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SAR EVALUATION REPORT

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

Date of Testing:
07/24/19 – 08/26/19
Test Site/Location:
PCTEST Lab, Columbia, MD, USA
Document Serial No.:
1M1907250129-01-R1.ZNF

FCC ID: **ZNFG850UM**

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

DUT Type: Portable Handset
Application Type: Certification
FCC Rule Part(s): CFR §2.1093
Model: LM-G850UM
Additional Model(s): LM-G850V, LM-G850QM, LM-G850QM6, LMG850UM, LMG850V, LMG850QM, LMG850QM6, G850UM, G850V, G850QM, G850QM6, LM-850UM2, LM-G850UM2X, LMG850UM2, LMG850UM2X, G850UM2, G850UM2X

Equipment Class	Band & Mode	Tx Frequency	SAR			
			1g Head (W/kg)	1g Body-Worn (W/kg)	1g Hotspot (W/kg)	10g Phablet (W/kg)
PCE	CDMA/EVDO BC10 (SSO5)	817.90 - 823.10 MHz	0.12	0.66	0.74	N/A
PCE	CDMA/EVDO BC0 (S22H)	824.70 - 848.31 MHz	0.16	0.89	0.90	N/A
PCE	PCS CDMA/EVDO	1851.25 - 1908.75 MHz	0.14	0.54	1.26	2.89
PCE	GSM/GPRS/EDGE 850	824.20 - 848.80 MHz	0.15	0.86	0.86	N/A
PCE	GSM/GPRS/EDGE 1900	1850.20 - 1909.80 MHz	< 0.1	0.38	0.99	N/A
PCE	UMTS 850	826.40 - 846.60 MHz	0.13	1.01	1.01	N/A
PCE	UMTS 1750	1712.4 - 1752.6 MHz	< 0.1	0.68	1.01	2.83
PCE	UMTS 1900	1852.4 - 1907.6 MHz	0.11	0.58	1.24	2.66
PCE	LTE Band 71	665.5 - 695.5 MHz	0.14	0.46	0.46	N/A
PCE	LTE Band 12	699.7 - 715.3 MHz	0.14	0.47	0.47	N/A
PCE	LTE Band 17	706.5 - 713.5 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 13	779.5 - 784.5 MHz	0.13	0.48	0.48	N/A
PCE	LTE Band 14	790.5 - 795.5 MHz	0.12	0.56	0.56	N/A
PCE	LTE Band 26 (Cell)	814.7 - 848.3 MHz	0.14	0.82	0.82	N/A
PCE	LTE Band 5 (Cell)	824.7 - 848.3 MHz	0.11	0.85	0.85	N/A
PCE	LTE Band 66 (AWS)	1710.7 - 1779.3 MHz	< 0.1	0.71	1.08	3.18
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	0.12	0.53	1.27	3.03
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	0.39	0.55	0.57	N/A
PCE	LTE Band 7	2502.5 - 2567.5 MHz	0.49	0.65	0.86	N/A
CBE	LTE Band 48	3552.5 - 3697.5 MHz	< 0.1	0.15	0.15	N/A
PCE	LTE Band 41	2498.5 - 2687.5 MHz	0.30	0.39	0.45	N/A
DTS	2.4 GHz WLAN	2412 - 2462 MHz	1.08	0.27	0.55	N/A
NII	U-NII-1	5180 - 5240 MHz	N/A	N/A	0.27	N/A
NII	U-NII-2A	5260 - 5320 MHz	0.14	0.31	N/A	1.88
NII	U-NII-2C	5500 - 5720 MHz	0.21	0.26	N/A	0.84
NII	U-NII-3	5745 - 5825 MHz	0.43	0.63	0.63	N/A
DSS/DTS	Bluetooth	2402 - 2480 MHz	0.11	< 0.1	< 0.1	N/A
Simultaneous SAR per KDB 690783 D01v01r03:			1.57	1.59	1.59	3.92

Note: This revised Test Report (S/N: 1M1907250129-01-R1.ZNF) supersedes and replaces the previously issued test report on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.

This wireless portable device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment/general population exposure limits specified in ANSI/IEEE C95.1-1992 and has been tested in accordance with the measurement procedures specified in Section 1.8 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
CDMA/EVDO BC10 (§90S)	Voice/Data	817.90 - 823.10 MHz
CDMA/EVDO BC0 (§22H)	Voice/Data	824.70 - 848.31 MHz
PCS CDMA/EVDO	Voice/Data	1851.25 - 1908.75 MHz
GSM/GPRS/EDGE 850	Voice/Data	824.20 - 848.80 MHz
GSM/GPRS/EDGE 1900	Voice/Data	1850.20 - 1909.80 MHz
UMTS 850	Voice/Data	826.40 - 846.60 MHz
UMTS 1750	Voice/Data	1712.4 - 1752.6 MHz
UMTS 1900	Voice/Data	1852.4 - 1907.6 MHz
LTE Band 71	Voice/Data	665.5 - 695.5 MHz
LTE Band 12	Voice/Data	699.7 - 715.3 MHz
LTE Band 17	Voice/Data	706.5 - 713.5 MHz
LTE Band 13	Voice/Data	779.5 - 784.5 MHz
LTE Band 14	Voice/Data	790.5 - 795.5 MHz
LTE Band 26 (Cell)	Voice/Data	814.7 - 848.3 MHz
LTE Band 5 (Cell)	Voice/Data	824.7 - 848.3 MHz
LTE Band 66 (AWS)	Voice/Data	1710.7 - 1779.3 MHz
LTE Band 4 (AWS)	Voice/Data	1710.7 - 1754.3 MHz
LTE Band 25 (PCS)	Voice/Data	1850.7 - 1914.3 MHz
LTE Band 2 (PCS)	Voice/Data	1850.7 - 1909.3 MHz
LTE Band 30	Voice/Data	2307.5 - 2312.5 MHz
LTE Band 7	Voice/Data	2502.5 - 2567.5 MHz
LTE Band 48	Voice/Data	3552.5 - 3697.5 MHz
LTE Band 41	Voice/Data	2498.5 - 2687.5 MHz
2.4 GHz WLAN	Voice/Data	2412 - 2462 MHz
U-NII-1	Voice/Data	5180 - 5240 MHz
U-NII-2A	Voice/Data	5260 - 5320 MHz
U-NII-2C	Voice/Data	5500 - 5720 MHz
U-NII-3	Voice/Data	5745 - 5825 MHz
Bluetooth	Data	2402 - 2480 MHz
NFC	Data	13.56 MHz
WMC	Data	500 Hz - 4 kHz

1.2 Power Reduction for SAR

This device uses a power reduction mechanism for SAR compliance. The power reduction mechanism is activated when the device is used in close proximity to the user's body. FCC KDB Publication 616217 D04v01r02 Section 6 was used as a guideline for selecting SAR test distances for this device. Detailed descriptions of the power reduction mechanism are included in the operational description.

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

1.3 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.

1.3.1 Maximum Output Power

Mode / Band		Voice (dBm)	Burst Average GMSK (dBm)				Burst Average 8-PSK (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*
GSM/GPRS/EDGE 850	Maximum	**33.7**	**33.7**	**32.7**	**30.7**	**28.7**	**26.7**	**26.7**	**25.2**	**25.2**
	Nominal	**33.2**	**33.2**	**32.2**	**30.2**	**28.2**	**26.2**	**26.2**	**24.7**	**24.7**
GSM/GPRS/EDGE 1900	Maximum	**30.7**	**30.7**	**29.7**	**27.7**	**25.7**	**26.2**	**26.2**	**24.7**	**24.7**
	Nominal	**30.2**	**30.2**	**29.2**	**27.2**	**25.2**	**25.7**	**25.7**	**24.2**	**24.2**

Mode / Band		Modulated Average (dBm)			
		3GPP WCDMA	*3GPP HSDPA*	*3GPP HSUPA*	*3GPP DC-HSDPA*
UMTS Band 5 (850 MHz)	Maximum	**25.5**	**24.5**	**24.5**	**24.5**
	Nominal	**25.0**	**24.0**	**24.0**	**24.0**
UMTS Band 4 (1750 MHz)	Maximum	**25.0**	**24.2**	**24.2**	**24.2**
	Nominal	**24.5**	**23.7**	**23.7**	**23.7**
UMTS Band 2 (1900 MHz)	Maximum	**25.0**	**24.2**	**24.2**	**24.2**
	Nominal	**24.5**	**23.7**	**23.7**	**23.7**

Mode / Band		Modulated Average (dBm)
CDMA/EVDO BC10 (§90S)	Maximum	**25.5**
	Nominal	**25.0**
CDMA/EVDO BC0 (§22H)	Maximum	**25.5**
	Nominal	**25.0**
PCS CDMA/EVDO	Maximum	**25.0**
	Nominal	**24.5**

Mode / Band		Modulated Average (dBm)
LTE Band 71	Maximum	**25.5**
	Nominal	**25.0**
LTE Band 12	Maximum	**25.5**
	Nominal	**25.0**
LTE Band 17	Maximum	**25.5**
	Nominal	**25.0**
LTE Band 13	Maximum	**25.5**
	Nominal	**25.0**
LTE Band 14	Maximum	**25.5**
	Nominal	**25.0**
LTE Band 26 (Cell)	Maximum	**25.5**
	Nominal	**25.0**
LTE Band 5 (Cell)	Maximum	**25.5**
	Nominal	**25.0**
LTE Band 66 (AWS)	Maximum	**25.0**
	Nominal	**24.5**
LTE Band 4 (AWS)	Maximum	**25.0**
	Nominal	**24.5**
LTE Band 25 (PCS)	Maximum	**25.0**
	Nominal	**24.5**
LTE Band 2 (PCS)	Maximum	**25.0**
	Nominal	**24.5**
LTE Band 30	Maximum	**25.2**
	Nominal	**24.7**
LTE Band 7	Maximum	**23.7**
	Nominal	**23.2**
LTE Band 48	Maximum	**24.2**
	Nominal	**23.7**
LTE Band 41 (PC3)	Maximum	**25.2**
	Nominal	**24.7**
LTE Band 41 (PC2)	Maximum	**27.7**
	Nominal	**27.2**

Mode / Band		Modulated Average - Single Tx Chain Antenna 1 (dBm)		
	Channel	1 - 2	3 - 9	10 - 11
IEEE 802.11b (2.4 GHz)	Maximum	**20.5**		
	Nominal	**19.5**		
IEEE 802.11g (2.4 GHz)	Maximum	**16.0**	**18.5**	**16.0**
	Nominal	**15.0**	**17.5**	**15.0**
IEEE 802.11n (2.4 GHz)	Maximum	**15.0**	**17.5**	**15.0**
	Nominal	**14.0**	**16.5**	**14.0**
IEEE 802.11ac (2.4 GHz)	Maximum	**15.0**	**17.5**	**15.0**
	Nominal	**14.0**	**16.5**	**14.0**

Mode / Band		Modulated Average - Single Tx Chain Antenna 2 (dBm)		
	Channel	1 - 2	3 - 9	10 - 11
IEEE 802.11b (2.4 GHz)	Maximum	**20.5**		
	Nominal	**19.5**		
IEEE 802.11g (2.4 GHz)	Maximum	**17.0**	**19.5**	**17.0**
	Nominal	**16.0**	**18.5**	**16.0**
IEEE 802.11n (2.4 GHz)	Maximum	**16.0**	**18.5**	**16.0**
	Nominal	**15.0**	**17.5**	**15.0**
IEEE 802.11ac (2.4 GHz)	Maximum	**16.0**	**18.5**	**16.0**
	Nominal	**15.0**	**17.5**	**15.0**

Mode / Band		Modulated Average - MIMO (dBm)		
	Channel	1 - 2	3 - 9	10 - 11
IEEE 802.11g (2.4 GHz)	Maximum	**19.5**	**22.0**	**19.5**
	Nominal	**18.5**	**21.0**	**18.5**
IEEE 802.11n (2.4 GHz)	Maximum	**18.5**	**21.0**	**18.5**
	Nominal	**17.5**	**20.0**	**17.5**
IEEE 802.11ac (2.4 GHz)	Maximum	**18.5**	**21.0**	**18.5**
	Nominal	**17.5**	**20.0**	**17.5**

Mode/Band		Modulated Average (dBm)
Bluetooth	Maximum	**10.5**
	Nominal	**9.5**
Bluetooth EDR	Maximum	**10.5**
	Nominal	**9.5**
Bluetooth LE	Maximum	**5.0**
	Nominal	**4.0**

Mode / Band		Modulated Average - Single Tx Chain (dBm)																					
		20 MHz Bandwidth								40 MHz Bandwidth								80 MHz Bandwidth					
	Channel	36	40	44 - 52	56	60 - 153	157	161	165	38	46-54	62	102	110-134	142	151	159	42	58	106	122	138	155
IEEE 802.11a (5 GHz)	Maximum	**17.0**	**20.0**	**17.0**	**20.0**	**17.0**	**20.0**	**19.0**	**19.0**														
	Nominal	**16.0**	**19.0**	**16.0**	**19.0**	**16.0**	**19.0**	**18.0**	**18.0**														
IEEE 802.11n (5 GHz)	Maximum	**17.0**	**20.0**	**17.0**	**20.0**	**17.0**	**20.0**	**19.0**	**19.0**	**16.0**													
	Nominal	**16.0**	**19.0**	**16.0**	**19.0**	**16.0**	**19.0**	**18.0**	**18.0**	**15.0**													
IEEE 802.11ac (5 GHz)	Maximum	**17.0**	**20.0**	**17.0**	**20.0**	**17.0**	**20.0**	**19.0**	**19.0**	**16.0**								**14.0**					
	Nominal	**16.0**	**19.0**	**16.0**	**19.0**	**16.0**	**19.0**	**18.0**	**18.0**	**15.0**								**13.0**					

Mode / Band		Modulated Average - MIMO (dBm)																					
		20 MHz Bandwidth								40 MHz Bandwidth								80 MHz Bandwidth					
	Channel	36	40	44 - 52	56	60 - 153	157	161	165	38	46-54	62	102	110-134	142	151	159	42	58	106	122	138	155
IEEE 802.11a (5 GHz)	Maximum	**20.0**	**23.0**	**20.0**	**23.0**	**20.0**	**23.0**	**22.0**	**22.0**														
	Nominal	**19.0**	**22.0**	**19.0**	**22.0**	**19.0**	**22.0**	**21.0**	**21.0**														
IEEE 802.11n (5 GHz)	Maximum	**20.0**	**23.0**	**20.0**	**23.0**	**20.0**	**23.0**	**22.0**	**22.0**	**19.0**													
	Nominal	**19.0**	**22.0**	**19.0**	**22.0**	**19.0**	**22.0**	**21.0**	**21.0**	**18.0**													
IEEE 802.11ac (5 GHz)	Maximum	**20.0**	**23.0**	**20.0**	**23.0**	**20.0**	**23.0**	**22.0**	**22.0**	**19.0**								**17.0**					
	Nominal	**19.0**	**22.0**	**19.0**	**22.0**	**19.0**	**22.0**	**21.0**	**21.0**	**18.0**								**16.0**					

1.3.2 Reduced Output Power

Mode / Band		Modulated Average (dBm)			
		3GPP WCDMA	*3GPP HSDPA*	*3GPP HSUPA*	*3GPP DC-HSDPA*
UMTS Band 4 (1750 MHz)	Maximum	**22.5**	**21.5**	**21.5**	**21.5**
	Nominal	**22.0**	**21.0**	**21.0**	**21.0**
UMTS Band 2 (1900 MHz)	Maximum	**22.5**	**21.5**	**21.5**	**21.5**
	Nominal	**22.0**	**21.0**	**21.0**	**21.0**

Mode / Band		Modulated Average (dBm)
PCS CDMA/EVDO	Maximum	**22.5**
	Nominal	**22.0**
Mode / Band		Modulated Average (dBm)
LTE Band 66 (AWS)	Maximum	**22.5**
	Nominal	**22.0**
LTE Band 4 (AWS)	Maximum	**22.5**
	Nominal	**22.0**
LTE Band 25 (PCS)	Maximum	**22.5**
	Nominal	**22.0**
LTE Band 2 (PCS)	Maximum	**22.5**
	Nominal	**22.0**

Mode / Band		Modulated Average - Single Tx Chain Antenna 1 (dBm)			Mode / Band		Modulated Average - Single Tx Chain Antenna 2 (dBm)		
	Channel	1 - 2	3 - 9	10 - 11		Channel	1 - 2	3 - 9	10 - 11
IEEE 802.11b (2.4 GHz)	Maximum	**17.5**			IEEE 802.11b (2.4 GHz)	Maximum	**17.5**		
	Nominal	**16.5**				Nominal	**16.5**		
IEEE 802.11g (2.4 GHz)	Maximum	**16.0**	**16.5**	**16.0**	IEEE 802.11g (2.4 GHz)	Maximum	**17.0**	**17.5**	**17.0**
	Nominal	**15.0**	**15.5**	**15.0**		Nominal	**16.0**	**16.5**	**16.0**
IEEE 802.11n (2.4 GHz)	Maximum	**15.0**	**16.5**	**15.0**	IEEE 802.11n (2.4 GHz)	Maximum	**16.0**	**17.5**	**16.0**
	Nominal	**14.0**	**15.5**	**14.0**		Nominal	**15.0**	**16.5**	**15.0**
IEEE 802.11ac (2.4 GHz)	Maximum	**15.0**	**16.5**	**15.0**	IEEE 802.11ac (2.4 GHz)	Maximum	**16.0**	**17.5**	**16.0**
	Nominal	**14.0**	**15.5**	**14.0**		Nominal	**15.0**	**16.5**	**15.0**

Mode / Band		Modulated Average - MIMO (dBm)		
	Channel	1 - 2	3 - 9	10 - 11
IEEE 802.11g (2.4 GHz)	Maximum	**19.5**	**20.0**	**19.5**
	Nominal	**18.5**	**19.0**	**18.5**
IEEE 802.11n (2.4 GHz)	Maximum	**18.5**	**20.0**	**18.5**
	Nominal	**17.5**	**19.0**	**17.5**
IEEE 802.11ac (2.4 GHz)	Maximum	**18.5**	**20.0**	**18.5**
	Nominal	**17.5**	**19.0**	**17.5**

Mode / Band		Modulated Average - Single Tx Chain (dBm)																					
		20 MHz Bandwidth								40 MHz Bandwidth								80 MHz Bandwidth					
	Channel	36	40	44 - 52	56	60 - 153	157	161	165	38	46-54	62	102	110-134	142	151	159	42	58	106	122	138	155
IEEE 802.11a (5 GHz)	Maximum	**16.0**																					
	Nominal	**15.0**																					
IEEE 802.11n (5 GHz)	Maximum	**16.0**								**16.0**													
	Nominal	**15.0**								**15.0**													
IEEE 802.11ac (5 GHz)	Maximum	**16.0**								**16.0**								**14.0**					
	Nominal	**15.0**								**15.0**								**13.0**					

Mode / Band		Modulated Average - MIMO (dBm)																					
		20 MHz Bandwidth								40 MHz Bandwidth								80 MHz Bandwidth					
	Channel	36	40	44 - 52	56	60 - 153	157	161	165	38	46-54	62	102	110-134	142	151	159	42	58	106	122	138	155
IEEE 802.11a (5 GHz)	Maximum	**19.0**																					
	Nominal	**18.0**																					
IEEE 802.11n (5 GHz)	Maximum	**19.0**								**19.0**													
	Nominal	**18.0**								**18.0**													
IEEE 802.11ac (5 GHz)	Maximum	**19.0**								**19.0**								**17.0**					
	Nominal	**18.0**								**18.0**								**16.0**					

1.4 DUT Antenna Locations

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

Table 1-1
Device Edges/Sides for SAR Testing

Mode	Back	Front	Top	Bottom	Right	Left
EVDO BC10 (§90S)	Yes	Yes	No	Yes	Yes	No
EVDO BC0 (§22H)	Yes	Yes	No	Yes	Yes	No
PCS EVDO	Yes	Yes	No	Yes	No	Yes
GPRS 850	Yes	Yes	No	Yes	Yes	No
GPRS 1900	Yes	Yes	No	Yes	No	Yes
UMTS 850	Yes	Yes	No	Yes	Yes	No
UMTS 1750	Yes	Yes	No	Yes	No	Yes
UMTS 1900	Yes	Yes	No	Yes	No	Yes
LTE Band 71	Yes	Yes	No	Yes	Yes	No
LTE Band 12	Yes	Yes	No	Yes	Yes	No
LTE Band 13	Yes	Yes	No	Yes	Yes	No
LTE Band 14	Yes	Yes	No	Yes	Yes	No
LTE Band 26 (Cell)	Yes	Yes	No	Yes	Yes	No
LTE Band 5 (Cell)	Yes	Yes	No	Yes	Yes	No
LTE Band 66 (AWS)	Yes	Yes	No	Yes	No	Yes
LTE Band 25 (PCS)	Yes	Yes	No	Yes	No	Yes
LTE Band 30	Yes	Yes	No	No	Yes	No
LTE Band 7	Yes	Yes	No	No	Yes	No
LTE Band 48	Yes	Yes	No	No	Yes	No
LTE Band 41	Yes	Yes	No	No	Yes	No
2.4 GHz WLAN Ant 1	Yes	Yes	Yes	No	Yes	No
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	Yes	No

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

1.5 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 F.

1.6 Simultaneous Transmission Capabilities

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

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

Table 1-2
Simultaneous Transmission Scenarios

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

1. 2.4 GHz WLAN Antenna 1 and 2.4 GHz Bluetooth share the same antenna path and cannot transmit simultaneously.
2. All licensed modes share the same antenna path and cannot transmit simultaneously.
3. When the user utilizes multiple services in UMTS 3G mode it uses multi-Radio Access Bearer or multi-RAB. The power control is based on a physical control channel (Dedicated Physical Control Channel [DPCCH]) and power control will be adjusted to meet the needs of both services. Therefore, the UMTS+WLAN scenario also represents the UMTS Voice/DATA + WLAN Hotspot scenario.

4. Per the manufacturer, WIFI Direct is expected to be used in conjunction with a held-to-ear or body-worn accessory voice call. Therefore, there are no simultaneous transmission scenarios involving WIFI direct beyond that listed in the above table.
5. 5 GHz Wireless Router is only supported for U-NII 1 and U-NII-3 by S/W, therefore 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. 802.11a/g/n/ac supports CDD and STBC and 802.11n/ac additionally supports SDM. Each WLAN antenna can transmit independently or together when operating with MIMO.
7. This device supports VOLTE.
8. This device supports Bluetooth Tethering.
9. This devices supports VoWIFI.

1.7 Miscellaneous SAR Test Considerations

(A) WIFI/BT

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

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

This device supports IEEE 802.11ac with the following features:
a) Up to 80 MHz Bandwidth only
b) No aggregate channel configurations
c) 2 Tx antenna output
d) 256 QAM is supported
e) TDWR and Band gap channels are supported

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

(B) Licensed Transmitter(s)

GSM/GPRS/EDGE DTM is not supported for US bands. Therefore, the GSM Voice modes in this report do not transmit simultaneously with GPRS/EDGE Data.

This device is only capable of QPSK HSUPA in the uplink. Therefore, no additional SAR tests are required beyond that described for devices with HSUPA in KDB 941225 D01v03r01.

LTE SAR for the higher modulations and lower bandwidths were not tested since the maximum average output power of all required channels and configurations was not more than 0.5 dB higher than the highest bandwidth; and the reported LTE SAR for the highest bandwidth was less than 1.45 W/kg for all configurations according to FCC KDB 941225 D05v02r04.

CDMA 1X Advanced technology was not required for SAR since the maximum allowed output powers for 1x Advanced was not more than 0.25 dB higher than the maximum powers for 1x and the measured SAR in any 1x mode exposure conditions was not greater than 1.2 W/kg per FCC KDB Publication 941225 D01v03r01. This device supports LTE Carrier Aggregation (CA) in the downlink. All uplink communications are identical to Release 8 specifications. Per FCC KDB Publication 941225 D05A v01r02, SAR for LTE CA operations was not needed since the maximum average output power in LTE CA mode was not >0.25 dB higher than the maximum output power when downlink carrier aggregation was inactive. The downlink carrier aggregation exclusion analysis can be found in Appendix H.

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

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

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

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

This device supports LTE Carrier Aggregation (CA) for LTE Band 5 and LTE Band 41 with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per 2017 Fall TCB Workshop Notes.

1.8 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, LTE Band 41 Power Class 2/3)
- April 2018 TCB Workshop Notes (LTE Carrier Aggregation)

1.9 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.

2 LTE 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 17 (706.5 - 713.5 MHz)				
	LTE Band 13 (779.5 - 784.5 MHz)				
	LTE Band 14 (790.5 - 795.5 MHz)				
	LTE Band 26 (Cell) (814.7 - 848.3 MHz)				
	LTE Band 5 (Cell) (824.7 - 848.3 MHz)				
	LTE Band 66 (AWS) (1710.7 - 1779.3 MHz)				
	LTE Band 4 (AWS) (1710.7 - 1754.3 MHz)				
	LTE Band 25 (PCS) (1850.7 - 1914.3 MHz)				
	LTE Band 2 (PCS) (1850.7 - 1909.3 MHz)				
	LTE Band 30 (2307.5 - 2312.5 MHz)				
	LTE Band 7 (2502.5 - 2567.5 MHz)				
	LTE Band 48 (3552.5 - 3697.5 MHz)				
	LTE Band 41 (2498.5 - 2687.5 MHz)				
Channel Bandwidths	LTE Band 71: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 12: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 17: 5 MHz, 10 MHz				
	LTE Band 13: 5 MHz, 10 MHz				
	LTE Band 14: 5 MHz, 10 MHz				
	LTE Band 26 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz				
	LTE Band 5 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 66 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 4 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 25 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 2 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 30: 5 MHz, 10 MHz				
	LTE Band 7: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 48: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 41: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
Channel Numbers and Frequencies (MHz)	Low	Low-Mid	Mid	Mid-High	High
LTE Band 71: 5 MHz	665.5 (133147)		680.5 (133297)	695.5 (133447)	
LTE Band 71: 10 MHz	668 (133172)		680.5 (133297)	693 (133422)	
LTE Band 71: 15 MHz	670.5 (133197)		680.5 (133297)	690.5 (133397)	
LTE Band 71: 20 MHz	673 (133222)		680.5 (133297)	688 (133372)	
LTE Band 12: 1.4 MHz	699.7 (23017)		707.5 (23095)	715.3 (23173)	
LTE Band 12: 3 MHz	700.5 (23025)		707.5 (23095)	714.5 (23165)	
LTE Band 12: 5 MHz	701.5 (23035)		707.5 (23095)	713.5 (23155)	
LTE Band 12: 10 MHz	704 (23060)		707.5 (23095)	711 (23130)	
LTE Band 17: 5 MHz	706.5 (23755)		710 (23790)	713.5 (23825)	
LTE Band 17: 10 MHz	709 (23780)		710 (23790)	711 (23800)	
LTE Band 13: 5 MHz	779.5 (23205)		782 (23230)	784.5 (23255)	
LTE Band 13: 10 MHz	N/A		782 (23230)	N/A	
LTE Band 14: 5 MHz	790.5 (23305)		793 (23330)	795.5 (23355)	
LTE Band 14: 10 MHz	N/A		793 (23330)	N/A	
LTE Band 26 (Cell): 1.4 MHz	814.7 (26697)		831.5 (26865)	848.3 (27033)	
LTE Band 26 (Cell): 3 MHz	815.5 (26705)		831.5 (26865)	847.5 (27025)	
LTE Band 26 (Cell): 5 MHz	816.5 (26715)		831.5 (26865)	846.5 (27015)	
LTE Band 26 (Cell): 10 MHz	819 (26740)		831.5 (26865)	844 (26990)	
LTE Band 26 (Cell): 15 MHz	821.5 (26765)		831.5 (26865)	841.5 (26965)	
LTE Band 5 (Cell): 1.4 MHz	824.7 (20407)		836.5 (20525)	848.3 (20643)	
LTE Band 5 (Cell): 3 MHz	825.5 (20415)		836.5 (20525)	847.5 (20635)	
LTE Band 5 (Cell): 5 MHz	826.5 (20425)		836.5 (20525)	846.5 (20625)	
LTE Band 5 (Cell): 10 MHz	829 (20450)		836.5 (20525)	844 (20600)	
LTE Band 66 (AWS): 1.4 MHz	1710.7 (131979)		1745 (132322)	1779.3 (132665)	
LTE Band 66 (AWS): 3 MHz	1711.5 (131987)		1745 (132322)	1778.5 (132657)	
LTE Band 66 (AWS): 5 MHz	1712.5 (131997)		1745 (132322)	1777.5 (132647)	
LTE Band 66 (AWS): 10 MHz	1715 (132022)		1745 (132322)	1775 (132622)	
LTE Band 66 (AWS): 15 MHz	1717.5 (132047)		1745 (132322)	1772.5 (132597)	
LTE Band 66 (AWS): 20 MHz	1720 (132072)		1745 (132322)	1770 (132572)	
LTE Band 4 (AWS): 1.4 MHz	1710.7 (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 48: 5 MHz	3552.5 (55265)	3600.8 (55748)	N/A	3649.2 (56232)	3697.5 (56715)
LTE Band 48: 10 MHz	3555 (55290)	3601.7 (55757)	N/A	3648.3 (56223)	3695 (56690)
LTE Band 48: 15 MHz	3557.5 (55315)	3602.5 (55765)	N/A	3647.5 (56215)	3692.5 (56665)
LTE Band 48: 20 MHz	3560 (55340)	3603.3 (55773)	N/A	3646.7 (56207)	3690 (56640)
LTE Band 41: 5 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 10 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 15 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 20 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
UE Category	DL UE Cat 19, UL UE Cat 13				
Modulations Supported in UL	QPSK, 16QAM, 64QAM				
LTE MPR Permanently implemented per 3GPP TS 36.101 section 6.2.3~6.2.5? (manufacturer attestation to be provided)	YES				
A-MPR (Additional MPR) disabled for SAR Testing?	YES				
LTE Carrier Aggregation Possible Combinations	The technical description includes all the possible carrier aggregation combinations				
LTE Additional Information	This device does not support full CA features on 3GPP Release 14. It supports carrier aggregation, downlink MIMO, LAA features as shown in Section 9 and Appendix H. All other uplink communications are identical to the Release 8 specifications. Uplink communications are done on the PCC unless otherwise specified. The following LTE Release 14 Features are not supported: Relay, HetNet, Enhanced eICIC, MDH, eMBMS, Cross-Carrier Scheduling, Enhanced SC-FDMA.				

3 INTRODUCTION

The FCC and Innovation, Science, and Economic Development Canada have adopted the guidelines for evaluating the environmental effects of radio frequency (RF) radiation in ET Docket 93-62 on Aug. 6, 1996 and Health Canada Safety Code 6 to protect the public and workers from the potential hazards of RF emissions due to FCC-regulated portable devices. [1]

The safety limits used for the environmental evaluation measurements are based on the criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate (SAR) in IEEE/ANSI C95.1-1992 Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz [3] and Health Canada RF Exposure Guidelines Safety Code 6 [22]. The measurement procedure described in IEEE/ANSI C95.3-2002 Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave [4] is used for guidance in measuring the Specific Absorption Rate (SAR) due to the RF radiation exposure from the Equipment Under Test (EUT). These criteria for SAR evaluation are similar to those recommended by the International Committee for Non-Ionizing Radiation Protection (ICNIRP) in Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," Report No. Vol 74. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have been related to threshold levels for potential biological hazards.

3.1 SAR Definition

Specific Absorption Rate is defined as the time derivative (rate) of the incremental energy (dU) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dV) of a given density (ρ). It is also defined as the rate of RF energy absorption per unit mass at a point in an absorbing body (see Equation 3-1).

Equation 3-1
SAR Mathematical Equation

$$SAR = \frac{d}{dt}\left(\frac{dU}{dm}\right) = \frac{d}{dt}\left(\frac{dU}{\rho dv}\right)$$

SAR is expressed in units of Watts per Kilogram (W/kg).

$$SAR = \frac{\sigma \cdot E^2}{\rho}$$

where:

σ = conductivity of the tissue-simulating material (S/m)
ρ = mass density of the tissue-simulating material (kg/m^3)
E = Total RMS electric field strength (V/m)

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

4 DOSIMETRIC ASSESSMENT

4.1 Measurement Procedure

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

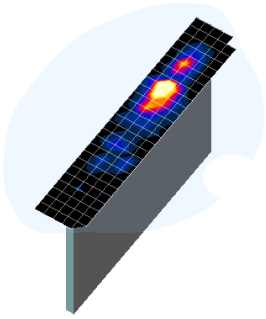


Figure 4-1
Sample SAR Area Scan

1. The SAR distribution at the exposed side of the head or body was measured at a distance no greater than 5.0 mm from the inner surface of the shell. The area covered the entire dimension of the device-head and body interface and the horizontal grid resolution was determined per FCC KDB Publication 865664 D01v01r04 (See Table 4-1) and IEEE 1528-2013.
2. The point SAR measurement was taken at the maximum SAR region determined from Step 1 to enable the monitoring of SAR fluctuations/drifts during the 1g/10g cube evaluation. SAR at this fixed point was measured and used as a reference value.
3. Based on the area scan data, the peak of the region with maximum SAR was determined by spline interpolation. Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB Publication 865664 D01v01r04 (See Table 4-1) and IEEE 1528-2013. On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure (see references or the DASY manual online for more details):

   a. SAR values at the inner surface of the phantom are extrapolated from the measured values along the line away from the surface with spacing no greater than that in Table 4-1. The extrapolation was based on a least-squares algorithm. A polynomial of the fourth order was calculated through the points in the z-axis (normal to the phantom shell).

   b. After the maximum interpolated values were calculated between the points in the cube, the SAR was averaged over the spatial volume (1g or 10g) using a 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the "Not a knot" condition (in x, y, and z directions). The volume was then integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were obtained through interpolation, in order to calculate the averaged SAR.

   c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.
4. The SAR reference value, at the same location as step 2, was re-measured after the zoom scan was complete to calculate the SAR drift. If the drift deviated by more than 5%, the SAR test and drift measurements were repeated.

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

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

*Also compliant to IEEE 1528-2013 Table 6

5 DEFINITION OF REFERENCE POINTS

5.1 EAR REFERENCE POINT

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

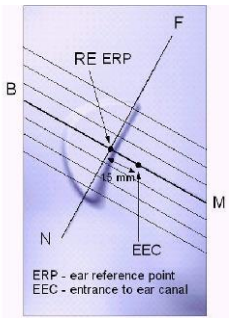


Figure 5-1
Close-Up Side view of ERP

5.2 HANDSET REFERENCE POINTS

Two imaginary lines on the handset were established: the vertical centerline and the horizontal line. The test device was placed in a normal operating position with the acoustic output located along the "vertical centerline" on the front of the device aligned to the "ear reference point" (See Figure 5-3). The acoustic output was than located at the same level as the center of the ear reference point. The test device was positioned so that the "vertical centerline" was bisecting the front surface of the handset at its top and bottom edges, positioning the "ear reference point" on the outer surface of the both the left and right head phantoms on the ear reference point.

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

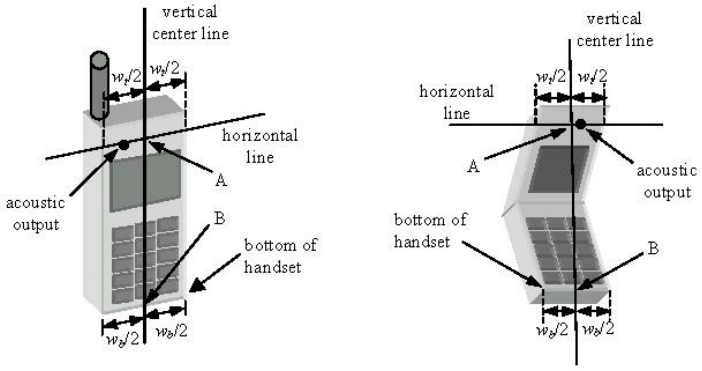


Figure 5-3
Handset Vertical Center & Horizontal Line Reference Points

6 TEST CONFIGURATION POSITIONS

6.1 Device Holder

The device holder is made out of low-loss POM material having the following dielectric parameters: relative permittivity ε = 3 and loss tangent δ = 0.02.

6.2 Positioning for Cheek

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

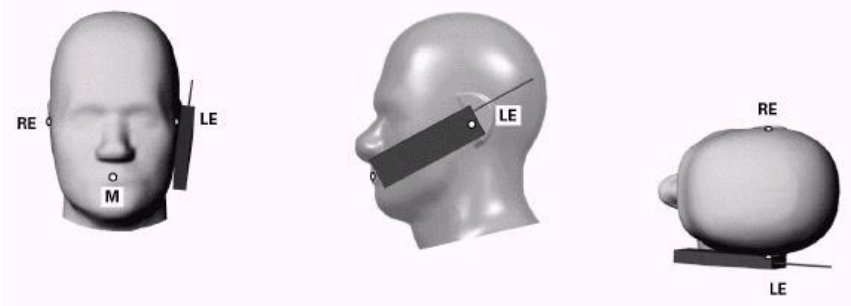


Figure 6-1 Front, Side and Top View of Cheek Position

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

6.3 Positioning for Ear / 15º Tilt

With the test device aligned in the “Cheek Position”:

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

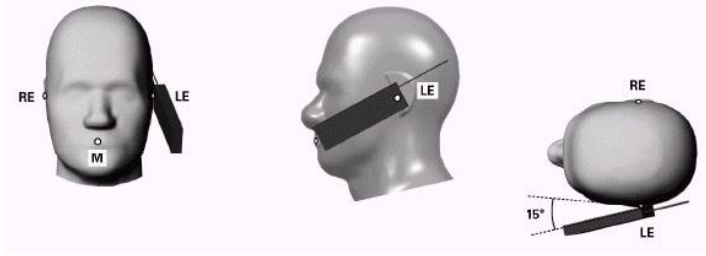


Figure 6-2 Front, Side and Top View of Ear/15º Tilt Position

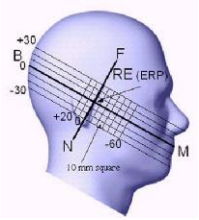


Figure 6-3
Side view w/ relevant markings

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

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

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

6.5 Body-Worn Accessory Configurations

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

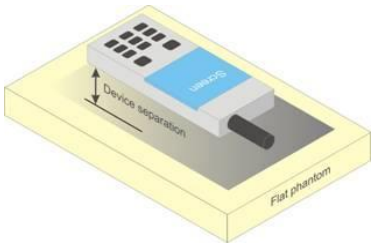


Figure 6-4
Sample Body-Worn Diagram

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

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

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

6.6 Extremity Exposure Configurations

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

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

6.7 Wireless Router Configurations

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

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

6.8 Phablet Configurations

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

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

6.9 Proximity Sensor Considerations

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

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

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

7 RF EXPOSURE LIMITS

7.1 Uncontrolled Environment

UNCONTROLLED ENVIRONMENTS are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

7.2 Controlled Environment

CONTROLLED ENVIRONMENTS are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Table 7-1
SAR Human Exposure Specified in ANSI/IEEE C95.1-1992 and Health Canada Safety Code 6

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

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

8 FCC MEASUREMENT PROCEDURES

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

8.1 Measured and Reported SAR

Per FCC KDB Publication 447498 D01v06, when SAR is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance. For simultaneous transmission, the measured aggregate SAR must be scaled according to the sum of the differences between the maximum tune-up tolerance and actual power used to test each transmitter. When SAR is measured at or scaled to the maximum tune-up tolerance limit, the results are referred to as *reported* SAR. The highest *reported* SAR results are identified on the grant of equipment authorization according to procedures in KDB 690783 D01v01r03.

8.2 3G SAR Test Reduction Procedure

In FCC KDB Publication 941225 D01v03r01, certain transmission modes within a frequency band and wireless mode evaluated for SAR are defined as primary modes. The equivalent modes considered for SAR test reduction are denoted as secondary modes. When the maximum output power including tune-up tolerance specified for production units in a secondary mode is ≤ 0.25 dB higher than the primary mode or when the highest reported SAR of the primary mode, scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode, is ≤ 1.2 W/kg, SAR measurements are not required for the secondary mode. These criteria are referred to as the 3G SAR test reduction procedure. When the 3G SAR test reduction procedure is not satisfied, SAR measurements are additionally required for the secondary mode.

8.3 Procedures Used to Establish RF Signal for SAR

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

The device is placed into a simulated call using a base station simulator in a RF shielded chamber. Establishing connections in this manner ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. Devices under test are evaluated prior to testing, with a fully charged battery and were configured to operate at maximum output power. In order to verify that the device is tested throughout the SAR test at maximum output power, the SAR measurement system measures a “point SAR” at an arbitrary reference point at the start and end of the 1 gram SAR evaluation, to assess for any power drifts during the evaluation. If the power drift deviates by more than 5%, the SAR test and drift measurements are repeated.

8.4 SAR Measurement Conditions for CDMA2000

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

8.4.1 Output Power Verification

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

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

Table 8-1
Parameters for Max. Power for RC1

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

Table 8-2
Parameters for Max. Power for RC3

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

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

8.4.2 Head SAR Measurements

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

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

8.4.3 Body-worn SAR Measurements

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

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

8.4.4 Body-worn SAR Measurements for EVDO Devices

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

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

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

8.4.5 Body SAR Measurements for EVDO Hotspot

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

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

8.4.6 CDMA2000 1x Advanced

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

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

8.5 SAR Measurement Conditions for UMTS

8.5.1 Output Power Verification

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

8.5.2 Head SAR Measurements

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

8.5.3 Body SAR Measurements

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

8.5.4 SAR Measurements with Rel 5 HSDPA

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

8.5.5 SAR Measurements with Rel 6 HSUPA

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

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

8.5.6 SAR Measurement Conditions for DC-HSDPA

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

8.6 SAR Measurement Conditions for LTE

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

8.6.1 Spectrum Plots for RB Configurations

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

8.6.2 MPR

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

8.6.3 A-MPR

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

8.6.4 Required RB Size and RB Offsets for SAR Testing

According to FCC KDB 941225 D05v02r04:

a. Per Section 5.2.1, SAR is required for QPSK 1 RB Allocation for the largest bandwidth
    i. The required channel and offset combination with the highest maximum output power is required for SAR.
    ii. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required. Otherwise, SAR is required for the remaining required test channels using the RB offset configuration with highest output power for that channel.
    iii. When the reported SAR for a required test channel is > 1.45 W/kg, SAR is required for all RB offset configurations for that channel.
b. Per Section 5.2.2, SAR is required for 50% RB allocation using the largest bandwidth following the same procedures outlined in Section 5.2.1.
c. Per Section 5.2.3, QPSK SAR is not required for the 100% allocation when the highest maximum output power for the 100% allocation is less than the highest maximum output power of the 1 RB and 50% RB allocations and the reported SAR for the 1 RB and 50% RB allocations is < 0.8 W/kg.
d. Per Section 5.2.4 and 5.3, SAR tests for higher order modulations and lower bandwidths configurations are not required when the conducted power of the required test configurations determined by Sections 5.2.1 through 5.2.3 is less than or equal to ½ dB higher than the equivalent configuration using QPSK modulation and when the QPSK SAR for those configurations is <1.45 W/kg.

8.6.5 TDD

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

8.6.6 Downlink Only Carrier Aggregation

Conducted power measurements with LTE Carrier Aggregation (CA) (downlink only) active are made in accordance to KDB Publication 941225 D05Av01r02. The RRC connection is only handled by one cell, the primary component carrier (PCC) for downlink and uplink communications. After making a data connection to the PCC, the UE device adds secondary component carrier(s) (SCC) on the downlink only. All uplink communications and acknowledgements remain identical to specifications when downlink carrier aggregation is inactive on the PCC. Additional conducted output powers are measured with the downlink carrier aggregation active for the configuration with highest measured maximum conducted power with downlink carrier aggregation inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band. Per FCC KDB Publication 941225 D05Av01r02, no SAR measurements are required for downlink only carrier aggregation configurations when the average output

power with downlink only carrier aggregation active is not more than 0.25 dB higher than the average output power with downlink only carrier aggregation inactive.

8.7 SAR Testing with 802.11 Transmitters

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

8.7.1 General Device Setup

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

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

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

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

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

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

8.7.4 Initial Test Position Procedure

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

8.7.5 2.4 GHz SAR Test Requirements

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

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

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

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

8.7.6 OFDM Transmission Mode and SAR Test Channel Selection

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

8.7.7 Initial Test Configuration Procedure

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

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

8.7.8 Subsequent Test Configuration Procedures

For OFDM configurations in each frequency band and aggregated band, SAR is evaluated for initial test configuration using the fixed test position or the initial test position procedure. When the highest reported SAR (for the initial test configuration), adjusted by the ratio of the specified maximum output power of the subsequent test configuration to initial test configuration, is ≤ 1.2 W/kg, no additional SAR tests for the

subsequent test configurations are required. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

8.7.9 MIMO SAR considerations

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

9 RF CONDUCTED POWERS

9.1 CDMA Conducted Powers

Table 9-1
Maximum Conducted Power

Band	Channel	Rule Part	Frequency	SO55 [dBm]	SO55 [dBm]	SO75 [dBm]	TDSO SO32 [dBm]	TDSO SO32 [dBm]	1x EvDO Rev. 0 [dBm]	1x EvDO Rev. A [dBm]
	F-RC		MHz	RC1	RC3	RC11	FCH+SCH	FCH	(RTAP)	(RETAP)
Cellular	564	90S	820.1	25.27	25.28	25.18	25.28	25.27	25.30	25.29
Cellular	1013	22H	824.7	25.15	25.14	25.20	25.17	25.19	25.23	25.21
	384	22H	836.52	25.15	25.18	25.16	25.18	25.18	25.22	25.23
	777	22H	848.31	25.13	25.14	25.12	25.19	25.16	25.22	25.21
PCS	25	24E	1851.25	24.85	24.85	24.84	24.85	24.86	24.87	24.91
	600	24E	1880	24.84	24.83	24.79	24.87	24.85	24.89	24.93
	1175	24E	1908.75	24.91	24.91	24.77	24.90	24.94	24.91	24.96

Table 9-2
Reduced Conducted Power

Band	Channel	Rule Part	Frequency	SO55 [dBm]	SO55 [dBm]	SO75 [dBm]	TDSO SO32 [dBm]	TDSO SO32 [dBm]	1x EvDO Rev. 0 [dBm]	1x EvDO Rev. A [dBm]
	F-RC		MHz	RC1	RC3	RC11	FCH+SCH	FCH	(RTAP)	(RETAP)
PCS	25	24E	1851.25	22.47	22.50	22.49	22.50	22.50	22.50	22.48
	600	24E	1880	22.50	22.49	22.49	22.50	22.49	22.50	22.49
	1175	24E	1908.75	22.49	22.50	22.50	22.50	22.48	22.46	22.50

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

Figure 9-1
Power Measurement Setup

9.2 GSM Conducted Powers

Table 9-3
Maximum Conducted Power

Maximum Burst-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 850	128	33.32	33.43	32.20	**30.67**	28.18	26.53	26.28	24.72	25.11
	190	33.53	33.62	32.56	**30.70**	28.26	26.62	26.26	24.79	25.20
	251	33.59	33.63	32.55	**30.61**	28.43	26.31	26.21	24.83	25.09
GSM 1900	512	30.65	30.57	29.49	**27.70**	25.42	25.92	25.80	24.70	24.65
	661	30.70	30.58	29.54	**27.62**	25.35	25.78	25.81	24.64	24.67
	810	30.63	30.56	29.53	**27.62**	25.55	25.82	25.74	24.60	24.70

Calculated Maximum Frame-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 850	128	24.29	24.40	26.18	**26.41**	25.17	17.50	20.26	20.46	22.10
	190	24.50	24.59	26.54	**26.44**	25.25	17.59	20.24	20.53	22.19
	251	24.56	24.60	26.53	**26.35**	25.42	17.28	20.19	20.57	22.08
GSM 1900	512	21.62	21.54	23.47	**23.44**	22.41	16.89	19.78	20.44	21.64
	661	21.67	21.55	23.52	**23.36**	22.34	16.75	19.79	20.38	21.66
	810	21.60	21.53	23.51	**23.36**	22.54	16.79	19.72	20.34	21.69

GSM 850	**Frame Avg.Targets:**	24.17	24.17	26.18	**25.94**	25.19	17.17	20.18	20.44	21.69
GSM 1900		21.17	21.17	23.18	**22.94**	22.19	16.67	19.68	19.94	21.19

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 8PSK modulation do not have an impact on output power.

