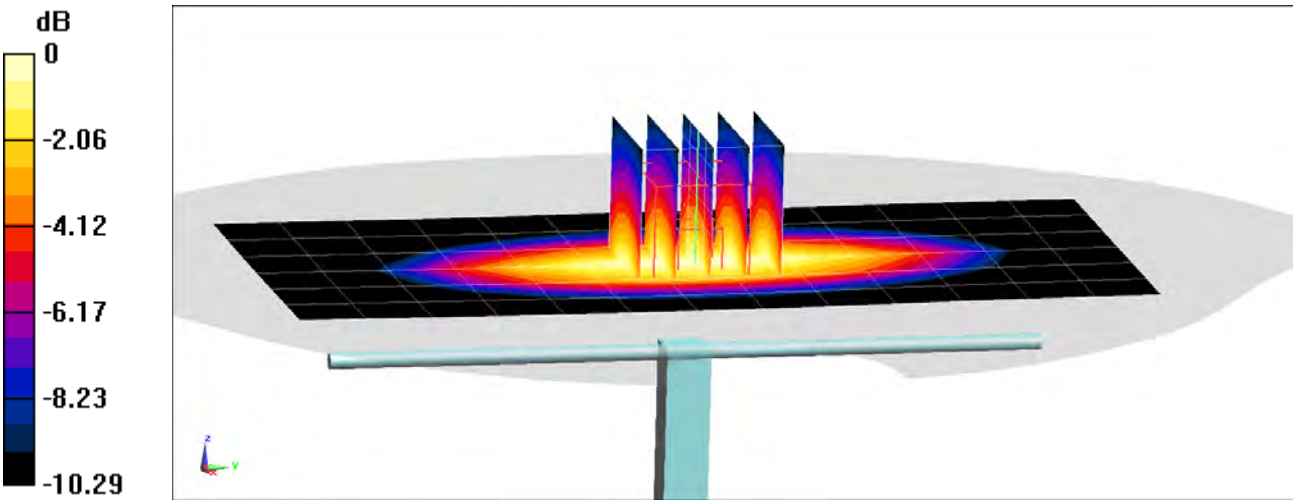
Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used:
f = 835 MHz; σ = 0.956 S/m; ε_r = 54.694; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11/13/2019; Ambient Temp: 22.0°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7357; ConvF(9.95, 9.95, 9.95) @ 835 MHz; Calibrated: 4/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/18/2019
Phantom: Twin-SAM V4.0 (30); Type: QD 000 P40 CC; Serial: 1167
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

835 MHz System Verification at 23.0 dBm (200 mW)

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 2.92 W/kg
SAR(1 g) = 1.95 W/kg
Deviation(1 g) = 0.83%;



0 dB = 2.59 W/kg = 4.13 dBW/kg

PCTEST

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1148

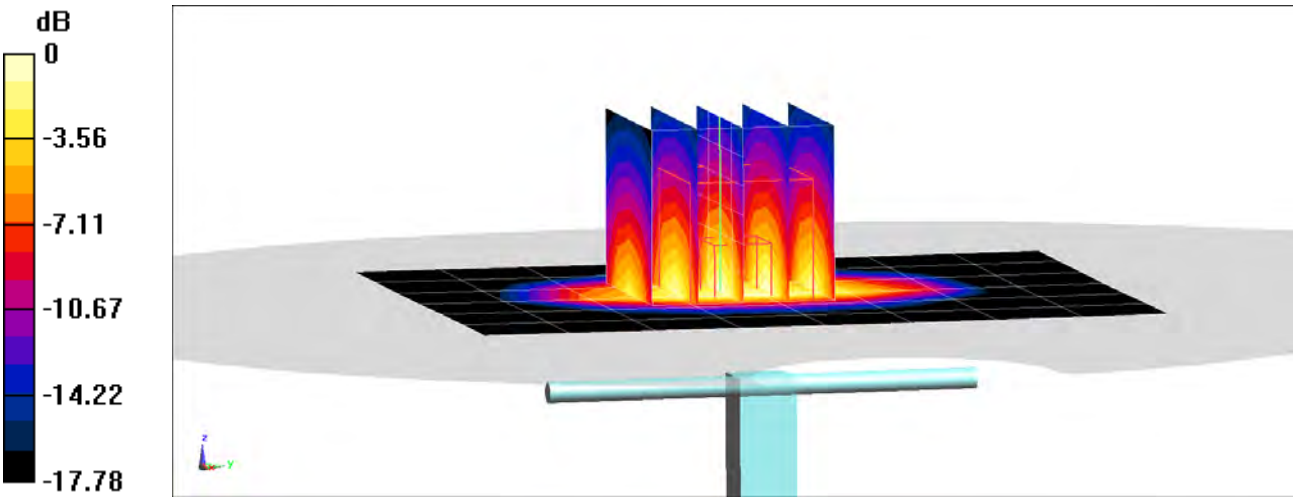
Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used:
f = 1750 MHz; σ = 1.505 S/m; ε_r = 51.413; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11/11/2019; Ambient Temp: 21.8°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7409; ConvF(7.85, 7.85, 7.85) @ 1750 MHz; Calibrated: 6/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 6/20/2019
Phantom: Front; Type: QD 000 P40 CD; Serial: 1686
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

1750 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.00 W/kg
SAR(1 g) = 3.79 W/kg
Deviation(1 g) = 0.53%



0 dB = 5.73 W/kg = 7.58 dBW/kg

PCTEST

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1150

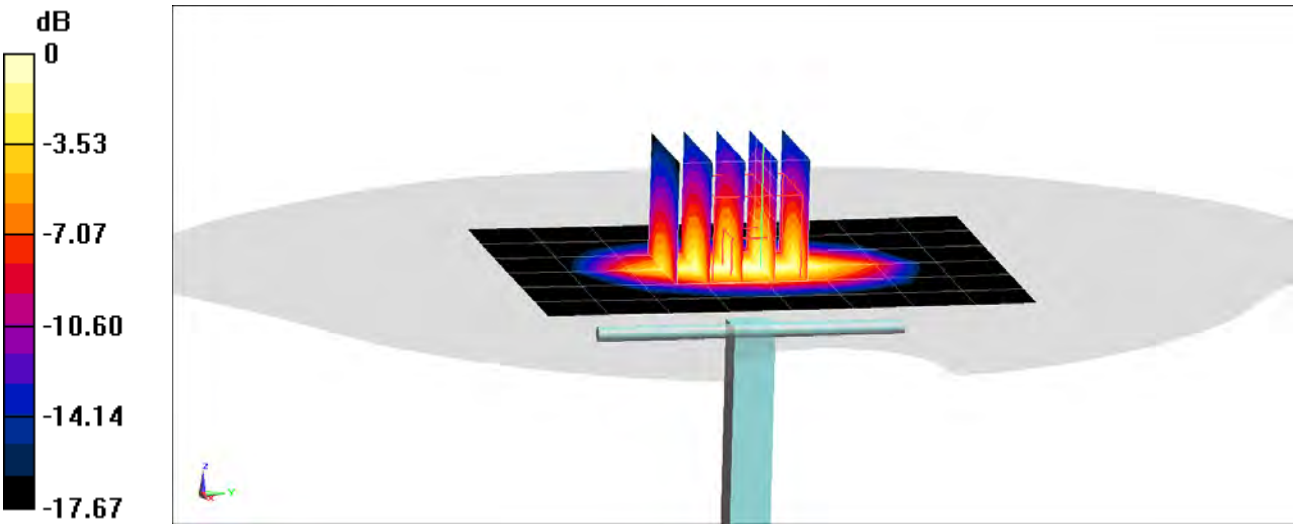
Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used:
f = 1750 MHz; σ = 1.54 S/m; ε_r = 53; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/03/2020; Ambient Temp: 21.4°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN7357; ConvF(8.26, 8.26, 8.26) @ 1750 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)