GSM Class: B
GPRS Multislot class: 12 (Max 4 Tx uplink slots)
EDGE Multislot class: 12 (Max 4 Tx uplink slots)
DTM Multislot Class: N/A

Figure 9-2
Power Measurement Setup

9.3 UMTS Conducted Powers

Table 9-4
Maximum Conducted Power

3GPP Release Version	Mode	3GPP 34.121 Subtest	Cellular Band [dBm]			AWS Band [dBm]			PCS Band [dBm]			3GPP MPR [dB]
			4132	4183	4233	1312	1412	1513	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	25.45	25.46	25.42	24.81	24.80	24.80	24.86	24.67	24.79	-
99		12.2 kbps AMR	25.43	25.50	25.40	24.79	24.71	24.77	24.81	24.71	24.78	-
6	HSDPA	Subtest 1	24.50	24.46	24.42	23.72	23.75	23.66	23.73	23.69	23.59	0
6		Subtest 2	24.49	24.47	24.44	23.69	23.72	23.65	23.74	23.68	23.62	0
6		Subtest 3	24.00	23.98	23.93	23.39	23.39	23.37	23.42	23.40	23.27	0.5
6		Subtest 4	23.99	23.98	23.92	23.42	23.38	23.36	23.43	23.38	23.26	0.5
6	HSUPA	Subtest 1	24.50	24.49	24.45	23.74	23.75	23.67	23.74	23.71	23.62	0
6		Subtest 2	22.49	22.49	22.44	21.95	21.98	21.92	21.93	21.89	21.82	2
6		Subtest 3	23.50	23.48	23.44	22.95	22.97	22.92	22.96	22.88	22.81	1
6		Subtest 4	22.48	22.49	22.46	21.96	21.97	21.93	21.93	21.89	21.83	2
6		Subtest 5	24.50	24.49	24.47	23.80	23.80	23.71	23.77	23.77	23.64	0
8	DC-HSDPA	Subtest 1	24.46	24.47	24.45	23.71	23.72	23.70	23.68	23.62	23.55	0
8		Subtest 2	24.47	24.48	24.46	23.71	23.73	23.67	23.64	23.60	23.49	0
8		Subtest 3	23.99	24.00	23.95	23.39	23.42	23.36	23.32	23.32	23.23	0.5
8		Subtest 4	24.00	24.00	23.97	23.38	23.44	23.39	23.33	23.34	23.21	0.5

Table 9-5
Reduced Conducted Power

3GPP Release Version	Mode	3GPP 34.121 Subtest	AWS Band [dBm]			PCS Band [dBm]			3GPP MPR [dB]
			1312	1412	1513	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	22.46	22.50	22.45	22.50	22.46	22.40	-
99		12.2 kbps AMR	22.47	22.50	22.45	22.49	22.40	22.37	-
6	HSDPA	Subtest 1	21.28	21.34	21.29	21.34	21.31	21.22	0
6		Subtest 2	21.30	21.32	21.28	21.29	21.30	21.19	0
6		Subtest 3	20.97	20.98	20.97	20.98	20.96	20.88	0.5
6		Subtest 4	20.98	21.00	20.99	20.99	20.98	20.90	0.5
6	HSUPA	Subtest 1	21.31	21.33	21.28	21.35	21.32	21.25	0
6		Subtest 2	19.48	19.50	19.48	19.49	19.45	19.47	2
6		Subtest 3	20.48	20.49	20.47	20.49	20.46	20.42	1
6		Subtest 4	19.47	19.49	19.48	19.48	19.45	19.39	2
6		Subtest 5	21.34	21.37	21.33	21.38	21.36	21.26	0
8	DC-HSDPA	Subtest 1	21.31	21.34	21.29	21.36	21.34	21.25	0
8		Subtest 2	21.29	21.33	21.28	21.35	21.35	21.24	0
8		Subtest 3	20.98	20.99	20.95	21.00	20.99	20.95	0.5
8		Subtest 4	20.99	21.00	20.97	20.99	20.97	20.96	0.5

DC-HSDPA considerations

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

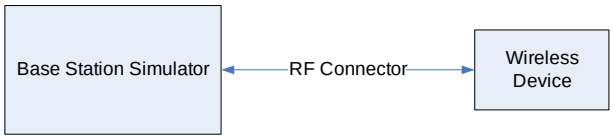


Figure 9-3
Power Measurement Setup

9.4 LTE Conducted Powers

9.4.1 LTE Band 71

Table 9-6
LTE Band 71 Conducted Powers - 20 MHz Bandwidth

LTE Band 71 20 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 133297 (680.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	25.40	0	0
	1	50	25.40		0
	1	99	**25.50**		0
	50	0	24.49	0-1	1
	50	25	24.48		1
	50	50	**24.50**		1
	100	0	24.47		1
16QAM	1	0	24.50	0-1	1
	1	50	24.42		1
	1	99	24.46		1
	50	0	23.38	0-2	2
	50	25	23.42		2
	50	50	23.46		2
	100	0	23.39		2
64QAM	1	0	23.50	0-2	2
	1	50	23.40		2
	1	99	23.43		2
	50	0	22.47	0-3	3
	50	25	22.48		3
	50	50	22.50		3
	100	0	22.47		3

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

Table 9-7
LTE Band 71 Conducted Powers - 15 MHz Bandwidth

LTE Band 71 15 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 133297 (680.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	25.42	0	0
	1	36	25.44		0
	1	74	25.28		0
	36	0	24.21	0-1	1
	36	18	24.46		1
	36	37	24.42		1
	75	0	24.45		1
16QAM	1	0	24.45	0-1	1
	1	36	24.42		1
	1	74	24.30		1
	36	0	23.30	0-2	2
	36	18	23.34		2
	36	37	23.30		2
	75	0	23.31		2
64QAM	1	0	23.46	0-2	2
	1	36	23.50		2
	1	74	23.45		2
	36	0	22.42	0-3	3
	36	18	22.48		3
	36	37	22.42		3
	75	0	22.44		3

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

Table 9-8
LTE Band 71 Conducted Powers - 10 MHz Bandwidth

LTE Band 71 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 133172 (668.0 MHz)	Mid Channel 133297 (680.5 MHz)	High Channel 133422 (693.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.18	25.32	25.31	0	0
	1	25	25.12	25.23	25.17		0
	1	49	25.09	25.22	25.12		0
	25	0	24.17	24.28	24.18	0-1	1
	25	12	24.16	24.30	24.18		1
	25	25	24.10	24.22	24.12		1
	50	0	24.10	24.26	24.16		1
16QAM	1	0	24.23	24.39	24.31	0-1	1
	1	25	24.20	24.35	24.23		1
	1	49	24.20	24.25	24.07		1
	25	0	23.10	23.18	23.05	0-2	2
	25	12	22.99	23.15	23.05		2
	25	25	23.02	23.11	23.00		2
	50	0	23.04	23.18	23.05		2
64QAM	1	0	23.07	23.49	23.33	0-2	2
	1	25	23.30	23.30	23.30		2
	1	49	23.22	23.33	23.18		2
	25	0	21.88	22.32	22.19	0-3	3
	25	12	22.15	22.30	22.15		3
	25	25	22.15	22.27	22.14		3
	50	0	22.12	22.30	22.15		3

Table 9-9
LTE Band 71 Conducted Powers - 5 MHz Bandwidth

LTE Band 71 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 133147 (665.5 MHz)	Mid Channel 133297 (680.5 MHz)	High Channel 133447 (695.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.18	25.31	25.26	0	0
	1	12	25.17	25.40	25.34		0
	1	24	25.31	25.43	25.34		0
	12	0	24.28	24.36	24.28	0-1	1
	12	6	24.40	24.39	24.33		1
	12	13	24.40	24.45	24.38		1
	25	0	24.37	24.38	24.29		1
16QAM	1	0	23.91	24.05	23.98	0-1	1
	1	12	24.08	24.20	24.05		1
	1	24	24.05	24.13	23.97		1
	12	0	23.00	23.05	22.95	0-2	2
	12	6	23.12	23.10	23.02		2
	12	13	23.10	23.15	23.02		2
	25	0	23.08	23.07	23.00		2
64QAM	1	0	23.00	23.12	23.00	0-2	2
	1	12	23.02	23.11	23.06		2
	1	24	23.10	23.20	23.00		2
	12	0	22.03	22.41	22.35	0-3	3
	12	6	22.10	22.46	22.34		3
	12	13	22.12	22.48	22.38		3
	25	0	22.01	22.44	22.30		3

9.4.2 LTE Band 12

Table 9-10
LTE Band 12 Conducted Powers - 10 MHz Bandwidth

LTE Band 12 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23095 (707.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**25.48**	0	0
	1	25	25.47		0
	1	49	25.44		0
	25	0	**24.50**	0-1	1
	25	12	24.49		1
	25	25	24.48		1
	50	0	24.49		1
16QAM	1	0	24.40	0-1	1
	1	25	24.35		1
	1	49	24.35		1
	25	0	23.50	0-2	2
	25	12	23.45		2
	25	25	23.38		2
	50	0	23.43		2
64QAM	1	0	23.22	0-2	2
	1	25	23.50		2
	1	49	23.49		2
	25	0	22.23	0-3	3
	25	12	22.48		3
	25	25	22.42		3
	50	0	22.40		3

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

Table 9-11
LTE Band 12 Conducted Powers - 5 MHz Bandwidth

LTE Band 12 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23035 (701.5 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23155 (713.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.33	25.49	25.50	0	0
	1	12	25.23	25.50	25.50		0
	1	24	25.22	25.50	25.46		0
	12	0	24.31	24.50	24.44	0-1	1
	12	6	24.50	24.48	24.50		1
	12	13	24.49	24.45	24.45		1
	25	0	24.46	24.50	24.44		1
16QAM	1	0	24.25	24.32	24.30	0-1	1
	1	12	24.33	24.36	24.34		1
	1	24	24.35	24.31	24.33		1
	12	0	23.28	23.31	23.30	0-2	2
	12	6	23.39	23.40	23.36		2
	12	13	23.32	23.36	23.32		2
	25	0	23.31	23.33	23.25		2
64QAM	1	0	23.07	23.30	23.32	0-2	2
	1	12	23.13	23.40	23.42		2
	1	24	23.12	23.50	23.50		2
	12	0	22.13	22.25	22.50	0-3	3
	12	6	22.23	22.48	22.49		3
	12	13	22.35	22.40	22.36		3
	25	0	22.23	22.31	22.40		3

Table 9-12
LTE Band 12 Conducted Powers - 3 MHz Bandwidth

LTE Band 12 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23025 (700.5 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23165 (714.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.48	25.45	25.50	0	0
	1	7	25.40	25.50	25.50		0
	1	14	25.32	25.50	25.49		0
	8	0	24.40	24.44	24.40	0-1	1
	8	4	24.50	24.45	24.50		1
	8	7	24.48	24.48	24.43		1
	15	0	24.48	24.50	24.43		1
16QAM	1	0	24.18	24.22	24.26	0-1	1
	1	7	24.39	24.33	24.33		1
	1	14	24.35	24.33	24.16		1
	8	0	23.49	23.50	23.44	0-2	2
	8	4	23.50	23.50	23.50		2
	8	7	23.50	23.46	23.50		2
	15	0	23.50	23.50	23.42		2
64QAM	1	0	23.19	23.35	23.46	0-2	2
	1	7	23.20	23.48	23.25		2
	1	14	23.15	23.46	23.35		2
	8	0	22.10	22.40	22.39	0-3	3
	8	4	22.12	22.45	22.44		3
	8	7	22.18	22.40	22.33		3
	15	0	22.10	22.39	22.33		3

Table 9-13
LTE Band 12 Conducted Powers -1.4 MHz Bandwidth

LTE Band 12 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23017 (699.7 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23173 (715.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.44	25.45	25.49	0	0
	1	2	25.50	25.50	25.48		0
	1	5	25.50	25.50	25.50		0
	3	0	25.43	25.50	25.44		0
	3	2	25.48	25.48	25.46		0
	3	3	25.47	25.45	25.50		0
	6	0	24.42	24.45	24.41	0-1	1
16QAM	1	0	24.30	24.31	24.30	0-1	1
	1	2	24.33	24.44	24.33		1
	1	5	24.38	24.30	24.32		1
	3	0	24.25	24.30	24.20		1
	3	2	24.23	24.33	24.23		1
	3	3	24.24	24.25	24.27		1
	6	0	23.41	23.50	23.40	0-2	2
64QAM	1	0	23.31	23.40	23.36	0-2	2
	1	2	23.35	23.48	23.34		2
	1	5	23.18	23.31	23.21		2
	3	0	23.26	23.40	23.28		2
	3	2	23.25	23.40	23.26		2
	3	3	23.18	23.40	23.20		2
	6	0	22.22	22.28	22.17	0-3	3

9.4.3 LTE Band 13

Table 9-14
LTE Band 13 Conducted Powers - 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	25.31	0	0
	1	25	25.48		0
	1	49	**25.50**		0
	25	0	24.49	0-1	1
	25	12	**24.50**		1
	25	25	24.46		1
	50	0	24.49		1
16QAM	1	0	24.48	0-1	1
	1	25	24.50		1
	1	49	24.46		1
	25	0	23.43	0-2	2
	25	12	23.43		2
	25	25	23.42		2
	50	0	23.42		2
64QAM	1	0	23.22	0-2	2
	1	25	23.50		2
	1	49	23.47		2
	25	0	22.45	0-3	3
	25	12	22.44		3
	25	25	22.41		3
	50	0	22.45		3

Table 9-15
LTE Band 13 Conducted Powers - 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	25.33	0	0
	1	12	25.38		0
	1	24	25.37		0
	12	0	24.40	0-1	1
	12	6	24.37		1
	12	13	24.40		1
	25	0	24.36		1
16QAM	1	0	24.13	0-1	1
	1	12	24.15		1
	1	24	24.11		1
	12	0	23.29	0-2	2
	12	6	23.21		2
	12	13	23.37		2
	25	0	23.26		2
64QAM	1	0	23.36	0-2	2
	1	12	23.38		2
	1	24	23.36		2
	12	0	22.41	0-3	3
	12	6	22.43		3
	12	13	22.43		3
	25	0	22.40		3

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

9.4.4 LTE Band 14

Table 9-16
LTE Band 14 Conducted Powers - 10 MHz Bandwidth

LTE Band 14 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23330 (793.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**25.47**	0	0
	1	25	25.28		0
	1	49	25.21		0
	25	0	**24.48**	0-1	1
	25	12	24.46		1
	25	25	24.31		1
	50	0	24.42		1
16QAM	1	0	24.34	0-1	1
	1	25	24.21		1
	1	49	24.01		1
	25	0	23.29	0-2	2
	25	12	23.28		2
	25	25	23.13		2
	50	0	23.24		2
64QAM	1	0	23.50	0-2	2
	1	25	23.46		2
	1	49	23.35		2
	25	0	22.43	0-3	3
	25	12	22.41		3
	25	25	22.27		3
	50	0	22.40		3

Table 9-17
LTE Band 14 Conducted Powers - 5 MHz Bandwidth

LTE Band 14 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23330 (793.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	25.29	0	0
	1	12	25.34		0
	1	24	25.37		0
	12	0	24.30	0-1	1
	12	6	24.33		1
	12	13	24.38		1
	25	0	24.30		1
16QAM	1	0	24.23	0-1	1
	1	12	24.30		1
	1	24	24.24		1
	12	0	23.50	0-2	2
	12	6	23.50		2
	12	13	23.50		2
	25	0	23.49		2
64QAM	1	0	23.50	0-2	2
	1	12	23.42		2
	1	24	23.45		2
	12	0	22.36	0-3	3
	12	6	22.41		3
	12	13	22.41		3
	25	0	22.38		3

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

9.4.5 LTE Band 26 (Cell)

Table 9-18
LTE Band 26 (Cell) Conducted Powers - 15 MHz Bandwidth

LTE Band 26 (Cell) 15 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 26865 (831.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	25.49	0	0
	1	36	25.44		0
	1	74	**25.50**		0
	36	0	24.41	0-1	1
	36	18	**24.43**		1
	36	37	24.35		1
	75	0	24.40		1
16QAM	1	0	24.34	0-1	1
	1	36	24.32		1
	1	74	24.34		1
	36	0	23.50	0-2	2
	36	18	23.48		2
	36	37	23.47		2
	75	0	23.45		2
64QAM	1	0	23.50	0-2	2
	1	36	23.45		2
	1	74	23.43		2
	36	0	22.42	0-3	3
	36	18	22.42		3
	36	37	22.36		3
	75	0	22.37		3

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

Table 9-19
LTE Band 26 (Cell) Conducted Powers - 10 MHz Bandwidth

LTE Band 26 (Cell) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26740 (819.0 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 26990 (844.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.36	25.38	25.31	0	0
	1	25	25.25	25.29	25.21		0
	1	49	25.12	25.20	25.12		0
	25	0	24.28	24.25	24.20	0-1	1
	25	12	24.32	24.25	24.20		1
	25	25	24.25	24.25	24.16		1
	50	0	24.28	24.27	24.22		1
16QAM	1	0	24.45	24.36	24.35	0-1	1
	1	25	24.30	24.33	24.29		1
	1	49	24.25	24.24	24.20		1
	25	0	23.41	23.39	23.29	0-2	2
	25	12	23.38	23.40	23.31		2
	25	25	23.37	23.28	23.28		2
	50	0	23.39	23.37	23.30		2
64QAM	1	0	23.47	23.46	23.44	0-2	2
	1	25	23.39	23.50	23.36		2
	1	49	23.31	23.38	23.25		2
	25	0	22.32	22.33	22.23	0-3	3
	25	12	22.30	22.32	22.23		3
	25	25	22.31	22.29	22.22		3
	50	0	22.30	22.28	22.22		3

Table 9-20
LTE Band 26 (Cell) Conducted Powers - 5 MHz Bandwidth

LTE Band 26 (Cell) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26715 (816.5 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 27015 (846.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.24	25.25	25.18	0	0
	1	12	25.31	25.28	25.24		0
	1	24	25.31	25.28	25.11		0
	12	0	24.30	24.20	24.12	0-1	1
	12	6	24.37	24.20	24.19		1
	12	13	24.35	24.22	24.13		1
	25	0	24.33	24.20	24.08		1
16QAM	1	0	24.18	24.20	24.09	0-1	1
	1	12	24.25	24.23	24.09		1
	1	24	24.28	24.14	24.00		1
	12	0	23.00	23.00	22.82	0-2	2
	12	6	23.08	22.99	22.90		2
	12	13	23.06	23.00	22.88		2
	25	0	23.40	23.30	23.25		2
64QAM	1	0	23.40	23.24	23.30	0-2	2
	1	12	23.50	23.30	23.32		2
	1	24	23.45	23.30	23.25		2
	12	0	22.32	22.30	22.18	0-3	3
	12	6	22.43	22.31	22.30		3
	12	13	22.40	22.30	22.23		3
	25	0	22.34	22.23	22.15		3

Table 9-21
LTE Band 26 (Cell) Conducted Powers - 3 MHz Bandwidth

LTE Band 26 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26705 (815.5 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 27025 (847.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.22	25.22	25.19	0	0
	1	7	25.28	25.27	25.17		0
	1	14	25.30	25.25	25.08		0
	8	0	24.24	24.19	24.15	0-1	1
	8	4	24.28	24.25	24.15		1
	8	7	24.30	24.19	24.10		1
	15	0	24.30	24.20	24.14		1
16QAM	1	0	24.15	24.18	24.10	0-1	1
	1	7	24.22	24.18	24.06		1
	1	14	24.15	24.19	24.06		1
	8	0	23.20	23.15	23.10	0-2	2
	8	4	23.22	23.23	23.13		2
	8	7	23.21	23.20	23.05		2
	15	0	23.22	23.08	22.99		2
64QAM	1	0	23.27	23.25	23.20	0-2	2
	1	7	23.30	23.28	23.19		2
	1	14	23.36	23.26	23.14		2
	8	0	22.18	22.15	22.08	0-3	3
	8	4	22.28	22.25	22.11		3
	8	7	22.24	22.20	22.06		3
	15	0	22.22	22.12	22.03		3

Table 9-22
LTE Band 26 (Cell) Conducted Powers -1.4 MHz Bandwidth

LTE Band 26 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26697 (814.7 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 27033 (848.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.21	25.23	25.15	0	0
	1	2	25.36	25.37	25.20		0
	1	5	25.24	25.28	25.08		0
	3	0	25.29	25.23	25.15		0
	3	2	25.37	25.35	25.20		0
	3	3	25.26	25.30	25.08		0
	6	0	24.27	24.26	24.11	0-1	1
16QAM	1	0	24.50	24.50	24.45	0-1	1
	1	2	24.47	24.48	24.50		1
	1	5	24.48	24.50	24.45		1
	3	0	24.50	24.47	24.38		1
	3	2	24.50	24.50	24.30		1
	3	3	24.45	24.49	24.33		1
	6	0	23.50	23.50	23.46	0-2	2
64QAM	1	0	23.44	23.36	23.30	0-2	2
	1	2	23.49	23.50	23.33		2
	1	5	23.40	23.44	23.25		2
	3	0	23.47	23.35	23.26		2
	3	2	23.33	23.44	23.35		2
	3	3	23.40	23.38	23.25		2
	6	0	22.31	22.27	22.16	0-3	3

9.4.6 LTE Band 5 (Cell)

Table 9-23
LTE Band 5 (Cell) Conducted Powers - 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	**25.46**	0	0
	1	25	25.45		0
	1	49	25.39		0
	25	0	**24.50**	0-1	1
	25	12	24.49		1
	25	25	24.46		1
	50	0	24.47		1
16QAM	1	0	24.31	0-1	1
	1	25	24.35		1
	1	49	24.32		1
	25	0	23.50	0-2	2
	25	12	23.50		2
	25	25	23.49		2
	50	0	23.45		2
64QAM	1	0	23.49	0-2	2
	1	25	23.50		2
	1	49	23.40		2
	25	0	22.50	0-3	3
	25	12	22.50		3
	25	25	22.45		3
	50	0	22.44		3

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

Table 9-24
LTE Band 5 (Cell) Conducted Powers - 5 MHz Bandwidth

LTE Band 5 (Cell) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20425 (826.5 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20625 (846.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.30	25.34	25.22	0	0
	1	12	25.41	25.42	25.25		0
	1	24	25.37	25.33	25.24		0
	12	0	24.29	24.32	24.24	0-1	1
	12	6	24.43	24.38	24.30		1
	12	13	24.42	24.45	24.30		1
	25	0	24.36	24.33	24.28		1
16QAM	1	0	24.10	24.22	24.15	0-1	1
	1	12	24.25	24.24	23.99		1
	1	24	24.30	24.25	24.10		1
	12	0	23.30	23.32	23.17	0-2	2
	12	6	23.35	23.35	23.28		2
	12	13	23.39	23.35	23.23		2
	25	0	23.32	23.26	23.18		2
64QAM	1	0	23.37	23.37	23.31	0-2	2
	1	12	23.40	23.50	23.41		2
	1	24	23.40	23.40	23.40		2
	12	0	22.40	22.40	21.93	0-3	3
	12	6	22.46	22.43	21.96		3
	12	13	22.44	22.42	21.95		3
	25	0	22.36	22.40	21.89		3

Table 9-25
LTE Band 5 (Cell) Conducted Powers - 3 MHz Bandwidth

LTE Band 5 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20415 (825.5 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20635 (847.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.25	25.28	25.21	0	0
	1	7	25.35	25.42	25.31		0
	1	14	25.37	25.44	25.29		0
	8	0	24.29	24.32	24.20	0-1	1
	8	4	24.37	24.40	24.30		1
	8	7	24.37	24.39	24.30		1
	15	0	24.38	24.38	24.31		1
16QAM	1	0	24.03	24.03	23.90	0-1	1
	1	7	24.17	24.17	24.05		1
	1	14	24.15	24.20	24.13		1
	8	0	23.24	23.28	23.17	0-2	2
	8	4	23.38	23.44	23.31		2
	8	7	23.40	23.43	23.26		2
	15	0	23.27	23.24	23.20		2
64QAM	1	0	23.31	23.35	23.00	0-2	2
	1	7	23.36	23.46	23.04		2
	1	14	23.48	23.45	22.88		2
	8	0	22.24	22.30	21.98	0-3	3
	8	4	22.41	22.34	22.02		3
	8	7	22.42	22.44	21.94		3
	15	0	22.33	22.28	21.93		3

Table 9-26
LTE Band 5 (Cell) Conducted Powers -1.4 MHz Bandwidth

LTE Band 5 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20407 (824.7 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20643 (848.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.18	25.26	25.19	0	0
	1	2	25.30	25.30	25.22		0
	1	5	25.20	25.33	25.21		0
	3	0	25.20	25.24	25.20		0
	3	2	25.36	25.35	25.24		0
	3	3	25.33	25.33	25.20		0
	6	0	24.29	24.28	24.20	0-1	1
16QAM	1	0	24.30	24.32	24.30	0-1	1
	1	2	24.35	24.38	24.30		1
	1	5	24.38	24.33	24.30		1
	3	0	24.21	24.22	24.15		1
	3	2	24.31	24.28	24.24		1
	3	3	24.26	24.33	24.21		1
	6	0	23.30	23.24	23.16	0-2	2
64QAM	1	0	23.36	23.41	23.00	0-2	2
	1	2	23.43	23.50	22.95		2
	1	5	23.41	23.40	22.99		2
	3	0	23.40	23.40	23.00		2
	3	2	23.47	23.43	22.90		2
	3	3	23.38	23.38	22.82		2
	6	0	22.33	22.30	21.81	0-3	3

9.4.7 LTE Band 66 (AWS)

Table 9-27
LTE Band 66 (AWS) Conducted Powers - 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	24.82	24.80	**24.94**	0	0
	1	50	24.71	24.72	24.80		0
	1	99	24.77	24.79	24.49		0
	50	0	23.89	23.88	**23.93**	0-1	1
	50	25	23.80	23.87	23.91		1
	50	50	23.81	23.82	23.90		1
	100	0	23.82	23.80	23.88		1
16QAM	1	0	23.61	23.56	23.70	0-1	1
	1	50	23.55	23.56	23.57		1
	1	99	23.45	23.50	23.53		1
	50	0	22.76	22.77	22.85	0-2	2
	50	25	22.72	22.72	22.86		2
	50	50	22.67	22.68	22.82		2
	100	0	22.71	22.68	22.83		2
64QAM	1	0	22.85	22.82	22.95	0-2	2
	1	50	22.72	22.76	22.80		2
	1	99	23.00	22.83	22.74		2
	50	0	21.87	21.93	21.95	0-3	3
	50	25	21.82	21.88	21.94		3
	50	50	21.76	21.87	21.70		3
	100	0	21.81	21.84	21.89		3

Table 9-28
LTE Band 66 (AWS) Conducted Powers - 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	24.80	24.89	24.65	0	0
	1	36	24.74	24.83	24.60		0
	1	74	24.70	24.84	24.44		0
	36	0	23.93	23.99	23.75	0-1	1
	36	18	23.92	23.94	23.70		1
	36	37	23.85	23.89	23.67		1
	75	0	23.88	23.95	23.70		1
16QAM	1	0	24.00	23.94	23.90	0-1	1
	1	36	23.97	24.00	23.80		1
	1	74	23.94	23.96	23.67		1
	36	0	22.97	23.00	22.77	0-2	2
	36	18	22.88	22.97	22.73		2
	36	37	22.86	22.91	22.68		2
	75	0	22.90	22.97	22.73		2
64QAM	1	0	23.00	23.00	22.88	0-2	2
	1	36	22.94	23.00	22.81		2
	1	74	22.95	23.00	22.69		2
	36	0	22.00	22.00	21.79	0-3	3
	36	18	21.92	21.98	21.75		3
	36	37	21.97	21.93	21.55		3
	75	0	21.88	21.96	21.70		3

Table 9-29
LTE Band 66 (AWS) Conducted Powers - 10 MHz Bandwidth

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132022 (1715.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132622 (1775.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.58	24.72	24.61	0	0
	1	25	24.70	24.70	24.63		0
	1	49	24.68	24.75	24.69		0
	25	0	23.66	23.65	23.60	0-1	1
	25	12	23.67	23.65	23.55		1
	25	25	23.57	23.62	23.50		1
	50	0	23.62	23.64	23.55		1
16QAM	1	0	23.70	23.79	23.66	0-1	1
	1	25	23.75	23.73	23.71		1
	1	49	23.69	23.77	23.77		1
	25	0	22.67	22.66	22.60	0-2	2
	25	12	22.62	22.65	22.56		2
	25	25	22.60	22.65	22.54		2
	50	0	22.60	22.61	22.56		2
64QAM	1	0	22.75	22.80	22.77	0-2	2
	1	25	22.76	22.80	22.58		2
	1	49	22.75	22.80	22.44		2
	25	0	21.66	21.70	21.61	0-3	3
	25	12	21.64	21.70	21.61		3
	25	25	21.57	21.61	21.35		3
	50	0	21.64	21.65	21.60		3

Table 9-30
LTE Band 66 (AWS) Conducted Powers - 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	24.75	24.76	24.70	0	0
	1	12	24.83	24.86	24.76		0
	1	24	24.87	24.88	24.85		0
	12	0	23.61	23.64	23.51	0-1	1
	12	6	23.68	23.65	23.57		1
	12	13	23.68	23.66	23.58		1
	25	0	23.66	23.62	23.53		1
16QAM	1	0	23.69	23.71	23.66	0-1	1
	1	12	23.80	23.80	23.73		1
	1	24	23.80	23.86	23.75		1
	12	0	22.65	22.65	22.57	0-2	2
	12	6	22.67	22.70	22.63		2
	12	13	22.67	22.68	22.62		2
	25	0	22.66	22.63	22.55		2
64QAM	1	0	22.73	22.76	22.97	0-2	2
	1	12	22.82	22.80	22.63		2
	1	24	22.80	22.85	22.41		2
	12	0	21.70	21.70	21.80	0-3	3
	12	6	21.70	21.68	21.70		3
	12	13	21.70	21.80	21.50		3
	25	0	21.69	21.62	21.62		3

Table 9-31
LTE Band 66 (AWS) Conducted Powers - 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	24.69	24.68	24.68	0	0
	1	7	24.74	24.75	24.80		0
	1	14	24.77	24.78	24.77		0
	8	0	23.57	23.53	23.50	0-1	1
	8	4	23.55	23.59	23.58		1
	8	7	23.51	23.57	23.58		1
	15	0	23.59	23.58	23.57		1
16QAM	1	0	23.42	23.66	23.66	0-1	1
	1	7	23.65	23.76	23.76		1
	1	14	23.66	23.75	23.77		1
	8	0	22.58	22.60	22.55	0-2	2
	8	4	22.65	22.61	22.64		2
	8	7	22.62	22.63	22.62		2
	15	0	22.54	22.55	22.54		2
64QAM	1	0	22.60	22.69	22.55	0-2	2
	1	7	22.67	22.70	22.41		2
	1	14	22.65	22.66	22.34		2
	8	0	21.60	21.57	21.48	0-3	3
	8	4	21.67	21.67	21.46		3
	8	7	21.60	21.66	21.37		3
	15	0	21.57	21.60	21.41		3

Table 9-32
LTE Band 66 (AWS) Conducted Powers -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	24.57	24.66	24.56	0	0
	1	2	24.73	24.72	24.69		0
	1	5	24.73	24.67	24.66		0
	3	0	24.66	24.67	24.60		0
	3	2	24.68	24.69	24.68		0
	3	3	24.68	24.65	24.63		0
	6	0	23.43	23.43	23.38	0-1	1
16QAM	1	0	23.47	23.66	23.54	0-1	1
	1	2	23.63	23.70	23.64		1
	1	5	23.58	23.56	23.61		1
	3	0	23.46	23.49	23.46		1
	3	2	23.53	23.59	23.55		1
	3	3	23.48	23.51	23.51		1
	6	0	22.48	22.52	22.44	0-2	2
64QAM	1	0	22.48	22.66	22.46	0-2	2
	1	2	22.62	22.68	22.60		2
	1	5	22.62	22.58	22.45		2
	3	0	22.52	22.59	22.40		2
	3	2	22.61	22.60	22.44		2
	3	3	22.50	22.55	22.41		2
	6	0	21.58	21.64	21.35	0-3	3

Table 9-33
LTE Band 66 (AWS) Reduced Conducted Powers - 20 MHz Bandwidth

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132072 (1720.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132572 (1770.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	22.13	22.08	**22.28**	0	0
	1	50	22.03	21.97	22.06		0
	1	99	22.08	22.06	21.95		0
	50	0	22.27	22.24	**22.32**	0-1	0
	50	25	22.22	22.20	22.22		0
	50	50	22.15	22.14	22.20		0
	100	0	22.12	22.07	22.26		0
16QAM	1	0	22.31	22.26	22.41	0-1	0
	1	50	22.22	22.14	22.28		0
	1	99	22.18	22.14	22.19		0
	50	0	22.18	22.16	22.21	0-2	0
	50	25	22.15	22.08	22.19		0
	50	50	22.05	22.07	22.12		0
	100	0	22.08	22.08	22.16		0
64QAM	1	0	22.22	22.32	22.30	0-2	0
	1	50	22.13	22.16	22.23		0
	1	99	22.13	22.18	22.10		0
	50	0	21.81	21.83	21.87	0-3	0.5
	50	25	21.82	21.82	21.85		0.5
	50	50	21.70	21.75	21.62		0.5
	100	0	21.73	21.80	21.84		0.5

Table 9-34
LTE Band 66 (AWS) Reduced Conducted Powers - 15 MHz Bandwidth

LTE Band 66 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132047 (1717.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132597 (1772.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	22.00	22.09	22.31	0	0
	1	36	21.80	22.10	22.03		0
	1	74	21.72	21.98	22.03		0
	36	0	22.11	22.26	22.19	0-1	0
	36	18	22.12	22.26	22.14		0
	36	37	22.02	22.15	22.05		0
	75	0	22.04	22.21	22.13		0
16QAM	1	0	22.04	22.39	22.50	0-1	0
	1	36	22.03	22.36	22.50		0
	1	74	21.97	22.30	22.43		0
	36	0	22.20	22.34	22.27	0-2	0
	36	18	22.18	22.30	22.24		0
	36	37	22.10	22.22	22.17		0
	75	0	22.08	22.25	22.17		0
64QAM	1	0	22.25	22.34	22.50	0-2	0
	1	36	22.20	22.30	22.46		0
	1	74	22.18	22.23	22.36		0
	36	0	21.87	21.99	21.94	0-3	0.5
	36	18	21.83	21.95	21.94		0.5
	36	37	21.78	21.90	21.66		0.5
	75	0	21.79	21.87	21.78		0.5

Table 9-35
LTE Band 66 (AWS) Reduced Conducted Powers - 10 MHz Bandwidth

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132022 (1715.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132622 (1775.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	21.96	22.03	22.16	0	0
	1	25	21.95	22.05	21.97		0
	1	49	21.96	22.01	22.12		0
	25	0	22.22	22.27	22.29	0-1	0
	25	12	22.25	22.25	22.29		0
	25	25	22.19	22.17	22.25		0
	50	0	22.21	22.26	22.26		0
16QAM	1	0	22.50	22.34	22.50	0-1	0
	1	25	22.47	22.31	22.36		0
	1	49	22.50	22.35	22.48		0
	25	0	22.23	22.29	22.30	0-2	0
	25	12	22.26	22.25	22.28		0
	25	25	22.19	22.21	22.22		0
	50	0	22.27	22.29	22.31		0
64QAM	1	0	22.16	22.50	22.23	0-2	0
	1	25	22.10	22.47	22.24		0
	1	49	22.22	22.50	22.26		0
	25	0	21.71	21.79	21.68	0-3	0.5
	25	12	21.69	21.82	21.85		0.5
	25	25	21.63	21.71	21.72		0.5
	50	0	21.62	21.77	21.74		0.5

Table 9-36
LTE Band 66 (AWS) Reduced Conducted Powers - 5 MHz Bandwidth

LTE Band 66 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131997 (1712.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132647 (1777.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	22.11	22.15	22.00	0	0
	1	12	22.00	22.06	22.10		0
	1	24	22.06	22.12	22.12		0
	12	0	22.24	22.19	22.23	0-1	0
	12	6	22.22	22.23	22.28		0
	12	13	22.22	22.23	22.29		0
	25	0	22.23	22.21	22.30		0
16QAM	1	0	22.29	22.37	22.31	0-1	0
	1	12	22.38	22.38	22.41		0
	1	24	22.48	22.50	22.45		0
	12	0	22.19	22.24	22.27	0-2	0
	12	6	22.22	22.25	22.32		0
	12	13	22.26	22.29	22.34		0
	25	0	22.30	22.15	22.29		0
64QAM	1	0	22.10	22.13	22.03	0-2	0
	1	12	22.11	22.20	22.04		0
	1	24	22.27	22.28	22.09		0
	12	0	21.67	21.67	21.83	0-3	0.5
	12	6	21.69	21.72	21.73		0.5
	12	13	21.72	21.71	21.61		0.5
	25	0	21.69	21.57	21.62		0.5

Table 9-37
LTE Band 66 (AWS) Reduced Conducted Powers - 3 MHz Bandwidth

LTE Band 66 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131987 (1711.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132657 (1778.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	22.06	22.06	22.09	0	0
	1	7	22.07	22.09	22.09		0
	1	14	22.10	22.15	22.12		0
	8	0	22.19	22.18	22.22	0-1	0
	8	4	22.24	22.27	22.33		0
	8	7	22.20	22.24	22.27		0
	15	0	22.21	22.25	22.21		0
16QAM	1	0	22.34	22.41	22.24	0-1	0
	1	7	22.37	22.41	22.30		0
	1	14	22.41	22.46	22.34		0
	8	0	22.17	22.17	22.34	0-2	0
	8	4	22.17	22.26	22.47		0
	8	7	22.17	22.25	22.44		0
	15	0	22.31	22.41	22.29		0
64QAM	1	0	22.11	22.25	22.18	0-2	0
	1	7	22.10	22.31	22.22		0
	1	14	22.15	22.38	22.23		0
	8	0	21.65	21.68	21.68	0-3	0.5
	8	4	21.66	21.80	21.66		0.5
	8	7	21.64	21.73	21.59		0.5
	15	0	21.63	21.57	21.56		0.5

Table 9-38
LTE Band 66 (AWS) Reduced Conducted Powers -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	21.97	22.16	22.12	0	0
	1	2	22.07	22.22	22.08		0
	1	5	22.02	22.12	22.06		0
	3	0	22.06	22.11	22.11		0
	3	2	22.18	22.14	22.18		0
	3	3	22.13	22.12	22.17		0
	6	0	22.16	22.23	22.19	0-1	0
16QAM	1	0	22.31	22.36	22.31	0-1	0
	1	2	22.31	22.40	22.40		0
	1	5	22.35	22.36	22.44		0
	3	0	21.96	22.28	21.98		0
	3	2	22.04	22.33	22.10		0
	3	3	22.02	22.27	22.05		0
	6	0	22.03	22.33	22.09	0-2	0
64QAM	1	0	22.00	22.33	22.05	0-2	0
	1	2	22.11	22.40	22.41		0
	1	5	22.06	22.37	22.48		0
	3	0	22.01	22.07	22.25		0
	3	2	22.02	21.97	22.04		0
	3	3	21.97	21.94	22.00		0
	6	0	21.78	21.99	21.63	0-3	0.5

9.4.8 LTE Band 25 (PCS)

Table 9-39
LTE Band 25 (PCS) Conducted Powers - 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	**24.77**	24.73	24.75	0	0
	1	50	24.70	24.70	24.67		0
	1	99	24.71	24.66	24.63		0
	50	0	23.70	23.69	23.68	0-1	1
	50	25	**23.74**	23.71	23.72		1
	50	50	23.67	23.70	23.70		1
	100	0	23.71	23.70	23.69		1
16QAM	1	0	23.62	23.57	23.60	0-1	1
	1	50	23.50	23.55	23.55		1
	1	99	23.60	23.56	23.54		1
	50	0	22.62	22.60	22.60	0-2	2
	50	25	22.67	22.64	22.65		2
	50	50	22.66	22.62	22.71		2
	100	0	22.62	22.58	22.67		2
64QAM	1	0	22.80	22.73	22.76	0-2	2
	1	50	22.73	22.71	22.70		2
	1	99	22.77	22.72	22.71		2
	50	0	21.74	21.70	21.64	0-3	3
	50	25	21.77	21.74	21.89		3
	50	50	21.75	21.72	21.75		3
	100	0	21.74	21.72	21.44		3

Table 9-40
LTE Band 25 (PCS) Conducted Powers - 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	24.64	24.64	24.66	0	0
	1	36	24.66	24.67	24.52		0
	1	74	24.71	24.57	24.47		0
	36	0	23.79	23.76	23.74	0-1	1
	36	18	23.90	23.81	23.74		1
	36	37	23.82	23.72	23.74		1
	75	0	23.84	23.78	23.74		1
16QAM	1	0	23.88	23.95	23.89	0-1	1
	1	36	23.91	23.81	23.88		1
	1	74	23.91	23.85	24.00		1
	36	0	22.78	22.73	22.74	0-2	2
	36	18	22.85	22.76	22.77		2
	36	37	22.82	22.74	22.77		2
	75	0	22.80	22.78	22.70		2
64QAM	1	0	22.90	22.90	22.69	0-2	2
	1	36	22.90	22.90	22.74		2
	1	74	22.95	22.77	22.50		2
	36	0	21.84	21.78	21.78	0-3	3
	36	18	21.90	21.82	21.83		3
	36	37	21.84	21.79	21.79		3
	75	0	21.81	21.77	21.47		3

Table 9-41
LTE Band 25 (PCS) Conducted Powers - 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	24.57	24.50	24.42	0	0
	1	25	24.51	24.45	24.45		0
	1	49	24.48	24.46	24.40		0
	25	0	23.70	23.60	23.57	0-1	1
	25	12	23.71	23.63	23.55		1
	25	25	23.68	23.59	23.55		1
	50	0	23.70	23.60	23.58		1
16QAM	1	0	23.75	23.66	23.65	0-1	1
	1	25	23.75	23.70	23.68		1
	1	49	23.72	23.86	23.65		1
	25	0	22.70	22.60	22.55	0-2	2
	25	12	22.70	22.62	22.55		2
	25	25	22.67	22.60	22.56		2
	50	0	22.70	22.61	22.56		2
64QAM	1	0	22.79	22.75	22.53	0-2	2
	1	25	22.77	22.68	22.70		2
	1	49	22.70	22.70	22.37		2
	25	0	21.75	21.64	21.59	0-3	3
	25	12	21.72	21.66	21.60		3
	25	25	21.73	21.62	21.61		3
	50	0	21.75	21.66	21.59		3

Table 9-42
LTE Band 25 (PCS) Conducted Powers - 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	24.54	24.41	24.32	0	0
	1	12	24.62	24.49	24.51		0
	1	24	24.63	24.59	24.46		0
	12	0	23.68	23.52	23.46	0-1	1
	12	6	23.71	23.70	23.58		1
	12	13	23.79	23.70	23.63		1
	25	0	23.70	23.60	23.54		1
16QAM	1	0	23.80	23.70	23.63	0-1	1
	1	12	23.49	23.77	23.65		1
	1	24	23.84	23.77	23.70		1
	12	0	22.75	22.58	22.52	0-2	2
	12	6	22.79	22.68	22.59		2
	12	13	22.78	22.73	22.69		2
	25	0	22.75	22.61	22.49		2
64QAM	1	0	22.80	22.63	22.57	0-2	2
	1	12	22.88	22.74	22.49		2
	1	24	22.86	22.83	22.15		2
	12	0	21.77	21.61	21.55	0-3	3
	12	6	21.80	21.76	21.67		3
	12	13	21.80	21.72	21.54		3
	25	0	21.74	21.62	21.57		3

Table 9-43
LTE Band 25 (PCS) Conducted Powers - 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	24.57	24.38	24.33	0	0
	1	7	24.59	24.48	24.43		0
	1	14	24.55	24.52	24.46		0
	8	0	23.68	23.52	23.46	0-1	1
	8	4	23.75	23.68	23.53		1
	8	7	23.74	23.59	23.60		1
	15	0	23.70	23.64	23.52		1
16QAM	1	0	23.78	23.59	23.52	0-1	1
	1	7	23.82	23.76	23.70		1
	1	14	23.74	23.74	23.74		1
	8	0	22.74	22.58	22.55	0-2	2
	8	4	22.80	22.73	22.49		2
	8	7	22.73	22.65	22.62		2
	15	0	22.70	22.58	22.50		2
64QAM	1	0	22.79	22.65	22.58	0-2	2
	1	7	22.83	22.79	22.57		2
	1	14	22.73	22.82	22.23		2
	8	0	21.86	21.58	21.50	0-3	3
	8	4	21.85	21.74	21.55		3
	8	7	21.80	21.69	21.35		3
	15	0	21.73	21.66	21.36		3

Table 9-44
LTE Band 25 (PCS) Conducted Powers -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	24.55	24.42	24.35	0	0
	1	2	24.62	24.51	24.50		0
	1	5	24.56	24.43	24.40		0
	3	0	24.56	24.47	24.39		0
	3	2	24.58	24.50	24.44		0
	3	3	24.53	24.47	24.41		0
	6	0	23.66	23.54	23.50	0-1	1
16QAM	1	0	23.78	23.66	23.60	0-1	1
	1	2	23.88	23.77	23.67		1
	1	5	23.79	23.71	23.66		1
	3	0	23.68	23.55	23.52		1
	3	2	23.56	23.60	23.61		1
	3	3	23.63	23.50	23.55		1
	6	0	22.75	22.63	22.58	0-2	2
64QAM	1	0	22.75	22.66	22.37	0-2	2
	1	2	22.80	22.88	22.25		2
	1	5	22.77	22.60	22.11		2
	3	0	22.73	22.63	22.26		2
	3	2	22.77	22.66	22.30		2
	3	3	22.76	22.66	22.15		2
	6	0	21.66	21.68	21.14	0-3	3

Table 9-45
LTE Band 25 (PCS) Reduced Conducted Powers - 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	**22.29**	22.21	22.18	0	0
	1	50	22.21	22.17	22.07		0
	1	99	22.14	22.11	22.06		0
	50	0	22.31	22.25	22.21	0-1	0
	50	25	**22.35**	22.32	22.25		0
	50	50	22.31	22.30	22.19		0
	100	0	22.28	22.28	22.23		0
16QAM	1	0	22.50	22.14	22.46	0-1	0
	1	50	22.44	22.42	22.30		0
	1	99	22.49	22.42	22.35		0
	50	0	22.33	22.29	22.25	0-2	0
	50	25	22.40	22.35	22.31		0
	50	50	22.37	22.28	22.27		0
	100	0	22.34	22.30	22.28		0
64QAM	1	0	22.50	22.46	22.42	0-2	0
	1	50	22.46	22.37	22.43		0
	1	99	22.41	22.38	22.30		0
	50	0	21.91	21.87	21.73	0-3	0.5
	50	25	21.96	21.91	21.88		0.5
	50	50	21.94	21.89	21.84		0.5
	100	0	21.92	21.89	21.78		0.5

Table 9-46
LTE Band 25 (PCS) Reduced Conducted Powers - 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	21.99	22.09	22.09	0	0
	1	36	21.95	22.11	22.06		0
	1	74	21.91	22.02	22.04		0
	36	0	22.20	22.19	22.22	0-1	0
	36	18	22.25	22.27	22.26		0
	36	37	22.24	22.25	22.24		0
	75	0	22.14	22.17	22.22		0
16QAM	1	0	22.08	22.34	22.49	0-1	0
	1	36	22.16	22.35	22.46		0
	1	74	22.13	22.29	22.45		0
	36	0	22.22	22.20	22.25	0-2	0
	36	18	22.30	22.33	22.31		0
	36	37	22.27	22.28	22.30		0
	75	0	22.18	22.27	22.22		0
64QAM	1	0	22.47	22.46	22.48	0-2	0
	1	36	22.40	22.41	22.50		0
	1	74	22.34	22.40	22.32		0
	36	0	21.76	21.96	21.89	0-3	0.5
	36	18	21.83	21.98	21.97		0.5
	36	37	21.79	22.00	21.96		0.5
	75	0	21.77	21.91	21.87		0.5

Table 9-47
LTE Band 25 (PCS) Reduced Conducted Powers - 10 MHz Bandwidth

LTE Band 25 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26090 (1855.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26640 (1910.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	22.03	22.10	22.07	0	0
	1	25	21.96	21.93	21.92		0
	1	49	21.97	22.02	22.07		0
	25	0	22.04	22.02	22.03	0-1	0
	25	12	22.07	22.07	22.02		0
	25	25	22.07	22.03	22.04		0
	50	0	22.04	22.02	22.02		0
16QAM	1	0	22.40	22.17	22.47	0-1	0
	1	25	22.31	22.18	22.41		0
	1	49	22.32	22.07	22.50		0
	25	0	22.02	22.00	22.05	0-2	0
	25	12	22.03	22.06	22.05		0
	25	25	22.03	22.02	22.05		0
	50	0	22.11	22.04	22.00		0
64QAM	1	0	22.00	22.32	22.50	0-2	0
	1	25	21.96	22.31	22.35		0
	1	49	22.01	22.34	22.41		0
	25	0	21.73	21.71	21.60	0-3	0.5
	25	12	21.75	21.77	21.63		0.5
	25	25	21.74	21.73	21.68		0.5
	50	0	21.67	21.77	21.70		0.5

Table 9-48
LTE Band 25 (PCS) Reduced Conducted Powers - 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	22.22	21.97	22.24	0	0
	1	12	22.13	22.11	22.07		0
	1	24	22.19	22.14	22.10		0
	12	0	22.06	21.96	21.95	0-1	0
	12	6	22.17	22.04	22.07		0
	12	13	22.12	22.10	22.08		0
	25	0	22.12	22.07	22.03		0
16QAM	1	0	22.15	22.26	22.07	0-1	0
	1	12	22.23	22.40	22.22		0
	1	24	22.33	22.43	22.23		0
	12	0	22.05	22.01	22.05	0-2	0
	12	6	22.09	22.02	22.11		0
	12	13	22.13	22.12	22.18		0
	25	0	22.14	22.02	22.06		0
64QAM	1	0	22.29	22.12	21.91	0-2	0
	1	12	22.26	22.19	22.07		0
	1	24	22.37	22.29	22.12		0
	12	0	21.78	21.69	21.62	0-3	0.5
	12	6	21.82	21.73	21.68		0.5
	12	13	21.80	21.80	21.69		0.5
	25	0	21.78	21.69	21.58		0.5

Table 9-49
LTE Band 25 (PCS) Reduced Conducted Powers - 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	22.12	22.00	22.03	0	0
	1	7	22.18	22.14	22.15		0
	1	14	22.17	22.19	22.18		0
	8	0	22.16	22.03	22.02	0-1	0
	8	4	22.16	22.14	22.06		0
	8	7	22.14	22.12	22.13		0
	15	0	22.15	22.12	22.09		0
16QAM	1	0	22.40	22.45	22.37	0-1	0
	1	7	22.44	22.45	22.44		0
	1	14	22.45	22.50	22.50		0
	8	0	22.22	22.00	22.19	0-2	0
	8	4	22.31	22.09	22.24		0
	8	7	22.27	22.05	22.25		0
	15	0	22.18	22.25	22.11		0
64QAM	1	0	22.03	22.35	21.91	0-2	0
	1	7	22.12	22.45	22.08		0
	1	14	22.11	22.48	22.08		0
	8	0	21.74	21.74	21.61	0-3	0.5
	8	4	21.84	21.86	21.66		0.5
	8	7	21.81	21.83	21.74		0.5
	15	0	21.69	21.67	21.58		0.5

Table 9-50
LTE Band 25 (PCS) Reduced Conducted Powers -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	22.14	22.21	22.08	0	0
	1	2	22.20	22.22	22.19		0
	1	5	22.17	22.21	22.12		0
	3	0	22.26	22.15	22.14		0
	3	2	22.31	22.19	22.20		0
	3	3	22.29	22.16	22.16		0
	6	0	22.29	22.24	22.25	0-1	0
16QAM	1	0	22.22	22.18	22.42	0-1	0
	1	2	22.32	22.26	22.47		0
	1	5	22.28	22.14	22.39		0
	3	0	21.94	22.12	22.17		0
	3	2	21.99	22.16	22.22		0
	3	3	21.96	22.12	22.17		0
	6	0	22.01	22.15	22.28	0-2	0
64QAM	1	0	22.50	22.44	22.06	0-2	0
	1	2	22.47	22.50	22.11		0
	1	5	22.46	22.48	22.04		0
	3	0	22.25	22.07	22.19		0
	3	2	22.24	22.13	22.23		0
	3	3	22.23	22.10	22.24		0
	6	0	21.72	21.87	21.85	0-3	0.5

9.4.9 LTE Band 30

Table 9-51
LTE Band 30 Conducted Powers - 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	24.92	0	0
	1	25	**24.96**		0
	1	49	24.91		0
	25	0	**24.20**	0-1	1
	25	12	24.16		1
	25	25	24.18		1
	50	0	24.19		1
16QAM	1	0	24.20	0-1	1
	1	25	24.20		1
	1	49	24.18		1
	25	0	23.19	0-2	2
	25	12	23.20		2
	25	25	23.15		2
	50	0	23.15		2
64QAM	1	0	23.18	0-2	2
	1	25	23.20		2
	1	49	23.14		2
	25	0	22.14	0-3	3
	25	12	22.14		3
	25	25	22.18		3
	50	0	22.20		3

Table 9-52
LTE Band 30 Conducted Powers - 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	24.91	0	0
	1	12	25.07		0
	1	24	24.96		0
	12	0	24.08	0-1	1
	12	6	24.15		1
	12	13	24.12		1
	25	0	24.06		1
16QAM	1	0	24.08	0-1	1
	1	12	24.20		1
	1	24	24.20		1
	12	0	23.11	0-2	2
	12	6	23.15		2
	12	13	23.16		2
	25	0	23.08		2
64QAM	1	0	23.16	0-2	2
	1	12	23.20		2
	1	24	23.19		2
	12	0	22.16	0-3	3
	12	6	22.20		3
	12	13	22.20		3
	25	0	22.13		3

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

9.4.10 LTE Band 7

Table 9-53
LTE Band 7 Conducted Powers - 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	**23.70**	23.59	23.60	0	0
	1	50	23.62	23.49	23.39		0
	1	99	23.58	23.45	23.21		0
	50	0	**22.69**	22.51	22.68	0-1	1
	50	25	22.68	22.57	22.63		1
	50	50	22.64	22.55	22.50		1
	100	0	22.60	22.59	22.58		1
16QAM	1	0	22.50	22.62	22.61	0-1	1
	1	50	22.51	22.54	22.70		1
	1	99	22.48	22.53	22.51		1
	50	0	21.69	21.58	21.57	0-2	2
	50	25	21.69	21.59	21.59		2
	50	50	21.66	21.53	21.48		2
	100	0	21.62	21.51	21.50		2
64QAM	1	0	21.66	21.49	21.70	0-2	2
	1	50	21.70	21.50	21.69		2
	1	99	21.67	21.38	21.64		2
	50	0	20.60	20.67	20.70	0-3	3
	50	25	20.70	20.70	20.67		3
	50	50	20.63	20.63	20.54		3
	100	0	20.64	20.65	20.63		3

Table 9-54
LTE Band 7 Conducted Powers - 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	23.63	23.40	23.20	0	0
	1	36	23.61	23.44	23.28		0
	1	74	23.64	23.45	23.45		0
	36	0	22.55	22.55	22.30	0-1	1
	36	18	22.57	22.51	22.40		1
	36	37	22.60	22.48	22.50		1
	75	0	22.58	22.47	22.46		1
16QAM	1	0	22.40	22.70	22.44	0-1	1
	1	36	22.45	22.68	22.45		1
	1	74	22.51	22.70	22.41		1
	36	0	21.58	21.50	21.31	0-2	2
	36	18	21.58	21.44	21.48		2
	36	37	21.57	21.43	21.46		2
	75	0	21.55	21.40	21.44		2
64QAM	1	0	21.70	21.66	21.65	0-2	2
	1	36	21.65	21.64	21.60		2
	1	74	21.60	21.66	21.70		2
	36	0	20.64	20.70	20.46	0-3	3
	36	18	20.63	20.53	20.55		3
	36	37	20.67	20.52	20.70		3
	75	0	20.64	20.49	20.70		3

Table 9-55
LTE Band 7 Conducted Powers - 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	23.64	23.48	23.30	0	0
	1	25	23.55	23.46	23.55		0
	1	49	23.70	23.50	23.48		0
	25	0	22.70	22.65	22.65	0-1	1
	25	12	22.66	22.61	22.62		1
	25	25	22.64	22.60	22.60		1
	50	0	22.62	22.60	22.60		1
16QAM	1	0	22.61	22.70	22.70	0-1	1
	1	25	22.69	22.65	22.70		1
	1	49	22.70	22.70	22.68		1
	25	0	21.70	21.68	21.65	0-2	2
	25	12	21.59	21.70	21.62		2
	25	25	21.65	21.68	21.64		2
	50	0	21.70	21.65	21.69		2
64QAM	1	0	21.40	21.70	21.62	0-2	2
	1	25	21.36	21.58	21.70		2
	1	49	21.53	21.68	21.46		2
	25	0	20.53	20.44	20.63	0-3	3
	25	12	20.47	20.40	20.70		3
	25	25	20.47	20.36	20.33		3
	50	0	20.45	20.36	20.70		3