1750 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.07 W/kg
SAR(1 g) = 3.86 W/kg
Deviation(1 g) = 5.46%



0 dB = 5.85 W/kg = 7.67 dBW/kg

PCTEST

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1148

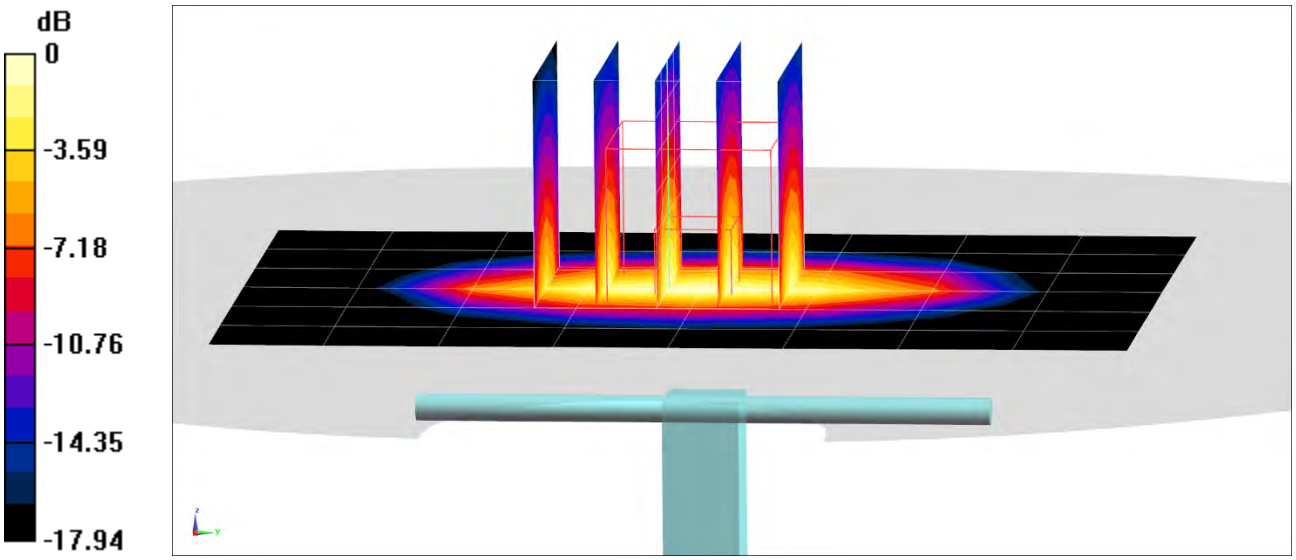
Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used:
f = 1750 MHz; σ = 1.522 S/m; ε_r = 52.87; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/11/2020; Ambient Temp: 21.4°C; Tissue Temp: 20.6°C

Probe: EX3DV4 - SN7308; ConvF(8.25, 8.25, 8.25) @ 1750 MHz; Calibrated: 8/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/14/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

1750 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.35 W/kg
SAR(1 g) = 3.97 W/kg
Deviation(1 g) = 5.31%



0 dB = 6.04 W/kg = 7.81 dBW/kg

DUT: Dipole 1750 MHz; Type: D1765V2; Serial: 1008

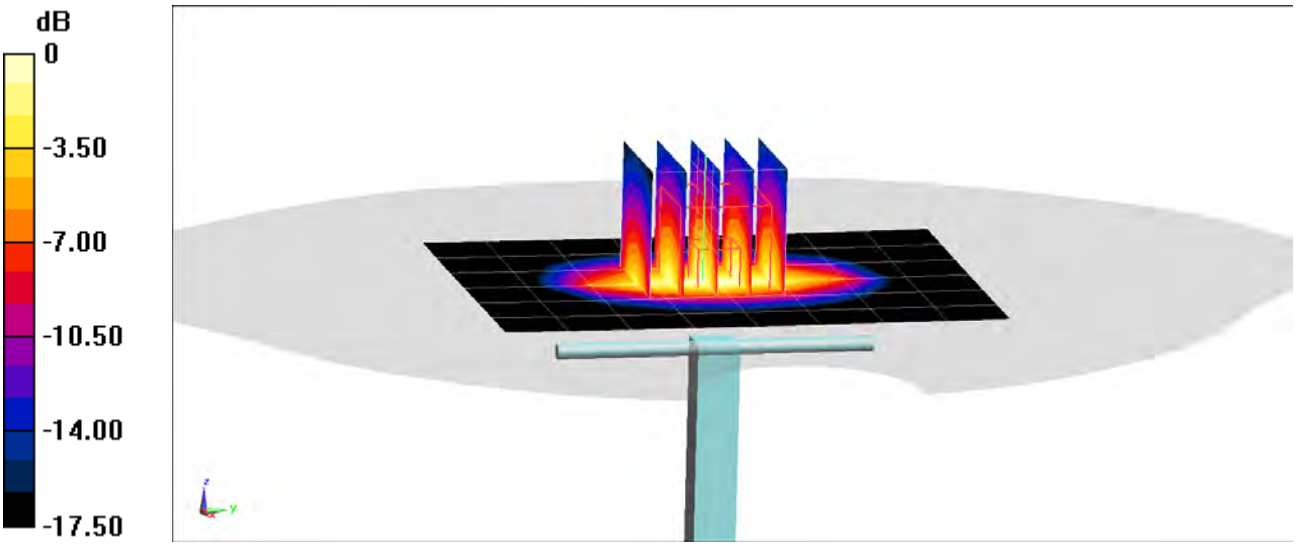
Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used:
f = 1750 MHz; σ = 1.459 S/m; ε_r = 53.654; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/13/2020; Ambient Temp: 21.2°C; Tissue Temp: 20.8°C

Probe: EX3DV4 - SN7357; ConvF(8.26, 8.26, 8.26) @ 1750 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)

1750 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.01 W/kg
SAR(1 g) = 3.79 W/kg
Deviation(1 g) = 1.34%



0 dB = 5.79 W/kg = 7.63 dBW/kg

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1148

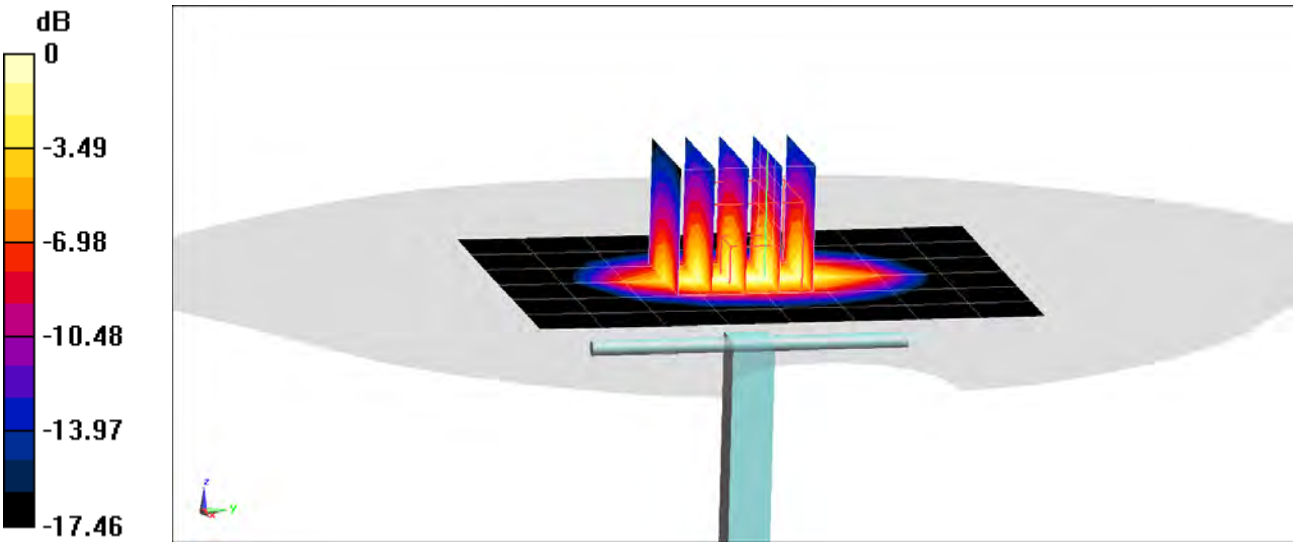
Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used:
f = 1750 MHz; σ = 1.444 S/m; ε_r = 53.779; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/20/2020; Ambient Temp: 22.2°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN7357; ConvF(8.26, 8.26, 8.26) @ 1750 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)