Table 9-56
LTE Band 7 Conducted Powers - 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	23.52	23.43	23.45	0	0
	1	12	23.63	23.51	23.51		0
	1	24	23.65	23.60	23.53		0
	12	0	22.70	22.56	22.51	0-1	1
	12	6	22.68	22.60	22.58		1
	12	13	22.70	22.70	22.57		1
	25	0	22.69	22.67	22.56		1
16QAM	1	0	22.60	22.43	22.45	0-1	1
	1	12	22.67	22.60	22.50		1
	1	24	22.59	22.63	22.58		1
	12	0	21.65	21.65	21.64	0-2	2
	12	6	21.67	21.70	21.65		2
	12	13	21.70	21.69	21.54		2
	25	0	21.61	21.65	21.50		2
64QAM	1	0	21.54	21.61	21.52	0-2	2
	1	12	21.66	21.70	21.66		2
	1	24	21.70	21.69	21.60		2
	12	0	20.64	20.66	20.42	0-3	3
	12	6	20.70	20.62	20.68		3
	12	13	20.70	20.70	20.69		3
	25	0	20.66	20.69	20.48		3

9.4.11 LTE Band 48

Table 9-57
LTE Band 48 Conducted Powers - 20 MHz Bandwidth

LTE Band 48 20 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			55340 (3560.0 MHz)	55773 (3603.3 MHz)	56207 (3646.7 MHz)	56640 (3690.0 MHz)		
			Conducted Power [dBm]					
QPSK	1	0	24.11	24.11	24.12	24.10	0	0
	1	50	24.05	24.08	24.17	24.13		0
	1	99	24.13	**24.20**	24.19	24.19		0
	50	0	22.94	**23.07**	22.97	22.97	0-1	1
	50	25	22.99	23.03	23.04	22.98		1
	50	50	23.01	22.96	23.05	22.94		1
	100	0	22.96	23.05	23.02	22.94		1
16QAM	1	0	23.18	23.20	23.19	23.19	0-1	1
	1	50	23.14	23.15	23.13	23.17		1
	1	99	23.19	23.16	23.20	23.16		1
	50	0	22.13	22.18	22.14	22.11	0-2	2
	50	25	22.17	22.15	22.20	22.19		2
	50	50	22.17	22.10	22.14	22.15		2
	100	0	22.16	22.15	22.14	22.13		2
64QAM	1	0	21.83	21.87	21.85	21.88	0-2	2
	1	50	21.81	21.82	21.90	21.86		2
	1	99	21.86	21.93	21.95	21.90		2
	50	0	20.86	21.03	20.94	20.97	0-3	3
	50	25	20.91	21.00	21.00	20.96		3
	50	50	20.90	20.93	20.99	20.92		3
	100	0	20.85	20.97	20.94	20.92		3

Table 9-58
LTE Band 48 Conducted Powers - 15 MHz Bandwidth

LTE Band 48 15 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			55315 (3557.5 MHz)	55765 (3602.5 MHz)	56215 (3647.5 MHz)	56665 (3692.5 MHz)		
			Conducted Power [dBm]					
QPSK	1	0	24.17	24.05	24.05	24.05	0	0
	1	36	24.14	24.04	24.00	23.96		0
	1	74	24.11	24.05	24.09	24.01		0
	36	0	23.10	23.04	23.02	23.03	0-1	1
	36	18	23.08	23.05	23.10	23.04		1
	36	37	23.07	23.00	23.10	23.00		1
	75	0	23.06	23.02	23.02	22.97		1
16QAM	1	0	23.17	22.95	22.67	23.20	0-1	1
	1	36	23.02	22.85	22.60	23.16		1
	1	74	22.98	23.00	22.75	23.07		1
	36	0	21.97	21.95	22.00	21.96	0-2	2
	36	18	22.01	22.00	22.00	21.96		2
	36	37	22.00	21.91	22.00	21.90		2
	75	0	21.96	21.87	22.00	21.91		2
64QAM	1	0	22.10	21.95	22.17	22.20	0-2	2
	1	36	22.05	21.97	22.07	22.14		2
	1	74	22.05	22.00	22.15	22.14		2
	36	0	21.13	21.03	21.10	21.06	0-3	3
	36	18	21.11	21.07	21.19	21.06		3
	36	37	21.15	21.09	21.16	21.01		3
	75	0	21.08	21.08	21.17	21.08		3

Table 9-59
LTE Band 48 Conducted Powers - 10 MHz Bandwidth

LTE Band 48 10 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel 55290 (3555.0 MHz)	Low-Mid Channel 55757 (3601.7 MHz)	Mid-High Channel 56223 (3648.3 MHz)	High Channel 56690 (3695.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
QPSK	1	0	24.04	23.90	23.91	23.92	0	0
	1	25	24.05	23.88	23.86	23.93		0
	1	49	24.10	23.95	24.00	23.95		0
	25	0	22.97	22.85	22.82	22.87	0-1	1
	25	12	23.07	22.93	22.96	22.95		1
	25	25	23.04	22.94	22.90	22.88		1
	50	0	22.98	22.92	22.90	22.87		1
16QAM	1	0	23.02	23.00	23.03	22.94	0-1	1
	1	25	22.74	22.98	23.20	22.86		1
	1	49	22.78	22.85	23.10	22.71		1
	25	0	21.92	21.81	21.81	21.78	0-2	2
	25	12	22.02	21.90	21.91	21.95		2
	25	25	21.94	21.85	21.85	21.90		2
	50	0	21.92	21.86	21.83	21.81		2
64QAM	1	0	21.76	21.65	22.08	21.65	0-2	2
	1	25	21.83	21.80	22.20	21.71		2
	1	49	21.83	22.07	22.18	21.79		2
	25	0	21.00	20.93	20.91	20.87	0-3	3
	25	12	21.09	21.00	20.99	20.92		3
	25	25	21.02	21.04	20.94	20.94		3
	50	0	21.08	20.91	20.88	20.92		3

Table 9-60
LTE Band 48 Conducted Powers - 5 MHz Bandwidth

LTE Band 48 5 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel 55265 (3552.5 MHz)	Low-Mid Channel 55748 (3600.8 MHz)	Mid-High Channel 56232 (3649.2 MHz)	High Channel 56715 (3697.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
QPSK	1	0	24.02	23.92	23.91	23.82	0	0
	1	12	24.02	24.03	24.00	23.94		0
	1	24	24.11	23.98	23.92	23.97		0
	12	0	23.01	22.83	22.95	22.91	0-1	1
	12	6	23.08	22.94	22.96	22.95		1
	12	13	23.01	22.93	22.96	22.95		1
	25	0	23.01	22.92	22.94	22.94		1
16QAM	1	0	22.90	23.06	22.69	22.94	0-1	1
	1	12	22.90	23.18	22.72	22.81		1
	1	24	22.83	23.16	22.71	22.81		1
	12	0	21.73	21.58	21.60	21.73	0-2	2
	12	6	21.81	21.68	21.60	21.62		2
	12	13	21.78	21.59	21.69	21.67		2
	25	0	21.64	21.54	21.65	21.70		2
64QAM	1	0	21.82	21.64	21.62	21.53	0-2	2
	1	12	21.91	21.74	21.68	21.62		2
	1	24	21.84	21.68	21.61	21.80		2
	12	0	21.03	20.92	21.01	20.81	0-3	3
	12	6	21.12	21.00	20.91	21.05		3
	12	13	21.15	20.99	20.92	21.02		3
	25	0	21.07	20.93	21.00	21.01		3

9.4.12 LTE Band 41

Table 9-61
LTE Band 41 PC3 Conducted Powers - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	24.98	24.90	24.88	25.07	**25.08**	0	0
	1	50	24.92	24.84	24.89	24.95	24.96		0
	1	99	24.91	24.88	24.91	24.79	25.00		0
	50	0	23.63	23.58	23.65	23.69	23.64	0-1	1
	50	25	23.65	23.53	23.63	23.68	23.74		1
	50	50	23.69	23.49	23.61	23.59	**23.76**		1
	100	0	23.64	23.52	23.62	23.62	23.70		1
16QAM	1	0	23.24	23.44	23.33	23.25	23.47	0-1	1
	1	50	23.11	23.40	23.28	23.19	23.51		1
	1	99	23.15	23.41	23.23	23.12	23.69		1
	50	0	22.65	22.67	22.60	22.69	22.60	0-2	2
	50	25	22.62	22.64	22.63	22.68	22.75		2
	50	50	22.64	22.57	22.59	22.57	22.73		2
	100	0	22.62	22.60	22.59	22.59	22.74		2
64QAM	1	0	22.29	22.21	22.36	22.28	22.45	0-2	2
	1	50	22.19	22.14	22.35	22.21	22.61		2
	1	99	22.16	22.07	22.24	22.24	22.84		2
	50	0	21.74	21.66	21.65	21.57	21.58	0-3	3
	50	25	21.78	21.69	21.62	21.57	21.66		3
	50	50	21.75	21.57	21.61	21.48	21.75		3
	100	0	21.71	21.62	21.58	21.50	21.70		3

Table 9-62
LTE Band 41 PC3 Conducted Powers - 15 MHz Bandwidth

LTE Band 41 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	24.76	24.78	24.66	24.78	24.70	0	0
	1	36	24.80	24.72	24.67	24.67	24.75		0
	1	74	24.66	24.66	24.63	24.58	24.87		0
	36	0	23.64	23.65	23.50	23.51	23.60	0-1	1
	36	18	23.68	23.65	23.58	23.51	23.67		1
	36	37	23.55	23.53	23.52	23.45	23.70		1
	75	0	23.59	23.54	23.52	23.48	23.67		1
16QAM	1	0	23.45	23.23	23.42	23.21	23.01	0-1	1
	1	36	23.45	23.16	23.37	23.10	23.17		1
	1	74	23.40	23.03	23.37	23.04	23.15		1
	36	0	22.51	22.54	22.41	22.38	22.49	0-2	2
	36	18	22.55	22.50	22.48	22.38	22.58		2
	36	37	22.47	22.47	22.44	22.34	22.58		2
	75	0	22.46	22.48	22.42	22.30	22.56		2
64QAM	1	0	22.20	22.20	22.13	22.10	22.10	0-2	2
	1	36	22.15	22.13	22.16	22.00	22.17		2
	1	74	22.11	22.02	22.10	21.90	22.26		2
	36	0	21.62	21.62	21.54	21.50	21.62	0-3	3
	36	18	21.63	21.61	21.57	21.52	21.71		3
	36	37	21.58	21.55	21.51	21.41	21.74		3
	75	0	21.62	21.57	21.53	21.48	21.65		3

Table 9-63
LTE Band 41 PC3 Conducted Powers - 10 MHz Bandwidth

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	24.68	24.81	24.58	24.61	24.66	0	0
	1	25	24.72	24.55	24.71	24.42	24.54		0
	1	49	24.60	24.55	24.52	24.44	24.57		0
	25	0	23.54	23.54	23.47	23.40	23.48	0-1	1
	25	12	23.58	23.56	23.49	23.37	23.48		1
	25	25	23.46	23.50	23.41	23.35	23.42		1
	50	0	23.48	23.49	23.42	23.38	23.49		1
16QAM	1	0	23.57	23.53	23.41	23.18	23.50	0-1	1
	1	25	23.59	23.44	23.34	23.11	23.45		1
	1	49	23.55	23.48	23.37	23.13	23.36		1
	25	0	22.44	22.46	22.34	22.34	22.50	0-2	2
	25	12	22.51	22.50	22.39	22.31	22.46		2
	25	25	22.41	22.41	22.34	22.25	22.33		2
	50	0	22.43	22.42	22.37	22.23	22.44		2
64QAM	1	0	22.47	22.11	22.01	22.20	22.04	0-2	2
	1	25	22.56	22.11	22.00	22.05	22.08		2
	1	49	22.48	22.08	21.99	22.17	22.17		2
	25	0	21.52	21.51	21.42	21.33	21.50	0-3	3
	25	12	21.52	21.53	21.42	21.45	21.61		3
	25	25	21.42	21.54	21.37	21.40	21.47		3
	50	0	21.58	21.56	21.49	21.36	21.48		3

Table 9-64
LTE Band 41 PC3 Conducted Powers - 5 MHz Bandwidth

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	24.61	24.72	24.50	24.49	24.60	0	0
	1	12	24.62	24.77	24.59	24.49	24.69		0
	1	24	24.65	24.68	24.60	24.56	24.65		0
	12	0	23.55	23.50	23.42	23.34	23.43	0-1	1
	12	6	23.62	23.59	23.47	23.37	23.53		1
	12	13	23.54	23.61	23.42	23.39	23.55		1
	25	0	23.54	23.58	23.37	23.34	23.54		1
16QAM	1	0	23.35	22.95	23.16	23.12	23.16	0-1	1
	1	12	23.58	23.00	23.23	23.17	23.20		1
	1	24	23.38	23.02	23.12	23.13	23.25		1
	12	0	22.29	22.24	22.17	22.07	22.20	0-2	2
	12	6	22.33	22.27	22.17	22.12	22.28		2
	12	13	22.24	22.30	22.17	22.19	22.25		2
	25	0	22.32	22.25	22.06	22.02	22.16		2
64QAM	1	0	22.19	22.58	22.19	22.05	22.03	0-2	2
	1	12	22.23	22.52	22.19	21.93	22.13		2
	1	24	22.20	22.54	22.08	21.99	22.13		2
	12	0	21.59	21.63	21.47	21.42	21.53	0-3	3
	12	6	21.64	21.64	21.50	21.48	21.63		3
	12	13	21.63	21.65	21.57	21.55	21.58		3
	25	0	21.61	21.58	21.47	21.38	21.57		3

Table 9-65
LTE Band 41 PC2 Conducted Powers - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	27.49	27.44	27.34	27.25	27.13	0	0
	1	50	27.46	27.40	27.32	27.20	27.31		0
	1	99	27.39	27.38	27.29	27.13	27.01		0
	50	0	26.30	26.28	26.17	26.24	26.18	0-1	1
	50	25	26.38	26.30	26.22	26.21	26.25		1
	50	50	26.36	26.24	26.21	26.28	26.31		1
	100	0	26.34	26.24	26.19	26.24	26.25		1
16QAM	1	0	26.47	26.44	26.29	26.70	26.25	0-1	1
	1	50	26.45	26.40	26.31	26.35	26.30		1
	1	99	26.47	26.37	26.27	26.31	26.45		1
	50	0	25.34	25.30	25.20	24.83	25.20	0-2	2
	50	25	25.38	25.33	25.25	24.83	25.28		2
	50	50	25.40	25.25	25.23	24.88	25.33		2
	100	0	25.40	25.31	25.24	24.84	25.31		2
64QAM	1	0	25.57	25.31	25.70	25.45	25.05	0-2	2
	1	50	25.19	25.61	25.64	25.30	25.45		2
	1	99	25.03	25.68	25.28	25.17	25.32		2
	50	0	23.84	24.11	24.30	24.41	24.39	0-3	3
	50	25	23.93	24.25	24.15	24.39	24.33		3
	50	50	23.76	24.34	23.94	24.31	23.93		3
	100	0	23.94	24.09	24.01	24.20	24.03		3

Table 9-66
LTE Band 41 PC2 Conducted Powers - 15 MHz Bandwidth

LTE Band 41 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	27.60	27.57	27.63	27.05	27.53	0	0
	1	36	27.50	27.64	27.66	27.08	27.63		0
	1	74	27.34	27.44	27.58	27.07	27.23		0
	36	0	26.52	26.45	26.41	26.16	26.48	0-1	1
	36	18	26.45	26.49	26.43	26.16	26.54		1
	36	37	26.34	26.41	26.38	26.10	26.38		1
	75	0	26.39	26.42	26.36	26.07	26.40		1
16QAM	1	0	26.47	26.55	26.38	26.30	26.31	0-1	1
	1	36	26.49	26.59	26.39	26.15	26.44		1
	1	74	26.42	26.64	26.29	26.06	26.31		1
	36	0	25.49	25.40	25.39	25.16	25.40	0-2	2
	36	18	25.58	25.42	25.41	25.15	25.50		2
	36	37	25.49	25.34	25.39	25.09	25.45		2
	75	0	25.41	25.32	25.30	25.09	25.32		2
64QAM	1	0	25.00	24.77	25.34	25.58	25.27	0-2	2
	1	36	24.94	25.25	25.25	25.53	25.31		2
	1	74	24.77	25.36	24.91	25.40	25.40		2
	36	0	23.91	24.22	24.41	24.24	24.48	0-3	3
	36	18	23.96	24.37	24.30	24.26	24.42		3
	36	37	23.79	24.36	24.10	24.20	24.14		3
	75	0	23.88	24.17	24.16	24.23	24.17		3

Table 9-67
LTE Band 41 PC2 Conducted Powers - 10 MHz Bandwidth

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	27.48	27.50	27.41	27.10	27.39	0	0
	1	25	27.33	27.38	27.33	27.04	27.35		0
	1	49	27.23	27.45	27.31	27.00	27.24		0
	25	0	26.39	26.38	26.27	26.16	26.33	0-1	1
	25	12	26.40	26.39	26.27	26.17	26.39		1
	25	25	26.33	26.35	26.18	26.12	26.33		1
	50	0	26.36	26.40	26.26	26.06	26.34		1
16QAM	1	0	26.61	26.52	26.49	26.16	26.41	0-1	1
	1	25	26.52	26.41	26.41	26.12	26.35		1
	1	49	26.53	26.46	26.41	26.09	26.41		1
	25	0	25.24	25.35	25.13	25.23	25.30	0-2	2
	25	12	25.25	25.33	25.15	25.24	25.32		2
	25	25	25.19	25.33	25.08	25.22	25.28		2
	50	0	25.26	25.31	25.10	25.18	25.29		2
64QAM	1	0	25.19	25.28	25.59	25.02	25.36	0-2	2
	1	25	24.88	25.60	25.48	25.03	25.52		2
	1	49	24.79	25.64	25.28	24.90	25.33		2
	25	0	23.99	24.37	24.23	24.38	24.48	0-3	3
	25	12	23.89	24.44	24.20	24.37	24.42		3
	25	25	23.75	24.39	24.05	24.34	24.26		3
	50	0	23.89	24.25	24.11	24.22	24.19		3

Table 9-68
LTE Band 41 PC2 Conducted Powers - 5 MHz Bandwidth

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	27.46	27.42	27.39	27.15	27.42	0	0
	1	12	27.33	27.42	27.40	27.14	27.41		0
	1	24	27.27	27.42	27.40	27.12	27.46		0
	12	0	26.39	26.39	26.23	26.23	26.29	0-1	1
	12	6	26.42	26.43	26.24	26.27	26.38		1
	12	13	26.45	26.41	26.29	26.23	26.38		1
	25	0	26.38	26.42	26.29	26.12	26.40		1
16QAM	1	0	26.68	26.38	26.22	26.27	26.26	0-1	1
	1	12	26.69	26.42	26.29	26.28	26.33		1
	1	24	26.70	26.46	26.23	26.26	26.31		1
	12	0	25.21	25.20	25.02	25.35	25.08	0-2	2
	12	6	25.25	25.22	25.05	25.41	25.17		2
	12	13	25.23	25.22	25.06	25.37	25.16		2
	25	0	25.10	25.13	24.96	25.09	25.07		2
64QAM	1	0	25.23	25.03	25.37	25.02	25.12	0-2	2
	1	12	25.27	25.01	25.35	25.04	25.15		2
	1	24	25.25	25.04	25.41	25.01	25.15		2
	12	0	24.25	24.43	24.36	24.39	24.48	0-3	3
	12	6	24.30	24.46	24.38	24.45	24.50		3
	12	13	24.20	24.40	24.31	24.41	24.43		3
	25	0	24.07	24.26	24.16	24.20	24.29		3

9.4.13 LTE Uplink Carrier Aggregation Conducted Powers

Table 9-69
LTE Band 5 Uplink Carrier Aggregation Conducted Powers

	PCC									SCC									Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC UL Channel	PCC UL Frequency [MHz]	PCC DL Channel	PCC DL Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC UL Channel	SCC UL Frequency [MHz]	SCC DL Channel	SCC DL Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	LTE Tx.Power with UL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_5B	LTE B5	10	20525	836.5	2525	881.5	QPSK	1	0	LTE B5	5	20453	829.3	2453	874.3	QPSK	1	24	25.49	25.46

Table 9-70
LTE Band 41 PC3 Uplink Carrier Aggregation Conducted Powers

	PCC							SCC							Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL/DL) Channel	PCC (UL/DL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL/DL) Channel	SCC (UL/DL) Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	LTE Tx.Power with UL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_41C	LTE B41	20	41490	2680.0	QPSK	1	0	LTE B41	20	41292	2660.2	QPSK	1	99	25.05	25.08

Table 9-71
LTE Band 41 PC2 Uplink Carrier Aggregation Conducted Powers

	PCC							SCC							Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL/DL) Channel	PCC (UL/DL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL/DL) Channel	SCC (UL/DL) Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	LTE Tx.Power with UL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_41C	LTE B41 PC2	20	41490	2680.0	QPSK	1	0	LTE B41 PC2	20	41292	2660.2	QPSK	1	99	27.20	27.13

Notes:

1. This device supports uplink carrier aggregation for LTE CA_5B and LTE CA_41C with a maximum of two 20 MHz component carriers. For intraband contiguous carrier aggregation scenarios, 3GPP 36.101 Table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when non-contiguous RB allocation is implemented. The conducted powers and MPR settings in this device are permanently implemented per the above 3GPP requirements.
2. Per FCC Guidance, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.

Figure 9-4
Power Measurement Setup

9.5 WLAN Conducted Powers

Table 9-72
2.4 GHz WLAN Maximum Average RF Power – Ant 1

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ac
		Average	Average	Average	Average
2412	1	19.74	15.73	14.47	14.47
2422	3	N/A	17.96	16.80	16.77
2437	6	19.86	18.08	17.05	17.02
2452	9	N/A	18.13	16.95	16.97
2462	11	19.87	15.74	14.64	14.67

Table 9-73
2.4 GHz WLAN Maximum Average RF Power – Ant 2

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ac
		Average	Average	Average	Average
2412	1	19.88	16.78	15.47	15.47
2422	3	N/A	19.33	18.21	18.22
2437	6	19.98	19.18	18.12	18.10
2452	9	N/A	19.38	18.21	18.20
2462	11	19.89	16.62	15.43	15.45

Table 9-74
5 GHz WLAN Maximum Average RF Power – Ant 1

5GHz (20MHz) Conducted Power [dBm]				
Freq [MHz]	Channel	IEEE Transmission Mode		
		802.11a	802.11n	802.11ac
		Average	Average	Average
5180	36	16.40	16.35	16.29
5200	40	19.54	19.40	19.39
5220	44	16.37	16.15	16.16
5240	48	16.42	16.26	16.27
5260	52	16.59	16.37	16.35
5280	56	19.63	19.50	19.51
5300	60	16.59	16.62	16.51
5320	64	16.58	16.45	16.41
5500	100	16.57	16.39	16.37
5600	120	16.44	16.26	16.30
5620	124	16.53	16.35	16.41
5720	144	16.41	16.20	16.25
5745	149	16.56	16.35	16.37
5785	157	19.48	19.35	19.33
5825	165	18.44	18.36	18.28

Table 9-75
5 GHz WLAN Maximum Average RF Power – Ant 2

5GHz (20MHz) Conducted Power [dBm]				
Freq [MHz]	Channel	IEEE Transmission Mode		
		802.11a	802.11n	802.11ac
		Average	Average	Average
5180	36	16.41	16.23	16.25
5200	40	19.22	19.16	19.13
5220	44	16.33	16.19	16.26
5240	48	16.54	16.27	16.27
5260	52	16.69	16.36	16.33
5280	56	19.53	19.45	19.44
5300	60	16.46	16.13	16.72
5320	64	16.36	16.29	16.18
5500	100	16.59	16.40	16.43
5600	120	16.55	16.39	16.35
5620	124	16.65	16.50	16.46
5720	144	16.76	16.56	16.60
5745	149	16.55	16.55	16.49
5785	157	19.79	19.65	19.73
5825	165	18.62	18.50	18.48

Table 9-76
5 GHz WLAN Maximum Average RF Power – MIMO

5GHz (20MHz) 802.11n Conducted Power [dBm]				
Freq [MHz]	**Channel**	**ANT1**	**ANT2**	**MIMO**
5180	36	16.35	16.23	19.30
5200	40	19.40	19.16	22.29
5220	44	16.15	16.19	19.18
5240	48	16.26	16.27	19.28
5260	52	16.37	16.36	19.38
5280	56	19.50	19.45	22.49
5300	60	16.62	16.13	19.39
5320	64	16.45	16.29	19.38
5500	100	16.39	16.40	19.41
5600	120	16.26	16.39	19.34
5620	124	16.35	16.50	19.44
5720	144	16.20	16.56	19.39
5745	149	16.35	16.55	19.46
5765	153	16.51	16.56	19.55
5785	157	19.35	19.65	22.51
5805	161	18.30	18.53	21.43
5825	165	18.36	18.50	21.44

Table 9-77
2.4 GHz WLAN Reduced Average RF Power – Ant 1

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ac
		Average	Average	Average	Average
2412	1	16.97	15.64	14.46	14.45
2422	3	N/A	16.11	15.82	15.92
2437	6	17.20	16.29	16.07	16.12
2452	9	N/A	16.11	15.68	15.91
2462	11	17.04	15.61	14.33	14.40

Table 9-78
2.4 GHz WLAN Reduced Average RF Power – Ant 2

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ac
		Average	Average	Average	Average
2412	1	17.05	16.80	15.58	15.54
2422	3	N/A	17.41	17.26	17.22
2437	6	17.02	17.30	17.11	17.14
2452	9	N/A	17.35	17.17	17.26
2462	11	16.75	16.48	15.32	15.30

Table 9-79
5 GHz WLAN Reduced Average RF Power – Ant 1

5GHz (40MHz) Conducted Power [dBm]			
Freq [MHz]	Channel	IEEE Transmission Mode	
		802.11n	802.11ac
		Average	Average
5190	38	15.27	15.37
5230	46	15.21	15.27
5270	54	15.45	15.45
5310	62	15.36	15.35
5510	102	15.45	15.41
5590	118	15.35	15.28
5630	126	15.32	15.24
5710	142	15.43	15.37
5755	151	15.43	15.43
5795	159	15.45	15.97

Table 9-80
5 GHz WLAN Reduced Average RF Power – Ant 2

5GHz (40MHz) Conducted Power [dBm]			
Freq [MHz]	Channel	IEEE Transmission Mode	
		802.11n	802.11ac
		Average	Average
5190	38	15.41	15.38
5230	46	15.25	15.15
5270	54	15.15	15.09
5310	62	15.37	15.40
5510	102	15.23	15.24
5590	118	15.45	15.43
5630	126	15.27	15.29
5710	142	15.36	15.39
5755	151	15.38	15.43
5795	159	15.67	15.57

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

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

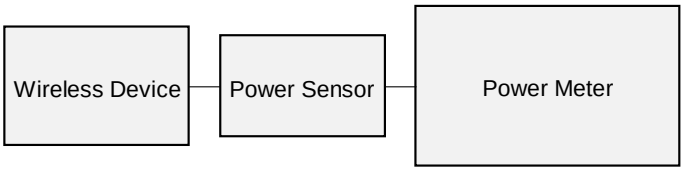


Figure 9-5
Power Measurement Setup

9.6 Bluetooth Conducted Powers

Table 9-81
Bluetooth Average RF Power

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
			[dBm]	[mW]
2402	1.0	0	9.24	8.398
2441	1.0	39	9.96	9.910
2480	1.0	78	9.91	9.793
2402	2.0	0	8.64	7.303
2441	2.0	39	9.32	8.554
2480	2.0	78	9.26	8.436
2402	3.0	0	8.72	7.447
2441	3.0	39	9.39	8.695
2480	3.0	78	9.31	8.526

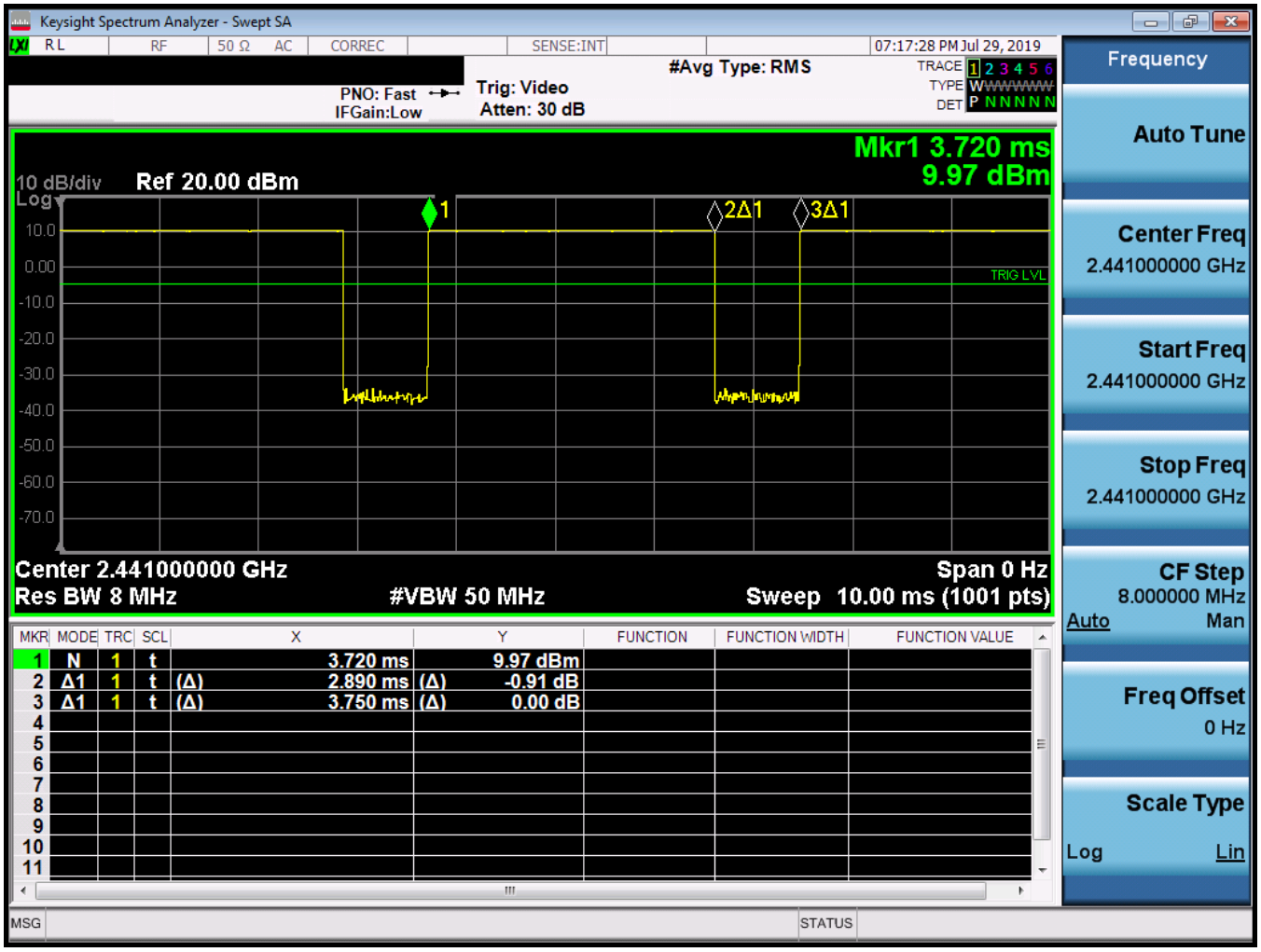


Figure 9-6
Bluetooth Transmission Plot

Equation 9-1
Bluetooth Duty Cycle Calculation

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

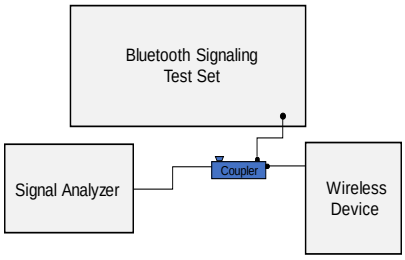


Figure 9-7
Power Measurement Setup

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
7/29/2019	750H	20.4	680	0.845	42.717	0.888	42.305	-4.84%	0.97%
			695	0.851	42.669	0.889	42.227	-4.27%	1.05%
			700	0.852	42.656	0.889	42.201	-4.16%	1.08%
			710	0.856	42.628	0.890	42.149	-3.82%	1.14%
			740	0.867	42.540	0.893	41.994	-2.91%	1.30%
			755	0.872	42.488	0.894	41.916	-2.46%	1.36%
			770	0.878	42.437	0.895	41.838	-1.90%	1.43%
			785	0.884	42.390	0.896	41.760	-1.34%	1.51%
8/12/2019	750H	21.6	740	0.898	42.855	0.893	41.994	0.56%	2.05%
			755	0.903	42.812	0.894	41.916	1.01%	2.14%
			785	0.914	42.718	0.896	41.760	2.01%	2.29%
			800	0.919	42.670	0.897	41.682	2.45%	2.37%
7/30/2019	835H	20.4	820	0.896	42.295	0.899	41.578	-0.33%	1.72%
			835	0.901	42.255	0.900	41.500	0.11%	1.82%
			850	0.907	42.214	0.916	41.500	-0.98%	1.72%
8/1/2019	835H	22.5	820	0.911	41.195	0.899	41.578	1.33%	-0.92%
			835	0.916	41.165	0.900	41.500	1.78%	-0.81%
			850	0.920	41.129	0.916	41.500	0.44%	-0.89%
8/12/2019	835H	21.6	820	0.927	42.611	0.899	41.578	3.11%	2.48%
			835	0.933	42.572	0.900	41.500	3.67%	2.58%
			850	0.939	42.532	0.916	41.500	2.51%	2.49%
8/26/2019	835H	21.5	820	0.924	42.468	0.899	41.578	2.78%	2.14%
			835	0.932	42.464	0.900	41.500	3.56%	2.32%
			850	0.935	42.401	0.916	41.500	2.07%	2.17%
8/7/2019	1750H	21.4	1710	1.346	40.502	1.348	40.142	-0.15%	0.90%
			1750	1.370	40.428	1.371	40.079	-0.07%	0.87%
			1790	1.391	40.357	1.394	40.016	-0.22%	0.85%
7/25/2019	1900H	20.1	1850	1.395	39.540	1.400	40.000	-0.36%	-1.15%
			1880	1.413	39.502	1.400	40.000	0.93%	-1.24%
			1910	1.430	39.474	1.400	40.000	2.14%	-1.32%
8/6/2019	1900H	23.0	1850	1.380	41.630	1.400	40.000	-1.43%	4.08%
			1880	1.412	41.503	1.400	40.000	0.86%	3.76%
			1910	1.444	41.381	1.400	40.000	3.14%	3.45%
8/12/2019	2450H	21.7	2300	1.708	38.875	1.670	39.500	2.28%	-1.58%
			2310	1.716	38.859	1.679	39.480	2.20%	-1.57%
			2320	1.724	38.841	1.687	39.460	2.19%	-1.57%
			2400	1.785	38.717	1.756	39.289	1.65%	-1.46%
			2450	1.823	38.615	1.800	39.200	1.28%	-1.49%
			2500	1.862	38.550	1.855	39.136	0.38%	-1.50%
			2550	1.899	38.444	1.909	39.073	-0.52%	-1.61%
			2600	1.943	38.373	1.964	39.009	-1.07%	-1.63%
			2650	1.977	38.296	2.018	38.945	-2.03%	-1.67%
			2700	2.020	38.190	2.073	38.882	-2.56%	-1.78%
8/21/2019	2450H	23.5	2400	1.803	39.613	1.756	39.289	2.68%	0.82%
			2450	1.839	39.552	1.800	39.200	2.17%	0.90%
			2500	1.878	39.456	1.855	39.136	1.24%	0.82%
			2550	1.919	39.377	1.909	39.073	0.52%	0.78%
			2600	1.957	39.304	1.964	39.009	-0.36%	0.76%
			2650	1.997	39.241	2.018	38.945	-1.04%	0.76%
			2700	2.034	39.131	2.073	38.882	-1.88%	0.64%
8/26/2019	2450H	21.5	2400	1.829	39.635	1.756	39.289	4.16%	0.88%
			2450	1.866	39.589	1.800	39.200	3.67%	0.99%
			2500	1.913	39.517	1.855	39.136	3.13%	0.97%
8/6/2019	3500H - 3700H	22.2	3500	2.889	37.060	2.913	37.929	-0.82%	-2.29%
			3550	2.927	36.995	2.964	37.871	-1.25%	-2.31%
			3600	2.966	36.937	3.015	37.814	-1.63%	-2.32%
			3645	3.001	36.879	3.061	37.763	-1.96%	-2.34%
			3685	3.035	36.825	3.102	37.717	-2.16%	-2.36%
			3725	3.065	36.793	3.143	37.671	-2.48%	-2.33%
08/06/2019	5200H-5800H	22.4	5180	4.553	36.342	4.635	36.009	-1.77%	0.92%
			5200	4.579	36.294	4.655	35.986	-1.63%	0.86%
			5220	4.605	36.249	4.676	35.963	-1.52%	0.80%
			5240	4.629	36.212	4.696	35.940	-1.43%	0.76%
			5260	4.653	36.187	4.717	35.917	-1.36%	0.75%
			5280	4.674	36.150	4.737	35.894	-1.33%	0.71%
			5300	4.690	36.114	4.758	35.871	-1.43%	0.68%
			5320	4.715	36.078	4.778	35.849	-1.32%	0.64%
			5500	4.915	35.791	4.963	35.643	-0.97%	0.42%
			5520	4.937	35.733	4.983	35.620	-0.92%	0.32%
			5540	4.968	35.686	5.004	35.597	-0.72%	0.25%
			5560	4.998	35.664	5.024	35.574	-0.52%	0.25%
			5580	5.025	35.644	5.045	35.551	-0.40%	0.26%
			5600	5.040	35.617	5.065	35.529	-0.49%	0.25%
			5620	5.056	35.544	5.086	35.506	-0.59%	0.11%
			5640	5.082	35.496	5.106	35.483	-0.47%	0.04%
			5660	5.115	35.472	5.127	35.460	-0.23%	0.03%
			5680	5.144	35.455	5.147	35.437	-0.06%	0.05%
			5700	5.165	35.447	5.168	35.414	-0.06%	0.09%
			5745	5.214	35.324	5.214	35.363	0.00%	-0.11%
			5765	5.241	35.293	5.234	35.340	0.13%	-0.13%
			5785	5.268	35.279	5.255	35.317	0.25%	-0.11%
			5800	5.284	35.257	5.270	35.300	0.27%	-0.12%
			5805	5.290	35.247	5.275	35.294	0.28%	-0.13%
			5825	5.306	35.220	5.296	35.271	0.19%	-0.14%

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
7/30/2019	750B	22.0	680	0.924	55.105	0.958	55.804	-3.55%	-1.25%
			695	0.930	55.068	0.959	55.745	-3.02%	-1.21%
			700	0.931	55.055	0.959	55.726	-2.92%	-1.20%
			710	0.935	55.028	0.960	55.687	-2.60%	-1.18%
			740	0.945	54.951	0.963	55.570	-1.87%	-1.11%
			755	0.951	54.909	0.964	55.512	-1.35%	-1.09%
			770	0.956	54.872	0.965	55.453	-0.93%	-1.05%
			785	0.962	54.830	0.966	55.395	-0.41%	-1.02%
8/12/2019	750B	21.1	740	0.948	53.930	0.963	55.570	-1.56%	-2.95%
			755	0.953	53.894	0.964	55.512	-1.14%	-2.91%
			785	0.964	53.810	0.966	55.395	-0.21%	-2.86%
			800	0.970	53.772	0.967	55.336	0.31%	-2.83%
7/29/2019	835B	21.6	820	0.995	53.754	0.969	55.258	2.68%	-2.72%
			835	1.001	53.721	0.970	55.200	3.20%	-2.68%
			850	1.006	53.677	0.988	55.154	1.82%	-2.68%
7/31/2019	835B	20.8	820	1.003	54.511	0.969	55.258	3.51%	-1.35%
			835	1.009	54.471	0.970	55.200	4.02%	-1.32%
			850	1.014	54.421	0.988	55.154	2.63%	-1.33%
8/26/2019	835B	21.6	820	0.948	56.891	0.969	55.258	-2.17%	2.96%
			835	0.954	56.871	0.970	55.200	-1.65%	3.03%
			850	0.962	56.853	0.988	55.154	-2.63%	3.08%
7/24/2019	1750B	21.3	1710	1.466	51.748	1.463	53.537	0.21%	-3.34%
			1750	1.509	51.575	1.488	53.432	1.41%	-3.48%
			1790	1.551	51.409	1.514	53.326	2.44%	-3.59%
7/31/2019	1750B	22.0	1710	1.459	53.423	1.463	53.537	-0.27%	-0.21%
			1750	1.487	53.356	1.488	53.432	-0.07%	-0.14%
			1790	1.513	53.301	1.514	53.326	-0.07%	-0.05%
8/7/2019	1750B	21.1	1710	1.457	53.108	1.463	53.537	-0.41%	-0.80%
			1750	1.486	53.046	1.488	53.432	-0.13%	-0.72%
			1790	1.515	52.973	1.514	53.326	0.07%	-0.66%
7/29/2019	1900B	23.5	1850	1.494	52.299	1.520	53.300	-1.71%	-1.88%
			1880	1.530	52.200	1.520	53.300	0.66%	-2.06%
			1910	1.563	52.136	1.520	53.300	2.83%	-2.18%
7/31/2019	1900B	23.9	1850	1.504	53.836	1.520	53.300	-1.05%	1.01%
			1880	1.537	53.726	1.520	53.300	1.12%	0.80%
			1910	1.569	53.643	1.520	53.300	3.22%	0.64%
8/5/2019	1900B	23.8	1850	1.512	52.711	1.520	53.300	-0.53%	-1.11%
			1880	1.547	52.602	1.520	53.300	1.78%	-1.31%
			1910	1.580	52.499	1.520	53.300	3.95%	-1.50%
8/7/2019	1900B	24.0	1850	1.478	51.602	1.520	53.300	-2.76%	-3.19%
			1880	1.511	51.510	1.520	53.300	-0.59%	-3.36%
			1910	1.545	51.419	1.520	53.300	1.64%	-3.53%
8/7/2019	2450B	22.7	2300	1.847	51.896	1.809	52.900	2.10%	-1.90%
			2310	1.859	51.866	1.816	52.887	2.37%	-1.93%
			2320	1.871	51.838	1.826	52.873	2.46%	-1.96%
			2400	1.961	51.628	1.902	52.767	3.10%	-2.16%
			2450	2.019	51.489	1.950	52.700	3.54%	-2.30%
			2500	2.079	51.347	2.021	52.636	2.87%	-2.45%
			2550	2.138	51.205	2.092	52.573	2.20%	-2.60%
			2600	2.199	51.066	2.163	52.509	1.66%	-2.75%
			2650	2.258	50.909	2.234	52.445	1.07%	-2.93%
			2700	2.318	50.755	2.305	52.382	0.56%	-3.11%
8/9/2019	2450B	24.3	2400	1.974	51.368	1.902	52.767	3.79%	-2.65%
			2450	2.031	51.241	1.950	52.700	4.15%	-2.77%
			2500	2.088	51.091	2.021	52.636	3.32%	-2.94%
8/12/2019	2450B	23.2	2400	1.991	51.851	1.902	52.767	4.68%	-1.74%
			2450	2.046	51.692	1.950	52.700	4.92%	-1.91%
			2500	2.112	51.549	2.021	52.636	4.50%	-2.07%
			2550	2.168	51.397	2.092	52.573	3.63%	-2.24%
			2600	2.235	51.220	2.163	52.509	3.33%	-2.45%
			2650	2.290	51.093	2.234	52.445	2.51%	-2.58%
			2700	2.354	50.885	2.305	52.382	2.13%	-2.86%
8/21/2019	2450B	23.0	2400	1.976	52.608	1.902	52.767	3.89%	-0.30%
			2450	2.045	52.414	1.950	52.700	4.87%	-0.54%
			2500	2.115	52.242	2.021	52.636	4.65%	-0.75%
			2550	2.184	52.027	2.092	52.573	4.40%	-1.04%
			2600	2.258	51.852	2.163	52.509	4.39%	-1.25%
			2650	2.325	51.649	2.234	52.445	4.07%	-1.52%
			2700	2.401	51.452	2.305	52.382	4.16%	-1.78%
8/22/2019	2450B	23.8	2400	1.978	51.202	1.902	52.767	4.00%	-2.97%
			2450	2.036	51.052	1.950	52.700	4.41%	-3.13%
			2500	2.094	50.910	2.021	52.636	3.61%	-3.28%
			2550	2.154	50.757	2.092	52.573	2.96%	-3.45%
			2600	2.211	50.598	2.163	52.509	2.22%	-3.64%
			2650	2.270	50.444	2.234	52.445	1.61%	-3.82%
			2700	2.330	50.314	2.305	52.382	1.08%	-3.95%
8/5/2019	3500B - 3700B	20.1	3500	3.364	51.450	3.314	51.321	1.51%	0.25%
			3550	3.420	51.382	3.372	51.254	1.42%	0.25%
			3600	3.473	51.313	3.431	51.186	1.22%	0.25%
			3645	3.525	51.229	3.483	51.125	1.21%	0.20%
			3685	3.571	51.172	3.530	51.070	1.16%	0.20%
			3725	3.615	51.131	3.577	51.016	1.06%	0.23%
08/05/2019	5200B-5800B	22.1	5180	5.098	47.218	5.276	49.041	-3.37%	-3.72%
			5200	5.124	47.184	5.299	49.014	-3.30%	-3.73%
			5220	5.152	47.138	5.323	48.987	-3.21%	-3.77%
			5240	5.180	47.097	5.346	48.960	-3.11%	-3.81%
			5260	5.210	47.075	5.369	48.933	-2.96%	-3.80%
			5280	5.235	47.046	5.393	48.906	-2.93%	-3.80%
			5300	5.259	47.008	5.416	48.879	-2.90%	-3.83%
			5320	5.282	46.970	5.439	48.851	-2.89%	-3.85%
			5500	5.526	46.684	5.650	48.607	-2.19%	-3.96%
			5520	5.556	46.643	5.673	48.580	-2.06%	-3.99%
			5540	5.593	46.598	5.696	48.553	-1.81%	-4.03%
			5560	5.622	46.566	5.720	48.526	-1.71%	-4.04%
			5580	5.653	46.563	5.743	48.499	-1.57%	-3.99%
			5600	5.671	46.518	5.766	48.471	-1.65%	-4.03%
			5620	5.698	46.452	5.790	48.444	-1.59%	-4.11%
			5640	5.727	46.412	5.813	48.417	-1.48%	-4.14%
			5660	5.762	46.385	5.837	48.390	-1.28%	-4.14%
			5680	5.794	46.361	5.860	48.363	-1.13%	-4.14%
			5700	5.821	46.355	5.883	48.336	-1.05%	-4.10%
			5745	5.880	46.252	5.936	48.275	-0.94%	-4.19%
			5765	5.913	46.212	5.959	48.248	-0.77%	-4.22%
			5785	5.947	46.188	5.982	48.220	-0.59%	-4.21%
			5800	5.970	46.172	6.000	48.200	-0.50%	-4.21%
			5805	5.976	46.166	6.006	48.193	-0.50%	-4.21%
			5825	5.996	46.148	6.029	48.166	-0.55%	-4.19%

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

10.2 Test System Verification

Prior to SAR assessment, the system is verified to ±10% of the SAR measurement on the reference dipole at the time of calibration by the calibration facility. Full system validation status and result summary can be found in Appendix E.