1750 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 6.80 W/kg
SAR(10 g) = 1.99 W/kg
Deviation(10 g) = 0.51%



0 dB = 5.66 W/kg = 7.53 dBW/kg

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1148

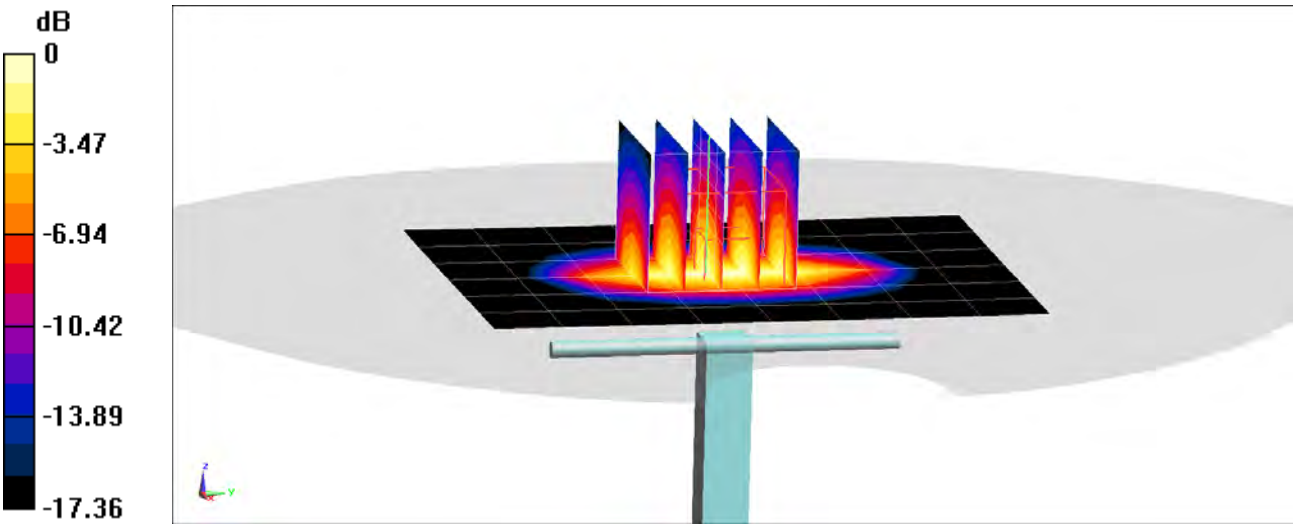
Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used:
f = 1750 MHz; σ = 1.51 S/m; ε_r = 53.969; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/22/2020; Ambient Temp: 21.1°C; Tissue Temp: 22.8°C

Probe: EX3DV4 - SN7357; ConvF(8.26, 8.26, 8.26) @ 1750 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)

1750 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.34 W/kg
SAR(10 g) = 2.12 W/kg
Deviation(10 g) = 7.07%



0 dB = 6.12 W/kg = 7.87 dBW/kg

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1148

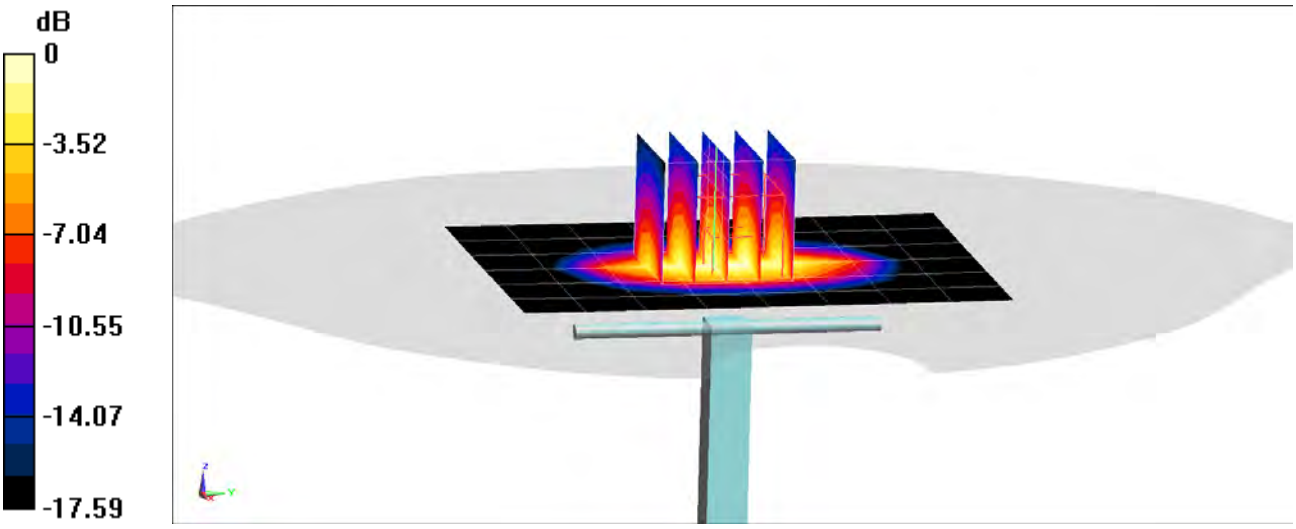
Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used:
f = 1750 MHz; σ = 1.508 S/m; ε_r = 54.52; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/25/2020; Ambient Temp:22.2°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN7357; ConvF(8.26, 8.26, 8.26) @ 1750 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)

1750 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.26 W/kg
SAR(1 g) = 3.93 W/kg; SAR(10 g) = 2.08 W/kg
Deviation(1 g) = 4.24%; Deviation(10 g) = 5.05%