Table 10-3
System Verification Results – 1g

System Verification TARGET & MEASURED												
SAR System #	Tissue Frequency (MHz)	Tissue Type	Date	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Source SN	Probe SN	Measured SAR_{1g} (W/kg)	1 W Target SAR_{1g} (W/kg)	1 W Normalized SAR_{1g} (W/kg)	$Deviation_{1g}$ (%)
E	750	HEAD	07/29/2019	21.2	20.4	0.200	1003	3589	1.540	8.280	7.700	-7.00%
D	750	HEAD	08/12/2019	22.1	21.6	0.200	1003	3914	1.730	8.280	8.650	4.47%
E	835	HEAD	07/30/2019	22.9	20.4	0.200	4d132	3589	1.960	9.590	9.800	2.19%
E	835	HEAD	08/01/2019	23.1	22.3	0.200	4d132	3589	2.020	9.590	10.100	5.32%
D	835	HEAD	08/12/2019	22.1	21.6	0.200	4d133	3914	1.990	9.430	9.950	5.51%
E	835	HEAD	08/26/2019	22.8	21.3	0.200	4d047	7547	2.020	9.420	10.100	7.22%
O	1750	HEAD	08/07/2019	20.5	20.7	0.100	1148	7538	3.700	37.000	37.000	0.00%
H	1900	HEAD	07/25/2019	21.2	20.1	0.100	5d080	7406	4.270	39.800	42.700	7.29%
D	1900	HEAD	08/06/2019	23.2	22.6	0.100	5d080	3914	4.210	39.800	42.100	5.78%
E	2300	HEAD	08/12/2019	21.9	20.7	0.100	1073	7547	5.210	49.200	52.100	5.89%
E	2450	HEAD	08/12/2019	21.9	20.7	0.100	981	7547	5.530	52.300	55.300	5.74%
E	2450	HEAD	08/21/2019	24.5	22.5	0.100	797	7547	4.990	52.700	49.900	-5.31%
E	2450	HEAD	08/26/2019	22.8	21.3	0.100	797	7547	5.620	52.700	56.200	6.64%
E	2600	HEAD	08/12/2019	21.9	20.7	0.100	1004	7547	5.900	55.900	59.000	5.55%
E	2600	HEAD	08/21/2019	24.5	22.5	0.100	1004	7547	5.450	55.900	54.500	-2.50%
E	3500	HEAD	08/06/2019	22.3	21.2	0.100	1059	3589	6.540	64.600	65.400	1.24%
E	3700	HEAD	08/06/2019	22.3	21.2	0.100	1018	3589	6.620	65.800	66.200	0.61%
H	5250	HEAD	08/06/2019	22.5	22.4	0.050	1191	7406	3.660	78.900	73.200	-7.22%
H	5600	HEAD	08/06/2019	22.5	22.4	0.050	1191	7406	3.870	83.600	77.400	-7.42%
H	5750	HEAD	08/06/2019	22.5	22.4	0.050	1191	7406	3.640	79.100	72.800	-7.96%
G	750	BODY	07/30/2019	23.2	22.0	0.200	1003	7409	1.640	8.580	8.200	-4.43%
G	750	BODY	08/12/2019	22.0	21.1	0.200	1003	7409	1.800	8.580	9.000	4.90%
O	835	BODY	07/29/2019	20.5	20.6	0.200	4d047	7538	2.060	9.470	10.300	8.76%
O	835	BODY	07/31/2019	20.5	20.8	0.200	4d047	7538	2.020	9.470	10.100	6.65%
H	835	BODY	08/26/2019	21.0	20.6	0.200	4d132	7406	2.000	9.670	10.000	3.41%
I	1750	BODY	07/24/2019	23.0	21.3	0.100	1150	7357	3.550	36.600	35.500	-3.01%
G	1750	BODY	07/31/2019	22.6	22.0	0.100	1150	7409	3.690	36.600	36.900	0.82%
G	1750	BODY	08/07/2019	22.0	21.1	0.100	1148	7409	3.990	37.700	39.900	5.84%
J	1900	BODY	07/29/2019	20.7	23.5	0.100	5d080	7488	4.100	39.200	41.000	4.59%
J	1900	BODY	07/31/2019	20.5	23.9	0.100	5d080	7488	4.140	39.200	41.400	5.61%
J	1900	BODY	08/07/2019	20.3	22.2	0.100	5d080	7488	4.040	39.200	40.400	3.06%
K	2300	BODY	08/07/2019	22.5	21.7	0.100	1073	7417	5.050	47.700	50.500	5.87%
K	2450	BODY	08/07/2019	22.5	21.7	0.100	981	7417	4.980	50.900	49.800	-2.16%
K	2450	BODY	08/09/2019	22.7	22.3	0.100	797	7417	4.840	51.100	48.400	-5.28%
K	2450	BODY	08/12/2019	22.9	22.0	0.100	797	7417	4.970	51.100	49.700	-2.74%
I	2450	BODY	08/21/2019	21.9	21.8	0.100	797	7357	5.190	51.100	51.900	1.57%
K	2450	BODY	08/22/2019	23.4	21.8	0.100	797	7417	5.180	51.100	51.800	1.37%
K	2600	BODY	08/07/2019	22.5	21.7	0.100	1004	7417	5.430	54.800	54.300	-0.91%
K	2600	BODY	08/12/2019	22.9	22.0	0.100	1004	7417	5.310	54.800	53.100	-3.10%
I	2600	BODY	08/21/2019	21.9	21.8	0.100	1004	7357	5.910	54.800	59.100	7.85%
K	2600	BODY	08/22/2019	23.4	21.8	0.100	1004	7417	5.000	54.800	50.000	-8.76%
M	3500	BODY	08/05/2019	20.0	20.1	0.100	1055	3949	6.130	64.600	61.300	-5.11%
M	3700	BODY	08/05/2019	20.0	20.1	0.100	1002	3949	6.310	65.000	63.100	-2.92%
L	5250	BODY	08/05/2019	20.3	21.1	0.050	1057	7410	3.480	75.900	69.600	-8.30%
L	5600	BODY	08/05/2019	20.3	21.1	0.050	1057	7410	3.810	79.900	76.200	-4.63%
L	5750	BODY	08/05/2019	20.3	21.1	0.050	1057	7410	3.560	76.700	71.200	-7.17%

Table 10-4
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)	$Deviation_{10g}$ (%)
G	1750	BODY	08/07/2019	22.0	21.1	0.100	1148	7409	2.090	19.800	20.900	5.56%
J	1900	BODY	07/31/2019	20.5	23.9	0.100	5d080	7488	2.110	20.600	21.100	2.43%
J	1900	BODY	08/05/2019	19.7	23.8	0.100	5d080	7488	2.120	20.600	21.200	2.91%
J	1900	BODY	08/07/2019	20.3	22.2	0.100	5d080	7488	2.050	20.600	20.500	-0.49%
L	5250	BODY	08/05/2019	20.3	21.1	0.050	1057	7410	0.978	21.100	19.560	-7.30%
L	5600	BODY	08/05/2019	20.3	21.1	0.050	1057	7410	1.050	22.300	21.000	-5.83%
L	5750	BODY	08/05/2019	20.3	21.1	0.050	1057	7410	0.996	21.200	19.920	-6.04%

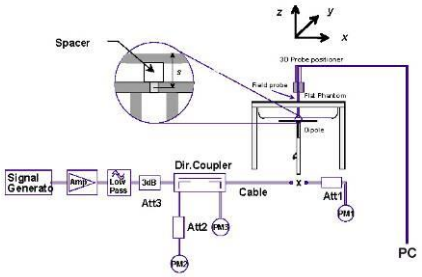


Figure 10-1
System Verification Setup Diagram

Figure 10-2
System Verification Setup Photo

11 SAR DATA SUMMARY

11.1 Standalone Head SAR Data

Table 11-1
CDMA BC10 (§90S) Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
820.10	564	CDMA BC10 (§90S)	RC3 / SO55	25.5	25.28	0.09	Right	Cheek	01772	1:1	0.076	1.052	0.080	
820.10	564	CDMA BC10 (§90S)	RC3 / SO55	25.5	25.28	0.00	Right	Tilt	01772	1:1	0.054	1.052	0.057	
820.10	564	CDMA BC10 (§90S)	RC3 / SO55	25.5	25.28	0.03	Left	Cheek	01772	1:1	0.110	1.052	0.116	
820.10	564	CDMA BC10 (§90S)	RC3 / SO55	25.5	25.28	0.07	Left	Tilt	01772	1:1	0.058	1.052	0.061	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. A	25.5	25.29	0.10	Right	Cheek	01772	1:1	0.078	1.050	0.082	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. A	25.5	25.29	0.11	Right	Tilt	01772	1:1	0.054	1.050	0.057	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. A	25.5	25.29	0.10	Left	Cheek	01772	1:1	0.118	1.050	0.124	A1
820.10	564	CDMA BC10 (§90S)	EVDO Rev. A	25.5	25.29	-0.03	Left	Tilt	01772	1:1	0.059	1.050	0.062	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-2
CDMA BC0 (§22H) Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
836.52	384	CDMA BC0 (§22H)	RC3 / SO55	25.5	25.18	0.05	Right	Cheek	01772	1:1	0.104	1.076	0.112	
836.52	384	CDMA BC0 (§22H)	RC3 / SO55	25.5	25.18	0.07	Right	Tilt	01772	1:1	0.070	1.076	0.075	
836.52	384	CDMA BC0 (§22H)	RC3 / SO55	25.5	25.18	0.02	Left	Cheek	01772	1:1	0.150	1.076	0.161	
836.52	384	CDMA BC0 (§22H)	RC3 / SO55	25.5	25.18	0.03	Left	Tilt	01772	1:1	0.074	1.076	0.080	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	25.5	25.23	-0.02	Right	Cheek	01772	1:1	0.110	1.064	0.117	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	25.5	25.23	0.03	Right	Tilt	01772	1:1	0.071	1.064	0.076	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	25.5	25.23	0.05	Left	Cheek	01772	1:1	0.152	1.064	0.162	A2
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	25.5	25.23	0.02	Left	Tilt	01772	1:1	0.067	1.064	0.071	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-3
PCS CDMA Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1880.00	600	PCS CDMA	RC3 / SO55	25.0	24.83	0.14	Right	Cheek	01798	1:1	0.087	1.040	0.090	
1880.00	600	PCS CDMA	RC3 / SO55	25.0	24.83	0.07	Right	Tilt	01798	1:1	0.083	1.040	0.086	
1880.00	600	PCS CDMA	RC3 / SO55	25.0	24.83	0.07	Left	Cheek	01798	1:1	0.122	1.040	0.127	
1880.00	600	PCS CDMA	RC3 / SO55	25.0	24.83	0.05	Left	Tilt	01798	1:1	0.072	1.040	0.075	
1880.00	600	PCS CDMA	EVDO Rev. A	25.0	24.93	0.11	Right	Cheek	01798	1:1	0.091	1.016	0.092	
1880.00	600	PCS CDMA	EVDO Rev. A	25.0	24.93	-0.06	Right	Tilt	01798	1:1	0.085	1.016	0.086	
1880.00	600	PCS CDMA	EVDO Rev. A	25.0	24.93	0.06	Left	Cheek	01798	1:1	0.133	1.016	0.135	A3
1880.00	600	PCS CDMA	EVDO Rev. A	25.0	24.93	0.01	Left	Tilt	01798	1:1	0.084	1.016	0.085	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-4
GSM 850 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	# of Time Slots	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
836.60	190	GSM 850	GSM	33.7	33.53	-0.05	Right	Cheek	01780	1	1:8.3	0.043	1.040	0.045	
836.60	190	GSM 850	GSM	33.7	33.53	0.13	Right	Tilt	01780	1	1:8.3	0.030	1.040	0.031	
836.60	190	GSM 850	GSM	33.7	33.53	0.12	Left	Cheek	01780	1	1:8.3	0.102	1.040	0.106	
836.60	190	GSM 850	GSM	33.7	33.53	0.06	Left	Tilt	01780	1	1:8.3	0.059	1.040	0.061	
836.60	190	GSM 850	GPRS	30.7	30.70	-0.12	Right	Cheek	01780	3	1:2.76	0.057	1.000	0.057	
836.60	190	GSM 850	GPRS	30.7	30.70	-0.20	Right	Tilt	01780	3	1:2.76	0.039	1.000	0.039	
836.60	190	GSM 850	GPRS	30.7	30.70	0.03	Left	Cheek	01780	3	1:2.76	0.154	1.000	0.154	A4
836.60	190	GSM 850	GPRS	30.7	30.70	0.13	Left	Tilt	01780	3	1:2.76	0.066	1.000	0.066	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 11-5
GSM 1900 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	# of Time Slots	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1880.00	661	GSM 1900	GSM	30.7	30.70	0.16	Right	Cheek	01798	1	1:8.3	0.059	1.000	0.059	
1880.00	661	GSM 1900	GSM	30.7	30.70	0.06	Right	Tilt	01798	1	1:8.3	0.044	1.000	0.044	
1880.00	661	GSM 1900	GSM	30.7	30.70	0.06	Left	Cheek	01798	1	1:8.3	0.072	1.000	0.072	
1880.00	661	GSM 1900	GSM	30.7	30.70	0.15	Left	Tilt	01798	1	1:8.3	0.051	1.000	0.051	
1880.00	661	GSM 1900	GPRS	27.7	27.62	0.13	Right	Cheek	01798	3	1:2.76	0.063	1.019	0.064	
1880.00	661	GSM 1900	GPRS	27.7	27.62	-0.04	Right	Tilt	01798	3	1:2.76	0.055	1.019	0.056	
1880.00	661	GSM 1900	GPRS	27.7	27.62	-0.17	Left	Cheek	01798	3	1:2.76	0.085	1.019	0.087	A5
1880.00	661	GSM 1900	GPRS	27.7	27.62	0.00	Left	Tilt	01798	3	1:2.76	0.050	1.019	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 11-6
UMTS 850 Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
836.60	4183	UMTS 850	RMC	25.5	25.46	0.04	Right	Cheek	01780	1:1	0.094	1.009	0.095	
836.60	4183	UMTS 850	RMC	25.5	25.46	0.13	Right	Tilt	01780	1:1	0.064	1.009	0.065	
836.60	4183	UMTS 850	RMC	25.5	25.46	0.00	Left	Cheek	01780	1:1	0.125	1.009	0.126	A6
836.60	4183	UMTS 850	RMC	25.5	25.46	0.06	Left	Tilt	01780	1:1	0.058	1.009	0.059	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-7
UMTS 1750 Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1732.40	1412	UMTS 1750	RMC	25.0	24.80	-0.03	Right	Cheek	01764	1:1	0.071	1.047	0.074	
1732.40	1412	UMTS 1750	RMC	25.0	24.80	0.13	Right	Tilt	01764	1:1	0.073	1.047	0.076	
1732.40	1412	UMTS 1750	RMC	25.0	24.80	0.11	Left	Cheek	01764	1:1	0.085	1.047	0.089	A7
1732.40	1412	UMTS 1750	RMC	25.0	24.80	0.02	Left	Tilt	01764	1:1	0.054	1.047	0.057	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-8
UMTS 1900 Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1880.00	9400	UMTS 1900	RMC	25.0	24.67	0.18	Right	Cheek	01798	1:1	0.061	1.079	0.066	
1880.00	9400	UMTS 1900	RMC	25.0	24.67	0.17	Right	Tilt	01798	1:1	0.055	1.079	0.059	
1880.00	9400	UMTS 1900	RMC	25.0	24.67	0.14	Left	Cheek	01798	1:1	0.105	1.079	0.113	A8
1880.00	9400	UMTS 1900	RMC	25.0	24.67	0.17	Left	Tilt	01798	1:1	0.053	1.079	0.057	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-9
LTE Band 71 Head SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
680.50	133297	Mid	LTE Band 71	20	25.5	25.50	-0.04	0	Right	Cheek	QPSK	1	99	01780	1:1	0.140	1.000	0.140	A9
680.50	133297	Mid	LTE Band 71	20	24.5	24.50	0.03	1	Right	Cheek	QPSK	50	50	01780	1:1	0.110	1.000	0.110	
680.50	133297	Mid	LTE Band 71	20	25.5	25.50	0.14	0	Right	Tilt	QPSK	1	99	01780	1:1	0.058	1.000	0.058	
680.50	133297	Mid	LTE Band 71	20	24.5	24.50	0.13	1	Right	Tilt	QPSK	50	50	01780	1:1	0.043	1.000	0.043	
680.50	133297	Mid	LTE Band 71	20	25.5	25.50	0.00	0	Left	Cheek	QPSK	1	99	01780	1:1	0.129	1.000	0.129	
680.50	133297	Mid	LTE Band 71	20	24.5	24.50	0.07	1	Left	Cheek	QPSK	50	50	01780	1:1	0.098	1.000	0.098	
680.50	133297	Mid	LTE Band 71	20	25.5	25.50	0.11	0	Left	Tilt	QPSK	1	99	01780	1:1	0.057	1.000	0.057	
680.50	133297	Mid	LTE Band 71	20	24.5	24.50	0.14	1	Left	Tilt	QPSK	50	50	01780	1:1	0.041	1.000	0.041	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-10
LTE Band 12 Head SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
707.50	23095	Mid	LTE Band 12	10	25.5	25.48	0.01	0	Right	Cheek	QPSK	1	0	01780	1:1	0.122	1.005	0.123	
707.50	23095	Mid	LTE Band 12	10	24.5	24.50	0.00	1	Right	Cheek	QPSK	25	0	01780	1:1	0.083	1.000	0.083	
707.50	23095	Mid	LTE Band 12	10	25.5	25.48	0.09	0	Right	Tilt	QPSK	1	0	01780	1:1	0.065	1.005	0.065	
707.50	23095	Mid	LTE Band 12	10	24.5	24.50	0.09	1	Right	Tilt	QPSK	25	0	01780	1:1	0.039	1.000	0.039	
707.50	23095	Mid	LTE Band 12	10	25.5	25.48	-0.03	0	Left	Cheek	QPSK	1	0	01780	1:1	0.134	1.005	0.135	A10
707.50	23095	Mid	LTE Band 12	10	24.5	24.50	0.02	1	Left	Cheek	QPSK	25	0	01780	1:1	0.099	1.000	0.099	
707.50	23095	Mid	LTE Band 12	10	25.5	25.48	0.05	0	Left	Tilt	QPSK	1	0	01780	1:1	0.058	1.005	0.058	
707.50	23095	Mid	LTE Band 12	10	24.5	24.50	0.05	1	Left	Tilt	QPSK	25	0	01780	1:1	0.045	1.000	0.045	
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 13 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
782.00	23230	Mid	LTE Band 13	10	25.5	25.50	0.00	0	Right	Cheek	QPSK	1	49	01780	1:1	0.107	1.000	0.107	
782.00	23230	Mid	LTE Band 13	10	24.5	24.50	0.16	1	Right	Cheek	QPSK	25	12	01780	1:1	0.090	1.000	0.090	
782.00	23230	Mid	LTE Band 13	10	25.5	25.50	-0.09	0	Right	Tilt	QPSK	1	49	01780	1:1	0.071	1.000	0.071	
782.00	23230	Mid	LTE Band 13	10	24.5	24.50	0.01	1	Right	Tilt	QPSK	25	12	01780	1:1	0.058	1.000	0.058	
782.00	23230	Mid	LTE Band 13	10	25.5	25.50	0.01	0	Left	Cheek	QPSK	1	49	01780	1:1	0.128	1.000	0.128	A11
782.00	23230	Mid	LTE Band 13	10	24.5	24.50	0.06	1	Left	Cheek	QPSK	25	12	01780	1:1	0.108	1.000	0.108	
782.00	23230	Mid	LTE Band 13	10	25.5	25.50	0.16	0	Left	Tilt	QPSK	1	49	01780	1:1	0.061	1.000	0.061	
782.00	23230	Mid	LTE Band 13	10	24.5	24.50	0.12	1	Left	Tilt	QPSK	25	12	01780	1:1	0.050	1.000	0.050	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Head 1.6 W/kg (mW/g) averaged over 1 gram			

Table 11-12
LTE Band 14 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
793.00	23330	Mid	LTE Band 14	10	25.5	25.47	0.15	0	Right	Cheek	QPSK	1	0	01780	1:1	0.113	1.007	0.114	
793.00	23330	Mid	LTE Band 14	10	24.5	24.48	0.10	1	Right	Cheek	QPSK	25	0	01780	1:1	0.090	1.005	0.090	
793.00	23330	Mid	LTE Band 14	10	25.5	25.47	-0.02	0	Right	Tilt	QPSK	1	0	01780	1:1	0.069	1.007	0.069	
793.00	23330	Mid	LTE Band 14	10	24.5	24.48	0.09	1	Right	Tilt	QPSK	25	0	01780	1:1	0.055	1.005	0.055	
793.00	23330	Mid	LTE Band 14	10	25.5	25.47	-0.02	0	Left	Cheek	QPSK	1	0	01780	1:1	0.122	1.007	0.123	A12
793.00	23330	Mid	LTE Band 14	10	24.5	24.48	0.05	1	Left	Cheek	QPSK	25	0	01780	1:1	0.103	1.005	0.104	
793.00	23330	Mid	LTE Band 14	10	25.5	25.47	-0.03	0	Left	Tilt	QPSK	1	0	01780	1:1	0.053	1.007	0.053	
793.00	23330	Mid	LTE Band 14	10	24.5	24.48	0.02	1	Left	Tilt	QPSK	25	0	01780	1:1	0.047	1.005	0.047	
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 26 (Cell) Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	25.50	0.07	0	Right	Cheek	QPSK	1	74	01780	1:1	0.095	1.000	0.095	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.43	0.06	1	Right	Cheek	QPSK	36	18	01780	1:1	0.082	1.016	0.083	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	25.50	0.07	0	Right	Tilt	QPSK	1	74	01780	1:1	0.065	1.000	0.065	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.43	0.14	1	Right	Tilt	QPSK	36	18	01780	1:1	0.053	1.016	0.054	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	25.50	-0.14	0	Left	Cheek	QPSK	1	74	01780	1:1	0.135	1.000	0.135	A13
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.43	0.02	1	Left	Cheek	QPSK	36	18	01780	1:1	0.102	1.016	0.104	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	25.50	-0.17	0	Left	Tilt	QPSK	1	74	01780	1:1	0.061	1.000	0.061	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.43	0.09	1	Left	Tilt	QPSK	36	18	01780	1:1	0.050	1.016	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 11-14
LTE Band 5 (Cell) Head SAR

MEASUREMENT RESULTS																								
1 CC Uplink | 2 CC Uplink	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
		MHz	Ch.															(W/kg)		(W/kg)	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.46	-0.04	0	Right	Cheek	QPSK	1	0	01780	1:1	0.092	1.009	0.093	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.50	0.11	1	Right	Cheek	QPSK	25	0	01780	1:1	0.078	1.000	0.078	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.46	0.01	0	Right	Tilt	QPSK	1	0	01780	1:1	0.065	1.009	0.066	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.50	0.15	1	Right	Tilt	QPSK	25	0	01780	1:1	0.052	1.000	0.052	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.46	0.15	0	Left	Cheek	QPSK	1	0	01780	1:1	0.112	1.009	0.113	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.50	0.00	1	Left	Cheek	QPSK	25	0	01780	1:1	0.092	1.000	0.092	
2 CC Uplink	PCC	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.49	0.03	0	Left	Cheek	QPSK	1	0	01780	1:1	0.114	1.002	0.114	A14
2 CC Uplink	SCC	829.30	20453	Mid	LTE Band 5 (Cell)	5								1	24						
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.46	0.08	0	Left	Tilt	QPSK	1	0	01780	1:1	0.050	1.009	0.050	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.50	0.12	1	Left	Tilt	QPSK	25	0	01780	1:1	0.043	1.000	0.043	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 11-15
LTE Band 66 (AWS) Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.94	0.14	0	Right	Cheek	QPSK	1	0	01764	1:1	0.071	1.014	0.072	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.93	0.13	1	Right	Cheek	QPSK	50	0	01764	1:1	0.055	1.016	0.056	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.94	0.13	0	Right	Tilt	QPSK	1	0	01764	1:1	0.077	1.014	0.078	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.93	0.16	1	Right	Tilt	QPSK	50	0	01764	1:1	0.058	1.016	0.059	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.94	-0.01	0	Left	Cheek	QPSK	1	0	01764	1:1	0.093	1.014	0.094	A15
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.93	0.07	1	Left	Cheek	QPSK	50	0	01764	1:1	0.078	1.016	0.079	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.94	0.19	0	Left	Tilt	QPSK	1	0	01764	1:1	0.059	1.014	0.060	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.93	0.02	1	Left	Tilt	QPSK	50	0	01764	1:1	0.055	1.016	0.056	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Head 1.6 W/kg (mW/g) averaged over 1 gram						

Table 11-16
LTE Band 25 (PCS) Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.77	0.12	0	Right	Cheek	QPSK	1	0	01798	1:1	0.115	1.054	0.121	A16
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.74	0.09	1	Right	Cheek	QPSK	50	25	01798	1:1	0.082	1.062	0.087	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.77	0.02	0	Right	Tilt	QPSK	1	0	01798	1:1	0.080	1.054	0.084	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.74	-0.19	1	Right	Tilt	QPSK	50	25	01798	1:1	0.066	1.062	0.070	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.77	0.02	0	Left	Cheek	QPSK	1	0	01798	1:1	0.111	1.054	0.117	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.74	0.00	1	Left	Cheek	QPSK	50	25	01798	1:1	0.081	1.062	0.086	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.77	0.12	0	Left	Tilt	QPSK	1	0	01798	1:1	0.072	1.054	0.076	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.74	0.08	1	Left	Tilt	QPSK	50	25	01798	1:1	0.061	1.062	0.065	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Head 1.6 W/kg (mW/g) averaged over 1 gram						

Table 11-17
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	25.2	24.96	0.18	0	Right	Cheek	QPSK	1	25	01798	1:1	0.373	1.057	0.394	A17
2310.00	27710	Mid	LTE Band 30	10	24.2	24.20	0.15	1	Right	Cheek	QPSK	25	0	01798	1:1	0.331	1.000	0.331	
2310.00	27710	Mid	LTE Band 30	10	25.2	24.96	-0.03	0	Right	Tilt	QPSK	1	25	01798	1:1	0.174	1.057	0.184	
2310.00	27710	Mid	LTE Band 30	10	24.2	24.20	0.08	1	Right	Tilt	QPSK	25	0	01798	1:1	0.143	1.000	0.143	
2310.00	27710	Mid	LTE Band 30	10	25.2	24.96	0.01	0	Left	Cheek	QPSK	1	25	01798	1:1	0.247	1.057	0.261	
2310.00	27710	Mid	LTE Band 30	10	24.2	24.20	0.12	1	Left	Cheek	QPSK	25	0	01798	1:1	0.192	1.000	0.192	
2310.00	27710	Mid	LTE Band 30	10	25.2	24.96	0.04	0	Left	Tilt	QPSK	1	25	01798	1:1	0.222	1.057	0.235	
2310.00	27710	Mid	LTE Band 30	10	24.2	24.20	0.04	1	Left	Tilt	QPSK	25	0	01798	1:1	0.177	1.000	0.177	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Head 1.6 W/kg (mW/g) averaged over 1 gram			

Table 11-18
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)	
2510.00	20850	Low	LTE Band 7	20	23.7	23.70	0.04	0	Right	Cheek	QPSK	1	0	01764	1:1	0.493	1.000	**0.493**	A18
2510.00	20850	Low	LTE Band 7	20	22.7	22.69	0.04	1	Right	Cheek	QPSK	50	0	01764	1:1	0.398	1.002	0.399	
2510.00	20850	Low	LTE Band 7	20	23.7	23.70	0.12	0	Right	Tilt	QPSK	1	0	01764	1:1	0.175	1.000	0.175	
2510.00	20850	Low	LTE Band 7	20	22.7	22.69	0.12	1	Right	Tilt	QPSK	50	0	01764	1:1	0.141	1.002	0.141	
2510.00	20850	Low	LTE Band 7	20	23.7	23.70	0.06	0	Left	Cheek	QPSK	1	0	01764	1:1	0.298	1.000	0.298	
2510.00	20850	Low	LTE Band 7	20	22.7	22.69	0.18	1	Left	Cheek	QPSK	50	0	01764	1:1	0.256	1.002	0.257	
2510.00	20850	Low	LTE Band 7	20	23.7	23.70	0.18	0	Left	Tilt	QPSK	1	0	01764	1:1	0.190	1.000	0.190	
2510.00	20850	Low	LTE Band 7	20	22.7	22.69	0.11	1	Left	Tilt	QPSK	50	0	01764	1:1	0.177	1.002	0.177	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Head 1.6 W/kg (mW/g) averaged over 1 gram			

Table 11-19
LTE Band 48 Head SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g) (W/kg)	Scaling Factor	Reported SAR (1g) (W/kg)	Plot #
MHz	Ch.																		
3603.30	55773	Low-Mid	LTE Band 48	20	24.2	24.20	0.02	0	Right	Cheek	QPSK	1	99	01772	1:1.58	0.051	1.000	**0.051**	A19
3603.30	55773	Low-Mid	LTE Band 48	20	23.2	23.07	-0.05	1	Right	Cheek	QPSK	50	0	01772	1:1.58	0.037	1.030	0.038	
3603.30	55773	Low-Mid	LTE Band 48	20	24.2	24.20	-0.19	0	Right	Tilt	QPSK	1	99	01772	1:1.58	0.007	1.000	0.007	
3603.30	55773	Low-Mid	LTE Band 48	20	23.2	23.07	0.17	1	Right	Tilt	QPSK	50	0	01772	1:1.58	0.005	1.030	0.005	
3603.30	55773	Low-Mid	LTE Band 48	20	24.2	24.20	0.12	0	Left	Cheek	QPSK	1	99	01772	1:1.58	0.012	1.000	0.012	
3603.30	55773	Low-Mid	LTE Band 48	20	23.2	23.07	0.17	1	Left	Cheek	QPSK	50	0	01772	1:1.58	0.007	1.030	0.007	
3603.30	55773	Low-Mid	LTE Band 48	20	24.2	24.20	0.12	0	Left	Tilt	QPSK	1	99	01772	1:1.58	0.006	1.000	0.006	
3603.30	55773	Low-Mid	LTE Band 48	20	23.2	23.07	0.18	1	Left	Tilt	QPSK	50	0	01772	1:1.58	0.004	1.030	0.004	

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

Table 11-20
LTE Band 41 Head SAR

MEASUREMENT RESULTS																					
1 CC Uplink | 2 CC Uplink, Power Class	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g) (W/kg)	Scaling Factor	Reported SAR (1g) (W/kg)	Plot #
		MHz	Ch.																		
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	25.2	25.08	0.15	0	Right	Cheek	QPSK	1	0	01798	1:1.58	0.244	1.028	0.251	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	24.2	23.76	0.13	1	Right	Cheek	QPSK	50	50	01798	1:1.58	0.194	1.107	0.215	
1 CC Uplink - Power Class 2	N/A	2680.00	41490	High	LTE Band 41	20	27.7	27.13	-0.13	0	Right	Cheek	QPSK	1	0	01798	1:2.31	0.262	1.140	0.299	A20
2 CC Uplink - Power Class 3	PCC	2680.00	41490	High	LTE Band 41	20	25.2	25.05	0.14	0	Right	Cheek	QPSK	1	0	01798	1:1.58	0.239	1.035	0.247	
	SCC	2660.20	41292	High										1	99						
2 CC Uplink - Power Class 2	PCC	2680.00	41490	High	LTE Band 41	20	27.7	27.20	0.16	0	Right	Cheek	QPSK	1	0	01798	1:2.31	0.256	1.122	0.287	
	SCC	2660.20	41292	High										1	99						
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	25.2	25.08	0.14	0	Right	Tilt	QPSK	1	0	01798	1:1.58	0.065	1.028	0.067	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	24.2	23.76	0.12	1	Right	Tilt	QPSK	50	50	01798	1:1.58	0.060	1.107	0.066	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	25.2	25.08	0.01	0	Left	Cheek	QPSK	1	0	01798	1:1.58	0.183	1.028	0.188	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	24.2	23.76	0.01	1	Left	Cheek	QPSK	50	50	01798	1:1.58	0.156	1.107	0.173	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	25.2	25.08	0.03	0	Left	Tilt	QPSK	1	0	01798	1:1.58	0.152	1.028	0.156	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	24.2	23.76	0.07	1	Left	Tilt	QPSK	50	50	01798	1:1.58	0.137	1.107	0.152	

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

Table 11-21
DTS Head SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
2437	6	802.11b	DSSS	22	17.5	17.20	0.13	Right	Cheek	1	01624	1	99.3	0.382	0.252	1.072	1.007	0.272	
2437	6	802.11b	DSSS	22	17.5	17.20	0.12	Right	Tilt	1	01624	1	99.3	0.114	-	1.072	1.007	-	
2412	1	802.11b	DSSS	22	17.5	16.97	-0.04	Left	Cheek	1	01624	1	99.3	1.150	0.950	1.130	1.007	**1.081**	A21
2437	6	802.11b	DSSS	22	17.5	17.20	-0.01	Left	Cheek	1	01624	1	99.3	0.912	0.831	1.072	1.007	0.897	
2462	11	802.11b	DSSS	22	17.5	17.04	0.19	Left	Cheek	1	01624	1	99.3	1.263	0.856	1.112	1.007	0.959	
2437	6	802.11b	DSSS	22	17.5	17.20	0.03	Left	Tilt	1	01624	1	99.3	0.222	0.176	1.072	1.007	0.190	
2412	1	802.11b	DSSS	22	17.5	17.05	0.14	Right	Cheek	2	01624	1	99.3	1.099	0.679	1.109	1.007	0.758	
2437	6	802.11b	DSSS	22	17.5	17.02	0.08	Right	Cheek	2	01624	1	99.3	1.450	0.861	1.117	1.007	0.968	
2462	11	802.11b	DSSS	22	17.5	16.75	0.11	Right	Cheek	2	01624	1	99.3	1.173	0.706	1.189	1.007	0.845	
2412	1	802.11b	DSSS	22	17.5	17.05	0.10	Right	Tilt	2	01624	1	99.3	0.233	0.160	1.109	1.007	0.179	
2412	1	802.11b	DSSS	22	17.5	17.05	0.16	Left	Cheek	2	01624	1	99.3	0.227	0.132	1.109	1.007	0.147	
2412	1	802.11b	DSSS	22	17.5	17.05	0.17	Left	Tilt	2	01624	1	99.3	0.075	0.062	1.109	1.007	0.069	
2412	1	802.11b	DSSS	22	17.5	16.97	0.12	Left	Cheek	1	01624	1	99.3	1.302	0.924	1.130	1.007	1.051	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT **Spatial Peak** **Uncontrolled Exposure/General Population**								**Head** **1.6 W/kg (mW/g)** averaged over 1 gram											

Note: Blue entry represents variability measurement

Table 11-22
NII Head SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5270	54	802.11n	OFDM	40	16.0	15.45	0.17	Right	Cheek	1	01616	13.5	97.3	0.167	0.056	1.135	1.028	0.065	
5270	54	802.11n	OFDM	40	16.0	15.45	0.19	Right	Tilt	1	01616	13.5	97.3	0.042	-	1.135	1.028	-	
5270	54	802.11n	OFDM	40	16.0	15.45	0.19	Left	Cheek	1	01616	13.5	97.3	0.066	-	1.135	1.028	-	
5270	54	802.11n	OFDM	40	16.0	15.45	0.19	Left	Tilt	1	01616	13.5	97.3	0.016	-	1.135	1.028	-	
5310	62	802.11n	OFDM	40	16.0	15.37	0.18	Right	Cheek	2	01616	13.5	97.3	0.294	0.116	1.156	1.028	0.138	
5310	62	802.11n	OFDM	40	16.0	15.37	0.16	Right	Tilt	2	01616	13.5	97.3	0.277	-	1.156	1.028	-	
5310	62	802.11n	OFDM	40	16.0	15.37	0.01	Left	Cheek	2	01616	13.5	97.3	0.174	0.055	1.156	1.028	0.065	
5310	62	802.11n	OFDM	40	16.0	15.37	0.03	Left	Tilt	2	01616	13.5	97.3	0.188	-	1.156	1.028	-	
5510	102	802.11n	OFDM	40	16.0	15.45	0.17	Right	Cheek	1	01616	13.5	97.3	0.456	0.165	1.135	1.028	0.193	
5510	102	802.11n	OFDM	40	16.0	15.45	0.19	Right	Tilt	1	01616	13.5	97.3	0.181	-	1.135	1.028	-	
5510	102	802.11n	OFDM	40	16.0	15.45	0.12	Left	Cheek	1	01616	13.5	97.3	0.149	-	1.135	1.028	-	
5510	102	802.11n	OFDM	40	16.0	15.45	0.13	Left	Tilt	1	01616	13.5	97.3	0.033	-	1.135	1.028	-	
5590	118	802.11n	OFDM	40	16.0	15.45	0.04	Right	Cheek	2	01616	13.5	97.3	0.444	0.177	1.135	1.028	0.207	
5590	118	802.11n	OFDM	40	16.0	15.45	-0.14	Right	Tilt	2	01616	13.5	97.3	0.318	-	1.135	1.028	-	
5590	118	802.11n	OFDM	40	16.0	15.45	0.17	Left	Cheek	2	01616	13.5	97.3	0.186	0.064	1.135	1.028	0.075	
5590	118	802.11n	OFDM	40	16.0	15.45	0.03	Left	Tilt	2	01616	13.5	97.3	0.205	-	1.135	1.028	-	
5795	159	802.11n	OFDM	40	16.0	15.45	0.01	Right	Cheek	1	01616	13.5	97.3	0.874	0.367	1.135	1.028	**0.428**	A22
5795	159	802.11n	OFDM	40	16.0	15.45	0.19	Right	Tilt	1	01616	13.5	97.3	0.205	0.068	1.135	1.028	0.079	
5795	159	802.11n	OFDM	40	16.0	15.45	0.16	Left	Cheek	1	01616	13.5	97.3	0.121	-	1.135	1.028	-	
5795	159	802.11n	OFDM	40	16.0	15.45	-0.19	Left	Tilt	1	01616	13.5	97.3	0.046	-	1.135	1.028	-	
5795	159	802.11n	OFDM	40	16.0	15.67	0.17	Right	Cheek	2	01616	13.5	97.3	0.595	0.258	1.079	1.028	0.286	
5795	159	802.11n	OFDM	40	16.0	15.67	0.19	Right	Tilt	2	01616	13.5	97.3	0.324	-	1.079	1.028	-	
5795	159	802.11n	OFDM	40	16.0	15.67	0.19	Left	Cheek	2	01616	13.5	97.3	0.192	0.058	1.079	1.028	0.064	
5795	159	802.11n	OFDM	40	16.0	15.67	0.09	Left	Tilt	2	01616	13.5	97.3	0.197	-	1.079	1.028	-	

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

Table 11-23
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	10.5	9.96	0.17	Right	Cheek	01624	1	77.1	0.044	1.132	1.297	0.065	
2441.00	39	Bluetooth	FHSS	10.5	9.96	0.14	Right	Tilt	01624	1	77.1	0.008	1.132	1.297	0.012	
2441.00	39	Bluetooth	FHSS	10.5	9.96	0.12	Left	Cheek	01624	1	77.1	0.075	1.132	1.297	**0.110**	A23
2441.00	39	Bluetooth	FHSS	10.5	9.96	0.17	Left	Tilt	01624	1	77.1	0.019	1.132	1.297	0.028	

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

11.2 Standalone Body-Worn SAR Data

Table 11-24
GSM/UMTS/CDMA Body-Worn SAR Data

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	# of Time Slots	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
820.10	564	CDMA BC10 (§90S)	TDSO / SO32	25.5	25.27	0.02	10 mm	01772	N/A	1:1	back	0.625	1.054	0.659	A24
824.70	1013	CDMA BC0 (§22H)	TDSO / SO32	25.5	25.19	0.01	10 mm	01772	N/A	1:1	back	0.587	1.074	0.630	
836.52	384	CDMA BC0 (§22H)	TDSO / SO32	25.5	25.18	0.02	10 mm	01772	N/A	1:1	back	0.796	1.076	0.856	
848.31	777	CDMA BC0 (§22H)	TDSO / SO32	25.5	25.16	0.03	10 mm	01772	N/A	1:1	back	0.820	1.081	0.886	A26
1880.00	600	PCS CDMA	TDSO / SO32	25.0	24.85	0.00	10 mm	01780	N/A	1:1	back	0.524	1.035	0.542	A28
824.20	128	GSM 850	GSM	33.7	33.32	0.03	10 mm	01772	1	1:8.3	back	0.372	1.091	0.406	
836.60	190	GSM 850	GSM	33.7	33.53	0.02	10 mm	01772	1	1:8.3	back	0.601	1.040	0.625	
848.80	251	GSM 850	GSM	33.7	33.59	0.04	10 mm	01772	1	1:8.3	back	0.577	1.026	0.592	
824.20	128	GSM 850	GPRS	30.7	30.67	-0.01	10 mm	01772	3	1:2.76	back	0.462	1.007	0.465	
836.60	190	GSM 850	GPRS	30.7	30.70	-0.09	10 mm	01772	3	1:2.76	back	0.670	1.000	0.670	
848.80	251	GSM 850	GPRS	30.7	30.61	0.02	10 mm	01772	3	1:2.76	back	0.839	1.021	0.857	A30
1880.00	661	GSM 1900	GSM	30.7	30.70	0.00	10 mm	01764	1	1:8.3	back	0.284	1.000	0.284	
1880.00	661	GSM 1900	GPRS	27.7	27.62	0.04	10 mm	01764	3	1:2.76	back	0.375	1.019	0.382	A31
826.40	4132	UMTS 850	RMC	25.5	25.45	0.02	10 mm	01772	N/A	1:1	back	0.822	1.012	0.832	
836.60	4183	UMTS 850	RMC	25.5	25.46	-0.02	10 mm	01772	N/A	1:1	back	0.933	1.009	0.941	
846.60	4233	UMTS 850	RMC	25.5	25.42	0.01	10 mm	01772	N/A	1:1	back	0.989	1.019	**1.008**	A33
846.60	4233	UMTS 850	RMC	25.5	25.42	0.01	10 mm	01772	N/A	1:1	back	0.985	1.019	1.004	
1712.40	1312	UMTS 1750	RMC	25.0	24.81	0.00	10 mm	01764	N/A	1:1	back	0.522	1.045	0.545	
1732.40	1412	UMTS 1750	RMC	25.0	24.80	0.02	10 mm	01764	N/A	1:1	back	0.607	1.047	0.636	
1752.60	1513	UMTS 1750	RMC	25.0	24.80	0.02	10 mm	01764	N/A	1:1	back	0.645	1.047	0.675	A34
1880.00	9400	UMTS 1900	RMC	25.0	24.67	-0.02	10 mm	01772	N/A	1:1	back	0.539	1.079	0.582	A36
ANSI / IEEE C95.1 1992 - SAFETY LIMIT **Spatial Peak** **Uncontrolled Exposure/General Population**								**Body** **1.6 W/kg (mW/g)** averaged over 1 gram							

Note: Blue entry represents variability measurement

Table 11-25
LTE Body-Worn SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
680.50	133297	Mid	LTE Band 71	20	25.5	25.50	-0.04	0	01798	QPSK	1	99	10 mm	back	1:1	0.464	1.000	0.464	A38
680.50	133297	Mid	LTE Band 71	20	24.5	24.50	0.02	1	01798	QPSK	50	50	10 mm	back	1:1	0.367	1.000	0.367	
707.50	23095	Mid	LTE Band 12	10	25.5	25.48	-0.02	0	01798	QPSK	1	0	10 mm	back	1:1	0.471	1.005	0.473	A39
707.50	23095	Mid	LTE Band 12	10	24.5	24.50	-0.02	1	01798	QPSK	25	0	10 mm	back	1:1	0.382	1.000	0.382	
782.00	23230	Mid	LTE Band 13	10	25.5	25.50	0.00	0	01798	QPSK	1	49	10 mm	back	1:1	0.483	1.000	0.483	A40
782.00	23230	Mid	LTE Band 13	10	24.5	24.50	-0.05	1	01798	QPSK	25	12	10 mm	back	1:1	0.415	1.000	0.415	
793.00	23330	Mid	LTE Band 14	10	25.5	25.47	-0.06	0	01764	QPSK	1	0	10 mm	back	1:1	0.552	1.007	0.556	A41
793.00	23330	Mid	LTE Band 14	10	24.5	24.48	-0.08	1	01764	QPSK	25	0	10 mm	back	1:1	0.473	1.005	0.475	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	25.50	0.00	0	01772	QPSK	1	74	10 mm	back	1:1	0.820	1.000	0.820	A42
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.43	0.00	1	01772	QPSK	36	18	10 mm	back	1:1	0.774	1.016	0.786	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.40	0.04	1	01772	QPSK	75	0	10 mm	back	1:1	0.715	1.023	0.731	
1720.00	132072	Low	LTE Band 66 (AWS)	20	25.0	24.82	-0.01	0	01798	QPSK	1	0	10 mm	back	1:1	0.574	1.042	0.598	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.80	0.02	0	01798	QPSK	1	0	10 mm	back	1:1	0.657	1.047	0.688	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.94	0.03	0	01798	QPSK	1	0	10 mm	back	1:1	0.703	1.014	0.713	A44
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.93	0.04	1	01798	QPSK	50	0	10 mm	back	1:1	0.568	1.016	0.577	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.77	0.00	0	01764	QPSK	1	0	10 mm	back	1:1	0.506	1.054	0.533	A46
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.74	-0.02	1	01764	QPSK	50	25	10 mm	back	1:1	0.401	1.062	0.426	
2310.00	27710	Mid	LTE Band 30	10	25.2	24.96	0.00	0	01780	QPSK	1	25	10 mm	back	1:1	0.521	1.057	0.551	A48
2310.00	27710	Mid	LTE Band 30	10	24.2	24.20	-0.14	1	01780	QPSK	25	0	10 mm	back	1:1	0.441	1.000	0.441	
2510.00	20850	Low	LTE Band 7	20	23.7	23.70	0.00	0	01780	QPSK	1	0	10 mm	back	1:1	0.650	1.000	0.650	A50
2535.00	21100	Mid	LTE Band 7	20	23.7	23.59	-0.02	0	01780	QPSK	1	0	10 mm	back	1:1	0.547	1.026	0.561	
2560.00	21350	High	LTE Band 7	20	23.7	23.60	-0.12	0	01780	QPSK	1	0	10 mm	back	1:1	0.554	1.023	0.567	
2510.00	20850	Low	LTE Band 7	20	22.7	22.69	0.03	1	01780	QPSK	50	0	10 mm	back	1:1	0.543	1.002	0.544	
3603.30	55773	Low-Mid	LTE Band 48	20	24.2	24.20	-0.14	0	01764	QPSK	1	99	10 mm	back	1:1.58	0.146	1.000	**0.146**	A52
3603.30	55773	Low-Mid	LTE Band 48	20	23.2	23.07	-0.09	1	01764	QPSK	50	0	10 mm	back	1:1.58	0.114	1.030	0.117	

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
LTE Band 5 Body-Worn SAR

MEASUREMENT RESULTS																						
1 CC Uplink | 2 CC Uplink	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
		MHz	Ch.															(W/kg)		(W/kg)	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.46	0.04	0	01772	QPSK	1	0	10 mm	back	1:1	0.806	1.009	0.813	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.50	0.00	1	01772	QPSK	25	0	10 mm	back	1:1	0.688	1.000	0.688	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.47	0.00	1	01772	QPSK	50	0	10 mm	back	1:1	0.695	1.007	0.700	
2 CC Uplink	PCC	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.49	0.04	0	01772	QPSK	1	0	10 mm	back	1:1	0.852	1.002	0.854	A43
2 CC Uplink	SCC	829.30	20453	Mid	LTE Band 5 (Cell)	5								24	10 mm						

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

Table 11-27
LTE Band 41 Body-Worn SAR

MEASUREMENT RESULTS																						
1 CC Uplink | 2 CC Uplink, Power Class	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
		MHz	Ch.															(W/kg)		(W/kg)	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	25.2	25.08	-0.18	0	01798	QPSK	1	0	10 mm	back	1:1.58	0.326	1.028	0.335	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	24.2	23.76	0.02	1	01798	QPSK	50	50	10 mm	back	1:1.58	0.294	1.107	0.325	
1 CC Uplink - Power Class 2	N/A	2680.00	41490	High	LTE Band 41	20	27.7	27.13	-0.01	0	01798	QPSK	1	0	10 mm	back	1:2.31	0.339	1.140	0.386	
2 CC Uplink - Power Class 3	PCC	2680.00	41490	High	LTE Band 41	20	25.2	25.05	0.11	0	01798	QPSK	1	0	10 mm	back	1:1.58	0.326	1.035	0.337	
	SCC	2660.20	41292	High									1	99							
2 CC Uplink - Power Class 2	PCC	2680.00	41490	High	LTE Band 41	20	27.7	27.20	-0.08	0	01798	QPSK	1	0	10 mm	back	1:2.31	0.344	1.122	0.386	A53
	SCC	2660.20	41292	High									1	99							
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
DTS Body-Worn SAR

MEASUREMENT RESULTS																		
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
2462	11	802.11b	DSSS	22	20.5	19.87	-0.01	10 mm	1	01616	1	back	99.3	0.256	0.179	1.156	1.007	0.208	
2437	6	802.11b	DSSS	22	20.5	19.98	0.03	10 mm	2	01616	1	back	99.3	0.361	0.239	1.127	1.007	**0.271**	A55
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 11-29
NII Body-Worn SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5280	56	802.11a	OFDM	20	20.0	19.63	0.18	10 mm	1	01624	6	back	98.3	0.382	0.187	1.089	1.017	0.207	
5280	56	802.11a	OFDM	20	20.0	19.53	0.14	10 mm	2	01624	6	back	98.3	0.588	0.271	1.114	1.017	0.307	
5500	100	802.11a	OFDM	20	17.0	16.57	-0.06	10 mm	1	01624	6	back	98.3	0.277	0.138	1.104	1.017	0.155	
5720	144	802.11a	OFDM	20	17.0	16.76	-0.11	10 mm	2	01624	6	back	98.3	0.551	0.241	1.057	1.017	0.259	
5785	157	802.11a	OFDM	20	20.0	19.48	-0.01	10 mm	1	01624	6	back	98.3	0.775	0.310	1.127	1.017	0.355	
5745	149	802.11a	OFDM	20	17.0	16.55	0.10	10 mm	2	01624	6	back	98.3	0.624	0.254	1.109	1.017	0.286	
5785	157	802.11a	OFDM	20	20.0	19.79	0.00	10 mm	2	01624	6	back	98.3	1.377	0.588	1.050	1.017	**0.628**	
5825	165	802.11a	OFDM	20	19.0	18.62	-0.03	10 mm	2	01624	6	back	98.3	1.151	0.492	1.091	1.017	0.546	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 11-30
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	20.0	19.50	20.0	19.45	-0.01	10 mm	MIMO	01624	13	back	98.1	0.581	0.302	1.135	1.019	0.349	
5620	124	802.11n	OFDM	20	17.0	16.35	17.0	16.50	0.15	10 mm	MIMO	01624	13	back	98.1	0.562	0.245	1.161	1.019	0.290	
5745	149	802.11n	OFDM	20	17.0	16.35	17.0	16.55	-0.05	10 mm	MIMO	01624	13	back	98.1	0.759	0.310	1.161	1.019	0.367	
5785	157	802.11n	OFDM	20	20.0	19.35	20.0	19.65	-0.03	10 mm	MIMO	01624	13	back	98.1	1.620	0.652	1.161	1.019	0.771	A57
5825	165	802.11n	OFDM	20	19.0	18.36	19.0	18.50	-0.13	10 mm	MIMO	01624	13	back	98.1	1.365	0.536	1.159	1.019	0.633	

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

Table 11-31
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	10.5	9.96	-0.13	10 mm	01616	1	back	77.1	0.018	1.132	1.297	**0.026**	A58

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

11.3 Standalone Hotspot SAR Data

Table 11-32
GPRS/UMTS/CDMA Hotspot SAR Data

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	# of Time Slots	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.5	25.30	-0.03	10 mm	01772	N/A	1:1	back	0.708	1.047	0.741	A25
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.5	25.30	-0.04	10 mm	01772	N/A	1:1	front	0.462	1.047	0.484	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.5	25.30	-0.01	10 mm	01772	N/A	1:1	bottom	0.204	1.047	0.214	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.5	25.30	-0.04	10 mm	01772	N/A	1:1	right	0.269	1.047	0.282	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.5	25.30	-0.01	10 mm	01772	N/A	1:1	left	0.129	1.047	0.135	
824.70	1013	CDMA BC0 (§22H)	EVDO Rev. 0	25.5	25.23	0.06	10 mm	01772	N/A	1:1	back	0.613	1.064	0.652	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.5	25.22	-0.03	10 mm	01772	N/A	1:1	back	0.828	1.067	0.883	
848.31	777	CDMA BC0 (§22H)	EVDO Rev. 0	25.5	25.22	-0.03	10 mm	01772	N/A	1:1	back	0.842	1.067	0.898	A27
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.5	25.22	-0.16	10 mm	01772	N/A	1:1	front	0.571	1.067	0.609	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.5	25.22	-0.06	10 mm	01772	N/A	1:1	bottom	0.298	1.067	0.318	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.5	25.22	-0.01	10 mm	01772	N/A	1:1	right	0.349	1.067	0.372	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.5	25.22	0.01	10 mm	01772	N/A	1:1	left	0.149	1.067	0.159	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.0	24.89	0.00	10 mm	01780	N/A	1:1	back	0.568	1.026	0.583	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.0	24.89	-0.04	10 mm	01780	N/A	1:1	front	0.431	1.026	0.442	
1851.25	25	PCS CDMA	EVDO Rev. 0	25.0	24.87	-0.07	10 mm	01780	N/A	1:1	bottom	1.210	1.030	1.246	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.0	24.89	-0.07	10 mm	01780	N/A	1:1	bottom	1.250	1.026	**1.283**	A29
1908.75	1175	PCS CDMA	EVDO Rev. 0	25.0	24.91	-0.05	10 mm	01780	N/A	1:1	bottom	1.140	1.021	1.164	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.0	24.89	-0.09	10 mm	01780	N/A	1:1	right	0.123	1.026	0.126	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.0	24.89	-0.06	10 mm	01780	N/A	1:1	left	0.213	1.026	0.219	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.0	24.89	0.03	10 mm	01780	N/A	1:1	bottom	1.190	1.026	1.221	
824.20	128	GSM 850	GPRS	30.7	30.67	-0.01	10 mm	01772	3	1:2.76	back	0.462	1.007	0.465	
836.60	190	GSM 850	GPRS	30.7	30.70	-0.09	10 mm	01772	3	1:2.76	back	0.670	1.000	0.670	
848.80	251	GSM 850	GPRS	30.7	30.61	0.02	10 mm	01772	3	1:2.76	back	0.839	1.021	0.857	A30
836.60	190	GSM 850	GPRS	30.7	30.70	0.00	10 mm	01772	3	1:2.76	front	0.437	1.000	0.437	
836.60	190	GSM 850	GPRS	30.7	30.70	-0.03	10 mm	01772	3	1:2.76	bottom	0.212	1.000	0.212	
836.60	190	GSM 850	GPRS	30.7	30.70	-0.08	10 mm	01772	3	1:2.76	right	0.224	1.000	0.224	
836.60	190	GSM 850	GPRS	30.7	30.70	-0.15	10 mm	01772	3	1:2.76	left	0.100	1.000	0.100	
1880.00	661	GSM 1900	GPRS	27.7	27.62	0.04	10 mm	01764	3	1:2.76	back	0.375	1.019	0.382	
1880.00	661	GSM 1900	GPRS	27.7	27.62	0.03	10 mm	01764	3	1:2.76	front	0.304	1.019	0.310	
1850.20	512	GSM 1900	GPRS	27.7	27.70	-0.04	10 mm	01764	3	1:2.76	bottom	0.911	1.000	0.911	
1880.00	661	GSM 1900	GPRS	27.7	27.62	-0.05	10 mm	01764	3	1:2.76	bottom	0.972	1.019	0.990	A32
1909.80	810	GSM 1900	GPRS	27.7	27.62	-0.07	10 mm	01764	3	1:2.76	bottom	0.909	1.019	0.926	
1880.00	661	GSM 1900	GPRS	27.7	27.62	-0.06	10 mm	01764	3	1:2.76	right	0.079	1.019	0.081	
1880.00	661	GSM 1900	GPRS	27.7	27.62	0.01	10 mm	01764	3	1:2.76	left	0.099	1.019	0.101	
826.40	4132	UMTS 850	RMC	25.5	25.45	0.02	10 mm	01772	N/A	1:1	back	0.822	1.012	0.832	
836.60	4183	UMTS 850	RMC	25.5	25.46	-0.02	10 mm	01772	N/A	1:1	back	0.933	1.009	0.941	
846.60	4233	UMTS 850	RMC	25.5	25.42	0.01	10 mm	01772	N/A	1:1	back	0.989	1.019	1.008	A33
836.60	4183	UMTS 850	RMC	25.5	25.46	0.01	10 mm	01772	N/A	1:1	front	0.582	1.009	0.587	
836.60	4183	UMTS 850	RMC	25.5	25.46	0.01	10 mm	01772	N/A	1:1	bottom	0.266	1.009	0.268	
836.60	4183	UMTS 850	RMC	25.5	25.46	0.00	10 mm	01772	N/A	1:1	right	0.369	1.009	0.372	
836.60	4183	UMTS 850	RMC	25.5	25.46	0.09	10 mm	01772	N/A	1:1	left	0.160	1.009	0.161	
846.60	4233	UMTS 850	RMC	25.5	25.42	0.01	10 mm	01772	N/A	1:1	back	0.985	1.019	1.004	
1712.40	1312	UMTS 1750	RMC	25.0	24.81	0.00	10 mm	01764	N/A	1:1	back	0.522	1.045	0.545	
1732.40	1412	UMTS 1750	RMC	25.0	24.80	0.02	10 mm	01764	N/A	1:1	back	0.607	1.047	0.636	
1752.60	1513	UMTS 1750	RMC	25.0	24.80	0.02	10 mm	01764	N/A	1:1	back	0.645	1.047	0.675	
1732.40	1412	UMTS 1750	RMC	25.0	24.80	0.03	10 mm	01764	N/A	1:1	front	0.559	1.047	0.585	
1712.40	1312	UMTS 1750	RMC	25.0	24.81	0.01	10 mm	01764	N/A	1:1	bottom	0.671	1.045	0.701	
1732.40	1412	UMTS 1750	RMC	25.0	24.80	0.05	10 mm	01764	N/A	1:1	bottom	0.811	1.047	0.849	
1752.60	1513	UMTS 1750	RMC	25.0	24.80	-0.02	10 mm	01764	N/A	1:1	bottom	0.967	1.047	1.012	A35
1732.40	1412	UMTS 1750	RMC	25.0	24.80	0.09	10 mm	01764	N/A	1:1	right	0.085	1.047	0.089	
1732.40	1412	UMTS 1750	RMC	25.0	24.80	0.06	10 mm	01764	N/A	1:1	left	0.179	1.047	0.187	
1880.00	9400	UMTS 1900	RMC	25.0	24.67	-0.02	10 mm	01772	N/A	1:1	back	0.539	1.079	0.582	
1880.00	9400	UMTS 1900	RMC	25.0	24.67	0.01	10 mm	01772	N/A	1:1	front	0.417	1.079	0.450	
1852.40	9262	UMTS 1900	RMC	25.0	24.86	-0.05	10 mm	01772	N/A	1:1	bottom	1.160	1.033	1.198	A37
1880.00	9400	UMTS 1900	RMC	25.0	24.67	-0.04	10 mm	01772	N/A	1:1	bottom	1.150	1.079	1.241	
1907.60	9538	UMTS 1900	RMC	25.0	24.79	-0.04	10 mm	01772	N/A	1:1	bottom	0.971	1.050	1.020	
1880.00	9400	UMTS 1900	RMC	25.0	24.67	-0.03	10 mm	01772	N/A	1:1	right	0.110	1.079	0.119	
1880.00	9400	UMTS 1900	RMC	25.0	24.67	-0.09	10 mm	01772	N/A	1:1	left	0.154	1.079	0.166	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram							