0 dB = 5.97 W/kg = 7.76 dBW/kg

PCTEST

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d149

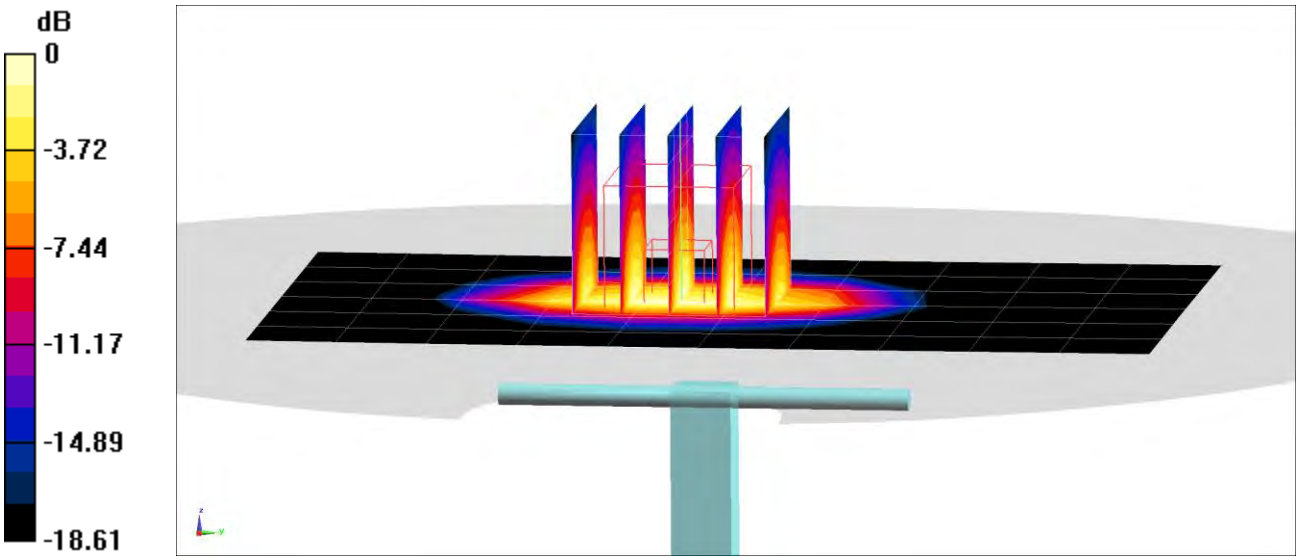
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1900 MHz; σ = 1.564 S/m; ε_r = 51.052; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11/18/2019; Ambient Temp: 22.4°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN3914; ConvF(7.6, 7.6, 7.6) @ 1900 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 2/14/2019
Phantom: Twin-SAM V5.0 Front 30; Type: QD 000 P40 CD; Serial: 1646
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

1900 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.98 W/kg
SAR(1 g) = 4.24 W/kg
Deviation(1 g) = 7.61%



0 dB = 6.39 W/kg = 8.06 dBW/kg

PCTEST

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d148

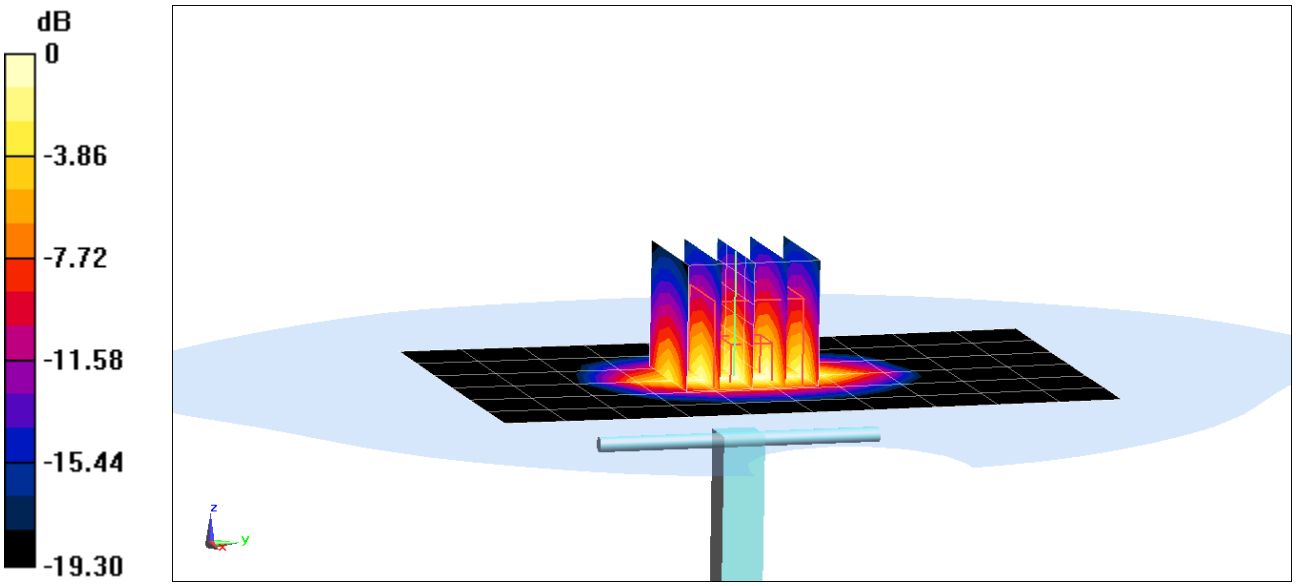
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1900 MHz; σ = 1.579 S/m; ε_r = 51.868; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11/23/2019; Ambient Temp: 20.3°C; Tissue Temp: 24.3°C

Probe: EX3DV4 - SN7488; ConvF(8.37, 8.37, 8.37) @ 1900 MHz; Calibrated: 1/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/15/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

1900 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.71 W/kg
SAR(1 g) = 3.99 W/kg
Deviation(1 g) = 2.05%



0 dB = 6.28 W/kg = 7.98 dBW/kg

PCTEST

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d080

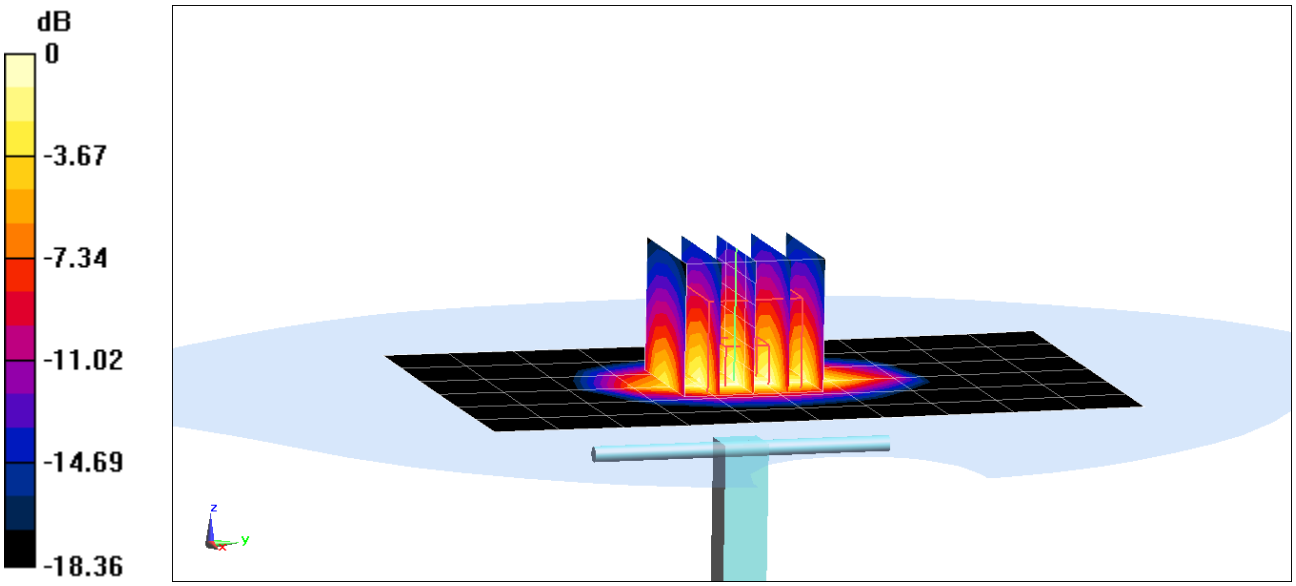
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1900 MHz; σ = 1.56 S/m; ε_r = 52.007; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/12/2020; Ambient Temp: 24.1°C; Tissue Temp: 23.5°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1900 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