Note: Blue entry represents variability measurement

Table 11-33
LTE Band 71 Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
680.50	133297	Mid	LTE Band 71	20	25.5	25.50	-0.04	0	01798	QPSK	1	99	10 mm	back	1:1	0.464	1.000	0.464	A38
680.50	133297	Mid	LTE Band 71	20	24.5	24.50	0.02	1	01798	QPSK	50	50	10 mm	back	1:1	0.367	1.000	0.367	
680.50	133297	Mid	LTE Band 71	20	25.5	25.50	0.03	0	01798	QPSK	1	99	10 mm	front	1:1	0.290	1.000	0.290	
680.50	133297	Mid	LTE Band 71	20	24.5	24.50	0.02	1	01798	QPSK	50	50	10 mm	front	1:1	0.229	1.000	0.229	
680.50	133297	Mid	LTE Band 71	20	25.5	25.50	-0.11	0	01798	QPSK	1	99	10 mm	bottom	1:1	0.127	1.000	0.127	
680.50	133297	Mid	LTE Band 71	20	24.5	24.50	-0.04	1	01798	QPSK	50	50	10 mm	bottom	1:1	0.093	1.000	0.093	
680.50	133297	Mid	LTE Band 71	20	25.5	25.50	0.02	0	01798	QPSK	1	99	10 mm	right	1:1	0.193	1.000	0.193	
680.50	133297	Mid	LTE Band 71	20	24.5	24.50	-0.06	1	01798	QPSK	50	50	10 mm	right	1:1	0.173	1.000	0.173	
680.50	133297	Mid	LTE Band 71	20	25.5	25.50	-0.05	0	01798	QPSK	1	99	10 mm	left	1:1	0.133	1.000	0.133	
680.50	133297	Mid	LTE Band 71	20	24.5	24.50	0.02	1	01798	QPSK	50	50	10 mm	left	1:1	0.110	1.000	0.110	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 11-34
LTE Band 12 Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
707.50	23095	Mid	LTE Band 12	10	25.5	25.48	-0.02	0	01798	QPSK	1	0	10 mm	back	1:1	0.471	1.005	0.473	A39
707.50	23095	Mid	LTE Band 12	10	24.5	24.50	-0.02	1	01798	QPSK	25	0	10 mm	back	1:1	0.382	1.000	0.382	
707.50	23095	Mid	LTE Band 12	10	25.5	25.48	0.04	0	01798	QPSK	1	0	10 mm	front	1:1	0.302	1.005	0.304	
707.50	23095	Mid	LTE Band 12	10	24.5	24.50	0.03	1	01798	QPSK	25	0	10 mm	front	1:1	0.236	1.000	0.236	
707.50	23095	Mid	LTE Band 12	10	25.5	25.48	0.09	0	01798	QPSK	1	0	10 mm	bottom	1:1	0.143	1.005	0.144	
707.50	23095	Mid	LTE Band 12	10	24.5	24.50	0.01	1	01798	QPSK	25	0	10 mm	bottom	1:1	0.112	1.000	0.112	
707.50	23095	Mid	LTE Band 12	10	25.5	25.48	-0.19	0	01798	QPSK	1	0	10 mm	right	1:1	0.199	1.005	0.200	
707.50	23095	Mid	LTE Band 12	10	24.5	24.50	-0.13	1	01798	QPSK	25	0	10 mm	right	1:1	0.162	1.000	0.162	
707.50	23095	Mid	LTE Band 12	10	25.5	25.48	-0.01	0	01798	QPSK	1	0	10 mm	left	1:1	0.132	1.005	0.133	
707.50	23095	Mid	LTE Band 12	10	24.5	24.50	-0.02	1	01798	QPSK	25	0	10 mm	left	1:1	0.109	1.000	0.109	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 11-35
LTE Band 13 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
782.00	23230	Mid	LTE Band 13	10	25.5	25.50	0.00	0	01798	QPSK	1	49	10 mm	back	1:1	0.483	1.000	0.483	A40
782.00	23230	Mid	LTE Band 13	10	24.5	24.50	-0.05	1	01798	QPSK	25	12	10 mm	back	1:1	0.415	1.000	0.415	
782.00	23230	Mid	LTE Band 13	10	25.5	25.50	0.01	0	01798	QPSK	1	49	10 mm	front	1:1	0.291	1.000	0.291	
782.00	23230	Mid	LTE Band 13	10	24.5	24.50	0.05	1	01798	QPSK	25	12	10 mm	front	1:1	0.250	1.000	0.250	
782.00	23230	Mid	LTE Band 13	10	25.5	25.50	0.05	0	01798	QPSK	1	49	10 mm	bottom	1:1	0.119	1.000	0.119	
782.00	23230	Mid	LTE Band 13	10	24.5	24.50	0.00	1	01798	QPSK	25	12	10 mm	bottom	1:1	0.102	1.000	0.102	
782.00	23230	Mid	LTE Band 13	10	25.5	25.50	-0.19	0	01798	QPSK	1	49	10 mm	right	1:1	0.181	1.000	0.181	
782.00	23230	Mid	LTE Band 13	10	24.5	24.50	0.03	1	01798	QPSK	25	12	10 mm	right	1:1	0.153	1.000	0.153	
782.00	23230	Mid	LTE Band 13	10	25.5	25.50	-0.01	0	01798	QPSK	1	49	10 mm	left	1:1	0.113	1.000	0.113	
782.00	23230	Mid	LTE Band 13	10	24.5	24.50	0.06	1	01798	QPSK	25	12	10 mm	left	1:1	0.089	1.000	0.089	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram									

Table 11-36
LTE Band 14 Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
793.00	23330	Mid	LTE Band 14	10	25.5	25.47	-0.06	0	01764	QPSK	1	0	10 mm	back	1:1	0.552	1.007	0.556	A41
793.00	23330	Mid	LTE Band 14	10	24.5	24.48	-0.08	1	01764	QPSK	25	0	10 mm	back	1:1	0.473	1.005	0.475	
793.00	23330	Mid	LTE Band 14	10	25.5	25.47	0.08	0	01764	QPSK	1	0	10 mm	front	1:1	0.392	1.007	0.395	
793.00	23330	Mid	LTE Band 14	10	24.5	24.48	0.01	1	01764	QPSK	25	0	10 mm	front	1:1	0.336	1.005	0.338	
793.00	23330	Mid	LTE Band 14	10	25.5	25.47	0.00	0	01764	QPSK	1	0	10 mm	bottom	1:1	0.151	1.007	0.152	
793.00	23330	Mid	LTE Band 14	10	24.5	24.48	0.01	1	01764	QPSK	25	0	10 mm	bottom	1:1	0.131	1.005	0.132	
793.00	23330	Mid	LTE Band 14	10	25.5	25.47	-0.01	0	01764	QPSK	1	0	10 mm	right	1:1	0.159	1.007	0.160	
793.00	23330	Mid	LTE Band 14	10	24.5	24.48	0.05	1	01764	QPSK	25	0	10 mm	right	1:1	0.149	1.005	0.150	
793.00	23330	Mid	LTE Band 14	10	25.5	25.47	0.18	0	01764	QPSK	1	0	10 mm	left	1:1	0.161	1.007	0.162	
793.00	23330	Mid	LTE Band 14	10	24.5	24.48	-0.09	1	01764	QPSK	25	0	10 mm	left	1:1	0.133	1.005	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 11-37
LTE Band 26 (Cell) Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	25.50	0.00	0	01772	QPSK	1	74	10 mm	back	1:1	0.820	1.000	0.820	A42
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.43	0.00	1	01772	QPSK	36	18	10 mm	back	1:1	0.774	1.016	0.786	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.40	0.04	1	01772	QPSK	75	0	10 mm	back	1:1	0.715	1.023	0.731	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	25.50	0.00	0	01772	QPSK	1	74	10 mm	front	1:1	0.490	1.000	0.490	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.43	-0.02	1	01772	QPSK	36	18	10 mm	front	1:1	0.437	1.016	0.444	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	25.50	0.02	0	01772	QPSK	1	74	10 mm	bottom	1:1	0.224	1.000	0.224	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.43	-0.02	1	01772	QPSK	36	18	10 mm	bottom	1:1	0.210	1.016	0.213	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	25.50	-0.12	0	01772	QPSK	1	74	10 mm	right	1:1	0.327	1.000	0.327	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.43	0.02	1	01772	QPSK	36	18	10 mm	right	1:1	0.262	1.016	0.266	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	25.50	-0.16	0	01772	QPSK	1	74	10 mm	left	1:1	0.139	1.000	0.139	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	24.43	0.03	1	01772	QPSK	36	18	10 mm	left	1:1	0.110	1.016	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 11-38
LTE Band 5 (Cell) Hotspot SAR

MEASUREMENT RESULTS																					
1 CC Uplink | 2 CC Uplink	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
		MHz	Ch.															(W/kg)		(W/kg)	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.46	0.04	0	01772	QPSK	1	0	10 mm	back	1:1	0.806	1.009	0.813	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.50	0.00	1	01772	QPSK	25	0	10 mm	back	1:1	0.688	1.000	0.688	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.47	0.00	1	01772	QPSK	50	0	10 mm	back	1:1	0.695	1.007	0.700	
2 CC Uplink	PCC	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.49	0.04	0	01772	QPSK	1	0	10 mm	back	1:1	0.852	1.002	0.854	A43
2 CC Uplink	SCC	829.30	20453	Mid	LTE Band 5 (Cell)	5							1	24							
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.46	-0.01	0	01772	QPSK	1	0	10 mm	front	1:1	0.504	1.009	0.509	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.50	-0.01	1	01772	QPSK	25	0	10 mm	front	1:1	0.423	1.000	0.423	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.46	-0.02	0	01772	QPSK	1	0	10 mm	bottom	1:1	0.233	1.009	0.235	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.50	-0.03	1	01772	QPSK	25	0	10 mm	bottom	1:1	0.192	1.000	0.192	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.46	-0.04	0	01772	QPSK	1	0	10 mm	right	1:1	0.296	1.009	0.299	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.50	-0.01	1	01772	QPSK	25	0	10 mm	right	1:1	0.251	1.000	0.251	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.5	25.46	0.14	0	01772	QPSK	1	0	10 mm	left	1:1	0.123	1.009	0.124	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.5	24.50	-0.08	1	01772	QPSK	25	0	10 mm	left	1:1	0.102	1.000	0.102	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 11-39
LTE Band 66 (AWS) Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1720.00	132072	Low	LTE Band 66 (AWS)	20	25.0	24.82	-0.01	0	01798	QPSK	1	0	10 mm	back	1:1	0.574	1.042	0.598	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.80	0.02	0	01798	QPSK	1	0	10 mm	back	1:1	0.657	1.047	0.688	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.94	0.03	0	01798	QPSK	1	0	10 mm	back	1:1	0.703	1.014	0.713	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.93	0.04	1	01798	QPSK	50	0	10 mm	back	1:1	0.568	1.016	0.577	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.94	-0.01	0	01798	QPSK	1	0	10 mm	front	1:1	0.623	1.014	0.632	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.93	0.01	1	01798	QPSK	50	0	10 mm	front	1:1	0.503	1.016	0.511	
1720.00	132072	Low	LTE Band 66 (AWS)	20	25.0	24.82	0.09	0	01798	QPSK	1	0	10 mm	bottom	1:1	0.720	1.042	0.750	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.80	0.05	0	01798	QPSK	1	0	10 mm	bottom	1:1	0.858	1.047	0.898	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.94	-0.06	0	01798	QPSK	1	0	10 mm	bottom	1:1	1.060	1.014	1.075	A45
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.0	23.89	0.00	1	01798	QPSK	50	0	10 mm	bottom	1:1	0.608	1.026	0.624	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	23.88	-0.07	1	01798	QPSK	50	0	10 mm	bottom	1:1	0.721	1.028	0.741	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.93	-0.04	1	01798	QPSK	50	0	10 mm	bottom	1:1	0.855	1.016	0.869	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.88	-0.07	1	01798	QPSK	100	0	10 mm	bottom	1:1	0.862	1.028	0.886	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.94	-0.07	0	01798	QPSK	1	0	10 mm	right	1:1	0.099	1.014	0.100	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.93	0.08	1	01798	QPSK	50	0	10 mm	right	1:1	0.076	1.016	0.077	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.94	-0.14	0	01798	QPSK	1	0	10 mm	left	1:1	0.233	1.014	0.236	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.93	0.01	1	01798	QPSK	50	0	10 mm	left	1:1	0.183	1.016	0.186	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.94	0.06	0	01798	QPSK	1	0	10 mm	bottom	1:1	1.030	1.014	1.044	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram						

Note: Blue entry represents variability measurement

Table 11-40
LTE Band 25 (PCS) Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.77	0.00	0	01764	QPSK	1	0	10 mm	back	1:1	0.506	1.054	0.533	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.74	-0.02	1	01764	QPSK	50	25	10 mm	back	1:1	0.401	1.062	0.426	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.77	-0.10	0	01764	QPSK	1	0	10 mm	front	1:1	0.463	1.054	0.488	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.74	-0.11	1	01764	QPSK	50	25	10 mm	front	1:1	0.371	1.062	0.394	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.77	-0.17	0	01764	QPSK	1	0	10 mm	bottom	1:1	1.090	1.054	1.149	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.0	24.73	-0.04	0	01764	QPSK	1	0	10 mm	bottom	1:1	1.140	1.064	1.213	
1905.00	26590	High	LTE Band 25 (PCS)	20	25.0	24.75	-0.07	0	01764	QPSK	1	0	10 mm	bottom	1:1	1.200	1.059	1.271	A47
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.74	-0.06	1	01764	QPSK	50	25	10 mm	bottom	1:1	0.946	1.062	1.005	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.0	23.71	-0.02	1	01764	QPSK	50	25	10 mm	bottom	1:1	0.968	1.069	1.035	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.0	23.72	-0.06	1	01764	QPSK	50	25	10 mm	bottom	1:1	0.922	1.067	0.984	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.71	-0.04	1	01764	QPSK	100	0	10 mm	bottom	1:1	0.933	1.069	0.997	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.77	0.12	0	01764	QPSK	1	0	10 mm	right	1:1	0.118	1.054	0.124	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.74	-0.01	1	01764	QPSK	50	25	10 mm	right	1:1	0.089	1.062	0.095	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.77	-0.01	0	01764	QPSK	1	0	10 mm	left	1:1	0.146	1.054	0.154	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.74	-0.05	1	01764	QPSK	50	25	10 mm	left	1:1	0.124	1.062	0.132	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram					

Table 11-41
LTE Band 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	25.2	24.96	0.00	0	01780	QPSK	1	25	10 mm	back	1:1	0.521	1.057	0.551	
2310.00	27710	Mid	LTE Band 30	10	24.2	24.20	-0.14	1	01780	QPSK	25	0	10 mm	back	1:1	0.441	1.000	0.441	
2310.00	27710	Mid	LTE Band 30	10	25.2	24.96	-0.10	0	01780	QPSK	1	25	10 mm	front	1:1	0.467	1.057	0.494	
2310.00	27710	Mid	LTE Band 30	10	24.2	24.20	0.00	1	01780	QPSK	25	0	10 mm	front	1:1	0.394	1.000	0.394	
2310.00	27710	Mid	LTE Band 30	10	25.2	24.96	0.04	0	01780	QPSK	1	25	10 mm	bottom	1:1	0.130	1.057	0.137	
2310.00	27710	Mid	LTE Band 30	10	24.2	24.20	0.04	1	01780	QPSK	25	0	10 mm	bottom	1:1	0.111	1.000	0.111	
2310.00	27710	Mid	LTE Band 30	10	25.2	24.96	-0.01	0	01780	QPSK	1	25	10 mm	right	1:1	0.536	1.057	0.567	A49
2310.00	27710	Mid	LTE Band 30	10	24.2	24.20	-0.02	1	01780	QPSK	25	0	10 mm	right	1:1	0.453	1.000	0.453	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram					

Table 11-42
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	23.7	23.70	0.00	0	01780	QPSK	1	0	10 mm	back	1:1	0.650	1.000	0.650	
2535.00	21100	Mid	LTE Band 7	20	23.7	23.59	-0.02	0	01780	QPSK	1	0	10 mm	back	1:1	0.547	1.026	0.561	
2560.00	21350	High	LTE Band 7	20	23.7	23.60	-0.12	0	01780	QPSK	1	0	10 mm	back	1:1	0.554	1.023	0.567	
2510.00	20850	Low	LTE Band 7	20	22.7	22.69	0.03	1	01780	QPSK	50	0	10 mm	back	1:1	0.543	1.002	0.544	
2510.00	20850	Low	LTE Band 7	20	23.7	23.70	0.03	0	01780	QPSK	1	0	10 mm	front	1:1	0.455	1.000	0.455	
2510.00	20850	Low	LTE Band 7	20	22.7	22.69	0.05	1	01780	QPSK	50	0	10 mm	front	1:1	0.374	1.002	0.375	
2510.00	20850	Low	LTE Band 7	20	23.7	23.70	0.00	0	01780	QPSK	1	0	10 mm	bottom	1:1	0.161	1.000	0.161	
2510.00	20850	Low	LTE Band 7	20	22.7	22.69	-0.03	1	01780	QPSK	50	0	10 mm	bottom	1:1	0.133	1.002	0.133	
2510.00	20850	Low	LTE Band 7	20	23.7	23.70	-0.04	0	01780	QPSK	1	0	10 mm	right	1:1	0.787	1.000	0.787	
2535.00	21100	Mid	LTE Band 7	20	23.7	23.59	0.09	0	01780	QPSK	1	0	10 mm	right	1:1	0.805	1.026	0.826	
2560.00	21350	High	LTE Band 7	20	23.7	23.60	-0.13	0	01780	QPSK	1	0	10 mm	right	1:1	0.842	1.023	0.861	A51
2510.00	20850	Low	LTE Band 7	20	22.7	22.69	-0.01	1	01780	QPSK	50	0	10 mm	right	1:1	0.659	1.002	0.660	
2510.00	20850	Low	LTE Band 7	20	22.7	22.60	-0.12	1	01780	QPSK	100	0	10 mm	right	1:1	0.672	1.023	0.687	
2560.00	21350	High	LTE Band 7	20	23.7	23.60	-0.12	0	01780	QPSK	1	0	10 mm	right	1:1	0.827	1.023	0.846	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram					

Note: Blue entry represents variability measurement

Table 11-43
LTE Band 48 Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
3603.30	55773	Low-Mid	LTE Band 48	20	24.2	24.20	-0.14	0	01764	QPSK	1	99	10 mm	back	1:1.58	0.146	1.000	**0.146**	A52
3603.30	55773	Low-Mid	LTE Band 48	20	23.2	23.07	-0.09	1	01764	QPSK	50	0	10 mm	back	1:1.58	0.114	1.030	0.117	
3603.30	55773	Low-Mid	LTE Band 48	20	24.2	24.20	-0.12	0	01764	QPSK	1	99	10 mm	front	1:1.58	0.099	1.000	0.099	
3603.30	55773	Low-Mid	LTE Band 48	20	23.2	23.07	0.02	1	01764	QPSK	50	0	10 mm	front	1:1.58	0.082	1.030	0.084	
3603.30	55773	Low-Mid	LTE Band 48	20	24.2	24.20	0.19	0	01764	QPSK	1	99	10 mm	bottom	1:1.58	0.040	1.000	0.040	
3603.30	55773	Low-Mid	LTE Band 48	20	23.2	23.07	-0.13	1	01764	QPSK	50	0	10 mm	bottom	1:1.58	0.036	1.030	0.037	
3603.30	55773	Low-Mid	LTE Band 48	20	24.2	24.20	-0.19	0	01764	QPSK	1	99	10 mm	right	1:1.58	0.092	1.000	0.092	
3603.30	55773	Low-Mid	LTE Band 48	20	23.2	23.07	-0.19	1	01764	QPSK	50	0	10 mm	right	1:1.58	0.072	1.030	0.074	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT **Spatial Peak** **Uncontrolled Exposure/General Population**									**Body** **1.6 W/kg (mW/g)** averaged over 1 gram										

Table 11-44
LTE Band 41 Hotspot SAR

MEASUREMENT RESULTS																					
1 CC Uplink | 2 CC Uplink, Power Class	Component Carrier	FREQUENCY			Side	Modulation	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	RB Size	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
		MHz	Ch.															(W/kg)		(W/kg)	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	25.2	25.08	-0.18	0	01798	QPSK	1	0	10 mm	back	1:1.58	0.326	1.028	0.335	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	24.2	23.76	0.02	1	01798	QPSK	50	50	10 mm	back	1:1.58	0.294	1.107	0.325	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	25.2	25.08	-0.02	0	01798	QPSK	1	0	10 mm	front	1:1.58	0.308	1.028	0.317	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	24.2	23.76	0.02	1	01798	QPSK	50	50	10 mm	front	1:1.58	0.245	1.107	0.271	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	25.2	25.08	0.16	0	01798	QPSK	1	0	10 mm	bottom	1:1.58	0.124	1.028	0.127	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	24.2	23.76	0.07	1	01798	QPSK	50	50	10 mm	bottom	1:1.58	0.094	1.107	0.104	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	25.2	25.08	0.00	0	01798	QPSK	1	0	10 mm	right	1:1.58	0.357	1.028	0.367	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	24.2	23.76	0.03	1	01798	QPSK	50	50	10 mm	right	1:1.58	0.286	1.107	0.317	
1 CC Uplink - Power Class 2	N/A	2680.00	41490	High	LTE Band 41	20	27.7	27.13	0.04	0	01798	QPSK	1	0	10 mm	right	1:2.31	0.390	1.140	0.445	A54
2 CC Uplink - Power Class 3	PCC	2680.00	41490	High	LTE Band 41	20	25.2	25.05	0.05	0	01798	QPSK	1	0	10 mm	right	1:1.58	0.366	1.035	0.379	
	SCC	2660.20	41292	High									1	99							
2 CC Uplink - Power Class 2	PCC	2680.00	41490	High	LTE Band 41	20	27.7	27.20	0.02	0	01798	QPSK	1	0	10 mm	right	1:2.31	0.380	1.122	0.426	
	SCC	2660.20	41292	High									1	99							
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 Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
2462	11	802.11b	DSSS	22	20.5	19.87	-0.01	10 mm	1	01616	1	back	99.3	0.256	0.179	1.156	1.007	0.208	
2462	11	802.11b	DSSS	22	20.5	19.87	-0.15	10 mm	1	01616	1	front	99.3	0.298	0.181	1.156	1.007	0.211	
2462	11	802.11b	DSSS	22	20.5	19.87	0.21	10 mm	1	01616	1	top	99.3	0.069	-	1.156	1.007	-	
2462	11	802.11b	DSSS	22	20.5	19.87	-0.06	10 mm	1	01616	1	right	99.3	0.557	0.333	1.156	1.007	0.388	
2437	6	802.11b	DSSS	22	20.5	19.98	0.03	10 mm	2	01616	1	back	99.3	0.361	0.239	1.127	1.007	0.271	
2437	6	802.11b	DSSS	22	20.5	19.98	0.12	10 mm	2	01616	1	front	99.3	0.321	-	1.127	1.007	-	
2437	6	802.11b	DSSS	22	20.5	19.98	0.13	10 mm	2	01616	1	top	99.3	0.167	-	1.127	1.007	-	
2437	6	802.11b	DSSS	22	20.5	19.98	0.06	10 mm	2	01616	1	left	99.3	0.801	0.482	1.127	1.007	**0.547**	A56
5200	40	802.11a	OFDM	20	20.0	19.54	0.04	10 mm	1	01624	6	back	98.3	0.394	0.187	1.112	1.017	0.211	
5200	40	802.11a	OFDM	20	20.0	19.54	0.09	10 mm	1	01624	6	front	98.3	0.017	-	1.112	1.017	-	
5200	40	802.11a	OFDM	20	20.0	19.54	0.15	10 mm	1	01624	6	top	98.3	0.031	-	1.112	1.017	-	
5200	40	802.11a	OFDM	20	20.0	19.54	0.04	10 mm	1	01624	6	left	98.3	0.142	-	1.112	1.017	-	
5200	40	802.11a	OFDM	20	20.0	19.22	0.09	10 mm	2	01624	6	back	98.3	0.480	0.222	1.197	1.017	0.270	
5200	40	802.11a	OFDM	20	20.0	19.22	-0.19	10 mm	2	01624	6	front	98.3	0.051	-	1.197	1.017	-	
5200	40	802.11a	OFDM	20	20.0	19.22	-0.15	10 mm	2	01624	6	top	98.3	0.140	-	1.197	1.017	-	
5200	40	802.11a	OFDM	20	20.0	19.22	-0.19	10 mm	2	01624	6	left	98.3	0.285	-	1.197	1.017	-	
5785	157	802.11a	OFDM	20	20.0	19.48	-0.01	10 mm	1	01624	6	back	98.3	0.775	0.310	1.127	1.017	0.355	
5785	157	802.11a	OFDM	20	20.0	19.48	0.02	10 mm	1	01624	6	front	98.3	0.035	-	1.127	1.017	-	
5785	157	802.11a	OFDM	20	20.0	19.48	0.17	10 mm	1	01624	6	top	98.3	0.031	-	1.127	1.017	-	
5785	157	802.11a	OFDM	20	20.0	19.48	-0.19	10 mm	1	01624	6	left	98.3	0.269	-	1.127	1.017	-	
5745	149	802.11a	OFDM	20	17.0	16.55	0.10	10 mm	2	01624	6	back	98.3	0.624	0.254	1.109	1.017	0.286	
5785	157	802.11a	OFDM	20	20.0	19.79	0.00	10 mm	2	01624	6	back	98.3	1.377	0.588	1.050	1.017	**0.628**	
5825	165	802.11a	OFDM	20	19.0	18.62	-0.03	10 mm	2	01624	6	back	98.3	1.151	0.492	1.091	1.017	0.546	
5785	157	802.11a	OFDM	20	20.0	19.79	0.14	10 mm	2	01624	6	front	98.3	0.209	-	1.050	1.017	-	
5785	157	802.11a	OFDM	20	20.0	19.79	0.15	10 mm	2	01624	6	top	98.3	0.235	-	1.050	1.017	-	
5785	157	802.11a	OFDM	20	20.0	19.79	-0.12	10 mm	2	01624	6	left	98.3	1.130	0.424	1.050	1.017	0.453	

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

Table 11-46
WLAN MIMO Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5200	40	802.11n	OFDM	20	20.0	19.40	20.0	19.16	0.12	10 mm	MIMO	01624	13	back	98.1	0.560	0.270	1.213	1.019	0.334	
5200	40	802.11n	OFDM	20	20.0	19.40	20.0	19.16	0.16	10 mm	MIMO	01624	13	front	98.1	0.059	-	1.213	1.019	-	
5200	40	802.11n	OFDM	20	20.0	19.40	20.0	19.16	0.03	10 mm	MIMO	01624	13	top	98.1	0.151	-	1.213	1.019	-	
5200	40	802.11n	OFDM	20	20.0	19.40	20.0	19.16	0.15	10 mm	MIMO	01624	13	left	98.1	0.302	0.134	1.213	1.019	0.166	
5745	149	802.11n	OFDM	20	17.0	16.35	17.0	16.55	-0.05	10 mm	MIMO	01624	13	back	98.1	0.759	0.310	1.161	1.019	0.367	
5785	157	802.11n	OFDM	20	20.0	19.35	20.0	19.65	-0.03	10 mm	MIMO	01624	13	back	98.1	1.620	0.652	1.161	1.019	0.771	A57
5825	165	802.11n	OFDM	20	19.0	18.36	19.0	18.50	-0.13	10 mm	MIMO	01624	13	back	98.1	1.365	0.536	1.159	1.019	0.633	
5785	157	802.11n	OFDM	20	20.0	19.35	20.0	19.65	0.14	10 mm	MIMO	01624	13	front	98.1	0.230	-	1.161	1.019	-	
5785	157	802.11n	OFDM	20	20.0	19.35	20.0	19.65	-0.16	10 mm	MIMO	01624	13	top	98.1	0.234	-	1.161	1.019	-	
5785	157	802.11n	OFDM	20	20.0	19.35	20.0	19.65	0.19	10 mm	MIMO	01624	13	left	98.1	1.241	0.570	1.161	1.019	0.674	

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

Table 11-47
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	10.5	9.96	-0.13	10 mm	01616	1	back	77.1	0.018	1.132	1.297	0.026	
2441	39	Bluetooth	FHSS	10.5	9.96	0.14	10 mm	01616	1	front	77.1	0.020	1.132	1.297	0.029	
2441	39	Bluetooth	FHSS	10.5	9.96	-0.05	10 mm	01616	1	top	77.1	0.002	1.132	1.297	0.003	
2441	39	Bluetooth	FHSS	10.5	9.96	0.13	10 mm	01616	1	right	77.1	0.034	1.132	1.297	**0.050**	A59

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

11.4 Standalone Phablet SAR Data

Table 11-48
UMTS/CDMA Phablet SAR Data

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Duty Cycle	Side	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.0	24.89	-0.04	1 mm	01772	1:1	back	1.650	1.026	1.693	
1851.25	25	PCS CDMA	EVDO Rev. 0	25.0	24.87	-0.13	0 mm	01772	1:1	front	2.060	1.030	2.122	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.0	24.89	-0.13	0 mm	01772	1:1	front	1.950	1.026	2.001	
1908.75	1175	PCS CDMA	EVDO Rev. 0	25.0	24.91	-0.13	0 mm	01772	1:1	front	1.890	1.021	1.930	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.0	24.89	-0.12	3 mm	01772	1:1	bottom	1.860	1.026	1.908	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.0	24.89	-0.10	0 mm	01772	1:1	right	0.258	1.026	0.265	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.0	24.89	-0.15	0 mm	01772	1:1	left	0.453	1.026	0.465	
1880.00	600	PCS CDMA	EVDO Rev. 0	22.5	22.50	-0.01	0 mm	01772	1:1	back	1.940	1.000	1.940	
1851.25	25	PCS CDMA	EVDO Rev. 0	22.5	22.50	-0.11	0 mm	01772	1:1	bottom	2.890	1.000	2.890	A60
1880.00	600	PCS CDMA	EVDO Rev. 0	22.5	22.50	-0.14	0 mm	01772	1:1	bottom	2.790	1.000	2.790	
1908.75	1175	PCS CDMA	EVDO Rev. 0	22.5	22.46	-0.09	0 mm	01772	1:1	bottom	2.490	1.009	2.512	
1732.40	1412	UMTS 1750	RMC	25.0	24.80	-0.02	1 mm	01764	1:1	back	1.740	1.047	1.822	
1712.40	1312	UMTS 1750	RMC	25.0	24.81	0.13	0 mm	01764	1:1	front	2.080	1.045	2.174	
1732.40	1412	UMTS 1750	RMC	25.0	24.80	0.05	0 mm	01764	1:1	front	2.360	1.047	2.471	
1752.60	1513	UMTS 1750	RMC	25.0	24.80	0.04	0 mm	01764	1:1	front	2.620	1.047	2.743	
1732.40	1412	UMTS 1750	RMC	25.0	24.80	-0.04	3 mm	01764	1:1	bottom	1.640	1.047	1.717	
1732.40	1412	UMTS 1750	RMC	25.0	24.80	-0.08	0 mm	01764	1:1	right	0.187	1.047	0.196	
1732.40	1412	UMTS 1750	RMC	25.0	24.80	-0.12	0 mm	01764	1:1	left	0.548	1.047	0.574	
1732.40	1412	UMTS 1750	RMC	22.5	22.50	-0.05	0 mm	01764	1:1	back	1.520	1.000	1.520	
1712.40	1312	UMTS 1750	RMC	22.5	22.46	0.02	0 mm	01764	1:1	bottom	2.290	1.009	2.311	
1732.40	1412	UMTS 1750	RMC	22.5	22.50	0.01	0 mm	01764	1:1	bottom	2.540	1.000	2.540	
1752.60	1513	UMTS 1750	RMC	22.5	22.45	-0.02	0 mm	01764	1:1	bottom	2.800	1.012	2.834	A61
1880.00	9400	UMTS 1900	RMC	25.0	24.67	0.00	1 mm	01772	1:1	back	1.460	1.079	1.575	
1852.40	9262	UMTS 1900	RMC	25.0	24.86	-0.14	0 mm	01772	1:1	front	2.320	1.033	2.397	
1880.00	9400	UMTS 1900	RMC	25.0	24.67	-0.14	0 mm	01772	1:1	front	2.250	1.079	2.428	
1907.60	9538	UMTS 1900	RMC	25.0	24.79	-0.15	0 mm	01772	1:1	front	2.150	1.050	2.258	
1880.00	9400	UMTS 1900	RMC	25.0	24.67	-0.04	3 mm	01772	1:1	bottom	1.810	1.079	1.953	
1880.00	9400	UMTS 1900	RMC	25.0	24.67	-0.13	0 mm	01772	1:1	right	0.250	1.079	0.270	
1880.00	9400	UMTS 1900	RMC	25.0	24.67	-0.12	0 mm	01772	1:1	left	0.400	1.079	0.432	
1880.00	9400	UMTS 1900	RMC	22.5	22.46	0.02	0 mm	01772	1:1	back	1.580	1.009	1.594	
1852.40	9262	UMTS 1900	RMC	22.5	22.50	-0.11	0 mm	01772	1:1	bottom	2.660	1.000	2.660	A62
1880.00	9400	UMTS 1900	RMC	22.5	22.46	-0.01	0 mm	01772	1:1	bottom	2.530	1.009	2.553	
1907.60	9538	UMTS 1900	RMC	22.5	22.40	-0.03	0 mm	01772	1:1	bottom	2.200	1.023	2.251	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Phablet 4.0 W/kg (mW/g) averaged over 10 grams						

Table 11-49
LTE Band 66 Phablet SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.94	-0.02	0	01764	QPSK	1	0	1 mm	back	1:1	1.850	1.014	1.876	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.93	-0.06	1	01764	QPSK	50	0	1 mm	back	1:1	1.540	1.016	1.565	
1720.00	132072	Low	LTE Band 66 (AWS)	20	25.0	24.82	-0.11	0	01764	QPSK	1	0	0 mm	front	1:1	1.700	1.042	1.771	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.80	-0.09	0	01764	QPSK	1	0	0 mm	front	1:1	2.020	1.047	2.115	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.94	-0.11	0	01764	QPSK	1	0	0 mm	front	1:1	2.430	1.014	2.464	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.0	23.89	-0.09	1	01764	QPSK	50	0	0 mm	front	1:1	1.490	1.026	1.529	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	23.88	-0.12	1	01764	QPSK	50	0	0 mm	front	1:1	1.770	1.028	1.820	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.93	-0.08	1	01764	QPSK	50	0	0 mm	front	1:1	2.040	1.016	2.073	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.88	-0.08	1	01764	QPSK	100	0	0 mm	front	1:1	2.040	1.028	2.097	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.94	0.01	0	01764	QPSK	1	0	3 mm	bottom	1:1	1.790	1.014	1.815	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.93	-0.02	1	01764	QPSK	50	0	3 mm	bottom	1:1	1.510	1.016	1.534	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.94	-0.15	0	01764	QPSK	1	0	0 mm	right	1:1	0.195	1.014	0.198	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.93	-0.04	1	01764	QPSK	50	0	0 mm	right	1:1	0.154	1.016	0.156	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.94	-0.03	0	01764	QPSK	1	0	0 mm	left	1:1	0.538	1.014	0.546	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.93	-0.09	1	01764	QPSK	50	0	0 mm	left	1:1	0.439	1.016	0.446	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.5	22.28	-0.05	0	01764	QPSK	1	0	0 mm	back	1:1	1.770	1.052	1.862	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.5	22.32	-0.06	0	01764	QPSK	50	0	0 mm	back	1:1	1.610	1.042	1.678	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.5	22.13	0.06	0	01764	QPSK	1	0	0 mm	bottom	1:1	2.070	1.089	2.254	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.5	22.08	0.03	0	01764	QPSK	1	0	0 mm	bottom	1:1	2.430	1.102	2.678	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.5	22.28	0.04	0	01764	QPSK	1	0	0 mm	bottom	1:1	2.870	1.052	3.019	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.5	22.27	0.15	0	01764	QPSK	50	0	0 mm	bottom	1:1	2.230	1.054	2.350	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.5	22.24	0.01	0	01764	QPSK	50	0	0 mm	bottom	1:1	2.720	1.062	2.889	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.5	22.32	0.07	0	01764	QPSK	50	0	0 mm	bottom	1:1	2.990	1.042	3.116	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.5	22.26	0.05	0	01764	QPSK	100	0	0 mm	bottom	1:1	3.010	1.057	**3.182**	A63
1770.00	132572	High	LTE Band 66 (AWS)	20	22.5	22.26	0.15	0	01764	QPSK	100	0	0 mm	bottom	1:1	3.000	1.057	3.171	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT **Spatial Peak** **Uncontrolled Exposure/General Population**														**Phablet** **4.0 W/kg (mW/g)** averaged over 10 grams						

Note: Blue entry represents variability measurement

Table 11-50
LTE Band 25 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)	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.77	0.02	0	01764	QPSK	1	0	1 mm	back	1:1	1.590	1.054	1.676	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.74	-0.02	1	01764	QPSK	50	25	1 mm	back	1:1	1.280	1.062	1.359	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.77	-0.12	0	01764	QPSK	1	0	0 mm	front	1:1	2.040	1.054	2.150	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.0	24.73	0.12	0	01764	QPSK	1	0	0 mm	front	1:1	1.660	1.064	1.766	
1905.00	26590	High	LTE Band 25 (PCS)	20	25.0	24.75	-0.12	0	01764	QPSK	1	0	0 mm	front	1:1	1.650	1.059	1.747	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.74	-0.12	1	01764	QPSK	50	25	0 mm	front	1:1	1.670	1.062	1.774	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.71	-0.12	1	01764	QPSK	100	0	0 mm	front	1:1	1.560	1.069	1.668	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.77	-0.06	0	01764	QPSK	1	0	3 mm	bottom	1:1	1.820	1.054	1.918	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.74	-0.01	1	01764	QPSK	50	25	3 mm	bottom	1:1	1.480	1.062	1.572	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.77	-0.07	0	01764	QPSK	1	0	0 mm	right	1:1	0.228	1.054	0.240	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.74	-0.08	1	01764	QPSK	50	25	0 mm	right	1:1	0.181	1.062	0.192	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.77	-0.21	0	01764	QPSK	1	0	0 mm	left	1:1	0.591	1.054	0.623	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.74	-0.12	1	01764	QPSK	50	25	0 mm	left	1:1	0.451	1.062	0.479	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.5	22.29	0.10	0	01764	QPSK	1	0	0 mm	back	1:1	1.550	1.050	1.628	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.5	22.35	-0.15	0	01764	QPSK	50	25	0 mm	back	1:1	1.560	1.035	1.615	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.5	22.29	-0.09	0	01764	QPSK	1	0	0 mm	bottom	1:1	2.790	1.050	2.930	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.5	22.21	-0.10	0	01764	QPSK	1	0	0 mm	bottom	1:1	2.750	1.069	2.940	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.5	22.18	-0.07	0	01764	QPSK	1	0	0 mm	bottom	1:1	2.660	1.076	2.862	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.5	22.35	-0.14	0	01764	QPSK	50	25	0 mm	bottom	1:1	2.930	1.035	3.033	A64
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.5	22.32	-0.14	0	01764	QPSK	50	25	0 mm	bottom	1:1	2.820	1.042	2.938	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.5	22.25	-0.14	0	01764	QPSK	50	25	0 mm	bottom	1:1	2.580	1.059	2.732	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.5	22.28	-0.14	0	01764	QPSK	100	0	0 mm	bottom	1:1	2.580	1.052	2.714	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.5	22.35	-0.08	0	01764	QPSK	50	25	0 mm	bottom	1:1	2.690	1.035	2.784	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Phablet 4.0 W/kg (mW/g) averaged over 10 grams						

Note: Blue entry represents variability measurement

Table 11-51
WLAN Phablet SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (10g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (10g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5280	56	802.11a	OFDM	20	20.0	19.63	-0.14	0 mm	1	01624	6	back	98.3	13.016	1.220	1.089	1.017	1.351	
5280	56	802.11a	OFDM	20	20.0	19.63	0.19	0 mm	1	01624	6	front	98.3	0.506	0.051	1.089	1.017	0.056	
5280	56	802.11a	OFDM	20	20.0	19.63	0.19	0 mm	1	01624	6	top	98.3	0.085	-	1.089	1.017	-	
5280	56	802.11a	OFDM	20	20.0	19.63	0.13	0 mm	1	01624	6	left	98.3	2.443	0.267	1.089	1.017	0.296	
5260	52	802.11a	OFDM	20	17.0	16.69	0.13	0 mm	2	01624	6	back	98.3	5.775	0.789	1.074	1.017	0.862	
5280	56	802.11a	OFDM	20	20.0	19.53	0.13	0 mm	2	01624	6	back	98.3	15.346	1.660	1.114	1.017	**1.881**	
5320	64	802.11a	OFDM	20	17.0	16.36	0.01	0 mm	2	01624	6	back	98.3	7.761	0.859	1.159	1.017	1.013	
5280	56	802.11a	OFDM	20	20.0	19.53	0.00	0 mm	2	01624	6	front	98.3	0.586	0.086	1.114	1.017	0.097	
5280	56	802.11a	OFDM	20	20.0	19.53	-0.15	0 mm	2	01624	6	top	98.3	1.320	-	1.114	1.017	-	
5280	56	802.11a	OFDM	20	20.0	19.53	0.00	0 mm	2	01624	6	left	98.3	2.890	0.278	1.114	1.017	0.315	
5500	100	802.11a	OFDM	20	17.0	16.57	0.02	0 mm	1	01624	6	back	98.3	7.848	0.605	1.104	1.017	0.679	
5500	100	802.11a	OFDM	20	17.0	16.57	-0.15	0 mm	1	01624	6	front	98.3	0.478	0.068	1.104	1.017	0.076	
5500	100	802.11a	OFDM	20	17.0	16.57	0.19	0 mm	1	01624	6	top	98.3	0.054	-	1.104	1.017	-	
5500	100	802.11a	OFDM	20	17.0	16.57	0.19	0 mm	1	01624	6	left	98.3	2.238	-	1.104	1.017	-	
5720	144	802.11a	OFDM	20	17.0	16.76	0.05	0 mm	2	01624	6	back	98.3	7.794	0.780	1.057	1.017	0.838	
5720	144	802.11a	OFDM	20	17.0	16.76	0.13	0 mm	2	01624	6	front	98.3	0.714	0.105	1.057	1.017	0.113	
5720	144	802.11a	OFDM	20	17.0	16.76	-0.13	0 mm	2	01624	6	top	98.3	1.004	-	1.057	1.017	-	
5720	144	802.11a	OFDM	20	17.0	16.76	-0.17	0 mm	2	01624	6	left	98.3	3.761	-	1.057	1.017	-	

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

Table 11-52
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	17.0	16.37	17.0	16.36	0.16	0 mm	MIMO	01624	13	back	98.1	12.068	1.140	1.159	1.019	1.346	
5280	56	802.11n	OFDM	20	20.0	19.50	20.0	19.45	0.15	0 mm	MIMO	01624	13	back	98.1	20.525	2.360	1.135	1.019	2.729	A65
5300	60	802.11n	OFDM	20	17.0	16.62	17.0	16.13	-0.19	0 mm	MIMO	01624	13	back	98.1	8.807	0.863	1.222	1.019	1.075	
5320	64	802.11n	OFDM	20	17.0	16.45	17.0	16.29	-0.01	0 mm	MIMO	01624	13	back	98.1	7.346	1.130	1.178	1.019	1.356	
5280	56	802.11n	OFDM	20	20.0	19.50	20.0	19.45	0.00	0 mm	MIMO	01624	13	front	98.1	1.295	0.170	1.135	1.019	0.197	
5280	56	802.11n	OFDM	20	20.0	19.50	20.0	19.45	0.04	0 mm	MIMO	01624	13	top	98.1	1.508	-	1.135	1.019	-	
5280	56	802.11n	OFDM	20	20.0	19.50	20.0	19.45	-0.15	0 mm	MIMO	01624	13	left	98.1	4.105	0.417	1.135	1.019	0.482	
5620	124	802.11n	OFDM	20	17.0	16.35	17.0	16.50	0.00	0 mm	MIMO	01624	13	back	98.1	8.467	1.350	1.161	1.019	1.597	
5620	124	802.11n	OFDM	20	17.0	16.35	17.0	16.50	0.00	0 mm	MIMO	01624	13	front	98.1	1.215	0.145	1.161	1.019	0.172	
5620	124	802.11n	OFDM	20	17.0	16.35	17.0	16.50	0.16	0 mm	MIMO	01624	13	top	98.1	0.682	-	1.161	1.019	-	
5620	124	802.11n	OFDM	20	17.0	16.35	17.0	16.50	0.19	0 mm	MIMO	01624	13	left	98.1	4.264	0.388	1.161	1.019	0.459	
5280	56	802.11n	OFDM	20	20.0	19.50	20.0	19.45	-0.10	0 mm	MIMO	01624	13	back	98.1	15.511	2.340	1.135	1.019	2.706	

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

Note: Blue entry represents variability measurement

11.5 SAR Test Notes

General Notes:

1. The test data reported are the worst-case SAR values according to test procedures specified in IEEE 1528-2013, and FCC KDB Publication 447498 D01v06.
2. Batteries are fully charged at the beginning of the SAR measurements.
3. Liquid tissue depth was at least 15.0 cm for all frequencies.
4. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
5. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D01v06.
6. Device was tested using a fixed spacing for body-worn accessory testing. A separation distance of 10 mm was considered because the manufacturer has determined that there will be body-worn accessories available in the marketplace for users to support this separation distance.
7. Per FCC KDB Publication 648474 D04v01r03, body-worn SAR was evaluated without a headset connected to the device. Since the standalone reported body-worn SAR was ≤ 1.2 W/kg, no additional body-worn SAR evaluations using a headset cable were required.
8. Per FCC KDB 865664 D01v01r04, variability SAR tests were performed when the measured SAR results for a frequency band were greater than or equal to 0.8 W/kg for 1g SAR and 2.0 W/kg for 10g SAR. Repeated SAR measurements are highlighted in the tables above for clarity. Please see Section 13 for variability analysis.
9. During SAR Testing for the Wireless Router conditions per FCC KDB Publication 941225 D06v02r01, the actual Portable Hotspot operation (with actual simultaneous transmission of a transmitter with WIFI) was not activated (See Section 6.7 for more details).
10. Per FCC KDB Publication 648474 D04v01r03, this device is considered a "phablet" since the diagonal dimension is > 160 mm and < 200 mm. Therefore, phablet SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR > 1.2 W/kg.
11. This device utilizes power reduction for some wireless modes and technologies, as outlined in Section 1.3. The maximum output power allowed for each transmitter and exposure condition was evaluated for SAR compliance based on expected use conditions and simultaneous transmission scenarios.
12. 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.

GSM Test Notes:

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

CDMA Notes:

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

2. Body-Worn SAR was tested with 1x RTT with TDSO / SO32 FCH Only. EVDO Rev0 and RevA and TDSO / SO32 FCH+SCH SAR tests were not required per the 3G SAR Test Reduction Procedure in FCC KDB Publication 941225 D01v03r01.
3. CDMA Wireless Router SAR is measured using Subtype 0/1 Physical Layer configurations for Rev. 0 according to KDB 941225 D01v03r01 procedures for data devices. Wireless Router SAR tests for Subtype 2 of Rev.A and 1x RTT configurations were not required per the 3G SAR Test Reduction Policy in KDB Publication 941225 D01v03r01.
4. Head SAR was additionally evaluated using EVDO Rev. A to determine compliance for VoIP operations.
5. Per FCC KDB Publication 447498 D01v06, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg for 1g evaluations then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel was used.
6. CDMA 1X Advanced technology was not required for SAR since the maximum allowed output powers for 1X Advanced was not more than 0.25 dB higher than the maximum powers for 1X.

UMTS Notes:

1. UMTS mode in 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 Considerations: 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 and LTE Band 48 SAR measured at the highest output power channel in a given a test configuration was > 0.6 W/kg for 1g evaluations, testing at the other channels was required for such test configurations.
5. TDD LTE was tested per the guidance provided in FCC KDB Publication 941225 D05v02r04. Testing was performed using UL-DL configuration 0 with 6 UL subframes and 2 S subframes using extended cyclic prefix only and special subframe configuration 6. SAR tests were performed at maximum output power and worst-case transmission duty factor in extended cyclic prefix. Per 3GPP 36.211 Section 4, the duty factor for special subframe configuration 6 using extended cyclic prefix is 0.633.
6. Per KDB Publication 941225 D05Av01r02, SAR for downlink only LTE CA operations was not needed since the maximum average output power in LTE CA mode was not >0.25 dB higher than the maximum output power when downlink carrier aggregation was inactive.
7. This device supports Power Class 2 and Power Class 3 operations for LTE Band 41. The highest available duty cycle for Power Class 2 operations is 43.3 % using UL-DL configuration 1. Per FCC Guidance, all SAR tests were performed using Power Class 3. SAR with power class 2 at the available duty factor was additionally performed for the power class 3 configuration with the highest SAR configuration for each exposure conditions. Please see Section 14 for linearity results.
8. This device supports ULCA active with Power Class 2. Highest SAR test configuration for each exposure condition in Power Class 3 with ULCA active was repeated with Power Class 2 with ULCA active.

9. For LTE Band 5 and LTE Band 41, per FCC guidance, SAR was first measured with only a single carrier active in the uplink (carrier aggregation not active). For each exposure condition, the uplink CA scenario with two component carriers was additionally tested for the configuration with the highest SAR when carrier aggregation was not active. The SCC was configured with the closest available contiguous channel. The two component carriers were configured so the resource blocks are physically allocated side by side to achieve the maximum output power.

WLAN Notes:

1. For held-to-ear, hotspot, and phablet operations, the initial test position procedures were applied. The test position with the highest extrapolated peak SAR will be used as the initial test position. When reported SAR for the initial test position is ≤ 0.4 W/kg for 1g evaluations, no additional testing for the remaining test positions was required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is ≤ 0.8 W/kg or all test positions are measured.
2. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 2.4 GHz WIFI single transmission chain operations, the highest measured maximum output power channel for DSSS was selected for SAR measurement. SAR for OFDM modes (2.4 GHz 802.11g/n) was not required due to the maximum allowed powers and the highest reported DSSS SAR. See Section 8.7.5 for more information.
3. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 5 GHz WIFI single transmission chain operations, the initial test configuration was selected according to the transmission mode with the highest maximum allowed powers. Other transmission modes were not investigated since the highest reported SAR for initial test configuration adjusted by the ratio of maximum output powers is less than 1.2 W/kg for 1g evaluations. See Section 8.7.6 for more information.
4. 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.

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 0 for the time domain plot and calculation for the duty factor of the device.
2. Head and Hotspot Bluetooth SAR were evaluated for BT BR tethering applications.

12 FCC MULTI-TX AND ANTENNA SAR CONSIDERATIONS

12.1 Introduction

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

12.2 Simultaneous Transmission Procedures

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

12.3 Head SAR Simultaneous Transmission Analysis

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

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	CDMA/EVDO BC10 (§90S)	0.124	1.081	0.968	1.205	1.092	See Table Below
	CDMA/EVDO BC0 (§22H)	0.162	1.081	0.968	1.243	1.130	See Table Below
	PCS CDMA/EVDO	0.135	1.081	0.968	1.216	1.103	See Table Below
	GSM/GPRS 850	0.154	1.081	0.968	1.235	1.122	See Table Below
	GSM/GPRS 1900	0.087	1.081	0.968	1.168	1.055	See Table Below
	UMTS 850	0.126	1.081	0.968	1.207	1.094	See Table Below
	UMTS 1750	0.089	1.081	0.968	1.170	1.057	See Table Below
	UMTS 1900	0.113	1.081	0.968	1.194	1.081	See Table Below
	LTE Band 71	0.140	1.081	0.968	1.221	1.108	See Table Below
	LTE Band 12	0.135	1.081	0.968	1.216	1.103	See Table Below
	LTE Band 13	0.128	1.081	0.968	1.209	1.096	See Table Below
	LTE Band 14	0.123	1.081	0.968	1.204	1.091	See Table Below
	LTE Band 26 (Cell)	0.135	1.081	0.968	1.216	1.103	See Table Below
	LTE Band 5 (Cell)	0.114	1.081	0.968	1.195	1.082	See Table Below
	LTE Band 66 (AWS)	0.094	1.081	0.968	1.175	1.062	See Table Below
	LTE Band 25 (PCS)	0.121	1.081	0.968	1.202	1.089	See Table Below
	LTE Band 30	0.394	1.081	0.968	1.475	1.362	See Table Below
	LTE Band 7	0.493	1.081	0.968	**1.574**	1.461	See Table Below
	LTE Band 48	0.051	1.081	0.968	1.132	1.019	See Table Below
	LTE Band 41	0.299	1.081	0.968	1.380	1.267	See Table Below

Simult Tx	Configuration	CDMA BC10 (§90S) 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
Head SAR	Right Cheek	0.080	0.272	0.968	1.320
	Right Tilt	0.057	1.081*	0.179	1.317
	Left Cheek	0.116	1.081	0.147	**1.344**
	Left Tilt	0.061	0.190	0.069	0.320

Simult Tx	Configuration	EVDO BC10 (§90S) 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
Head SAR	Right Cheek	0.082	0.272	0.968	1.322
	Right Tilt	0.057	1.081*	0.179	1.317
	Left Cheek	0.124	1.081	0.147	**1.352**
	Left Tilt	0.062	0.190	0.069	0.321

Simult Tx	Configuration	CDMA BC0 (§22H) 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
Head SAR	Right Cheek	0.112	0.272	0.968	1.352
	Right Tilt	0.075	1.081*	0.179	1.335
	Left Cheek	0.161	1.081	0.147	**1.389**
	Left Tilt	0.080	0.190	0.069	0.339

Simult Tx	Configuration	EVDO BC0 (§22H) 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
Head SAR	Right Cheek	0.117	0.272	0.968	1.357
	Right Tilt	0.076	1.081*	0.179	1.336
	Left Cheek	0.162	1.081	0.147	**1.390**
	Left Tilt	0.071	0.190	0.069	0.330

Simult Tx	Configuration	PCS CDMA SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	PCS EVDO SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Head SAR	Right Cheek	0.090	0.272	0.968	1.330	Head SAR	Right Cheek	0.092	0.272	0.968	1.332
	Right Tilt	0.086	1.081*	0.179	1.346		Right Tilt	0.086	1.081*	0.179	1.346
	Left Cheek	0.127	1.081	0.147	**1.355**		Left Cheek	0.135	1.081	0.147	**1.363**
	Left Tilt	0.075	0.190	0.069	0.334		Left Tilt	0.085	0.190	0.069	0.344

Simult Tx	Configuration	GSM 850 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	GPRS 850 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Head SAR	Right Cheek	0.045	0.272	0.968	1.285	Head SAR	Right Cheek	0.057	0.272	0.968	1.297
	Right Tilt	0.031	1.081*	0.179	1.291		Right Tilt	0.039	1.081*	0.179	1.299
	Left Cheek	0.106	1.081	0.147	**1.334**		Left Cheek	0.154	1.081	0.147	**1.382**
	Left Tilt	0.061	0.190	0.069	0.320		Left Tilt	0.066	0.190	0.069	0.325

Simult Tx	Configuration	GSM 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	GPRS 1900 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Head SAR	Right Cheek	0.059	0.272	0.968	1.299	Head SAR	Right Cheek	0.064	0.272	0.968	1.304
	Right Tilt	0.044	1.081*	0.179	**1.304**		Right Tilt	0.056	1.081*	0.179	**1.316**
	Left Cheek	0.072	1.081	0.147	1.300		Left Cheek	0.087	1.081	0.147	1.315
	Left Tilt	0.051	0.190	0.069	0.310		Left Tilt	0.051	0.190	0.069	0.310

Simult Tx	Configuration	UMTS 850 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Head SAR	Right Cheek	0.095	0.272	0.968	1.335	Head SAR	Right Cheek	0.074	0.272	0.968	1.314
	Right Tilt	0.065	1.081*	0.179	1.325		Right Tilt	0.076	1.081*	0.179	**1.336**
	Left Cheek	0.126	1.081	0.147	**1.354**		Left Cheek	0.089	1.081	0.147	1.317
	Left Tilt	0.059	0.190	0.069	0.318		Left Tilt	0.057	0.190	0.069	0.316

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 71 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
Head SAR	Right Cheek	0.066	0.272	0.968	1.306	Head SAR	Right Cheek	0.140	0.272	0.968	**1.380**
	Right Tilt	0.059	1.081*	0.179	1.319		Right Tilt	0.058	1.081*	0.179	1.318
	Left Cheek	0.113	1.081	0.147	**1.341**		Left Cheek	0.129	1.081	0.147	1.357
	Left Tilt	0.057	0.190	0.069	0.316		Left Tilt	0.057	0.190	0.069	0.316

Simult Tx	Configuration	LTE Band 12 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 13 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
Head SAR	Right Cheek	0.123	0.272	0.968	**1.363**	Head SAR	Right Cheek	0.107	0.272	0.968	1.347
	Right Tilt	0.065	1.081*	0.179	1.325		Right Tilt	0.071	1.081*	0.179	1.331
	Left Cheek	0.135	1.081	0.147	**1.363**		Left Cheek	0.128	1.081	0.147	**1.356**
	Left Tilt	0.058	0.190	0.069	0.317		Left Tilt	0.061	0.190	0.069	0.320

Simult Tx	Configuration	LTE Band 14 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 26 (Cell) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Head SAR	Right Cheek	0.114	0.272	0.968	**1.354**	Head SAR	Right Cheek	0.095	0.272	0.968	1.335
	Right Tilt	0.069	1.081*	0.179	1.329		Right Tilt	0.065	1.081*	0.179	1.325
	Left Cheek	0.123	1.081	0.147	1.351		Left Cheek	0.135	1.081	0.147	**1.363**
	Left Tilt	0.053	0.190	0.069	0.312		Left Tilt	0.061	0.190	0.069	0.320

Simult Tx	Configuration	LTE Band 5 (Cell) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	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
Head SAR	Right Cheek	0.093	0.272	0.968	1.333	Head SAR	Right Cheek	0.072	0.272	0.968	1.312
	Right Tilt	0.066	1.081*	0.179	1.326		Right Tilt	0.078	1.081*	0.179	**1.338**
	Left Cheek	0.114	1.081	0.147	**1.342**		Left Cheek	0.094	1.081	0.147	1.322
	Left Tilt	0.050	0.190	0.069	0.309		Left Tilt	0.060	0.190	0.069	0.319

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	Right Cheek	0.121	0.272	0.968	**1.361**
	Right Tilt	0.084	1.081*	0.179	1.344
	Left Cheek	0.117	1.081	0.147	1.345
	Left Tilt	0.076	0.190	0.069	0.335

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)	SPLSR		
		1	2	3	1+2+3	1+2	1+3	2+3
Head SAR	Right Cheek	0.394	0.272	0.968	See Note 1	0.02	0.02	0.02
	Right Tilt	0.184	1.081*	0.179	1.444	N/A	N/A	N/A
	Left Cheek	0.261	1.081	0.147	**1.489**	N/A	N/A	N/A
	Left Tilt	0.235	0.190	0.069	0.494	N/A	N/A	N/A

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	SPLSR		
		1	2	3	1+2+3	1+2	1+3	2+3
Head SAR	Right Cheek	0.493	0.272	0.968	See Note 1	0.02	0.02	0.02
	Right Tilt	0.175	1.081*	0.179	1.435	N/A	N/A	N/A
	Left Cheek	0.298	1.081	0.147	**1.526**	N/A	N/A	N/A
	Left Tilt	0.190	0.190	0.069	0.449	N/A	N/A	N/A

Simult Tx	Configuration	LTE Band 48 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Head SAR	Right Cheek	0.051	0.272	0.968	**1.291**	Head SAR	Right Cheek	0.299	0.272	0.968	**1.539**
	Right Tilt	0.007	1.081*	0.179	1.267		Right Tilt	0.067	1.081*	0.179	1.327
	Left Cheek	0.012	1.081	0.147	1.240		Left Cheek	0.188	1.081	0.147	1.416
	Left Tilt	0.006	0.190	0.069	0.265		Left Tilt	0.156	0.190	0.069	0.415

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	CDMA/EVDO BC10 (§90S)	0.124	0.428	0.286	0.552	0.410	0.838
	CDMA/EVDO BC0 (§22H)	0.162	0.428	0.286	0.590	0.448	0.876
	PCS CDMA/EVDO	0.135	0.428	0.286	0.563	0.421	0.849
	GSM/GPRS 850	0.154	0.428	0.286	0.582	0.440	0.868
	GSM/GPRS 1900	0.087	0.428	0.286	0.515	0.373	0.801
	UMTS 850	0.126	0.428	0.286	0.554	0.412	0.840
	UMTS 1750	0.089	0.428	0.286	0.517	0.375	0.803
	UMTS 1900	0.113	0.428	0.286	0.541	0.399	0.827
	LTE Band 71	0.140	0.428	0.286	0.568	0.426	0.854
	LTE Band 12	0.135	0.428	0.286	0.563	0.421	0.849
	LTE Band 13	0.128	0.428	0.286	0.556	0.414	0.842
	LTE Band 14	0.123	0.428	0.286	0.551	0.409	0.837
	LTE Band 26 (Cell)	0.135	0.428	0.286	0.563	0.421	0.849
	LTE Band 5 (Cell)	0.114	0.428	0.286	0.542	0.400	0.828
	LTE Band 66 (AWS)	0.094	0.428	0.286	0.522	0.380	0.808
	LTE Band 25 (PCS)	0.121	0.428	0.286	0.549	0.407	0.835
	LTE Band 30	0.394	0.428	0.286	0.822	0.680	1.108
	LTE Band 7	0.493	0.428	0.286	0.921	0.779	**1.207**
	LTE Band 48	0.051	0.428	0.286	0.479	0.337	0.765
	LTE Band 41	0.299	0.428	0.286	0.727	0.585	1.013

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	CDMA/EVDO BC10 (§90S)	0.124	1.081	0.286	1.491
	CDMA/EVDO BC0 (§22H)	0.162	1.081	0.286	**1.529**
	PCS CDMA/EVDO	0.135	1.081	0.286	1.502
	GSM/GPRS 850	0.154	1.081	0.286	1.521
	GSM/GPRS 1900	0.087	1.081	0.286	1.454
	UMTS 850	0.126	1.081	0.286	1.493
	UMTS 1750	0.089	1.081	0.286	1.456
	UMTS 1900	0.113	1.081	0.286	1.480
	LTE Band 71	0.140	1.081	0.286	1.507
	LTE Band 12	0.135	1.081	0.286	1.502
	LTE Band 13	0.128	1.081	0.286	1.495
	LTE Band 14	0.123	1.081	0.286	1.490
	LTE Band 26 (Cell)	0.135	1.081	0.286	1.502
	LTE Band 5 (Cell)	0.114	1.081	0.286	1.481
	LTE Band 66 (AWS)	0.094	1.081	0.286	1.461
	LTE Band 25 (PCS)	0.121	1.081	0.286	1.488
	LTE Band 30	0.394	1.081	0.286	See Table Below
	LTE Band 7	0.493	1.081	0.286	See Table Below
	LTE Band 48	0.051	1.081	0.286	1.418
	LTE Band 41	0.299	1.081	0.286	See Table Below

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	Right Cheek	0.394	0.272	0.286	0.952
	Right Tilt	0.184	1.081*	0.286*	**1.551**
	Left Cheek	0.261	1.081	0.075	1.417
	Left Tilt	0.235	0.190	0.286*	0.711

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	Right Cheek	0.493	0.272	0.286	1.051
	Right Tilt	0.175	1.081*	0.286*	**1.542**
	Left Cheek	0.298	1.081	0.075	1.454
	Left Tilt	0.190	0.190	0.286*	0.666

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	Right Cheek	0.299	0.272	0.286	0.857
	Right Tilt	0.067	1.081*	0.286*	**1.434**
	Left Cheek	0.188	1.081	0.075	1.344
	Left Tilt	0.156	0.190	0.286*	0.632

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	CDMA/EVDO BC10 (§90S)	0.124	0.110	0.234
	CDMA/EVDO BC0 (§22H)	0.162	0.110	0.272
	PCS CDMA/EVDO	0.135	0.110	0.245
	GSM/GPRS 850	0.154	0.110	0.264
	GSM/GPRS 1900	0.087	0.110	0.197
	UMTS 850	0.126	0.110	0.236
	UMTS 1750	0.089	0.110	0.199
	UMTS 1900	0.113	0.110	0.223
	LTE Band 71	0.140	0.110	0.250
	LTE Band 12	0.135	0.110	0.245
	LTE Band 13	0.128	0.110	0.238
	LTE Band 14	0.123	0.110	0.233
	LTE Band 26 (Cell)	0.135	0.110	0.245
	LTE Band 5 (Cell)	0.114	0.110	0.224
	LTE Band 66 (AWS)	0.094	0.110	0.204
	LTE Band 25 (PCS)	0.121	0.110	0.231
	LTE Band 30	0.394	0.110	0.504
	LTE Band 7	0.493	0.110	**0.603**
	LTE Band 48	0.051	0.110	0.161
	LTE Band 41	0.299	0.110	0.409

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	CDMA/EVDO BC10 (§90S)	0.124	0.110	0.968	1.202
	CDMA/EVDO BC0 (§22H)	0.162	0.110	0.968	1.240
	PCS CDMA/EVDO	0.135	0.110	0.968	1.213
	GSM/GPRS 850	0.154	0.110	0.968	1.232
	GSM/GPRS 1900	0.087	0.110	0.968	1.165
	UMTS 850	0.126	0.110	0.968	1.204
	UMTS 1750	0.089	0.110	0.968	1.167
	UMTS 1900	0.113	0.110	0.968	1.191
	LTE Band 71	0.140	0.110	0.968	1.218
	LTE Band 12	0.135	0.110	0.968	1.213
	LTE Band 13	0.128	0.110	0.968	1.206
	LTE Band 14	0.123	0.110	0.968	1.201
	LTE Band 26 (Cell)	0.135	0.110	0.968	1.213
	LTE Band 5 (Cell)	0.114	0.110	0.968	1.192
	LTE Band 66 (AWS)	0.094	0.110	0.968	1.172
	LTE Band 25 (PCS)	0.121	0.110	0.968	1.199
	LTE Band 30	0.394	0.110	0.968	1.472
	LTE Band 7	0.493	0.110	0.968	**1.571**
	LTE Band 48	0.051	0.110	0.968	1.129
	LTE Band 41	0.299	0.110	0.968	1.377

Table 12-6
Simultaneous Transmission Scenario with Bluetooth and 5 GHz WLAN Ant 1 (Held to Ear)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	CDMA/EVDO BC10 (§90S)	0.124	0.110	0.428	0.662
	CDMA/EVDO BC0 (§22H)	0.162	0.110	0.428	0.700
	PCS CDMA/EVDO	0.135	0.110	0.428	0.673
	GSM/GPRS 850	0.154	0.110	0.428	0.692
	GSM/GPRS 1900	0.087	0.110	0.428	0.625
	UMTS 850	0.126	0.110	0.428	0.664
	UMTS 1750	0.089	0.110	0.428	0.627
	UMTS 1900	0.113	0.110	0.428	0.651
	LTE Band 71	0.140	0.110	0.428	0.678
	LTE Band 12	0.135	0.110	0.428	0.673
	LTE Band 13	0.128	0.110	0.428	0.666
	LTE Band 14	0.123	0.110	0.428	0.661
	LTE Band 26 (Cell)	0.094	0.110	0.428	0.632
	LTE Band 5 (Cell)	0.114	0.110	0.428	0.652
	LTE Band 66 (AWS)	0.094	0.110	0.428	0.632
	LTE Band 25 (PCS)	0.121	0.110	0.428	0.659
	LTE Band 30	0.394	0.110	0.428	0.932
	LTE Band 7	0.493	0.110	0.428	**1.031**
	LTE Band 48	0.051	0.110	0.428	0.589
	LTE Band 41	0.299	0.110	0.428	0.837

Table 12-7
Simultaneous Transmission Scenario with Bluetooth and 5 GHz WLAN Ant 2 (Held to Ear)

Exposure Condition	Mode	2G/3G/4G 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
Head SAR	CDMA/EVDO BC10 (§90S)	0.124	0.110	0.286	0.520
	CDMA/EVDO BC0 (§22H)	0.162	0.110	0.286	0.558
	PCS CDMA/EVDO	0.135	0.110	0.286	0.531
	GSM/GPRS 850	0.154	0.110	0.286	0.550
	GSM/GPRS 1900	0.087	0.110	0.286	0.483
	UMTS 850	0.126	0.110	0.286	0.522
	UMTS 1750	0.089	0.110	0.286	0.485
	UMTS 1900	0.113	0.110	0.286	0.509
	LTE Band 71	0.140	0.110	0.286	0.536
	LTE Band 12	0.135	0.110	0.286	0.531
	LTE Band 13	0.128	0.110	0.286	0.524
	LTE Band 14	0.123	0.110	0.286	0.519
	LTE Band 26 (Cell)	0.135	0.110	0.286	0.531
	LTE Band 5 (Cell)	0.114	0.110	0.286	0.510
	LTE Band 66 (AWS)	0.094	0.110	0.286	0.490
	LTE Band 25 (PCS)	0.121	0.110	0.286	0.517
	LTE Band 30	0.394	0.110	0.286	0.790
	LTE Band 7	0.493	0.110	0.286	**0.889**
	LTE Band 48	0.051	0.110	0.286	0.447
	LTE Band 41	0.299	0.110	0.286	0.695

Table 12-8
Simultaneous Transmission Scenario with Bluetooth and 5 GHz WLAN MIMO (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+4
Head SAR	CDMA/EVDO BC10 (§90S)	0.124	0.110	0.428	0.286	0.948
	CDMA/EVDO BC0 (§22H)	0.162	0.110	0.428	0.286	0.986
	PCS CDMA/EVDO	0.135	0.110	0.428	0.286	0.959
	GSM/GPRS 850	0.154	0.110	0.428	0.286	0.978
	GSM/GPRS 1900	0.087	0.110	0.428	0.286	0.911
	UMTS 850	0.126	0.110	0.428	0.286	0.950
	UMTS 1750	0.089	0.110	0.428	0.286	0.913
	UMTS 1900	0.113	0.110	0.428	0.286	0.937
	LTE Band 71	0.140	0.110	0.428	0.286	0.964
	LTE Band 12	0.135	0.110	0.428	0.286	0.959
	LTE Band 13	0.128	0.110	0.428	0.286	0.952
	LTE Band 14	0.123	0.110	0.428	0.286	0.947
	LTE Band 26 (Cell)	0.135	0.110	0.428	0.286	0.959
	LTE Band 5 (Cell)	0.114	0.110	0.428	0.286	0.938
	LTE Band 66 (AWS)	0.094	0.110	0.428	0.286	0.918
	LTE Band 25 (PCS)	0.121	0.110	0.428	0.286	0.945
	LTE Band 30	0.394	0.110	0.428	0.286	1.218
	LTE Band 7	0.493	0.110	0.428	0.286	**1.317**
	LTE Band 48	0.051	0.110	0.428	0.286	0.875
	LTE Band 41	0.299	0.110	0.428	0.286	1.123

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 Section12.7 for detailed SPLS ratio analysis.

12.4 Body-Worn Simultaneous Transmission Analysis

Table 12-9
Simultaneous Transmission Scenario with 2.4 GHz WLAN (Body-Worn 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
Body-Worn	CDMA BC10 (§90S)	0.659	0.208	0.271	0.867	0.930	1.138
	CDMA BC0 (§22H)	0.886	0.208	0.271	1.094	1.157	1.365
	PCS CDMA	0.542	0.208	0.271	0.750	0.813	1.021
	GSM/GPRS 850	0.857	0.208	0.271	1.065	1.128	1.336
	GSM/GPRS 1900	0.382	0.208	0.271	0.590	0.653	0.861
	UMTS 850	1.008	0.208	0.271	1.216	1.279	**1.487**
	UMTS 1750	0.675	0.208	0.271	0.883	0.946	1.154
	UMTS 1900	0.582	0.208	0.271	0.790	0.853	1.061
	LTE Band 71	0.464	0.208	0.271	0.672	0.735	0.943
	LTE Band 12	0.473	0.208	0.271	0.681	0.744	0.952
	LTE Band 13	0.483	0.208	0.271	0.691	0.754	0.962
	LTE Band 14	0.556	0.208	0.271	0.764	0.827	1.035
	LTE Band 26 (Cell)	0.820	0.208	0.271	1.028	1.091	1.299
	LTE Band 5 (Cell)	0.854	0.208	0.271	1.062	1.125	1.333
	LTE Band 66 (AWS)	0.713	0.208	0.271	0.921	0.984	1.192
	LTE Band 25 (PCS)	0.533	0.208	0.271	0.741	0.804	1.012
	LTE Band 30	0.551	0.208	0.271	0.759	0.822	1.030
	LTE Band 7	0.650	0.208	0.271	0.858	0.921	1.129
	LTE Band 48	0.146	0.208	0.271	0.354	0.417	0.625
	LTE Band 41	0.386	0.208	0.271	0.594	0.657	0.865

Table 12-10
Simultaneous Transmission Scenario with 5 GHz WLAN (Body-Worn 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)		SPLSR
		1	2	3	1+2	1+3	1+3
Body-Worn	CDMA BC10 (§90S)	0.659	0.355	0.628	1.014	1.287	N/A
	CDMA BC0 (§22H)	0.886	0.355	0.628	1.241	**1.514**	N/A
	PCS CDMA	0.542	0.355	0.628	0.897	1.170	N/A
	GSM/GPRS 850	0.857	0.355	0.628	1.212	1.485	N/A
	GSM/GPRS 1900	0.382	0.355	0.628	0.737	1.010	N/A
	UMTS 850	1.008	0.355	0.628	1.363	See Note 1	0.01
	UMTS 1750	0.675	0.355	0.628	1.030	1.303	N/A
	UMTS 1900	0.582	0.355	0.628	0.937	1.210	N/A
	LTE Band 71	0.464	0.355	0.628	0.819	1.092	N/A
	LTE Band 12	0.473	0.355	0.628	0.828	1.101	N/A
	LTE Band 13	0.483	0.355	0.628	0.838	1.111	N/A
	LTE Band 14	0.556	0.355	0.628	0.911	1.184	N/A
	LTE Band 26 (Cell)	0.820	0.355	0.628	1.175	1.448	N/A
	LTE Band 5 (Cell)	0.854	0.355	0.628	1.209	1.482	N/A
	LTE Band 66 (AWS)	0.713	0.355	0.628	1.068	1.341	N/A
	LTE Band 25 (PCS)	0.533	0.355	0.628	0.888	1.161	N/A
	LTE Band 30	0.551	0.355	0.628	0.906	1.179	N/A
	LTE Band 7	0.650	0.355	0.628	1.005	1.278	N/A
	LTE Band 48	0.146	0.355	0.628	0.501	0.774	N/A
	LTE Band 41	0.386	0.355	0.628	0.741	1.014	N/A

Table 12-11
Simultaneous Transmission Scenario with 5 GHz WLAN MIMO (Body-Worn at 1.0 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	CDMA BC10 (§90S)	0.659	0.771	1.430	N/A
	CDMA BC0 (§22H)	0.886	0.771	See Note 1	0.02
	PCS CDMA	0.542	0.771	1.313	N/A
	GSM/GPRS 850	0.857	0.771	See Note 1	0.01
	GSM/GPRS 1900	0.382	0.771	1.153	N/A
	UMTS 850	1.008	0.771	See Note 1	0.02
	UMTS 1750	0.675	0.771	1.446	N/A
	UMTS 1900	0.582	0.771	1.353	N/A
	LTE Band 71	0.464	0.771	1.235	N/A
	LTE Band 12	0.473	0.771	1.244	N/A
	LTE Band 13	0.483	0.771	1.254	N/A
	LTE Band 14	0.556	0.771	1.327	N/A
	LTE Band 26 (Cell)	0.820	0.771	**1.591**	N/A
	LTE Band 5 (Cell)	0.854	0.771	See Note 1	0.02
	LTE Band 66 (AWS)	0.713	0.771	1.484	N/A
	LTE Band 25 (PCS)	0.533	0.771	1.304	N/A
	LTE Band 30	0.551	0.771	1.322	N/A
	LTE Band 7	0.650	0.771	1.421	N/A
	LTE Band 48	0.146	0.771	0.917	N/A
	LTE Band 41	0.386	0.771	1.157	N/A

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	SPLSR		
		1	2	3	1+2+3	1+2	1+3	2+3
Body-Worn	CDMA BC10 (§90S)	0.659	0.208	0.628	1.495	N/A	N/A	N/A
	CDMA BC0 (§22H)	0.886	0.208	0.628	See Note 1	0.01	0.01	0.01
	PCS CDMA	0.542	0.208	0.628	1.378	N/A	N/A	N/A
	GSM/GPRS 850	0.857	0.208	0.628	See Note 1	0.01	0.01	0.01
	GSM/GPRS 1900	0.382	0.208	0.628	1.218	N/A	N/A	N/A
	UMTS 850	1.008	0.208	0.628	See Note 1	0.01	0.01	0.01
	UMTS 1750	0.675	0.208	0.628	1.511	N/A	N/A	N/A
	UMTS 1900	0.582	0.208	0.628	1.418	N/A	N/A	N/A
	LTE Band 71	0.464	0.208	0.628	1.300	N/A	N/A	N/A
	LTE Band 12	0.473	0.208	0.628	1.309	N/A	N/A	N/A
	LTE Band 13	0.483	0.208	0.628	1.319	N/A	N/A	N/A
	LTE Band 14	0.556	0.208	0.628	1.392	N/A	N/A	N/A
	LTE Band 26 (Cell)	0.820	0.208	0.628	See Note 1	0.01	0.01	0.01
	LTE Band 5 (Cell)	0.854	0.208	0.628	See Note 1	0.01	0.01	0.01
	LTE Band 66 (AWS)	0.713	0.208	0.628	**1.549**	N/A	N/A	N/A
	LTE Band 25 (PCS)	0.533	0.208	0.628	1.369	N/A	N/A	N/A
	LTE Band 30	0.551	0.208	0.628	1.387	N/A	N/A	N/A
	LTE Band 7	0.650	0.208	0.628	1.486	N/A	N/A	N/A
	LTE Band 48	0.146	0.208	0.628	0.982	N/A	N/A	N/A
	LTE Band 41	0.386	0.208	0.628	1.222	N/A	N/A	N/A

Table 12-13
Simultaneous Transmission Scenario with Bluetooth (Body-Worn 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
Body-Worn	CDMA BC10 (§90S)	0.659	0.026	0.685
	CDMA BC0 (§22H)	0.886	0.026	0.912
	PCS CDMA	0.542	0.026	0.568
	GSM/GPRS 850	0.857	0.026	0.883
	GSM/GPRS 1900	0.382	0.026	0.408
	UMTS 850	1.008	0.026	**1.034**
	UMTS 1750	0.675	0.026	0.701
	UMTS 1900	0.582	0.026	0.608
	LTE Band 71	0.464	0.026	0.490
	LTE Band 12	0.473	0.026	0.499
	LTE Band 13	0.483	0.026	0.509
	LTE Band 14	0.556	0.026	0.582
	LTE Band 26 (Cell)	0.820	0.026	0.846
	LTE Band 5 (Cell)	0.854	0.026	0.880
	LTE Band 66 (AWS)	0.713	0.026	0.739
	LTE Band 25 (PCS)	0.533	0.026	0.559
	LTE Band 30	0.551	0.026	0.577
	LTE Band 7	0.650	0.026	0.676
	LTE Band 48	0.146	0.026	0.172
	LTE Band 41	0.386	0.026	0.412

Table 12-14
Simultaneous Transmission Scenario with Bluetooth and 2.4 GHz WLAN Ant 2 (Body-Worn at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body-Worn	CDMA BC10 (§90S)	0.659	0.026	0.271	0.956
	CDMA BC0 (§22H)	0.886	0.026	0.271	1.183
	PCS CDMA	0.542	0.026	0.271	0.839
	GSM/GPRS 850	0.857	0.026	0.271	1.154
	GSM/GPRS 1900	0.382	0.026	0.271	0.679
	UMTS 850	1.008	0.026	0.271	**1.305**
	UMTS 1750	0.675	0.026	0.271	0.972
	UMTS 1900	0.582	0.026	0.271	0.879
	LTE Band 71	0.464	0.026	0.271	0.761
	LTE Band 12	0.473	0.026	0.271	0.770
	LTE Band 13	0.483	0.026	0.271	0.780
	LTE Band 14	0.556	0.026	0.271	0.853
	LTE Band 26 (Cell)	0.820	0.026	0.271	1.117
	LTE Band 5 (Cell)	0.854	0.026	0.271	1.151
	LTE Band 66 (AWS)	0.713	0.026	0.271	1.010
	LTE Band 25 (PCS)	0.533	0.026	0.271	0.830
	LTE Band 30	0.551	0.026	0.271	0.848
	LTE Band 7	0.650	0.026	0.271	0.947
	LTE Band 48	0.146	0.026	0.271	0.443
	LTE Band 41	0.386	0.026	0.271	0.683

Table 12-15
Simultaneous Transmission Scenario with Bluetooth and 5 GHz WLAN Ant 1 (Body-Worn 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)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body-Worn	CDMA BC10 (§90S)	0.659	0.026	0.355	1.040
	CDMA BC0 (§22H)	0.886	0.026	0.355	1.267
	PCS CDMA	0.542	0.026	0.355	0.923
	GSM/GPRS 850	0.857	0.026	0.355	1.238
	GSM/GPRS 1900	0.382	0.026	0.355	0.763
	UMTS 850	1.008	0.026	0.355	**1.389**
	UMTS 1750	0.675	0.026	0.355	1.056
	UMTS 1900	0.582	0.026	0.355	0.963
	LTE Band 71	0.464	0.026	0.355	0.845
	LTE Band 12	0.473	0.026	0.355	0.854
	LTE Band 13	0.483	0.026	0.355	0.864
	LTE Band 14	0.556	0.026	0.355	0.937
	LTE Band 26 (Cell)	0.820	0.026	0.355	1.201
	LTE Band 5 (Cell)	0.854	0.026	0.355	1.235
	LTE Band 66 (AWS)	0.713	0.026	0.355	1.094
	LTE Band 25 (PCS)	0.533	0.026	0.355	0.914
	LTE Band 30	0.551	0.026	0.355	0.932
	LTE Band 7	0.650	0.026	0.355	1.031
	LTE Band 48	0.146	0.026	0.355	0.527
	LTE Band 41	0.386	0.026	0.355	0.767

Table 12-16
Simultaneous Transmission Scenario with Bluetooth and 5 GHz WLAN Ant 2 (Body-Worn at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	SPLSR		
		1	2	3	1+2+3	1+2	1+3	2+3
Body-Worn	CDMA BC10 (§90S)	0.659	0.026	0.628	1.313	N/A	N/A	N/A
	CDMA BC0 (§22H)	0.886	0.026	0.628	**1.540**	N/A	N/A	N/A
	PCS CDMA	0.542	0.026	0.628	1.196	N/A	N/A	N/A
	GSM/GPRS 850	0.857	0.026	0.628	1.511	N/A	N/A	N/A
	GSM/GPRS 1900	0.382	0.026	0.628	1.036	N/A	N/A	N/A
	UMTS 850	1.008	0.026	0.628	See Note 1	0.01	0.01	0.01
	UMTS 1750	0.675	0.026	0.628	1.329	N/A	N/A	N/A
	UMTS 1900	0.582	0.026	0.628	1.236	N/A	N/A	N/A
	LTE Band 71	0.464	0.026	0.628	1.118	N/A	N/A	N/A
	LTE Band 12	0.473	0.026	0.628	1.127	N/A	N/A	N/A
	LTE Band 13	0.483	0.026	0.628	1.137	N/A	N/A	N/A
	LTE Band 14	0.556	0.026	0.628	1.210	N/A	N/A	N/A
	LTE Band 26 (Cell)	0.820	0.026	0.628	1.474	N/A	N/A	N/A
	LTE Band 5 (Cell)	0.854	0.026	0.628	1.508	N/A	N/A	N/A
	LTE Band 66 (AWS)	0.713	0.026	0.628	1.367	N/A	N/A	N/A
	LTE Band 25 (PCS)	0.533	0.026	0.628	1.187	N/A	N/A	N/A
	LTE Band 30	0.551	0.026	0.628	1.205	N/A	N/A	N/A
	LTE Band 7	0.650	0.026	0.628	1.304	N/A	N/A	N/A
	LTE Band 48	0.146	0.026	0.628	0.800	N/A	N/A	N/A
	LTE Band 41	0.386	0.026	0.628	1.040	N/A	N/A	N/A

Table 12-17
Simultaneous Transmission Scenario with Bluetooth and 5 GHz WLAN MIMO (Body-Worn at 1.0 cm)

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	CDMA BC10 (§90S)	0.659	0.026	0.771	1.456	N/A	N/A	N/A
	CDMA BC0 (§22H)	0.886	0.026	0.771	See Note 1	0.01	0.02	0.01
	PCS CDMA	0.542	0.026	0.771	1.339	N/A	N/A	N/A
	GSM/GPRS 850	0.857	0.026	0.771	See Note 1	0.01	0.01	0.01
	GSM/GPRS 1900	0.382	0.026	0.771	1.179	N/A	N/A	N/A
	UMTS 850	1.008	0.026	0.771	See Note 1	0.01	0.02	0.01
	UMTS 1750	0.675	0.026	0.771	1.472	N/A	N/A	N/A
	UMTS 1900	0.582	0.026	0.771	1.379	N/A	N/A	N/A
	LTE Band 71	0.464	0.026	0.771	1.261	N/A	N/A	N/A
	LTE Band 12	0.473	0.026	0.771	1.270	N/A	N/A	N/A
	LTE Band 13	0.483	0.026	0.771	1.280	N/A	N/A	N/A
	LTE Band 14	0.556	0.026	0.771	1.353	N/A	N/A	N/A
	LTE Band 26 (Cell)	0.820	0.026	0.771	See Note 1	0.01	0.01	0.01
	LTE Band 5 (Cell)	0.854	0.026	0.771	See Note 1	0.01	0.02	0.01
	LTE Band 66 (AWS)	0.713	0.026	0.771	**1.510**	N/A	N/A	N/A
	LTE Band 25 (PCS)	0.533	0.026	0.771	1.330	N/A	N/A	N/A
	LTE Band 30	0.551	0.026	0.771	1.348	N/A	N/A	N/A
	LTE Band 7	0.650	0.026	0.771	1.447	N/A	N/A	N/A
	LTE Band 48	0.146	0.026	0.771	0.943	N/A	N/A	N/A
	LTE Band 41	0.386	0.026	0.771	1.183	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.

12.5 Hotspot SAR Simultaneous Transmission Analysis

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

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

Table 12-18
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	EVDO BC10 (§90S)	0.741	0.388	0.547	1.129	1.288	See Table Below
	EVDO BC0 (§22H)	0.898	0.388	0.547	1.286	1.445	See Table Below
	PCS EVDO	1.283	0.388	0.547	See Table Below	See Table Below	See Table Below
	GPRS 850	0.857	0.388	0.547	1.245	1.404	See Table Below
	GPRS 1900	0.990	0.388	0.547	1.378	1.537	See Table Below
	UMTS 850	1.008	0.388	0.547	1.396	1.555	See Table Below
	UMTS 1750	1.012	0.388	0.547	1.400	**1.559**	See Table Below
	UMTS 1900	1.241	0.388	0.547	See Table Below	See Table Below	See Table Below
	LTE Band 71	0.464	0.388	0.547	0.852	1.011	1.399
	LTE Band 12	0.473	0.388	0.547	0.861	1.020	1.408
	LTE Band 13	0.483	0.388	0.547	0.871	1.030	1.418
	LTE Band 14	0.556	0.388	0.547	0.944	1.103	1.491
	LTE Band 26 (Cell)	0.820	0.388	0.547	1.208	1.367	See Table Below
	LTE Band 5 (Cell)	0.854	0.388	0.547	1.242	1.401	See Table Below
	LTE Band 66 (AWS)	1.075	0.388	0.547	1.463	See Table Below	See Table Below
	LTE Band 25 (PCS)	1.271	0.388	0.547	See Table Below	See Table Below	See Table Below
	LTE Band 30	0.567	0.388	0.547	0.955	1.114	1.502
	LTE Band 7	0.861	0.388	0.547	1.249	1.408	See Table Below
	LTE Band 48	0.146	0.388	0.547	0.534	0.693	1.081
	LTE Band 41	0.445	0.388	0.547	0.833	0.992	1.380

Simult Tx	Configuration	EVDO BC10 (§90S) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.741	0.208	0.271	0.949	1.012	1.220
	Front	0.484	0.211	0.547*	0.695	1.031	**1.242**
	Top	-	0.388*	0.547*	0.388	0.547	0.935
	Bottom	0.214	-	-	0.214	0.214	0.214
	Right	0.282	0.388	-	0.670	0.282	0.670
	Left	0.135	-	0.547	0.135	0.682	0.682

Simult Tx	Configuration	EVDO BC0 (§22H) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.898	0.208	0.271	1.106	1.169	**1.377**
	Front	0.609	0.211	0.547*	0.820	1.156	1.367
	Top	-	0.388*	0.547*	0.388	0.547	0.935
	Bottom	0.318	-	-	0.318	0.318	0.318
	Right	0.372	0.388	-	0.760	0.372	0.760
	Left	0.159	-	0.547	0.159	0.706	0.706

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.583	0.208	0.271	0.791	0.854	1.062
	Front	0.442	0.211	0.547*	0.653	0.989	1.200
	Top	-	0.388*	0.547*	0.388	0.547	0.935
	Bottom	1.283	-	-	**1.283**	**1.283**	**1.283**
	Right	0.126	0.388	-	0.514	0.126	0.514
	Left	0.219	-	0.547	0.219	0.766	0.766

Simult Tx	Configuration	GPRS 850 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.857	0.208	0.271	1.065	1.128	**1.336**
	Front	0.437	0.211	0.547*	0.648	0.984	1.195
	Top	-	0.388*	0.547*	0.388	0.547	0.935
	Bottom	0.212	-	-	0.212	0.212	0.212
	Right	0.224	0.388	-	0.612	0.224	0.612
	Left	0.100	-	0.547	0.100	0.647	0.647

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.382	0.208	0.271	0.590	0.653	0.861
	Front	0.310	0.211	0.547*	0.521	0.857	**1.068**
	Top	-	0.388*	0.547*	0.388	0.547	0.935
	Bottom	0.990	-	-	0.990	0.990	0.990
	Right	0.081	0.388	-	0.469	0.081	0.469
	Left	0.101	-	0.547	0.101	0.648	0.648

Simult Tx	Configuration	UMTS 850 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	1.008	0.208	0.271	1.216	1.279	**1.487**
	Front	0.587	0.211	0.547*	0.798	1.134	1.345
	Top	-	0.388*	0.547*	0.388	0.547	0.935
	Bottom	0.268	-	-	0.268	0.268	0.268
	Right	0.372	0.388	-	0.760	0.372	0.760
	Left	0.161	-	0.547	0.161	0.708	0.708

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.675	0.208	0.271	0.883	0.946	1.154
	Front	0.585	0.211	0.547*	0.796	1.132	**1.343**
	Top	-	0.388*	0.547*	0.388	0.547	0.935
	Bottom	1.012	-	-	1.012	1.012	1.012
	Right	0.089	0.388	-	0.477	0.089	0.477
	Left	0.187	-	0.547	0.187	0.734	0.734

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.582	0.208	0.271	0.790	0.853	1.061
	Front	0.450	0.211	0.547*	0.661	0.997	1.208
	Top	-	0.388*	0.547*	0.388	0.547	0.935
	Bottom	1.241	-	-	**1.241**	**1.241**	**1.241**
	Right	0.119	0.388	-	0.507	0.119	0.507
	Left	0.166	-	0.547	0.166	0.713	0.713

Simult Tx	Configuration	LTE Band 26 (Cell) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.820	0.208	0.271	1.028	1.091	**1.299**
	Front	0.490	0.211	0.547*	0.701	1.037	1.248
	Top	-	0.388*	0.547*	0.388	0.547	0.935
	Bottom	0.224	-	-	0.224	0.224	0.224
	Right	0.327	0.388	-	0.715	0.327	0.715
	Left	0.139	-	0.547	0.139	0.686	0.686

Simult Tx	Configuration	LTE Band 5 (Cell) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.854	0.208	0.271	1.062	1.125	**1.333**
	Front	0.509	0.211	0.547*	0.720	1.056	1.267
	Top	-	0.388*	0.547*	0.388	0.547	0.935
	Bottom	0.235	-	-	0.235	0.235	0.235
	Right	0.299	0.388	-	0.687	0.299	0.687
	Left	0.124	-	0.547	0.124	0.671	0.671

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.713	0.208	0.271	0.921	0.984	1.192
	Front	0.632	0.211	0.547*	0.843	1.179	**1.390**
	Top	-	0.388*	0.547*	0.388	0.547	0.935
	Bottom	1.075	-	-	1.075	1.075	1.075
	Right	0.100	0.388	-	0.488	0.100	0.488
	Left	0.236	-	0.547	0.236	0.783	0.783

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.533	0.208	0.271	0.741	0.804	1.012
	Front	0.488	0.211	0.547*	0.699	1.035	1.246
	Top	-	0.388*	0.547*	0.388	0.547	0.935
	Bottom	1.271	-	-	**1.271**	**1.271**	**1.271**
	Right	0.124	0.388	-	0.512	0.124	0.512
	Left	0.154	-	0.547	0.154	0.701	0.701

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.650	0.208	0.271	0.858	0.921	1.129
	Front	0.455	0.211	0.547*	0.666	1.002	1.213
	Top	-	0.388*	0.547*	0.388	0.547	0.935
	Bottom	0.161	-	-	0.161	0.161	0.161
	Right	0.861	0.388	-	**1.249**	0.861	**1.249**
	Left	-	-	0.547	0.000	0.547	0.547

Table 12-19
Simultaneous Transmission Scenario with 5 GHz WLAN (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	EVDO BC10 (§90S)	0.741	0.355	0.628	1.096	1.369
	EVDO BC0 (§22H)	0.898	0.355	0.628	1.253	**1.526**
	PCS EVDO	1.283	0.355	0.628	See Table Below	See Table Below
	GPRS 850	0.857	0.355	0.628	1.212	1.485
	GPRS 1900	0.990	0.355	0.628	1.345	See Table Below
	UMTS 850	1.008	0.355	0.628	1.363	See Table Below
	UMTS 1750	1.012	0.355	0.628	1.367	See Table Below
	UMTS 1900	1.241	0.355	0.628	See Table Below	See Table Below
	LTE Band 71	0.464	0.355	0.628	0.819	1.092
	LTE Band 12	0.473	0.355	0.628	0.828	1.101
	LTE Band 13	0.483	0.355	0.628	0.838	1.111
	LTE Band 14	0.556	0.355	0.628	0.911	1.184
	LTE Band 26 (Cell)	0.820	0.355	0.628	1.175	1.448
	LTE Band 5 (Cell)	0.854	0.355	0.628	1.209	1.482
	LTE Band 66 (AWS)	1.075	0.355	0.628	1.430	See Table Below
	LTE Band 25 (PCS)	1.271	0.355	0.628	See Table Below	See Table Below
	LTE Band 30	0.567	0.355	0.628	0.922	1.195
	LTE Band 7	0.861	0.355	0.628	1.216	1.489
	LTE Band 48	0.146	0.355	0.628	0.501	0.774
	LTE Band 41	0.445	0.355	0.628	0.800	1.073

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Hotspot SAR	Back	0.583	0.355	0.628	0.938	1.211
	Front	0.442	0.355*	0.628*	0.797	1.070
	Top	-	0.355*	0.628*	0.355	0.628
	Bottom	1.283	-	-	**1.283**	**1.283**
	Right	0.126	-	-	0.126	0.126
	Left	0.219	0.355*	0.453	0.574	0.672

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Hotspot SAR	Back	0.382	0.355	0.628	0.737	**1.010**
	Front	0.310	0.355*	0.628*	0.665	0.938
	Top	-	0.355*	0.628*	0.355	0.628
	Bottom	0.990	-	-	0.990	0.990
	Right	0.081	-	-	0.081	0.081
	Left	0.101	0.355*	0.453	0.456	0.554

Simult Tx	Configuration	UMTS 850 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		SPLSR	
		1	2	3	1+2	1+3	1+2	1+3
Hotspot SAR	Back	1.008	0.355	0.628	**1.363**	See Note 1	N/A	0.01
	Front	0.587	0.355*	0.628*	0.942	1.215	N/A	N/A
	Top	-	0.355*	0.628*	0.355	0.628	N/A	N/A
	Bottom	0.268	-	-	0.268	0.268	N/A	N/A
	Right	0.372	-	-	0.372	0.372	N/A	N/A
	Left	0.161	0.355*	0.453	0.516	0.614	N/A	N/A

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Hotspot SAR	Back	0.675	0.355	0.628	1.030	**1.303**
	Front	0.585	0.355*	0.628*	0.940	1.213
	Top	-	0.355*	0.628*	0.355	0.628
	Bottom	1.012	-	-	1.012	1.012
	Right	0.089	-	-	0.089	0.089
	Left	0.187	0.355*	0.453	0.542	0.640

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Hotspot SAR	Back	0.582	0.355	0.628	0.937	1.210
	Front	0.450	0.355*	0.628*	0.805	1.078
	Top	-	0.355*	0.628*	0.355	0.628
	Bottom	1.241	-	-	**1.241**	**1.241**
	Right	0.119	-	-	0.119	0.119
	Left	0.166	0.355*	0.453	0.521	0.619

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Hotspot SAR	Back	0.713	0.355	0.628	1.068	**1.341**
	Front	0.632	0.355*	0.628*	0.987	1.260
	Top	-	0.355*	0.628*	0.355	0.628
	Bottom	1.075	-	-	1.075	1.075
	Right	0.100	-	-	0.100	0.100
	Left	0.236	0.355*	0.453	0.591	0.689

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Hotspot SAR	Back	0.533	0.355	0.628	0.888	1.161
	Front	0.488	0.355*	0.628*	0.843	1.116
	Top	-	0.355*	0.628*	0.355	0.628
	Bottom	1.271	-	-	**1.271**	**1.271**
	Right	0.124	-	-	0.124	0.124
	Left	0.154	0.355*	0.453	0.509	0.607

Table 12-20
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	EVDO BC10 (§90S)	0.741	0.771	1.512
	EVDO BC0 (§22H)	0.898	0.771	See Table Below
	PCS EVDO	1.283	0.771	See Table Below
	GPRS 850	0.857	0.771	See Table Below
	GPRS 1900	0.990	0.771	See Table Below
	UMTS 850	1.008	0.771	See Table Below
	UMTS 1750	1.012	0.771	See Table Below
	UMTS 1900	1.241	0.771	See Table Below
	LTE Band 71	0.464	0.771	1.235
	LTE Band 12	0.473	0.771	1.244
	LTE Band 13	0.483	0.771	1.254
	LTE Band 14	0.556	0.771	1.327
	LTE Band 26 (Cell)	0.820	0.771	**1.591**
	LTE Band 5 (Cell)	0.854	0.771	See Table Below
	LTE Band 66 (AWS)	1.075	0.771	See Table Below
	LTE Band 25 (PCS)	1.271	0.771	See Table Below
	LTE Band 30	0.567	0.771	1.338
	LTE Band 7	0.861	0.771	See Table Below
	LTE Band 48	0.146	0.771	0.917
	LTE Band 41	0.445	0.771	1.216

Simult Tx	Configuration	EVDO BC0 (§22H) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR	Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2	1+2			1	2	1+2
Hotspot SAR	Back	0.898	0.771	See Note 1	0.02	Hotspot SAR	Back	0.583	0.771	**1.354**
	Front	0.609	0.771*	**1.380**	N/A		Front	0.442	0.771*	1.213
	Top	-	0.771*	0.771	N/A		Top	-	0.771*	0.771
	Bottom	0.318	-	0.318	N/A		Bottom	1.283	-	1.283
	Right	0.372	-	0.372	N/A		Right	0.126	-	0.126
	Left	0.159	0.674	0.833	N/A		Left	0.219	0.674	0.893

Simult Tx	Configuration	GPRS 850 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR	Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2	1+2			1	2	1+2
Hotspot SAR	Back	0.857	0.771	See Note 1	0.01	Hotspot SAR	Back	0.382	0.771	**1.153**
	Front	0.437	0.771*	**1.208**	N/A		Front	0.310	0.771*	1.081
	Top	-	0.771*	0.771	N/A		Top	-	0.771*	0.771
	Bottom	0.212	-	0.212	N/A		Bottom	0.990	-	0.990
	Right	0.224	-	0.224	N/A		Right	0.081	-	0.081
	Left	0.100	0.674	0.774	N/A		Left	0.101	0.674	0.775

Simult Tx	Configuration	UMTS 850 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR	Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2	1+2			1	2	1+2
Hotspot SAR	Back	1.008	0.771	See Note 1	0.02	Hotspot SAR	Back	0.675	0.771	**1.446**
	Front	0.587	0.771*	**1.358**	N/A		Front	0.585	0.771*	1.356
	Top	-	0.771*	0.771	N/A		Top	-	0.771*	0.771
	Bottom	0.268	-	0.268	N/A		Bottom	1.012	-	1.012
	Right	0.372	-	0.372	N/A		Right	0.089	-	0.089
	Left	0.161	0.674	0.835	N/A		Left	0.187	0.674	0.861

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 5 (Cell) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2			1	2	1+2	1+2
Hotspot SAR	Back	0.582	0.771	**1.353**	Hotspot SAR	Back	0.854	0.771	See Note 1	0.02
	Front	0.450	0.771*	1.221		Front	0.509	0.771*	**1.280**	N/A
	Top	-	0.771*	0.771		Top	-	0.771*	0.771	N/A
	Bottom	1.241	-	1.241		Bottom	0.235	-	0.235	N/A
	Right	0.119	-	0.119		Right	0.299	-	0.299	N/A
	Left	0.166	0.674	0.840		Left	0.124	0.674	0.798	N/A

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2			1	2	1+2
Hotspot SAR	Back	0.713	0.771	**1.484**	Hotspot SAR	Back	0.533	0.771	**1.304**
	Front	0.632	0.771*	1.403		Front	0.488	0.771*	1.259
	Top	-	0.771*	0.771		Top	-	0.771*	0.771
	Bottom	1.075	-	1.075		Bottom	1.271	-	1.271
	Right	0.100	-	0.100		Right	0.124	-	0.124
	Left	0.236	0.674	0.910		Left	0.154	0.674	0.828

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	0.650	0.771	**1.421**
	Front	0.455	0.771*	1.226
	Top	-	0.771*	0.771
	Bottom	0.161	-	0.161
	Right	0.861	-	0.861
	Left	-	0.674	0.674