1900 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.54 W/kg
SAR(1 g) = 4.15 W/kg; SAR(10 g) = 2.13 W/kg
Deviation(1 g) = 5.87%; Deviation(10 g) = 3.40%



0 dB = 6.39 W/kg = 8.06 dBW/kg

PCTEST

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d148

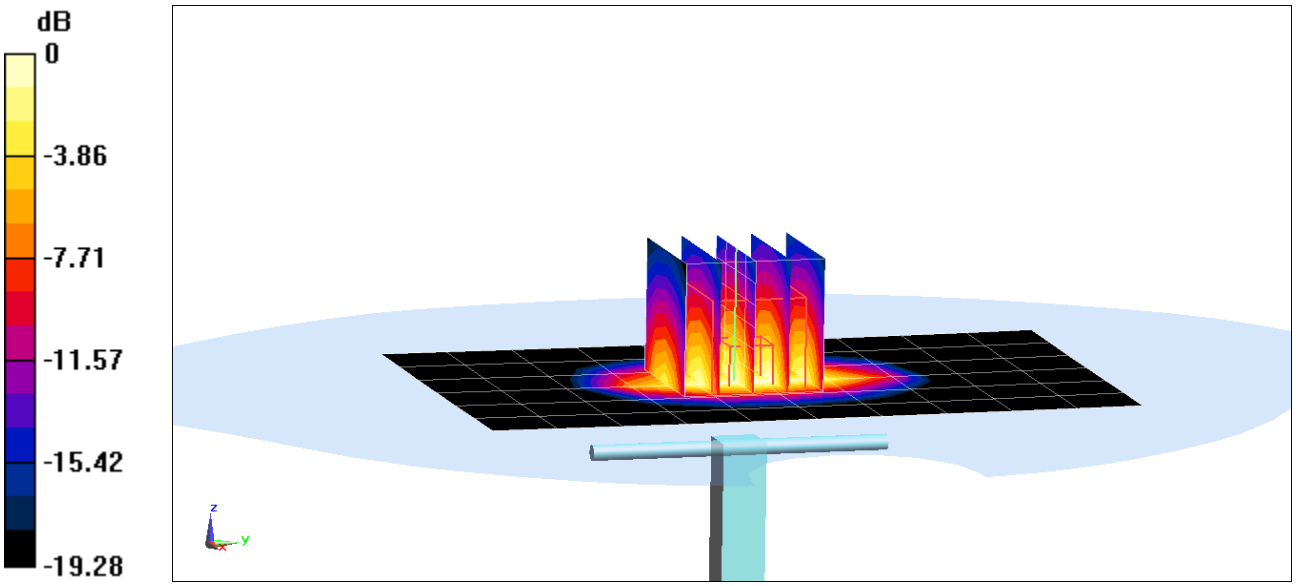
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1900 MHz; σ = 1.583 S/m; ε_r = 52.118; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/19/2020; Ambient Temp: 22.7°C; Tissue Temp: 24.5°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1900 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

1900 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.75 W/kg
SAR(1 g) = 4.2 W/kg; SAR(10 g) = 2.14 W/kg
Deviation(1 g) = 7.42%; Deviation(10 g) = 4.39%



0 dB = 6.41 W/kg = 8.07 dBW/kg

PCTEST

DUT: Dipole 2300 MHz; Type: D2300V2; Serial: 1073

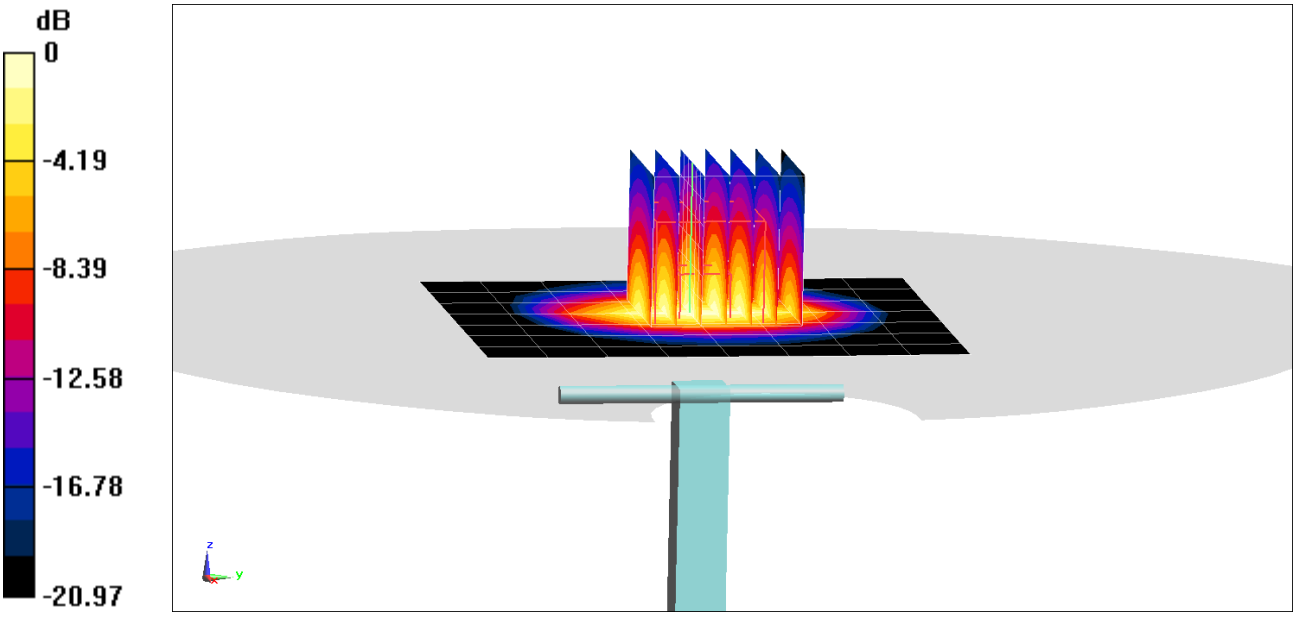
Communication System: UID 0, CW; Frequency: 2300 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2300 MHz; σ = 1.872 S/m; ε_r = 51.404; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/02/2020; Ambient Temp: 23.1°C; Tissue Temp: 23.0°C

Probe: EX3DV4 - SN7547; ConvF(7.47, 7.47, 7.47) @ 2300 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

2300 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 9.20 W/kg
SAR(1 g) = 4.71 W/kg
Deviation(1 g) = -1.26%



0 dB = 7.51 W/kg = 8.76 dBW/kg

PCTEST

DUT: Dipole 2300 MHz; Type: D2300V2; Serial: 1064

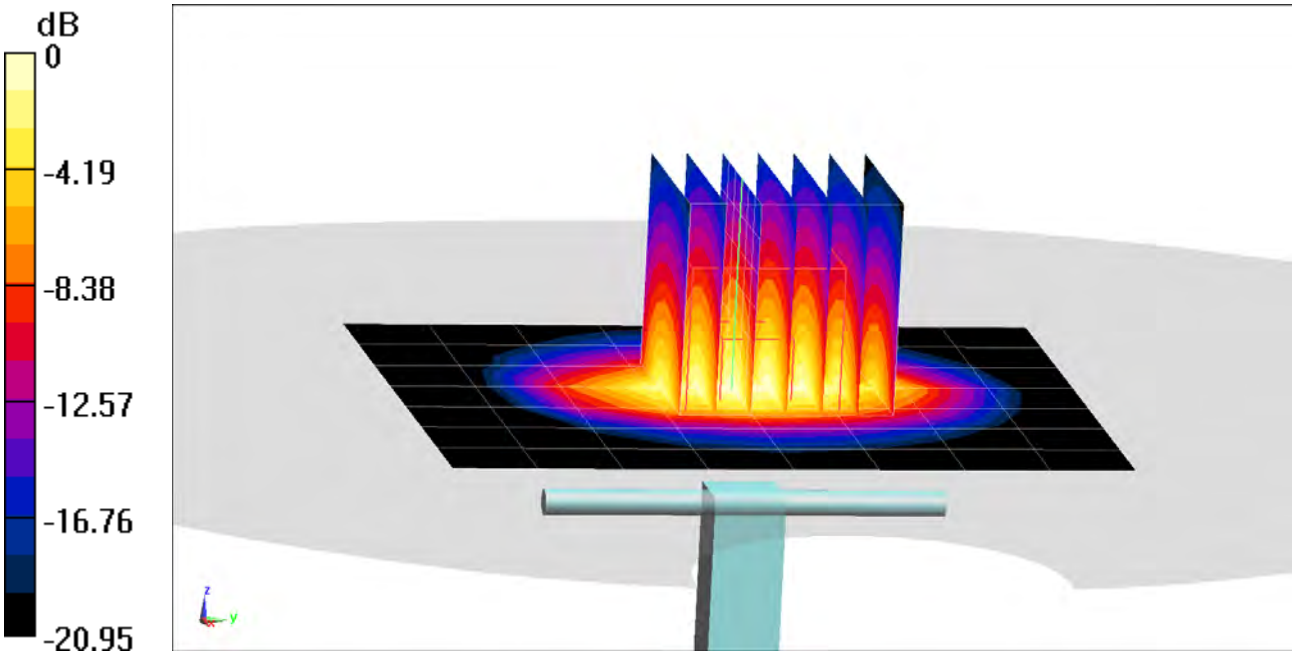
Communication System: UID 0, CW; Frequency: 2300 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2300 MHz; σ = 1.887 S/m; ε_r = 52.563; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/06/2020; Ambient Temp: 20.6°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN7410; ConvF(7.68, 7.68, 7.68) @ 2300 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)

2300 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 9.22 W/kg
SAR(1 g) = 4.71 W/kg; SAR(10 g) = 2.26 W/kg
Deviation(10 g) = 1.29%; Deviation(10 g) = 0.00%



0 dB = 7.53 W/kg = 8.77 dBW/kg

PCTEST

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 797

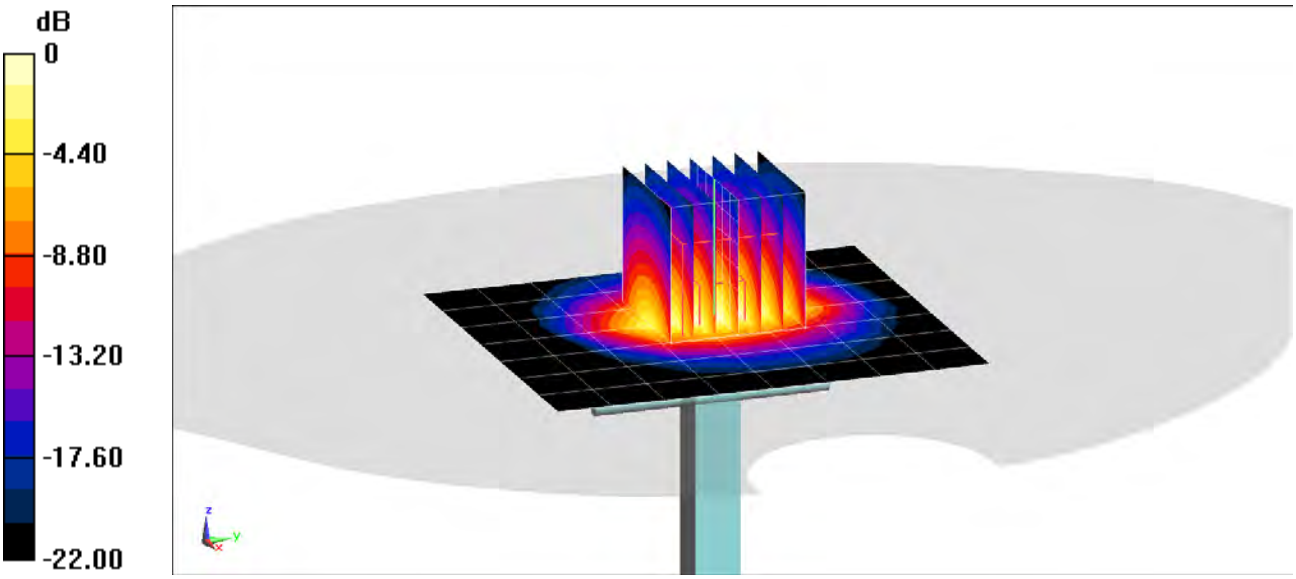
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2450 MHz; σ = 2.035 S/m; ε_r = 51.343; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12/27/2019; Ambient Temp: 23.5°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7547; ConvF(7.3, 7.3, 7.3) @ 2450 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

2450 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 10.7 W/kg
SAR(1 g) = 5.14 W/kg
Deviation(1 g) = 0.59%



0 dB = 8.68 W/kg = 9.39 dBW/kg

PCTEST

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 719

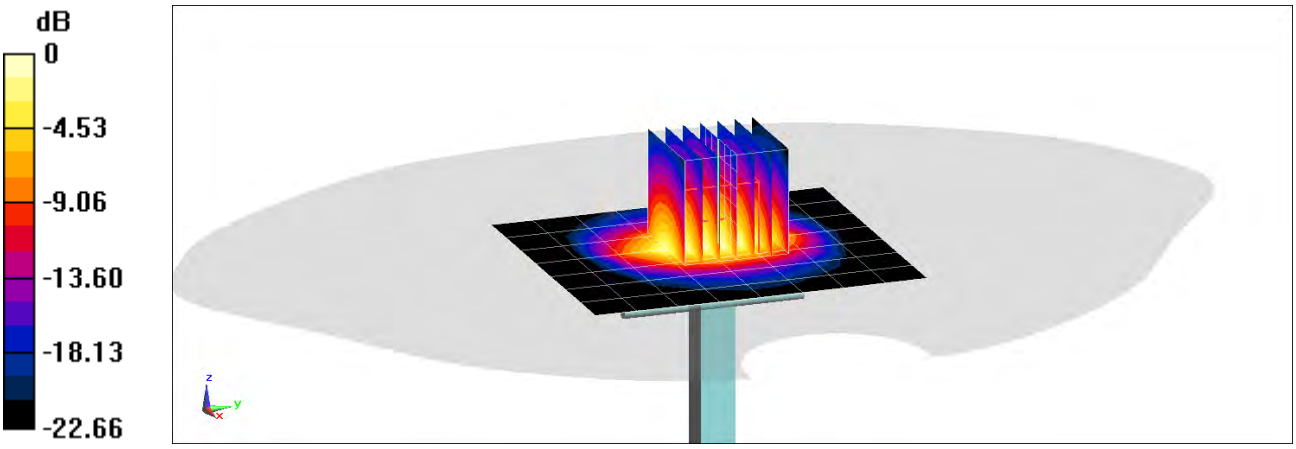
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2450 MHz; σ = 2.041 S/m; ε_r = 51.608; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/05/2020; Ambient Temp: 23.4°C; Tissue Temp: 22.2°C