Table 12-21
Simultaneous Transmission Scenario with 2.4 GHz WLAN Ant 1 and 5 GHz WLAN Ant 2 (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	EVDO BC10 (§90S)	0.741	0.388	0.628	See Table Below
	EVDO BC0 (§22H)	0.898	0.388	0.628	See Table Below
	PCS EVDO	1.283	0.388	0.628	See Table Below
	GPRS 850	0.857	0.388	0.628	See Table Below
	GPRS 1900	0.990	0.388	0.628	See Table Below
	UMTS 850	1.008	0.388	0.628	See Table Below
	UMTS 1750	1.012	0.388	0.628	See Table Below
	UMTS 1900	1.241	0.388	0.628	See Table Below
	LTE Band 71	0.464	0.388	0.628	1.480
	LTE Band 12	0.473	0.388	0.628	1.489
	LTE Band 13	0.483	0.388	0.628	1.499
	LTE Band 14	0.556	0.388	0.628	1.572
	LTE Band 26 (Cell)	0.820	0.388	0.628	See Table Below
	LTE Band 5 (Cell)	0.854	0.388	0.628	See Table Below
	LTE Band 66 (AWS)	1.075	0.388	0.628	See Table Below
	LTE Band 25 (PCS)	1.271	0.388	0.628	See Table Below
	LTE Band 30	0.567	0.388	0.628	**1.583**
	LTE Band 7	0.861	0.388	0.628	See Table Below
	LTE Band 48	0.146	0.388	0.628	1.162
	LTE Band 41	0.445	0.388	0.628	1.461

Simult Tx	Configuration	EVDO BC10 (§90S) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.741	0.208	0.628	**1.577**
	Front	0.484	0.211	0.628*	1.323
	Top	-	0.388*	0.628*	1.016
	Bottom	0.214	-	-	0.214
	Right	0.282	0.388	-	0.670
	Left	0.135	-	0.453	0.588

Simult Tx	Configuration	EVDO BC0 (§22H) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	SPLSR		
		1	2	3	1+2+3	1+2	1+3	2+3
Hotspot SAR	Back	0.898	0.208	0.628	See Note 1	0.01	0.01	0.01
	Front	0.609	0.211	0.628*	1.448	N/A	N/A	N/A
	Top	-	0.388*	0.628*	1.016	N/A	N/A	N/A
	Bottom	0.318	-	-	0.318	N/A	N/A	N/A
	Right	0.372	0.388	-	0.760	N/A	N/A	N/A
	Left	0.159	-	0.453	0.612	N/A	N/A	N/A

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.583	0.208	0.628	**1.419**
	Front	0.442	0.211	0.628*	1.281
	Top	-	0.388*	0.628*	1.016
	Bottom	1.283	-	-	1.283
	Right	0.126	0.388	-	0.514
	Left	0.219	-	0.453	0.672

Simult Tx	Configuration	GPRS 850 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	SPLSR		
		1	2	3	1+2+3	1+2	1+3	2+3
Hotspot SAR	Back	0.857	0.208	0.628	See Note 1	0.01	0.01	0.01
	Front	0.437	0.211	0.628*	1.276	N/A	N/A	N/A
	Top	-	0.388*	0.628*	1.016	N/A	N/A	N/A
	Bottom	0.212	-	-	0.212	N/A	N/A	N/A
	Right	0.224	0.388	-	0.612	N/A	N/A	N/A
	Left	0.100	-	0.453	0.553	N/A	N/A	N/A

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.382	0.208	0.628	**1.218**
	Front	0.310	0.211	0.628*	1.149
	Top	-	0.388*	0.628*	1.016
	Bottom	0.990	-	-	0.990
	Right	0.081	0.388	-	0.469
	Left	0.101	-	0.453	0.554

Simult Tx	Configuration	UMTS 850 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	SPLSR		
		1	2	3	1+2+3	1+2	1+3	2+3
Hotspot SAR	Back	1.008	0.208	0.628	See Note 1	0.01	0.01	0.01
	Front	0.587	0.211	0.628*	**1.426**	N/A	N/A	N/A
	Top	-	0.388*	0.628*	1.016	N/A	N/A	N/A
	Bottom	0.268	-	-	0.268	N/A	N/A	N/A
	Right	0.372	0.388	-	0.760	N/A	N/A	N/A
	Left	0.161	-	0.453	0.614	N/A	N/A	N/A

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Hotspot SAR	Back	0.675	0.208	0.628	**1.511**	Hotspot SAR	Back	0.582	0.208	0.628	**1.418**
	Front	0.585	0.211	0.628*	1.424		Front	0.450	0.211	0.628*	1.289
	Top	-	0.388*	0.628*	1.016		Top	-	0.388*	0.628*	1.016
	Bottom	1.012	-	-	1.012		Bottom	1.241	-	-	1.241
	Right	0.089	0.388	-	0.477		Right	0.119	0.388	-	0.507
	Left	0.187	-	0.453	0.640		Left	0.166	-	0.453	0.619

Simult Tx	Configuration	LTE Band 26 (Cell) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	SPLSR		
		1	2	3	1+2+3	1+2	1+3	2+3
Hotspot SAR	Back	0.820	0.208	0.628	See Note 1	0.01	0.01	0.01
	Front	0.490	0.211	0.628*	1.329	N/A	N/A	N/A
	Top	-	0.388*	0.628*	1.016	N/A	N/A	N/A
	Bottom	0.224	-	-	0.224	N/A	N/A	N/A
	Right	0.327	0.388	-	0.715	N/A	N/A	N/A
	Left	0.139	-	0.453	0.592	N/A	N/A	N/A

Simult Tx	Configuration	LTE Band 5 (Cell) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	SPLSR		
		1	2	3	1+2+3	1+2	1+3	2+3
Hotspot SAR	Back	0.854	0.208	0.628	See Note 1	0.01	0.01	0.01
	Front	0.509	0.211	0.628*	1.348	N/A	N/A	N/A
	Top	-	0.388*	0.628*	1.016	N/A	N/A	N/A
	Bottom	0.235	-	-	0.235	N/A	N/A	N/A
	Right	0.299	0.388	-	0.687	N/A	N/A	N/A
	Left	0.124	-	0.453	0.577	N/A	N/A	N/A

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Hotspot SAR	Back	0.713	0.208	0.628	**1.549**	Hotspot SAR	Back	0.533	0.208	0.628	**1.369**
	Front	0.632	0.211	0.628*	1.471		Front	0.488	0.211	0.628*	1.327
	Top	-	0.388*	0.628*	1.016		Top	-	0.388*	0.628*	1.016
	Bottom	1.075	-	-	1.075		Bottom	1.271	-	-	1.271
	Right	0.100	0.388	-	0.488		Right	0.124	0.388	-	0.512
	Left	0.236	-	0.453	0.689		Left	0.154	-	0.453	0.607

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.650	0.208	0.628	**1.486**
	Front	0.455	0.211	0.628*	1.294
	Top	-	0.388*	0.628*	1.016
	Bottom	0.161	-	-	0.161
	Right	0.861	0.388	-	1.249
	Left	-	-	0.453	0.453

Table 12-22
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	EVDO BC10 (§90S)	0.741	0.050	0.791
	EVDO BC0 (§22H)	0.898	0.050	0.948
	PCS EVDO	1.283	0.050	**1.333**
	GPRS 850	0.857	0.050	0.907
	GPRS 1900	0.990	0.050	1.040
	UMTS 850	1.008	0.050	1.058
	UMTS 1750	1.012	0.050	1.062
	UMTS 1900	1.241	0.050	1.291
	LTE Band 71	0.464	0.050	0.514
	LTE Band 12	0.473	0.050	0.523
	LTE Band 13	0.483	0.050	0.533
	LTE Band 14	0.556	0.050	0.606
	LTE Band 26 (Cell)	0.820	0.050	0.870
	LTE Band 5 (Cell)	0.854	0.050	0.904
	LTE Band 66 (AWS)	1.075	0.050	1.125
	LTE Band 25 (PCS)	1.271	0.050	1.321
	LTE Band 30	0.567	0.050	0.617
	LTE Band 7	0.861	0.050	0.911
	LTE Band 48	0.146	0.050	0.196
	LTE Band 41	0.445	0.050	0.495

Table 12-23
Simultaneous Transmission Scenario with Bluetooth and 2.4 GHz WLAN Ant 2 (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	EVDO BC10 (§90S)	0.741	0.050	0.547	1.338
	EVDO BC0 (§22H)	0.898	0.050	0.547	1.495
	PCS EVDO	1.283	0.050	0.547	See Table Below
	GPRS 850	0.857	0.050	0.547	1.454
	GPRS 1900	0.990	0.050	0.547	**1.587**
	UMTS 850	1.008	0.050	0.547	See Table Below
	UMTS 1750	1.012	0.050	0.547	See Table Below
	UMTS 1900	1.241	0.050	0.547	See Table Below
	LTE Band 71	0.464	0.050	0.547	1.061
	LTE Band 12	0.473	0.050	0.547	1.070
	LTE Band 13	0.483	0.050	0.547	1.080
	LTE Band 14	0.556	0.050	0.547	1.153
	LTE Band 26 (Cell)	0.820	0.050	0.547	1.417
	LTE Band 5 (Cell)	0.854	0.050	0.547	1.451
	LTE Band 66 (AWS)	1.075	0.050	0.547	See Table Below
	LTE Band 25 (PCS)	1.271	0.050	0.547	See Table Below
	LTE Band 30	0.567	0.050	0.547	1.164
	LTE Band 7	0.861	0.050	0.547	1.458
	LTE Band 48	0.146	0.050	0.547	0.743
	LTE Band 41	0.445	0.050	0.547	1.042

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	Bluetooth SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	UMTS 850 SAR (W/kg)	Bluetooth SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Hotspot SAR	Back	0.583	0.026	0.271	0.880	Hotspot SAR	Back	1.008	0.026	0.271	**1.305**
	Front	0.442	0.029	0.547*	1.018		Front	0.587	0.029	0.547*	1.163
	Top	-	0.003	0.547*	0.550		Top	-	0.003	0.547*	0.550
	Bottom	1.283	-	-	**1.283**		Bottom	0.268	-	-	0.268
	Right	0.126	0.050	-	0.176		Right	0.372	0.050	-	0.422
	Left	0.219	-	0.547	0.766		Left	0.161	-	0.547	0.708

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	Bluetooth SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	Bluetooth SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Hotspot SAR	Back	0.675	0.026	0.271	0.972	Hotspot SAR	Back	0.582	0.026	0.271	0.879
	Front	0.585	0.029	0.547*	**1.161**		Front	0.450	0.029	0.547*	1.026
	Top	-	0.003	0.547*	0.550		Top	-	0.003	0.547*	0.550
	Bottom	1.012	-	-	1.012		Bottom	1.241	-	-	**1.241**
	Right	0.089	0.050	-	0.139		Right	0.119	0.050	-	0.169
	Left	0.187	-	0.547	0.734		Left	0.166	-	0.547	0.713

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	Bluetooth SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	Bluetooth SAR (W/kg)	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	0.713	0.026	0.271	1.010	Hotspot SAR	Back	0.533	0.026	0.271	0.830
	Front	0.632	0.029	0.547*	**1.208**		Front	0.488	0.029	0.547*	1.064
	Top	-	0.003	0.547*	0.550		Top	-	0.003	0.547*	0.550
	Bottom	1.075	-	-	1.075		Bottom	1.271	-	-	**1.271**
	Right	0.100	0.050	-	0.150		Right	0.124	0.050	-	0.174
	Left	0.236	-	0.547	0.783		Left	0.154	-	0.547	0.701

Table 12-24
Simultaneous Transmission Scenario with Bluetooth and 5 GHz WLAN Ant 1 (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)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	EVDO BC10 (§90S)	0.741	0.050	0.355	1.146
	EVDO BC0 (§22H)	0.898	0.050	0.355	1.303
	PCS EVDO	1.283	0.050	0.355	See Table Below
	GPRS 850	0.857	0.050	0.355	1.262
	GPRS 1900	0.990	0.050	0.355	1.395
	UMTS 850	1.008	0.050	0.355	1.413
	UMTS 1750	1.012	0.050	0.355	1.417
	UMTS 1900	1.241	0.050	0.355	See Table Below
	LTE Band 71	0.464	0.050	0.355	0.869
	LTE Band 12	0.473	0.050	0.355	0.878
	LTE Band 13	0.483	0.050	0.355	0.888
	LTE Band 14	0.556	0.050	0.355	0.961
	LTE Band 26 (Cell)	0.820	0.050	0.355	1.225
	LTE Band 5 (Cell)	0.854	0.050	0.355	1.259
	LTE Band 66 (AWS)	1.075	0.050	0.355	**1.480**
	LTE Band 25 (PCS)	1.271	0.050	0.355	See Table Below
	LTE Band 30	0.567	0.050	0.355	0.972
	LTE Band 7	0.861	0.050	0.355	1.266
	LTE Band 48	0.146	0.050	0.355	0.551
	LTE Band 41	0.445	0.050	0.355	0.850

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.583	0.026	0.355	0.964
	Front	0.442	0.029	0.355*	0.826
	Top	-	0.003	0.355*	0.358
	Bottom	1.283	-	-	**1.283**
	Right	0.126	0.050	-	0.176
	Left	0.219	-	0.355*	0.574

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.582	0.026	0.355	0.963
	Front	0.450	0.029	0.355*	0.834
	Top	-	0.003	0.355*	0.358
	Bottom	1.241	-	-	**1.241**
	Right	0.119	0.050	-	0.169
	Left	0.166	-	0.355*	0.521

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.533	0.026	0.355	0.914
	Front	0.488	0.029	0.355*	0.872
	Top	-	0.003	0.355*	0.358
	Bottom	1.271	-	-	**1.271**
	Right	0.124	0.050	-	0.174
	Left	0.154	-	0.355*	0.509

Table 12-25
Simultaneous Transmission Scenario with Bluetooth and 5 GHz WLAN Ant 2 (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	EVDO BC10 (§90S)	0.741	0.050	0.628	1.419
	EVDO BC0 (§22H)	0.898	0.050	0.628	**1.576**
	PCS EVDO	1.283	0.050	0.628	See Table Below
	GPRS 850	0.857	0.050	0.628	1.535
	GPRS 1900	0.990	0.050	0.628	See Table Below
	UMTS 850	1.008	0.050	0.628	See Table Below
	UMTS 1750	1.012	0.050	0.628	See Table Below
	UMTS 1900	1.241	0.050	0.628	See Table Below
	LTE Band 71	0.464	0.050	0.628	1.142
	LTE Band 12	0.473	0.050	0.628	1.151
	LTE Band 13	0.483	0.050	0.628	1.161
	LTE Band 14	0.556	0.050	0.628	1.234
	LTE Band 26 (Cell)	0.820	0.050	0.628	1.498
	LTE Band 5 (Cell)	0.854	0.050	0.628	1.532
	LTE Band 66 (AWS)	1.075	0.050	0.628	See Table Below
	LTE Band 25 (PCS)	1.271	0.050	0.628	See Table Below
	LTE Band 30	0.567	0.050	0.628	1.245
	LTE Band 7	0.861	0.050	0.628	1.539
	LTE Band 48	0.146	0.050	0.628	0.824
	LTE Band 41	0.445	0.050	0.628	1.123

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	PCS EVDO 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			1	2	3	1+2+3
Hotspot SAR	Back	0.382	0.026	0.628	**1.036**	Hotspot SAR	Back	0.583	0.026	0.628	1.237
	Front	0.310	0.029	0.628*	0.967		Front	0.442	0.029	0.628*	1.099
	Top	-	0.003	0.628*	0.631		Top	-	0.003	0.628*	0.631
	Bottom	0.990	-	-	0.990		Bottom	1.283	-	-	**1.283**
	Right	0.081	0.050	-	0.131		Right	0.126	0.050	-	0.176
	Left	0.101	-	0.453	0.554		Left	0.219	-	0.453	0.672

Simult Tx	Configuration	UMTS 850 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	SPLSR		
		1	2	3	1+2+3	1+2	1+3	2+3
Hotspot SAR	Back	1.008	0.026	0.628	See Note 1	0.01	0.01	0.01
	Front	0.587	0.029	0.628*	**1.244**	N/A	N/A	N/A
	Top	-	0.003	0.628*	0.631	N/A	N/A	N/A
	Bottom	0.268	-	-	0.268	N/A	N/A	N/A
	Right	0.372	0.050	-	0.422	N/A	N/A	N/A
	Left	0.161	-	0.453	0.614	N/A	N/A	N/A

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	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			1	2	3	1+2+3
Hotspot SAR	Back	0.675	0.026	0.628	**1.329**	Hotspot SAR	Back	0.582	0.026	0.628	1.236
	Front	0.585	0.029	0.628*	1.242		Front	0.450	0.029	0.628*	1.107
	Top	-	0.003	0.628*	0.631		Top	-	0.003	0.628*	0.631
	Bottom	1.012	-	-	1.012		Bottom	1.241	-	-	**1.241**
	Right	0.089	0.050	-	0.139		Right	0.119	0.050	-	0.169
	Left	0.187	-	0.453	0.640		Left	0.166	-	0.453	0.619
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)	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			1	2	3	1+2+3
Hotspot SAR	Back	0.713	0.026	0.628	**1.367**	Hotspot SAR	Back	0.533	0.026	0.628	1.187
	Front	0.632	0.029	0.628*	1.289		Front	0.488	0.029	0.628*	1.145
	Top	-	0.003	0.628*	0.631		Top	-	0.003	0.628*	0.631
	Bottom	1.075	-	-	1.075		Bottom	1.271	-	-	**1.271**
	Right	0.100	0.050	-	0.150		Right	0.124	0.050	-	0.174
	Left	0.236	-	0.453	0.689		Left	0.154	-	0.453	0.607

Table 12-26
Simultaneous Transmission Scenario with Bluetooth and 5 GHz WLAN MIMO (Hotspot at 1.0 cm)

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	EVDO BC10 (§90S)	0.741	0.050	0.771	1.562
	EVDO BC0 (§22H)	0.898	0.050	0.771	See Table Below
	PCS EVDO	1.283	0.050	0.771	See Table Below
	GPRS 850	0.857	0.050	0.771	See Table Below
	GPRS 1900	0.990	0.050	0.771	See Table Below
	UMTS 850	1.008	0.050	0.771	See Table Below
	UMTS 1750	1.012	0.050	0.771	See Table Below
	UMTS 1900	1.241	0.050	0.771	See Table Below
	LTE Band 71	0.464	0.050	0.771	1.285
	LTE Band 12	0.473	0.050	0.771	1.294
	LTE Band 13	0.483	0.050	0.771	1.304
	LTE Band 14	0.556	0.050	0.771	1.377
	LTE Band 26 (Cell)	0.820	0.050	0.771	See Table Below
	LTE Band 5 (Cell)	0.854	0.050	0.771	See Table Below
	LTE Band 66 (AWS)	1.075	0.050	0.771	See Table Below
	LTE Band 25 (PCS)	1.271	0.050	0.771	See Table Below
	LTE Band 30	0.567	0.050	0.771	1.388
	LTE Band 7	0.861	0.050	0.771	See Table Below
	LTE Band 48	0.146	0.050	0.771	0.967
	LTE Band 41	0.445	0.050	0.771	1.266

Simult Tx	Configuration	EVDO BC0 (§22H) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR			Simult Tx	Configuration	PCS EVDO SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3	1+2	1+3	2+3			1	2	3	1+2+3
Body SAR	Back	0.898	0.026	0.771	See Note 1	0.01	0.02	0.01	Hotspot SAR	Back	0.583	0.026	0.771	**1.380**
	Front	0.609	0.029	0.771*	**1.409**	N/A	N/A	N/A		Front	0.442	0.029	0.771*	1.242
	Top	-	0.003	0.771*	0.774	N/A	N/A	N/A		Top	-	0.003	0.771*	0.774
	Bottom	0.318	-	-	0.318	N/A	N/A	N/A		Bottom	1.283	-	-	1.283
	Right	0.372	0.050	-	0.422	N/A	N/A	N/A		Right	0.126	0.050	-	0.176
	Left	0.159	-	0.674	0.833	N/A	N/A	N/A		Left	0.219	-	0.674	0.893

Simult Tx	Configuration	GPRS 850 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR			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	1+2	1+3	2+3			1	2	3	1+2+3
Hotspot SAR	Back	0.857	0.026	0.771	See Note 1	0.01	0.01	0.01	Hotspot SAR	Back	0.382	0.026	0.771	**1.179**
	Front	0.437	0.029	0.771*	**1.237**	N/A	N/A	N/A		Front	0.310	0.029	0.771*	1.110
	Top	-	0.003	0.771*	0.774	N/A	N/A	N/A		Top	-	0.003	0.771*	0.774
	Bottom	0.212	-	-	0.212	N/A	N/A	N/A		Bottom	0.990	-	-	0.990
	Right	0.224	0.050	-	0.274	N/A	N/A	N/A		Right	0.081	0.050	-	0.131
	Left	0.100	-	0.674	0.774	N/A	N/A	N/A		Left	0.101	-	0.674	0.775

Simult Tx	Configuration	UMTS 850 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR			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	1+2	1+3	2+3			1	2	3	1+2+3
Hotspot SAR	Back	1.008	0.026	0.771	See Note 1	0.01	0.02	0.01	Hotspot SAR	Back	0.675	0.026	0.771	**1.472**
	Front	0.587	0.029	0.771*	**1.387**	N/A	N/A	N/A		Front	0.585	0.029	0.771*	1.385
	Top	-	0.003	0.771*	0.774	N/A	N/A	N/A		Top	-	0.003	0.771*	0.774
	Bottom	0.268	-	-	0.268	N/A	N/A	N/A		Bottom	1.012	-	-	1.012
	Right	0.372	0.050	-	0.422	N/A	N/A	N/A		Right	0.089	0.050	-	0.139
	Left	0.161	-	0.674	0.835	N/A	N/A	N/A		Left	0.187	-	0.674	0.861

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 26 (Cell) 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	3	1+2+3	1+2	1+3	2+3
Hotspot SAR	Back	0.582	0.026	0.771	**1.379**	Body SAR	Back	0.820	0.026	0.771	See Note 1	0.01	0.01	0.01
	Front	0.450	0.029	0.771*	1.250		Front	0.490	0.029	0.771*	**1.290**	N/A	N/A	N/A
	Top	-	0.003	0.771*	0.774		Top	-	0.003	0.771*	0.774	N/A	N/A	N/A
	Bottom	1.241	-	-	1.241		Bottom	0.224	-	-	0.224	N/A	N/A	N/A
	Right	0.119	0.050	-	0.169		Right	0.327	0.050	-	0.377	N/A	N/A	N/A
	Left	0.166	-	0.674	0.840		Left	0.139	-	0.674	0.813	N/A	N/A	N/A

Simult Tx	Configuration	LTE Band 5 (Cell) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR			Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3	1+2	1+3	2+3			1	2	3	1+2+3
Body SAR	Back	0.854	0.026	0.771	See Note 1	0.01	0.02	0.01	Hotspot SAR	Back	0.713	0.026	0.771	**1.510**
	Front	0.509	0.029	0.771*	**1.309**	N/A	N/A	N/A		Front	0.632	0.029	0.771*	1.432
	Top	-	0.003	0.771*	0.774	N/A	N/A	N/A		Top	-	0.003	0.771*	0.774
	Bottom	0.235	-	-	0.235	N/A	N/A	N/A		Bottom	1.075	-	-	1.075
	Right	0.299	0.050	-	0.349	N/A	N/A	N/A		Right	0.100	0.050	-	0.150
	Left	0.124	-	0.674	0.798	N/A	N/A	N/A		Left	0.236	-	0.674	0.910

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)	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			1	2	3	1+2+3
Hotspot SAR	Back	0.533	0.026	0.771	**1.330**	Hotspot SAR	Back	0.650	0.026	0.771	**1.447**
	Front	0.488	0.029	0.771*	1.288		Front	0.455	0.029	0.771*	1.255
	Top	-	0.003	0.771*	0.774		Top	-	0.003	0.771*	0.774
	Bottom	1.271	-	-	1.271		Bottom	0.161	-	-	0.161
	Right	0.124	0.050	-	0.174		Right	0.861	0.050	-	0.911
	Left	0.154	-	0.674	0.828		Left	-	-	0.674	0.674

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.

12.6 Phablet Simultaneous Transmission Analysis

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

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

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

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

Table 12-27
Simultaneous Transmission Scenario with 5 GHz WLAN (Phablet)

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Phablet SAR	Back	1.940	1.351	1.881	3.291	**3.821**
	Front	2.122	0.076	0.113	2.198	2.235
	Top	-	1.351*	1.881*	1.351	1.881
	Bottom	2.890	-	-	2.890	2.890
	Right	0.265	-	-	0.265	0.265
	Left	0.465	0.296	0.315	0.761	0.780

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Phablet SAR	Back	1.822	1.351	1.881	3.173	**3.703**
	Front	2.743	0.076	0.113	2.819	2.856
	Top	-	1.351*	1.881*	1.351	1.881
	Bottom	2.834	-	-	2.834	2.834
	Right	0.196	-	-	0.196	0.196
	Left	0.574	0.296	0.315	0.870	0.889

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Phablet SAR	Back	1.594	1.351	1.881	2.945	**3.475**
	Front	2.428	0.076	0.113	2.504	2.541
	Top	-	1.351*	1.881*	1.351	1.881
	Bottom	2.660	-	-	2.660	2.660
	Right	0.270	-	-	0.270	0.270
	Left	0.432	0.296	0.315	0.728	0.747

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Phablet SAR	Back	1.876	1.351	1.881	3.227	**3.757**
	Front	2.464	0.076	0.113	2.540	2.577
	Top	-	1.351*	1.881*	1.351	1.881
	Bottom	3.182	-	-	3.182	3.182
	Right	0.198	-	-	0.198	0.198
	Left	0.546	0.296	0.315	0.842	0.861

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Phablet SAR	Back	1.676	1.351	1.881	3.027	**3.557**
	Front	2.150	0.076	0.113	2.226	2.263
	Top	-	1.351*	1.881*	1.351	1.881
	Bottom	3.033	-	-	3.033	3.033
	Right	0.240	-	-	0.240	0.240
	Left	0.623	0.296	0.315	0.919	0.938

Table 12-28
Simultaneous Transmission Scenario with 5 GHz WLAN MIMO (Phablet)

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	1.940	2.729	See Note 1	0.08
	Front	2.122	0.197	2.319	N/A
	Top	-	2.729*	2.729	N/A
	Bottom	2.890	-	**2.890**	N/A
	Right	0.265	-	0.265	N/A
	Left	0.465	0.482	0.947	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	1.822	2.729	See Note 1	0.07
	Front	2.743	0.197	**2.940**	N/A
	Top	-	2.729*	2.729	N/A
	Bottom	2.834	-	2.834	N/A
	Right	0.196	-	0.196	N/A
	Left	0.574	0.482	1.056	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	1.594	2.729	See Note 1	0.07
	Front	2.428	0.197	2.625	N/A
	Top	-	2.729*	**2.729**	N/A
	Bottom	2.660	-	2.660	N/A
	Right	0.270	-	0.270	N/A
	Left	0.432	0.482	0.914	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	1.876	2.729	See Note 1	0.07
	Front	2.464	0.197	2.661	N/A
	Top	-	2.729*	2.729	N/A
	Bottom	3.182	-	**3.182**	N/A
	Right	0.198	-	0.198	N/A
	Left	0.546	0.482	1.028	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	1.676	2.729	See Note 1	0.07
	Front	2.150	0.197	2.347	N/A
	Top	-	2.729*	2.729	N/A
	Bottom	3.033	-	**3.033**	N/A
	Right	0.240	-	0.240	N/A
	Left	0.623	0.482	1.105	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.

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.

$$\text{Distance}_{Tx1-Tx2} = R_i = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2 + (z_1 - z_2)^2} \text{ (Head)}$$

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

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

12.7.1 Right Cheek SPLSR Evaluation and Analysis

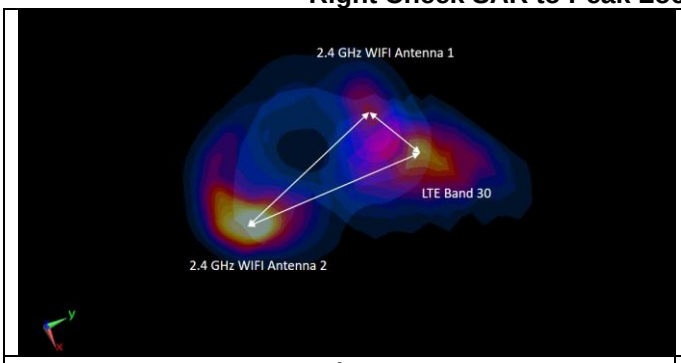
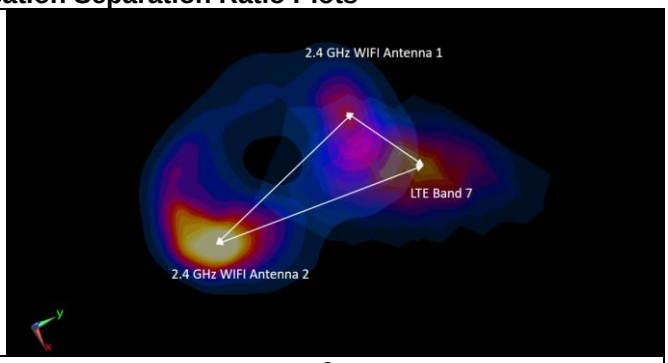
Table 12-29
Peak SAR Locations for Right Cheek

Mode/Band	x (mm)	y (mm)	z (mm)
2.4 GHz WLAN Ant 1	28.30	-256.91	-171.35
2.4 GHz WLAN Ant 2	50.85	-325.10	-173.79
LTE Band 30	52.60	-240.24	-172.89
LTE Band 7	56.56	-243.82	-172.71

Table 12-30
Right Cheek 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}	$(a+b)^{1.5}/D_{a-b}$	
2.4 GHz WLAN Ant 1	2.4 GHz WLAN Ant 2	0.272	0.968	1.24	71.86	0.02	1
LTE Band 30	2.4 GHz WLAN Ant 1	0.394	0.272	0.666	29.51	0.02	
LTE Band 30	2.4 GHz WLAN Ant 2	0.394	0.968	1.362	84.88	0.02	
2.4 GHz WLAN Ant 1	2.4 GHz WLAN Ant 2	0.272	0.968	1.24	71.86	0.02	2
LTE Band 7	2.4 GHz WLAN Ant 1	0.493	0.272	0.765	31.17	0.02	
LTE Band 7	2.4 GHz WLAN Ant 2	0.493	0.968	1.461	81.49	0.02	

Table 12-31
Right Cheek SAR to Peak Location Separation Ratio Plots

	
1	2

12.7.2 Back Side Body-Worn and Hotspot SPLSR Evaluation and Analysis

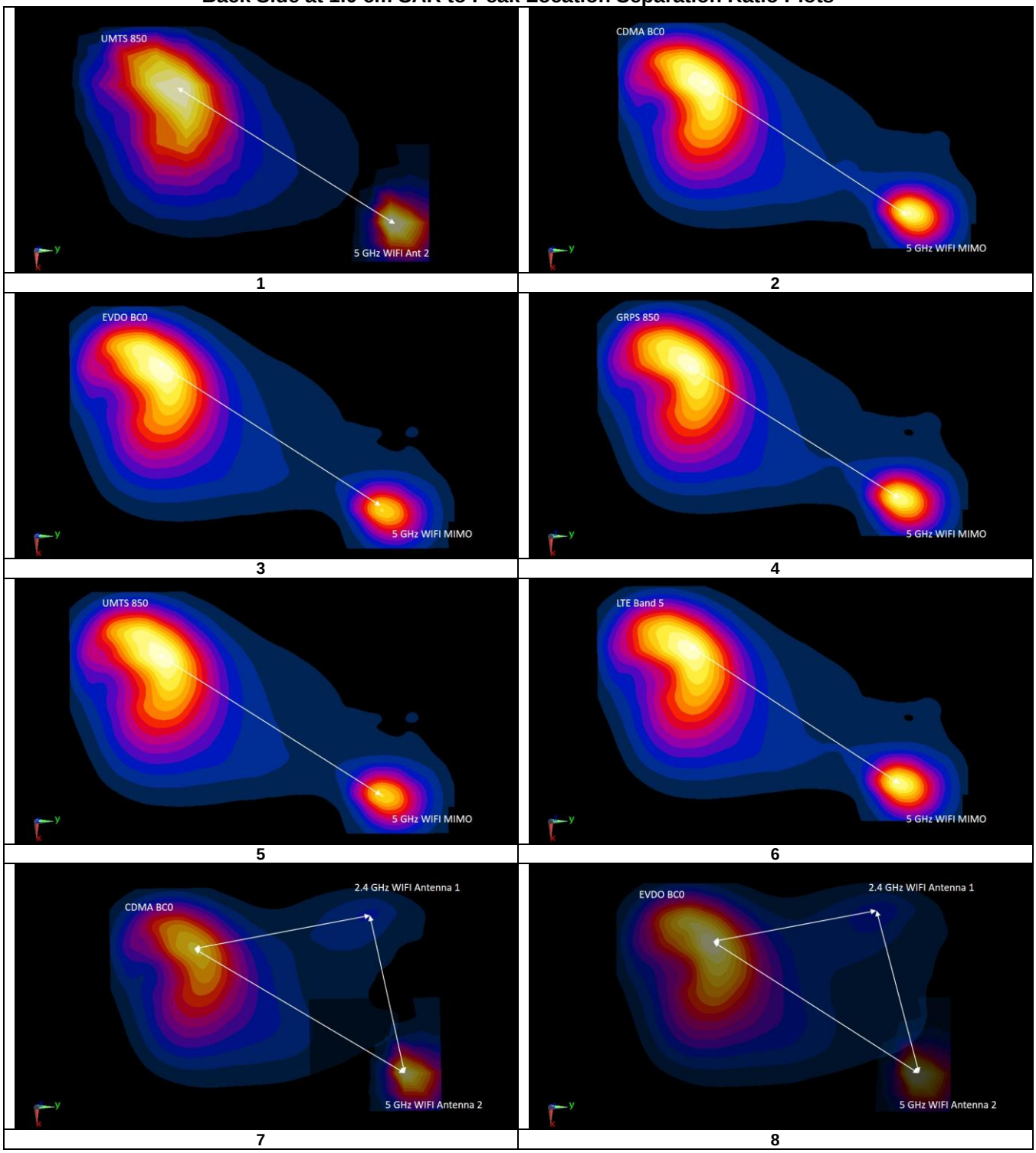
Table 12-32
Peak SAR Locations for Body Back Side at 1.0 cm

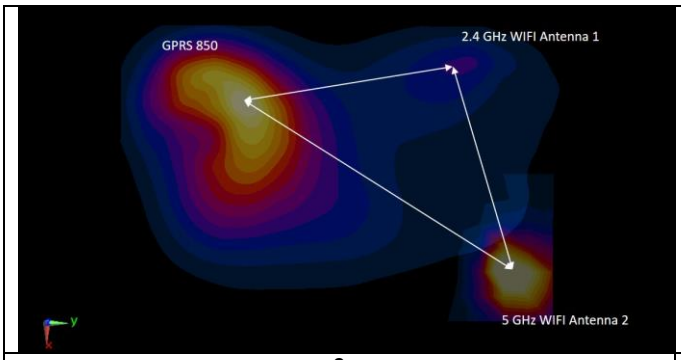
Mode/Band	x (mm)	y (mm)
2.4 GHz WLAN Ant 1	-69.40	44.40
2.4 GHz Bluetooth	-65.60	43.20
5 GHz WLAN Ant 2	16.00	63.00
5 GHz WLAN MIMO	15.00	61.00
CDMA BC0 (§22H)	-60.00	-57.50
EVDO BC0 (§22H)	-53.50	-46.50
GPRS 850	-61.50	-54.50
UMTS 850	-61.50	-57.50
LTE Band 26 (Cell)	-61.50	-56.00
LTE Band 5 (Cell)	-52.00	-48.00
LTE Band 7	-58.60	-35.60

Table 12-33
Back Side at 1.0 cm 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 Ant 2	UMTS 850	0.628	1.008	1.636	143.27	0.01	1
5 GHz WLAN MIMO	CDMA BC0 (§22H)	0.771	0.886	1.657	140.24	0.02	2
5 GHz WLAN MIMO	EVDO BC0 (§22H)	0.771	0.898	1.669	127.47	0.02	3
5 GHz WLAN MIMO	GPRS 850	0.771	0.857	1.628	138.54	0.01	4
5 GHz WLAN MIMO	UMTS 850	0.771	1.008	1.779	141.05	0.02	5
5 GHz WLAN MIMO	LTE Band 5 (Cell)	0.771	0.854	1.625	127.95	0.02	6
2.4 GHz WLAN Ant 1	5 GHz WLAN Ant 2	0.208	0.628	0.836	87.40	0.01	7
2.4 GHz WLAN Ant 1	CDMA BC0 (§22H)	0.208	0.886	1.094	102.33	0.01	
5 GHz WLAN Ant 2	CDMA BC0 (§22H)	0.628	0.886	1.514	142.46	0.01	
2.4 GHz WLAN Ant 1	5 GHz WLAN Ant 2	0.208	0.628	0.836	87.40	0.01	8
2.4 GHz WLAN Ant 1	EVDO BC0 (§22H)	0.208	0.898	1.106	92.28	0.01	
5 GHz WLAN Ant 2	EVDO BC0 (§22H)	0.628	0.898	1.526	129.69	0.01	
2.4 GHz WLAN Ant 1	5 GHz WLAN Ant 2	0.208	0.628	0.836	87.40	0.01	9
2.4 GHz WLAN Ant 1	GPRS 850	0.208	0.857	1.065	99.22	0.01	
5 GHz WLAN Ant 2	GPRS 850	0.628	0.857	1.485	140.76	0.01	
2.4 GHz WLAN Ant 1	5 GHz WLAN Ant 2	0.208	0.628	0.836	87.40	0.01	10
2.4 GHz WLAN Ant 1	UMTS 850	0.208	1.008	1.216	102.21	0.01	
5 GHz WLAN Ant 2	UMTS 850	0.628	1.008	1.636	143.27	0.01	
2.4 GHz WLAN Ant 1	5 GHz WLAN Ant 2	0.208	0.628	0.836	87.40	0.01	11
2.4 GHz WLAN Ant 1	LTE Band 26 (Cell)	0.208	0.820	1.028	100.71	0.01	
5 GHz WLAN Ant 2	LTE Band 26 (Cell)	0.628	0.820	1.448	142.01	0.01	
2.4 GHz WLAN Ant 1	5 GHz WLAN Ant 2	0.208	0.628	0.836	87.40	0.01	12
2.4 GHz WLAN Ant 1	LTE Band 5 (Cell)	0.208	0.854	1.062	94.02	0.01	
5 GHz WLAN Ant 2	LTE Band 5 (Cell)	0.628	0.854	1.482	130.17	0.01	
2.4 GHz Bluetooth	5 GHz WLAN Ant 2	0.026	0.628	0.654	83.97	0.01	13
2.4 GHz Bluetooth	UMTS 850	0.026	1.008	1.034	100.78	0.01	
5 GHz WLAN Ant 2	UMTS 850	0.628	1.008	1.636	143.27	0.01	
2.4 GHz Bluetooth	5 GHz WLAN MIMO	0.026	0.771	0.797	82.54	0.01	14
2.4 GHz Bluetooth	CDMA BC0 (§22H)	0.026	0.886	0.912	100.86	0.01	
5 GHz WLAN MIMO	CDMA BC0 (§22H)	0.771	0.886	1.657	140.24	0.02	
2.4 GHz Bluetooth	5 GHz WLAN MIMO	0.026	0.771	0.797	82.54	0.01	15
2.4 GHz Bluetooth	EVDO BC0 (§22H)	0.026	0.898	0.924	90.51	0.01	
5 GHz WLAN MIMO	EVDO BC0 (§22H)	0.771	0.898	1.669	127.47	0.02	
2.4 GHz Bluetooth	5 GHz WLAN MIMO	0.026	0.771	0.797	82.54	0.01	16
2.4 GHz Bluetooth	GPRS 850	0.026	0.857	0.883	97.79	0.01	
5 GHz WLAN MIMO	GPRS 850	0.771	0.857	1.628	138.54	0.01	
2.4 GHz Bluetooth	5 GHz WLAN MIMO	0.026	0.771	0.797	82.54	0.01	17
2.4 GHz Bluetooth	UMTS 850	0.026	1.008	1.034	100.78	0.01	
5 GHz WLAN MIMO	UMTS 850	0.771	1.008	1.779	141.05	0.02	
2.4 GHz Bluetooth	5 GHz WLAN MIMO	0.026	0.771	0.797	82.54	0.01	18
2.4 GHz Bluetooth	LTE Band 26 (Cell)	0.026	0.820	0.846	99.28	0.01	
5 GHz WLAN MIMO	LTE Band 26 (Cell)	0.771	0.820	1.591	139.79	0.01	
2.4 GHz Bluetooth	5 GHz WLAN MIMO	0.026	0.771	0.797	82.54	0.01	19
2.4 GHz Bluetooth	LTE Band 5 (Cell)	0.026	0.854	0.88	92.21	0.01	
5 GHz WLAN MIMO	LTE Band 5 (Cell)	0.771	0.854	1.625	127.95	0.02	

Table 12-34
Back Side at 1.0 cm SAR to Peak Location Separation Ratio Plots





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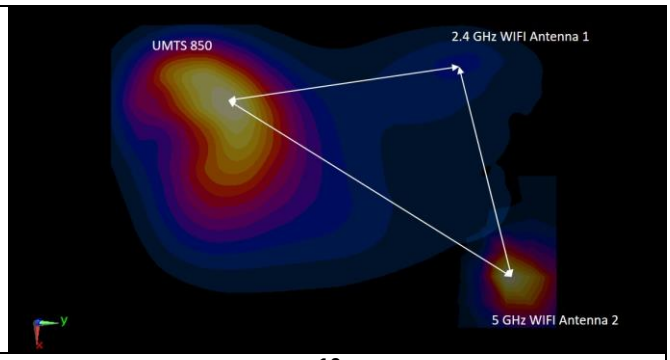

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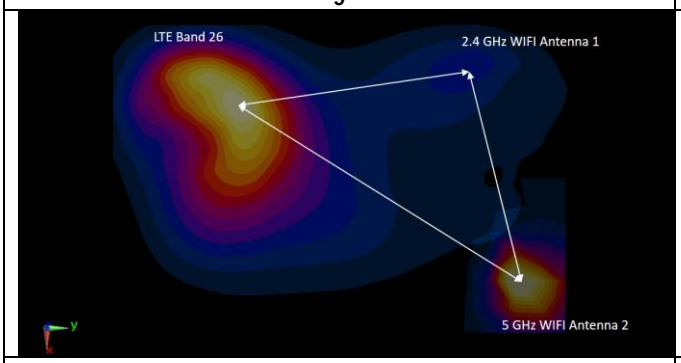

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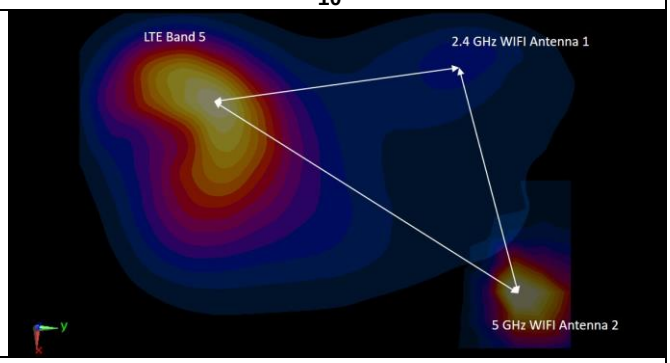

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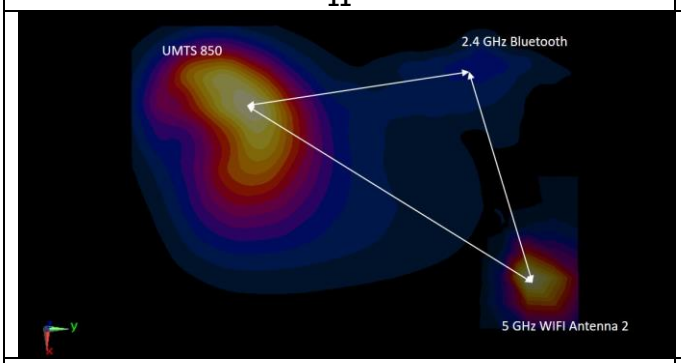

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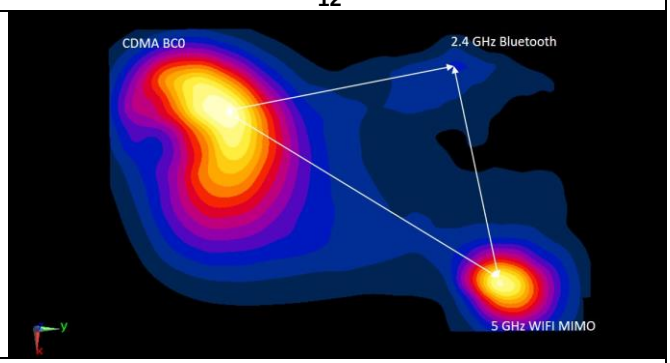

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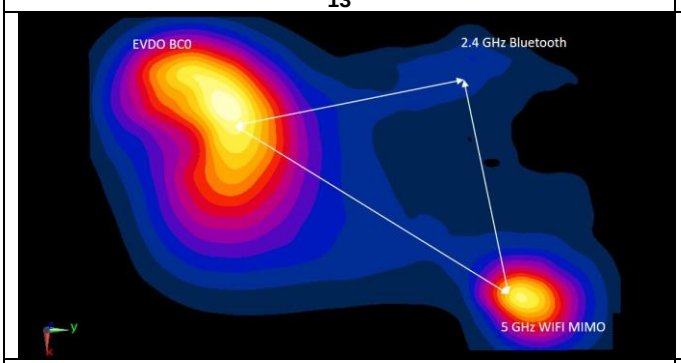

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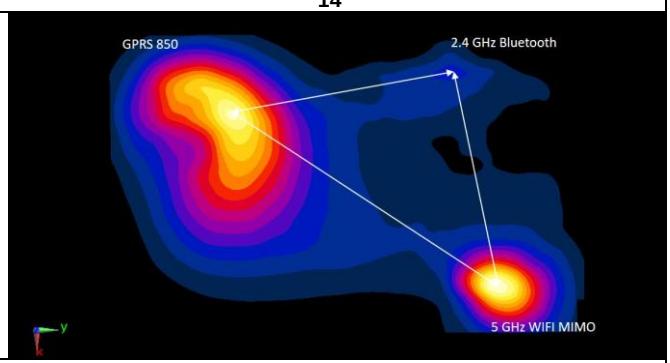

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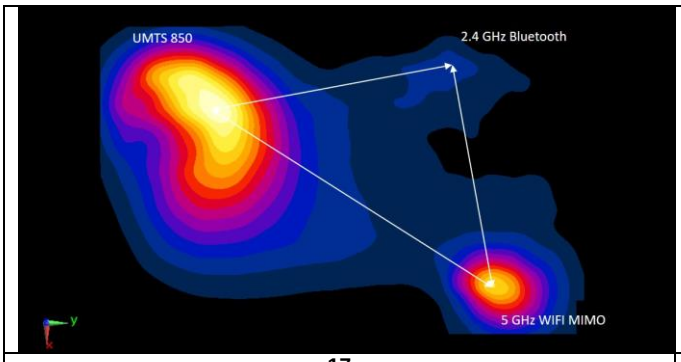

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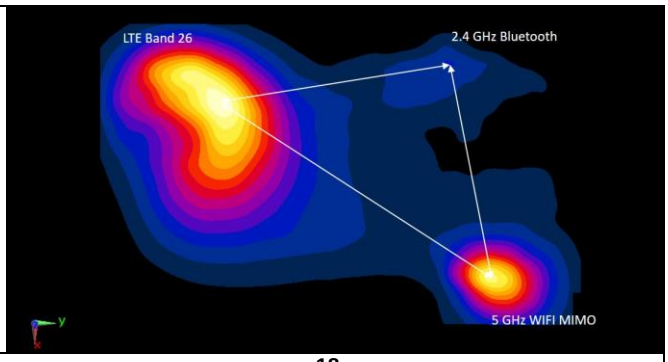

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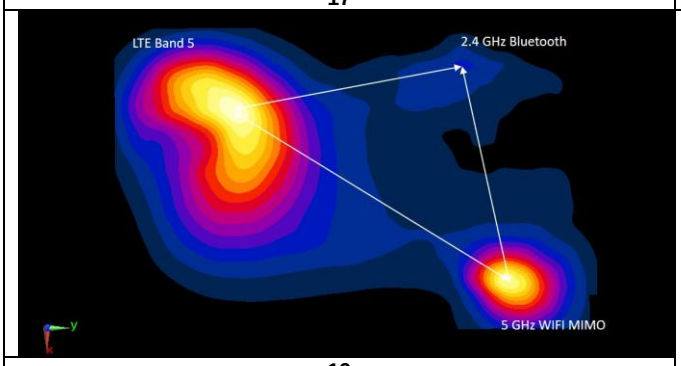

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12.7.3 Back Side Phablet SPLSR Evaluation and Analysis

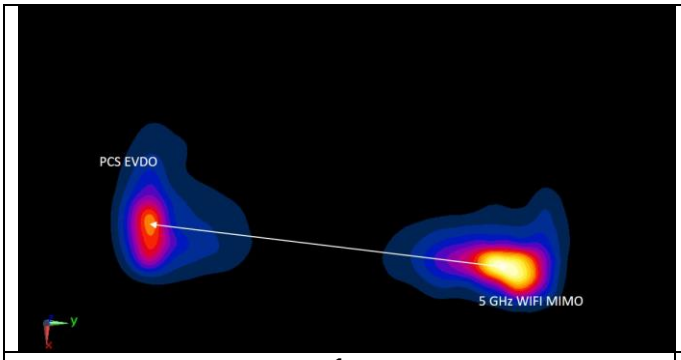
Table 12-35
Peak SAR Locations for Body Back Side Phablet

Mode/Band	x (mm)	y (mm)
5 GHz WLAN MIMO	6.00	58.00
PCS EVDO	-8.50	-72.00
UMTS 1750	-11.00	-78.50
UMTS 1900	-12.00	-72.00
LTE Band 66 (AWS)	-2.50	-81.00
LTE Band 25 (PCS)	-9.00	-80.00

Table 12-36
Back Side Phablet 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	PCS EVDO	2.729	1.940	4.669	130.81	0.08	1
5 GHz WLAN MIMO	UMTS 1750	2.729	1.822	4.551	137.55	0.07	2
5 GHz WLAN MIMO	UMTS 1900	2.729	1.594	4.323	131.24	0.07	3
5 GHz WLAN MIMO	LTE Band 66 (AWS)	2.729	1.876	4.605	139.26	0.07	4
5 GHz WLAN MIMO	LTE Band 25 (PCS)	2.729	1.676	4.405	138.81	0.07	5

Table 12-37
Back Side Phablet SAR to Peak Location Separation Ratio Plots



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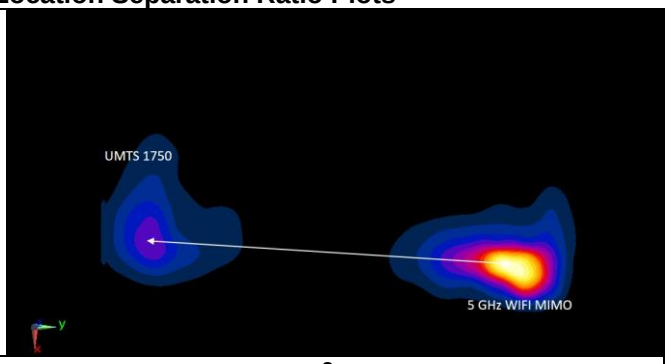

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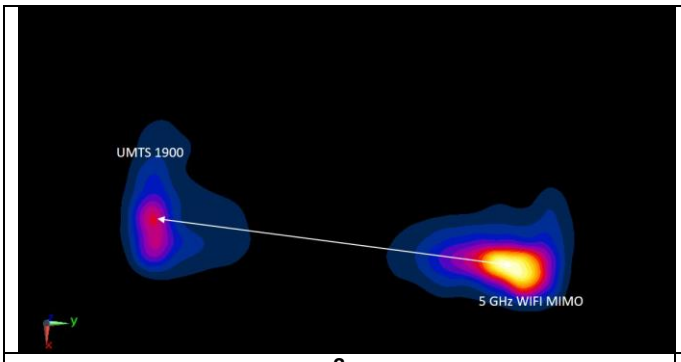

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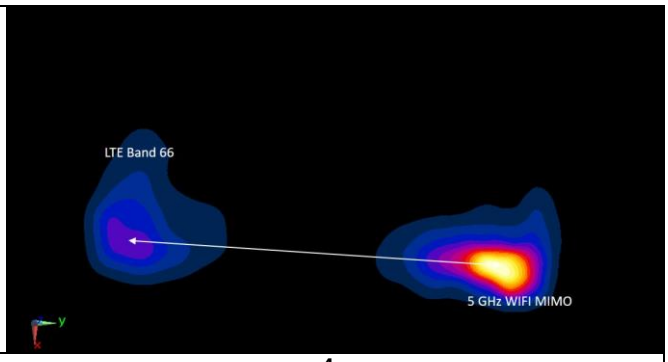

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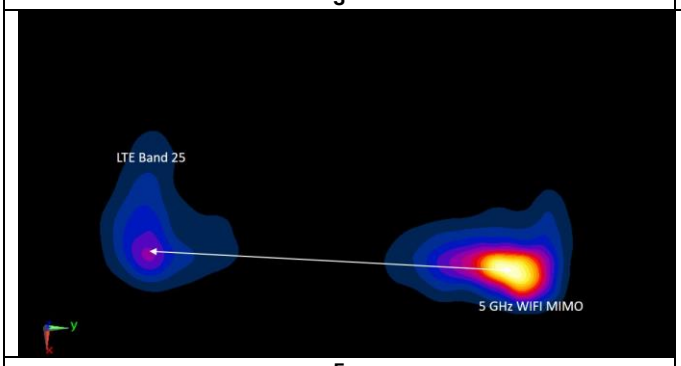

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12.8 Simultaneous Transmission Conclusion

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

13 SAR MEASUREMENT VARIABILITY

13.1 Measurement Variability

Per FCC KDB Publication 865664 D01v01r04, SAR measurement variability was assessed for each frequency band, which was determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media were required for SAR measurements in a frequency band, the variability measurement procedures were applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. These additional measurements were repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device was returned to ambient conditions (normal room temperature) with the battery fully charged before it was re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

SAR Measurement Variability was assessed using the following procedures for each frequency band:

1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.
2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1g SAR limit).
3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg
5) When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

Table 13-1
Head SAR Measurement Variability Results

HEAD VARIABILITY RESULTS														
Band	FREQUENCY		Mode	Service	Side	Test Position	Data Rate (Mbps)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	Ratio	3rd Repeated SAR (1g)	Ratio
	MHz	Ch.						(W/kg)	(W/kg)		(W/kg)		(W/kg)	
2450	2412.00	1	802.11b, 22 MHz Bandwidth	DSSS , ANT 1	Left	Cheek	1	0.950	0.924	1.03	N/A	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					Head 1.6 W/kg (mW/g) averaged over 1 gram									

Table 13-2
Body SAR Measurement Variability Results

BODY VARIABILITY RESULTS													
Band	FREQUENCY		Mode	Service	Side	Spacing	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	Ratio	3rd Repeated SAR (1g)	Ratio
	MHz	Ch.					(W/kg)	(W/kg)		(W/kg)		(W/kg)	
1900	1880.00	600	PCS CDMA	EVDO Rev. 0	bottom	10 mm	1.250	1.190	1.05	N/A	N/A	N/A	N/A
835	846.60	4233	UMTS 850	RMC	back	10 mm	0.989	0.985	1.00	N/A	N/A	N/A	N/A
1750	1770.00	132572	LTE Band 66 (AWS), 20 MHz Bandwidth	QPSK, 1 RB, 0 RB Offset	bottom	10 mm	1.060	1.030	1.03	N/A	N/A	N/A	N/A
2600	2560.00	21350	LTE Band 7, 20 MHz Bandwidth	QPSK, 1 RB, 0 RB Offset	right	10 mm	0.842	0.827	1.02	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, 100 RB, 0 RB Offset	N/A	bottom	0 mm	3.010	3.000	1.00	N/A	N/A	N/A	N/A
1900	1860.00	26140	LTE Band 25 (PCS), 20 MHz Bandwidth	QPSK, 50 RB, 25 RB Offset	N/A	bottom	0 mm	2.930	2.690	1.09	N/A	N/A	N/A	N/A
5250	5280.00	56	802.11n, 20 MHz Bandwidth	OFDM, MIMO	13	back	0 mm	2.360	2.340	1.01	N/A	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT **Spatial Peak** **Uncontrolled Exposure/General Population**								**Phablet** **4.0 W/kg (mW/g)** averaged over 10 grams						

13.2 Measurement Uncertainty

The measured SAR was <1.5 W/kg for 1g and <3.75 W/kg for 10g for all frequency bands. Therefore, per KDB Publication 865664 D01v01r04, the extended measurement uncertainty analysis per IEEE 1528-2013 was not required.