Probe: EX3DV4 - SN7547; ConvF(7.3, 7.3, 7.3) @ 2450 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

2450 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 10.9 W/kg
SAR(1 g) = 5.3 W/kg
Deviation(1 g) = 4.33%



0 dB = 8.77 W/kg = 9.43 dBW/kg

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 719

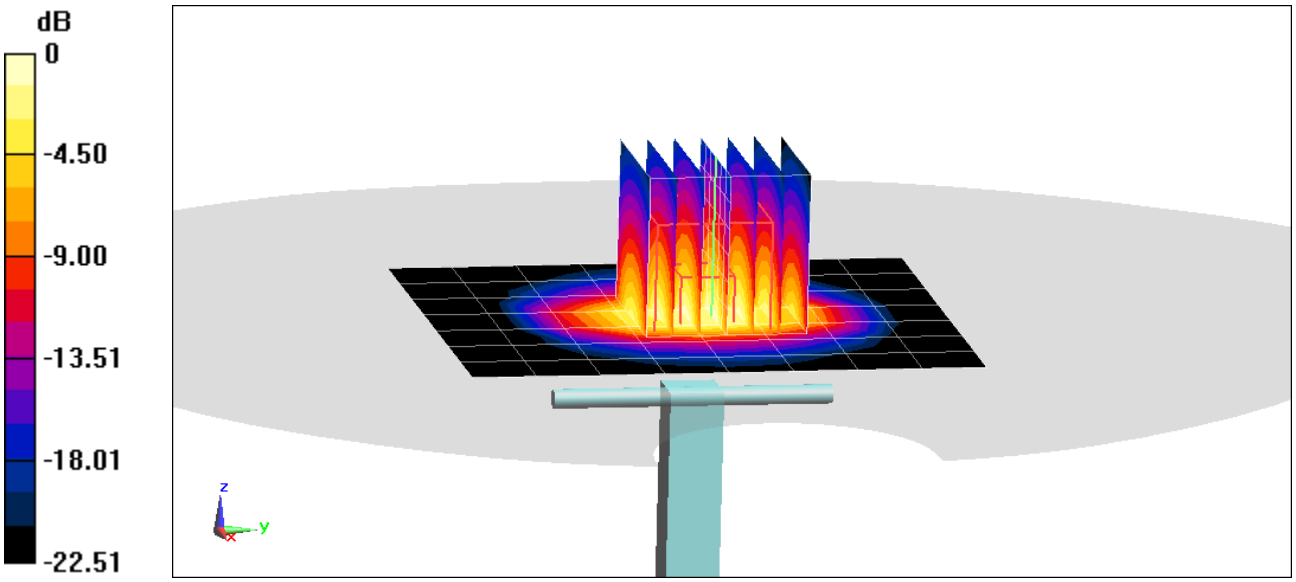
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2450 MHz; σ = 2.02 S/m; ε_r = 51.511; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/09/2020; Ambient Temp: 21.8°C; Tissue Temp: 20.2°C

Probe: EX3DV4 - SN7410; ConvF(7.44, 7.44, 7.44) @ 2450 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)

2450 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 11.2 W/kg
SAR(1 g) = 5.41 W/kg; SAR(10 g) = 2.48 W/kg
Deviation(1 g) = 6.50%; Deviation(10 g) = 3.33%



0 dB = 9.04 W/kg = 9.56 dBW/kg

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 981

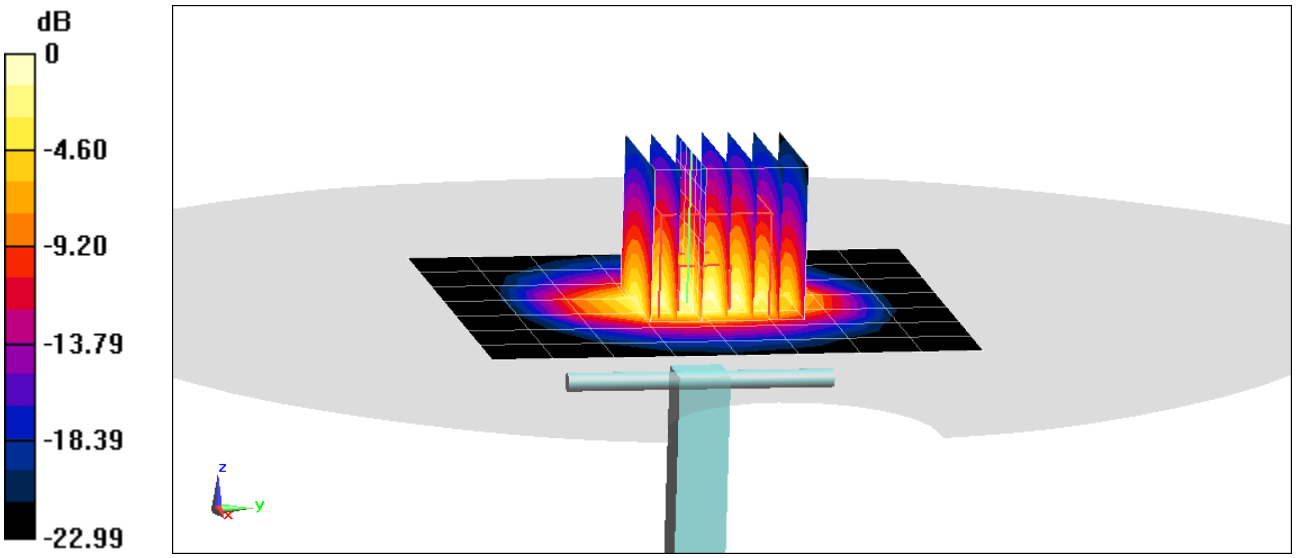
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2450 MHz; σ = 2.043 S/m; ε_r = 51.497; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/27/2020; Ambient Temp: 20.5°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7410; ConvF(7.44, 7.44, 7.44) @ 2450 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)

2450 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 10.2 W/kg
SAR(1 g) = 4.89 W/kg; SAR(10 g) = 2.24 W/kg
Deviation(1 g) = -3.93%; Deviation(10 g) = -7.44%



0 dB = 8.13 W/kg = 9.10 dBW/kg

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1064

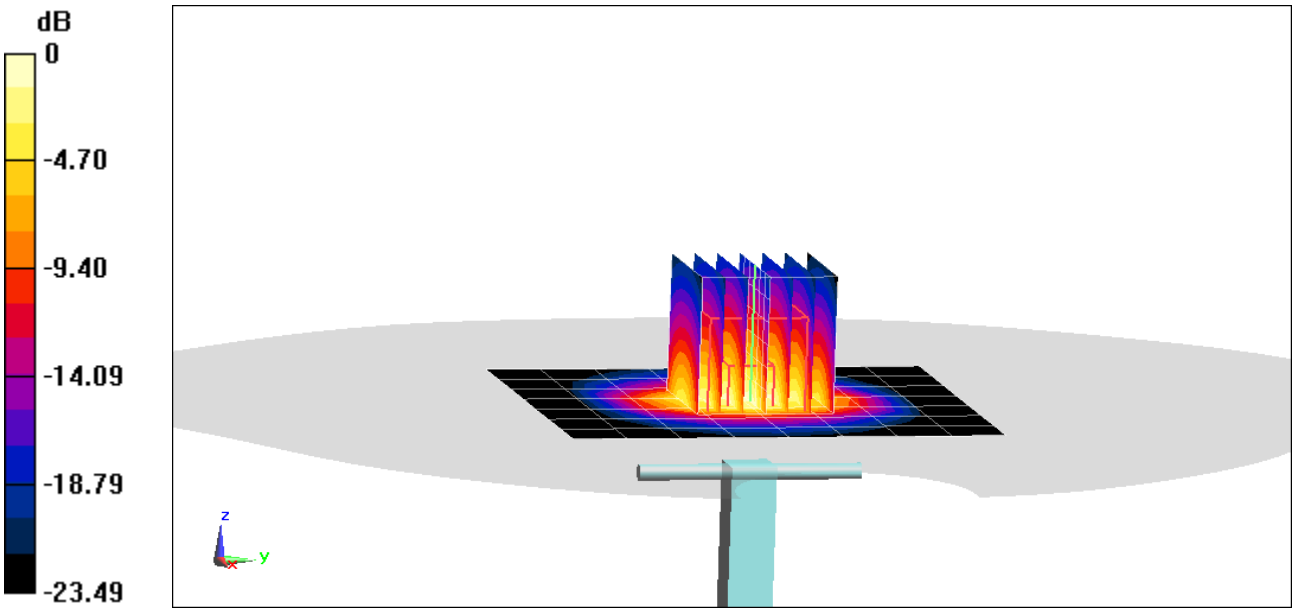
Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2600 MHz; σ = 2.146 S/m; ε_r = 52.19; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11/18/2019; Ambient Temp: 23.0°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7410; ConvF(7.43, 7.43, 7.43) @ 2600 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)

2600 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 12.0 W/kg
SAR(1 g) = 5.53 W/kg
Deviation(1 g) = -0.54%



0 dB = 9.43 W/kg = 9.75 dBW/kg

PCTEST

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1004

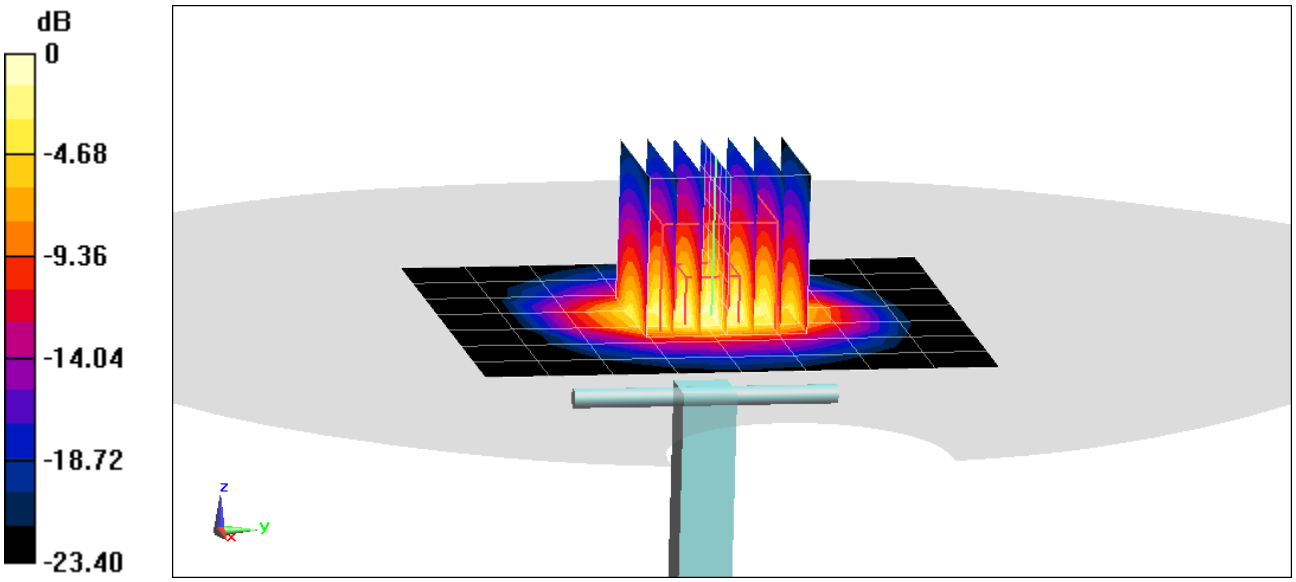
Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2600 MHz; σ = 2.158 S/m; ε_r = 51.319; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/09/2020; Ambient Temp: 21.8°C; Tissue Temp: 20.2°C

Probe: EX3DV4 - SN7410; ConvF(7.43, 7.43, 7.43) @ 2600 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)

2600 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 11.9 W/kg
SAR(1 g) = 5.48 W/kg; SAR(10 g) = 2.42 W/kg
Deviation(1 g) = 0.00%; Deviation(10 g) = -2.02%



0 dB = 9.46 W/kg = 9.76 dBW/kg

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1004

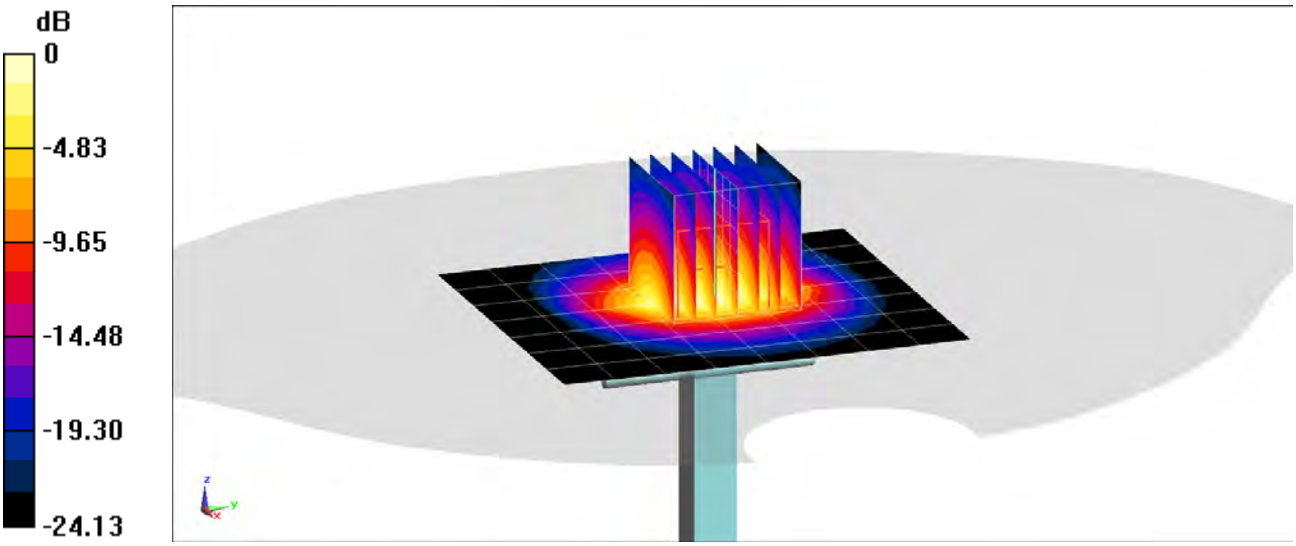
Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2600 MHz; σ = 2.212 S/m; ε_r = 50.494; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/20/2020; Ambient Temp: 23.9°C; Tissue Temp: 24.1°C

Probe: EX3DV4 - SN7547; ConvF(7.18, 7.18, 7.18) @ 2600 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

2600 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 12.3 W/kg
SAR(1 g) = 5.62 W/kg
Deviation(1 g) = 2.55%



0 dB = 9.65 W/kg = 9.85 dBW/kg