14 ADDITIONAL TESTING PER FCC GUIDANCE

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

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

Table 14-1
LTE Band 41 Standalone Head Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	25.20	27.70
Measured Output Power (dBm)	25.08	27.13
Measured SAR (W/kg)	0.244	0.262
Measured Power (mW)	322.11	516.42
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	203.89	223.61
% deviation from expected linearity		-2.09%

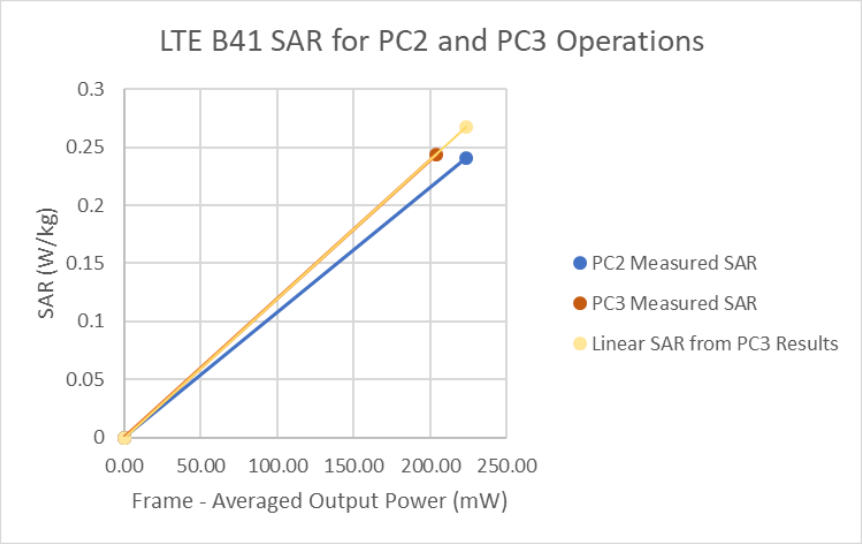

Figure 14-1
LTE Band 41 Standalone Head Linearity

Table 14-2
LTE Band 41 ULCA Head Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	25.20	27.70
Measured Output Power (dBm)	25.05	27.20
Measured SAR (W/kg)	0.239	0.256
Measured Power (mW)	319.89	524.81
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	202.49	227.24
% deviation from expected linearity		-4.55%

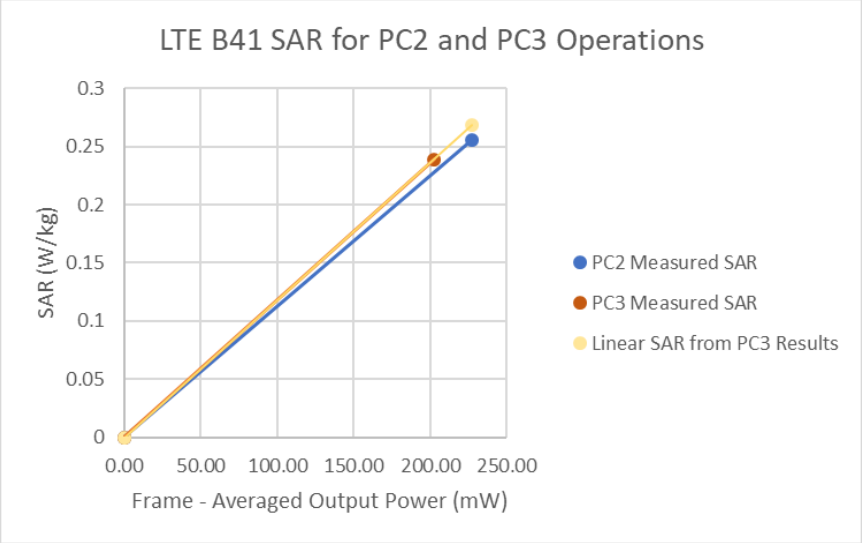

Figure 14-2
LTE Band 41 ULCA Head Linearity

Table 14-3
LTE Band 41 Standalone Body-Worn Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	25.20	27.70
Measured Output Power (dBm)	25.08	27.13
Measured SAR (W/kg)	0.326	0.339
Measured Power (mW)	322.11	516.42
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	203.89	223.61
% deviation from expected linearity		-5.18%

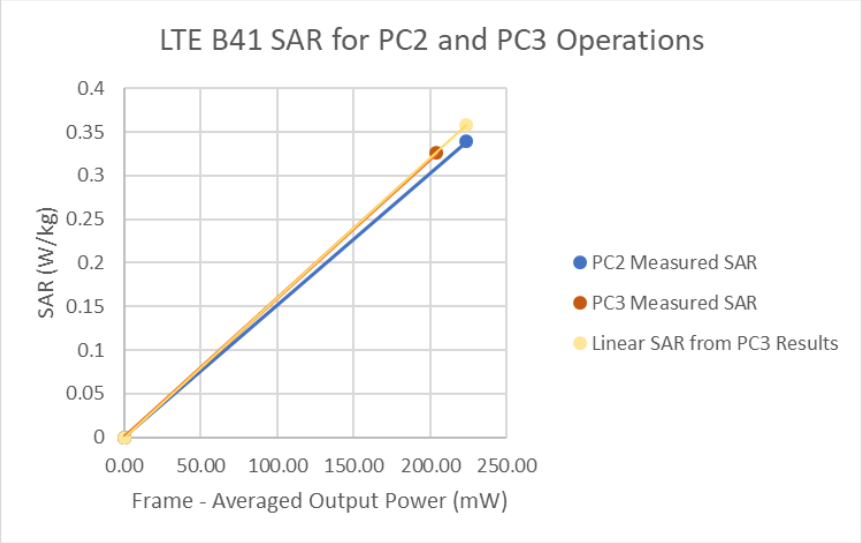

Figure 14-3
LTE Band 41 Standalone Body-Worn Linearity

Table 14-4
LTE Band 41 ULCA Body-Worn Linearity Data

	LTE Band 41 PC3 ULCA	LTE Band 41 PC2 ULCA
Maximum Allowed Output Power (dBm)	25.20	27.70
Measured Output Power (dBm)	25.05	27.20
Measured SAR (W/kg)	0.326	0.344
Measured Power (mW)	319.89	524.81
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	202.49	227.24
% deviation from expected linearity		-5.97%

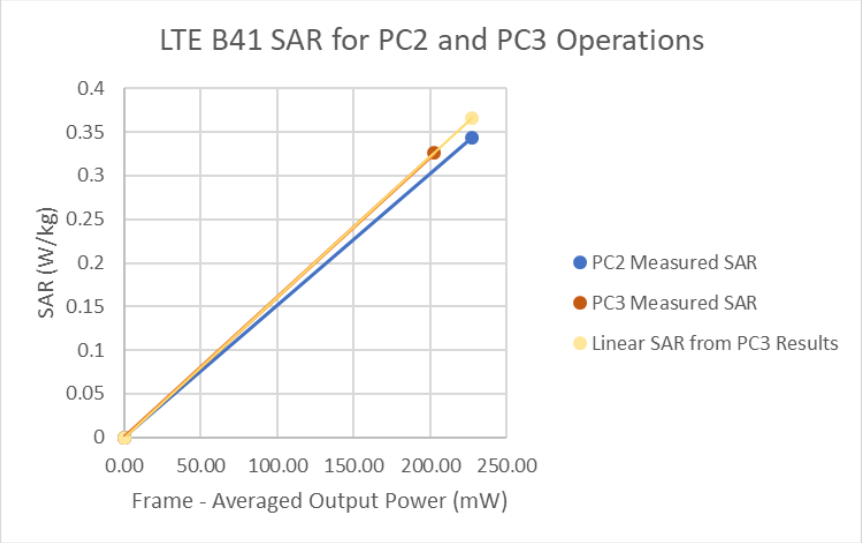

Figure 14-4
LTE Band 41 UCLA Body-Worn Linearity

Table 14-5
LTE Band 41 Standalone Hotspot Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	25.20	27.70
Measured Output Power (dBm)	25.08	27.13
Measured SAR (W/kg)	0.357	0.390
Measured Power (mW)	322.11	516.42
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	203.89	223.61
% deviation from expected linearity		-0.39%

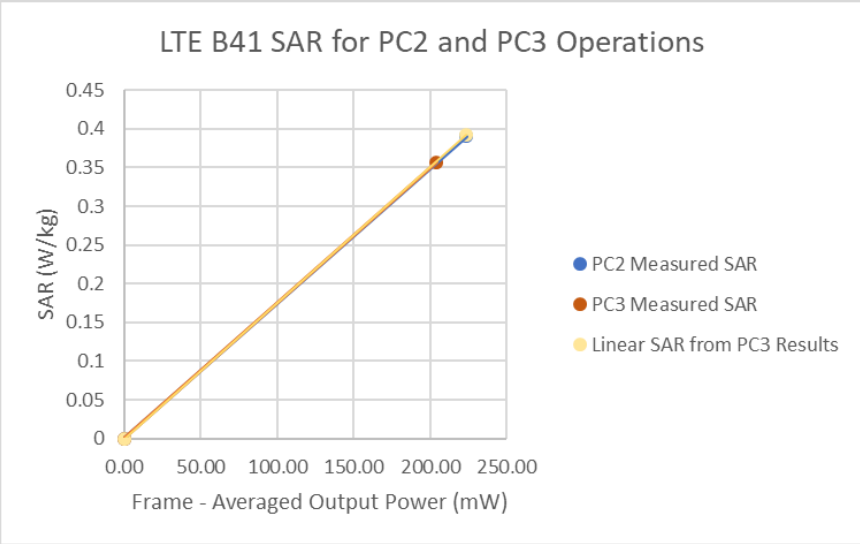

Figure 14-5
LTE Band 41 Standalone Hotspot Linearity

Table 14-6
LTE Band 41 ULCA Hotspot Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	25.20	27.70
Measured Output Power (dBm)	25.05	27.20
Measured SAR (W/kg)	0.366	0.38
Measured Power (mW)	319.89	524.81
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	202.49	227.24
% deviation from expected linearity		-7.48%

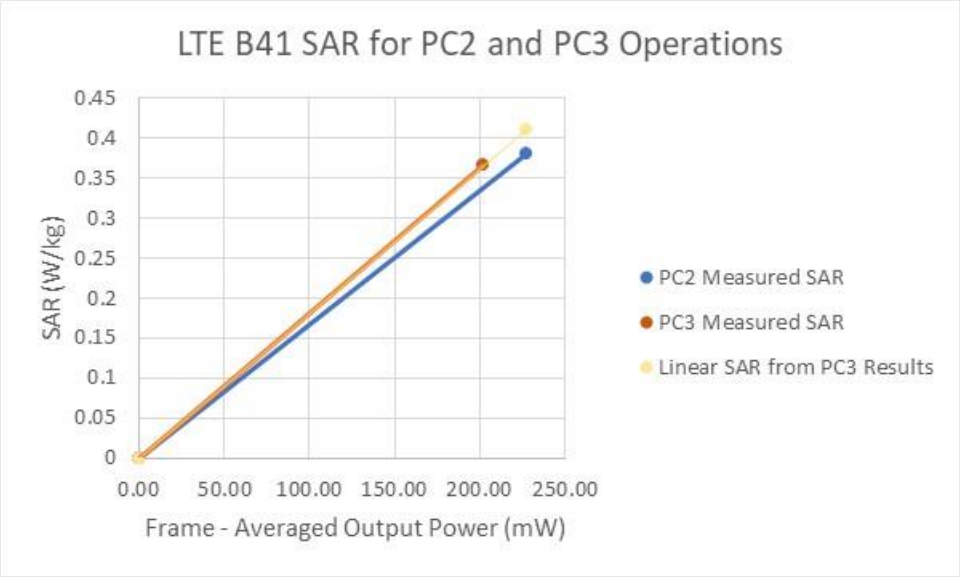

Figure 14-6
LTE Band 41 ULCA Hotspot Linearity

15 EQUIPMENT LIST

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	8594A	(9kHz-2.9GHz) Spectrum Analyzer	CBT	N/A	CBT	3051A00187
Agilent	8648D	(9kHz-4GHz) Signal Generator	CBT	N/A	CBT	3629U00687
Agilent	8753E	(30kHz-6GHz) Network Analyzer	9/28/2018	Annual	9/28/2019	JP38020182
Agilent	8753ES	S-Parameter Network Analyzer	10/2/2018	Annual	10/2/2019	US39170118
Agilent	8753ES	S-Parameter Vector Network Analyzer	8/30/2018	Annual	8/30/2019	MY40003841
Agilent	E4438C	ESG Vector Signal Generator	5/22/2019	Annual	5/22/2020	MY45091346
Agilent	E4438C	ESG Vector Signal Generator	5/23/2019	Annual	5/23/2020	MY47270002
Agilent	E4440A	PSA Series Spectrum Analyzer	11/14/2018	Annual	11/14/2019	MY46186272
Agilent	E5515C	8960 Series 10 Wireless Communications Test Set	12/18/2018	Annual	12/18/2019	GB42230325
Agilent	E5515C	Wireless Communications Test Set	2/28/2018	Biennial	2/28/2020	GB41450275
Agilent	E5515C	Wireless Communications Test Set	5/22/2018	Biennial	5/22/2020	GB43193563
Agilent	N4010A	Wireless Connectivity Test Set	N/A	N/A	N/A	GB44450273
Agilent	N5182A	MXG Vector Signal Generator	11/28/2018	Annual	11/28/2019	MY47420603
Agilent	N9020A	MXA Signal Analyzer	4/20/2019	Annual	4/20/2020	US46470561
Agilent	N9030A	PXA Signal Analyzer (44GHz)	6/12/2019	Annual	6/12/2020	MY52350166
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	343972
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	343971
Anritsu	MA24106A	USB Power Sensor	9/20/2018	Annual	9/20/2019	1344545
Anritsu	MA24106A	USB Power Sensor	9/20/2018	Annual	9/20/2019	1344559
Anritsu	MA2411B	Pulse Power Sensor	10/30/2018	Annual	10/30/2019	1126066
Anritsu	MA2411B	Pulse Power Sensor	10/30/2018	Annual	10/30/2019	1207470
Anritsu	ML2495A	Power Meter	10/21/2018	Annual	10/21/2019	941001
Anritsu	MT8820C	Radio Communication Analyzer	3/29/2019	Annual	3/29/2020	6201300731
Anritsu	MT8821C	Radio Communication Analyzer	11/6/2018	Annual	11/6/2019	6200901190
Anritsu	MT8821C	Radio Communication Analyzer	1/25/2019	Annual	1/25/2020	6261895213
Anritsu	MT8821C	Radio Communication Analyzer	3/6/2019	Annual	3/6/2020	6201381794
Control Company	4040	Therm./ Clock/ Humidity Monitor	10/9/2018	Biennial	10/9/2020	181647811
Control Company	4040	Therm./ Clock/ Humidity Monitor	10/9/2018	Biennial	10/9/2020	181647802
Control Company	4352	Ultra Long Stem Thermometer	2/28/2018	Biennial	2/28/2020	170330160
Control Company	4352	Ultra Long Stem Thermometer	2/28/2018	Biennial	2/28/2020	170330158
Keysight	772D	Dual Directional Coupler	CBT	N/A	CBT	MY52180215
Keysight Technologies	85033E	Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm)	7/2/2019	Annual	7/2/2020	MY53401181
MCL	BW-N6W5+	6dB Attenuator	CBT	N/A	CBT	1139
MiniCircuits	SLP-2400+	Low Pass Filter	CBT	N/A	CBT	R8979500903
MiniCircuits	VLF-6000+	Low Pass Filter	CBT	N/A	CBT	N/A
Mini-Circuits	BW-N20W5	Power Attenuator	CBT	N/A	CBT	1226
Mini-Circuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-1200+	Low Pass Filter DC to 1000 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT	N/A	CBT	N/A
Mitutoyo	CD-6"CSX	Digital Caliper	4/18/2018	Biennial	4/18/2020	13264165
Narda	4014C-6	4 - 8 GHz SMA 6 dB Directional Coupler	CBT	N/A	CBT	N/A
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Narda	BW-S3W2	Attenuator (3dB)	CBT	N/A	CBT	120
Pasternack	NC-100	Torque Wrench	11/1/2017	Biennial	11/1/2019	N/A
Pasternack	NC-100	Torque Wrench	11/7/2017	Biennial	11/7/2019	N/A
Pasternack	PE2208-6	Bidirectional Coupler	CBT	N/A	CBT	N/A
Pasternack	PE2209-10	Bidirectional Coupler	CBT	N/A	CBT	N/A
Rohde & Schwarz	CMW500	Radio Communication Tester	10/4/2018	Annual	10/4/2019	109366
Rohde & Schwarz	CMW500	Radio Communication Tester	10/12/2018	Annual	10/12/2019	166462
SPEAG	D1750V2	1750 MHz SAR Dipole	5/15/2019	Annual	5/15/2020	1148
SPEAG	D1750V2	1750 MHz SAR Dipole	10/22/2018	Annual	10/22/2019	1150
SPEAG	D1900V2	1900 MHz SAR Dipole	10/23/2018	Annual	10/23/2019	5d080
SPEAG	D2300V2	2300 MHz SAR Dipole	8/13/2018	Annual	8/13/2019	1073
SPEAG	D2450V2	2450 MHz SAR Dipole	8/16/2018	Annual	8/16/2019	981
SPEAG	D2450V2	2450 MHz SAR Dipole	9/11/2017	Biennial	9/11/2019	797
SPEAG	D2600V2	2600 MHz SAR Dipole	4/11/2018	Biennial	4/11/2020	1004
SPEAG	D3500V2	3500 MHz SAR Dipole	1/11/2018	Biennial	1/11/2020	1059
SPEAG	D3500V2	3500 MHz SAR Dipole	8/15/2018	Annual	8/15/2019	1055
SPEAG	D3700V2	3700 MHz SAR Dipole	1/11/2018	Biennial	1/11/2020	1018
SPEAG	D3700V2	3700 MHz SAR Dipole	9/13/2018	Annual	9/13/2019	1002
SPEAG	D5GHzV2	5 GHz SAR Dipole	9/21/2016	Triennial	9/21/2019	1191
SPEAG	D5GHzV2	5 GHz SAR Dipole	1/16/2018	Biennial	1/16/2020	1057
SPEAG	D750V3	750 MHz SAR Dipole	1/15/2018	Biennial	1/15/2020	1003
SPEAG	D835V2	835 MHz SAR Dipole	1/22/2019	Annual	1/22/2020	4d132
SPEAG	D835V2	835 MHz SAR Dipole	10/19/2018	Annual	10/19/2019	4d133
SPEAG	D835V2	835 MHz SAR Dipole	3/13/2019	Annual	3/13/2020	4d047
SPEAG	DAE4	Dasy Data Acquisition Electronics	8/22/2018	Annual	8/22/2019	1450
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/14/2019	Annual	2/14/2020	1272
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/8/2019	Annual	5/8/2020	728
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/8/2019	Annual	5/8/2020	859
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/11/2019	Annual	7/11/2020	1323
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	1/15/2019	Annual	1/15/2020	1530
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/13/2019	Annual	2/13/2020	665
SPEAG	DAE4	Dasy Data Acquisition Electronics	10/18/2018	Annual	10/18/2019	1333
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/11/2019	Annual	7/11/2020	1322
SPEAG	DAK-3.5	Dielectric Assessment Kit	5/7/2019	Annual	5/7/2020	1070
SPEAG	EX3DV4	SAR Probe	1/25/2019	Annual	1/25/2020	3589
SPEAG	EX3DV4	SAR Probe	2/19/2019	Annual	2/19/2020	3914
SPEAG	EX3DV4	SAR Probe	5/16/2019	Annual	5/16/2020	7538
SPEAG	EX3DV4	SAR Probe	5/16/2019	Annual	5/16/2020	7406
SPEAG	EX3DV4	SAR Probe	7/15/2019	Annual	7/15/2020	7547
SPEAG	EX3DV4	SAR Probe	6/19/2019	Annual	6/19/2020	7409
SPEAG	EX3DV4	SAR Probe	4/24/2019	Annual	4/24/2020	7357
SPEAG	EX3DV4	SAR Probe	1/24/2019	Annual	1/24/2020	7488
SPEAG	EX3DV4	SAR Probe	2/19/2019	Annual	2/19/2020	7417
SPEAG	EX3DV4	SAR Probe	8/24/2018	Annual	8/24/2019	3949
SPEAG	EX3DV4	SAR Probe	7/16/2019	Annual	7/16/2020	7410

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

16 MEASUREMENT UNCERTAINTIES

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

17 CONCLUSION

17.1 Measurement Conclusion

The SAR evaluation indicates that the EUT complies with the RF radiation exposure limits of the FCC and Innovation, Science, and Economic Development Canada, with respect to all parameters subject to this test. These measurements were taken to simulate the RF effects of RF exposure under worst-case conditions. Precise laboratory measures were taken to assure repeatability of the tests. The results and statements relate only to the item(s) tested.

Please note that the absorption and distribution of electromagnetic energy in the body are very complex phenomena that depend on the mass, shape, and size of the body, the orientation of the body with respect to the field vectors, and the electrical properties of both the body and the environment. Other variables that may play a substantial role in possible biological effects are those that characterize the environment (e.g. ambient temperature, air velocity, relative humidity, and body insulation) and those that characterize the individual (e.g. age, gender, activity level, debilitation, or disease). Because various factors may interact with one another to vary the specific biological outcome of an exposure to electromagnetic fields, any protection guide should consider maximal amplification of biological effects as a result of field-body interactions, environmental conditions, and physiological variables. [3]

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APPENDIX A: SAR TEST DATA

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01772

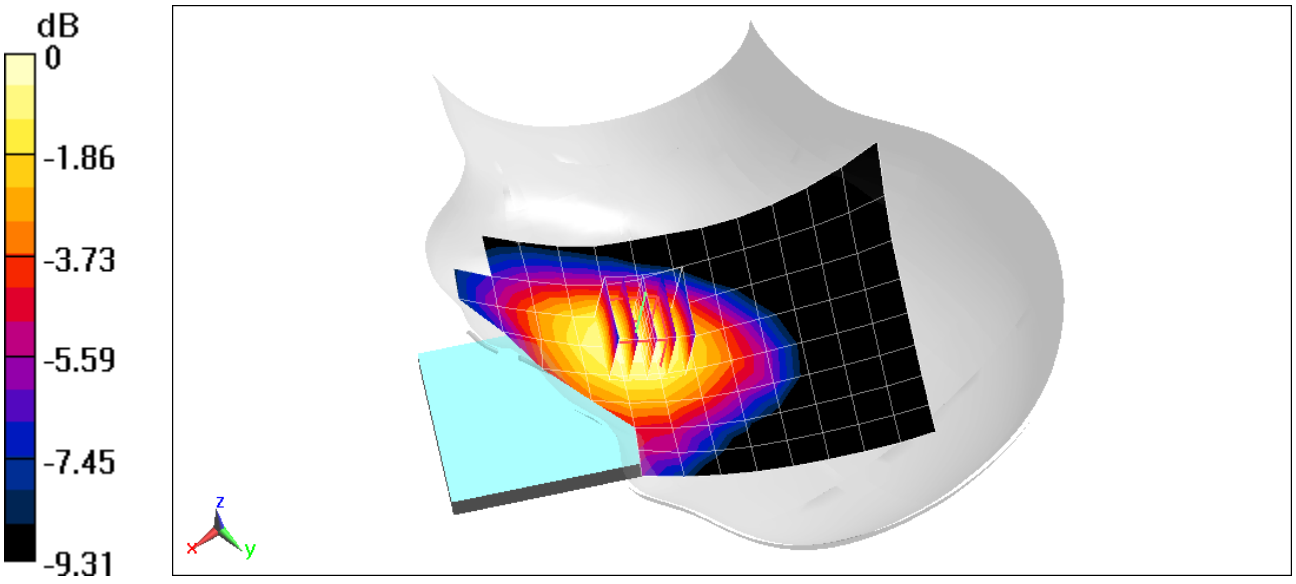
Communication System: UID 0, Cellular CDMA; Frequency: 820.1 MHz; Duty Cycle: 1:1
Medium: 835 Head Medium parameters used (interpolated):
f = 820.1 MHz; σ = 0.927 S/m; ε_r = 42.611; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 08-12-2019; Ambient Temp: 22.1°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN3914; ConvF(9.5, 9.5, 9.5) @ 820.1 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 2/14/2019
Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1687
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: Cell. EVDO Rev. A, Rule Part 90S, 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 = 11.50 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 0.151 W/kg
SAR(1 g) = 0.118 W/kg



0 dB = 0.138 W/kg = -8.60 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01772

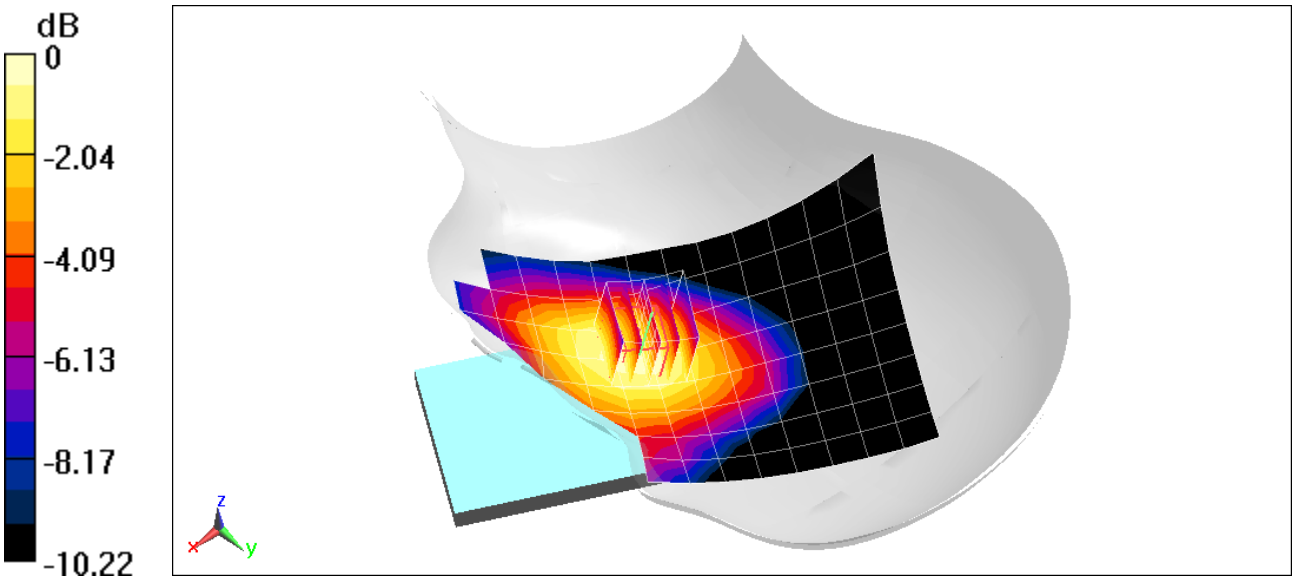
Communication System: UID 0, Cellular CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1
Medium: 835 Head Medium parameters used (interpolated):
f = 836.52 MHz; σ = 0.934 S/m; ε_r = 42.568; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 08-12-2019; Ambient Temp: 22.1°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN3914; ConvF(9.5, 9.5, 9.5) @ 836.52 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 2/14/2019
Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1687
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: Cell. EVDO Rev. A, Rule Part 22H, 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 = 13.03 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.195 W/kg
SAR(1 g) = 0.152 W/kg



0 dB = 0.177 W/kg = -7.52 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01798

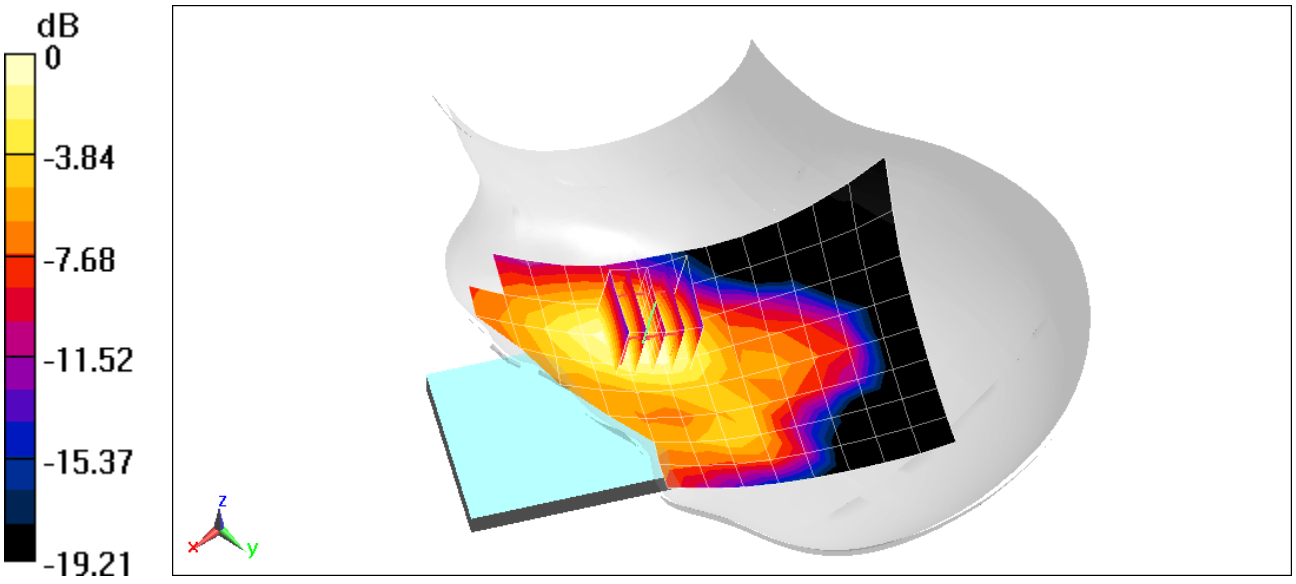
Communication System: UID 0, PCS CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used:
f = 1880 MHz; σ = 1.412 S/m; ε_r = 41.503; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 08-06-2019; Ambient Temp: 23.2°C; Tissue Temp: 22.6°C

Probe: EX3DV4 - SN3914; ConvF(7.8, 7.8, 7.8) @ 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 Left 30; Type: QD 000 P40 CD; Serial: 1687
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.05 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.207 W/kg
SAR(1 g) = 0.133 W/kg



0 dB = 0.176 W/kg = -7.54 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01780

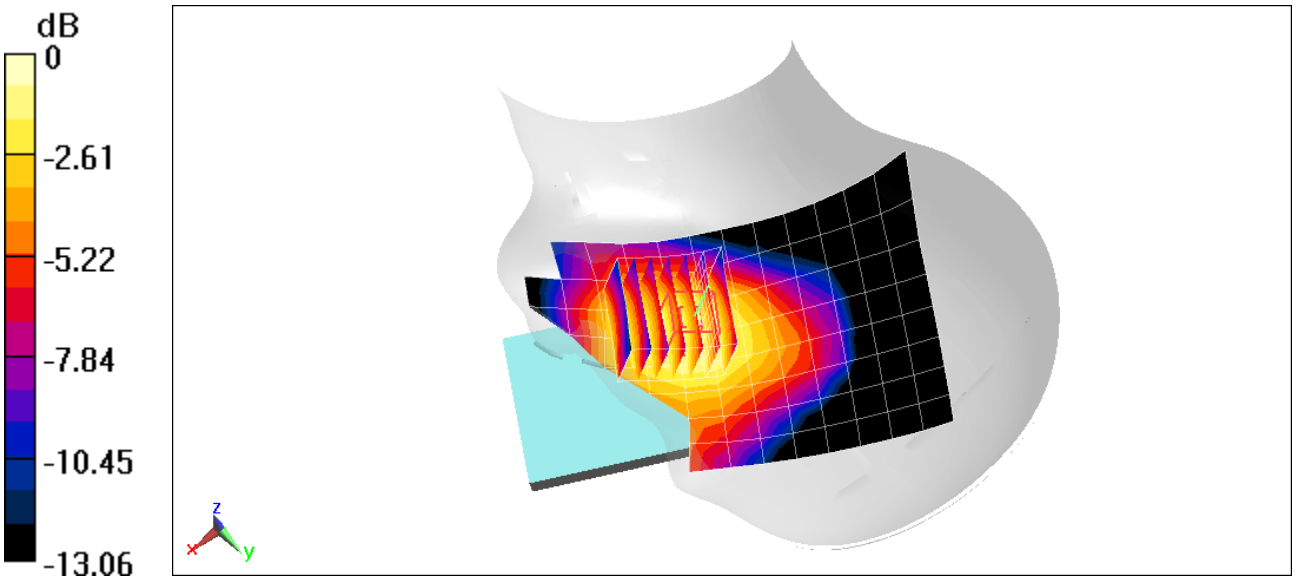
Communication System: UID 0, GSM GPRS; 3 Tx slots; Frequency: 836.6 MHz; Duty Cycle: 1:2.76
Medium: 835 Head Medium parameters used (interpolated):
$f = 836.6$ MHz; $\sigma = 0.916$ S/m; $\varepsilon_r = 41.161$; $\rho = 1000$ kg/m^3
Phantom section: Left Section

Test Date: 08-01-2019; Ambient Temp: 23.1°C; Tissue Temp: 22.3°C

Probe: EX3DV4 - SN3589; ConvF(8.39, 8.39, 8.39) @ 836.6 MHz; Calibrated: 1/25/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/22/2018
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 (7450)

Mode: GPRS 850, Left Head, Cheek, Mid.ch, 3 Tx slots

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.12 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.198 W/kg
SAR(1 g) = 0.154 W/kg



0 dB = 0.179 W/kg = -7.47 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01798

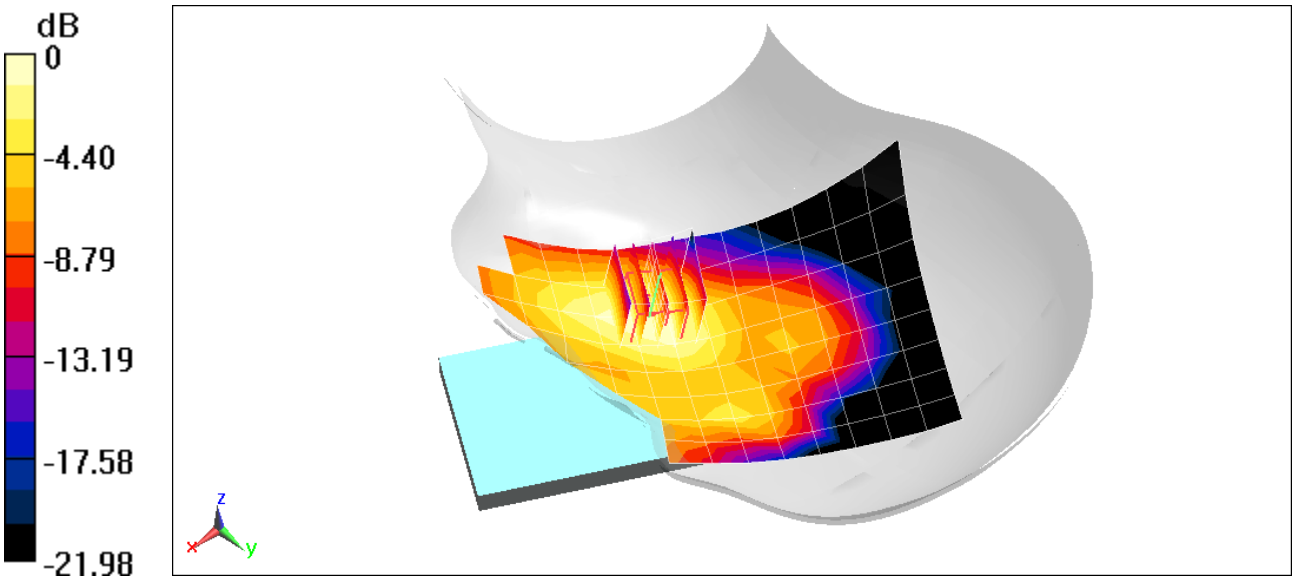
Communication System: UID 0, GSM GPRS; 3 Tx slots; Frequency: 1880 MHz; Duty Cycle: 1:2.76
Medium: 1900 Head Medium parameters used:
f = 1880 MHz; σ = 1.412 S/m; ε_r = 41.503; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 08-06-2019; Ambient Temp: 23.2°C; Tissue Temp: 22.6°C

Probe: EX3DV4 - SN3914; ConvF(7.8, 7.8, 7.8) @ 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 Left 30; Type: QD 000 P40 CD; Serial: 1687
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.064 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 0.127 W/kg
SAR(1 g) = 0.085 W/kg



0 dB = 0.112 W/kg = -9.51 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01780

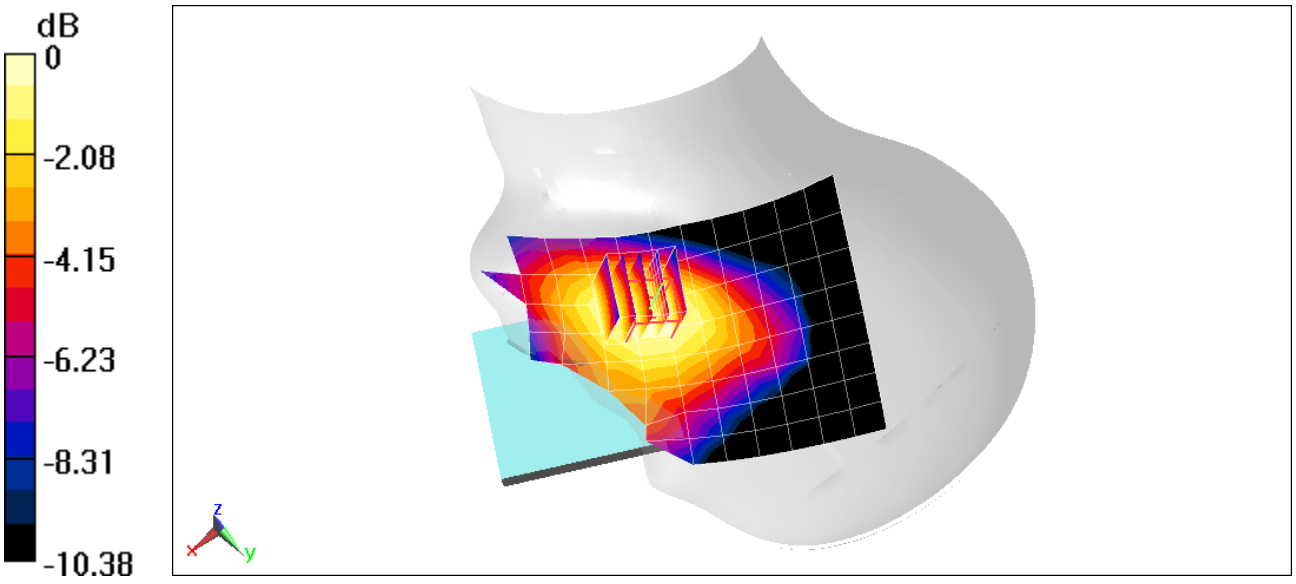
Communication System: UID 0, UMTS; Frequency: 836.6 MHz; Duty Cycle: 1:1
Medium: 835 Head Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.902 S/m; ε_r = 42.251; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 07-30-2019; Ambient Temp: 22.9°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN3589; ConvF(8.39, 8.39, 8.39) @ 836.6 MHz; Calibrated: 1/25/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/22/2018
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 (7450)

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

Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.98 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.157 W/kg
SAR(1 g) = 0.125 W/kg



0 dB = 0.147 W/kg = -8.33 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01764

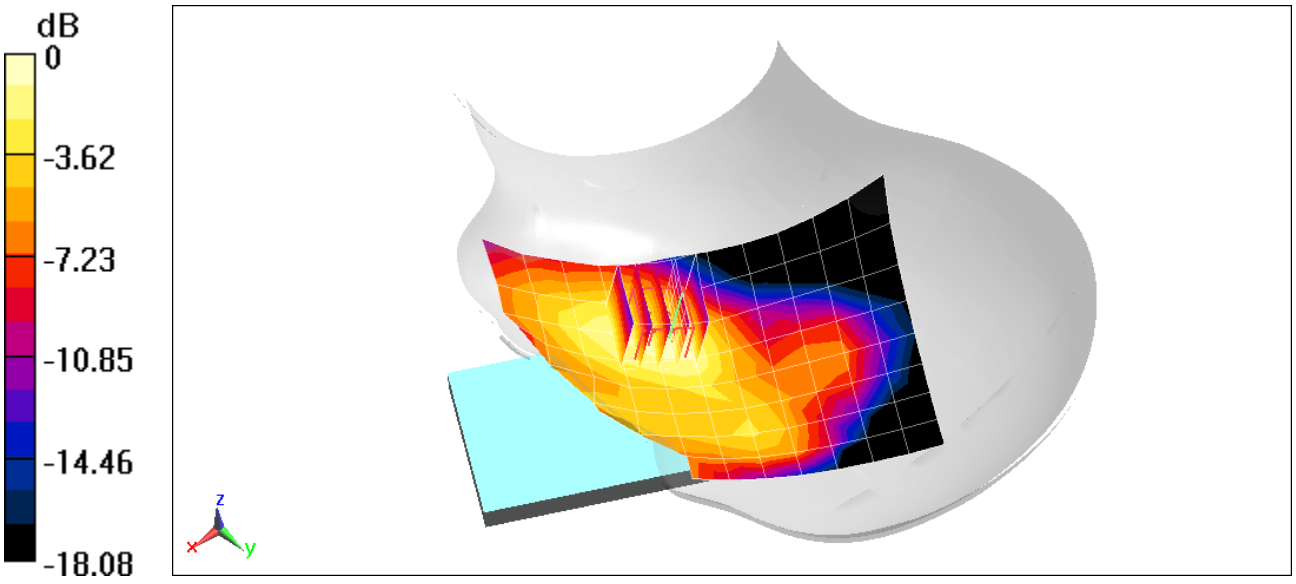
Communication System: UID 0, UMTS; Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium: 835 Head Medium parameters used (interpolated):
f = 1732.4 MHz; σ = 1.359 S/m; ε_r = 40.461; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 08-07-2019; Ambient Temp: 20.5°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7538; ConvF(8.67, 8.67, 8.67) @ 1732.4 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Left Twin-SAM V5.0 30; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

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 = 8.075 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.134 W/kg
SAR(1 g) = 0.085 W/kg



0 dB = 0.113 W/kg = -9.47 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01798

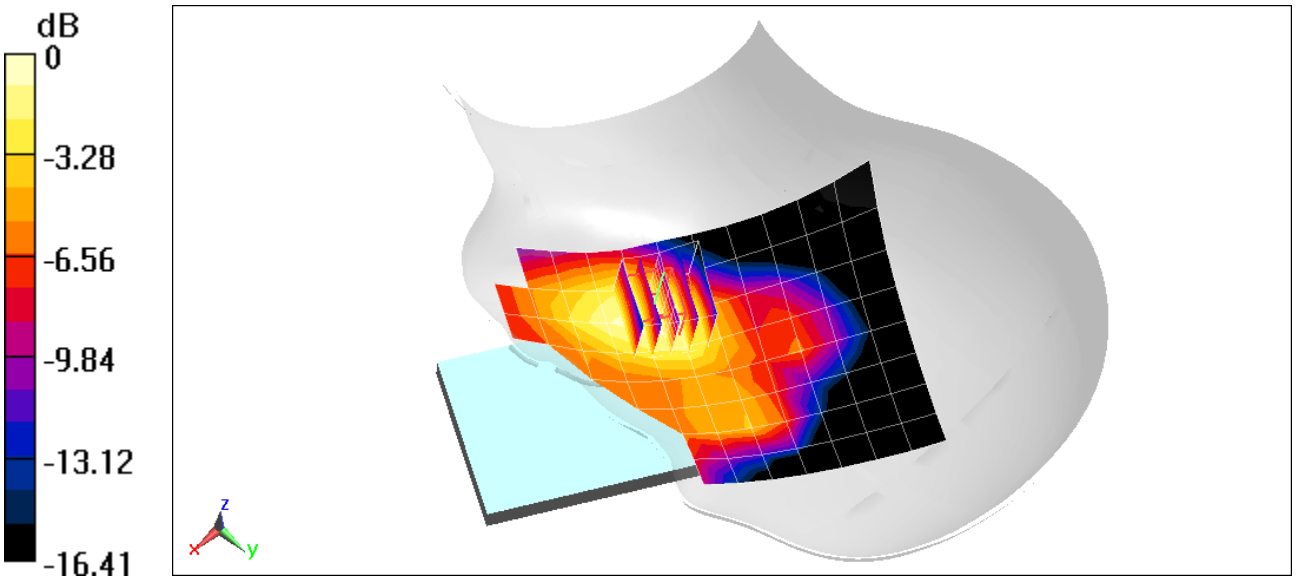
Communication System: UID 0, UMTS; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used:
f = 1880 MHz; σ = 1.413 S/m; ε_r = 39.502; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 07-25-2019; Ambient Temp: 21.2°C; Tissue Temp: 20.1°C

Probe: EX3DV4 - SN7406; ConvF(8.18, 8.18, 8.18) @ 1880 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/8/2019
Phantom: Twin-SAM V5.0 Right 20; Type: QD 000 P40 CD; Serial: 1759
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: UMTS 1900, 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 = 8.830 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 0.167 W/kg
SAR(1 g) = 0.105 W/kg



0 dB = 0.138 W/kg = -8.60 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01780

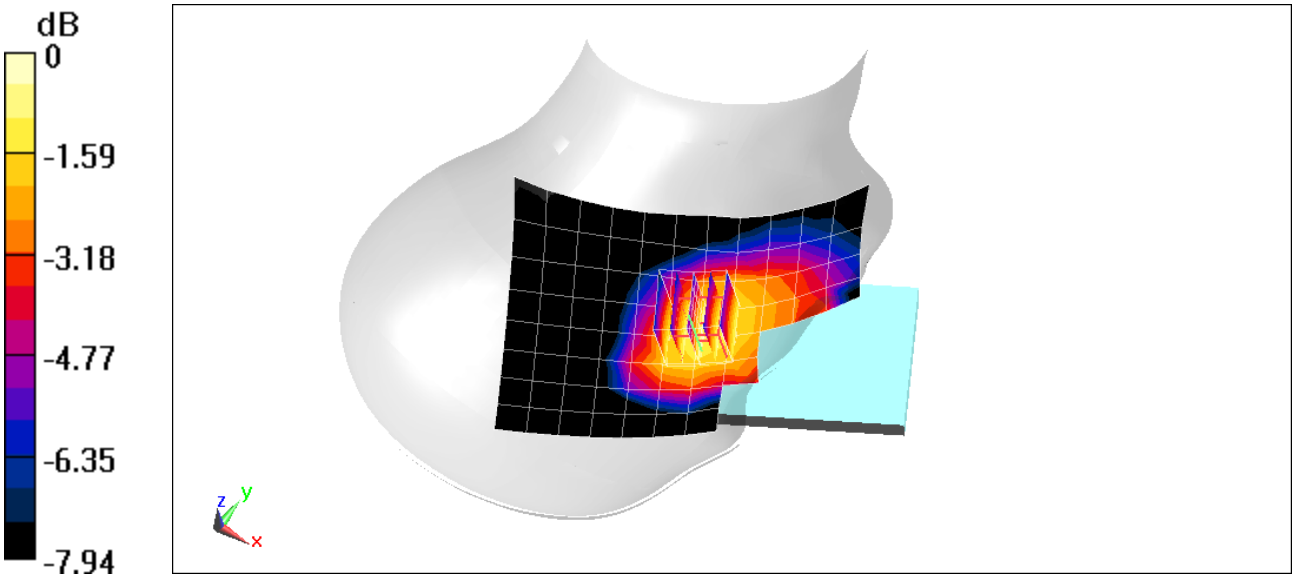
Communication System: UID 0, LTE Band 71; Frequency: 680.5 MHz; Duty Cycle: 1:1
Medium: 750 Head Medium parameters used (interpolated):
f = 680.5 MHz; σ = 0.845 S/m; ε_r = 42.715; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 07-29-2019; Ambient Temp: 21.2°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN3589; ConvF(8.67, 8.67, 8.67) @ 680.5 MHz; Calibrated: 1/25/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/22/2018
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 (7450)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.77 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.169 W/kg
SAR(1 g) = 0.140 W/kg



0 dB = 0.159 W/kg = -7.99 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01780

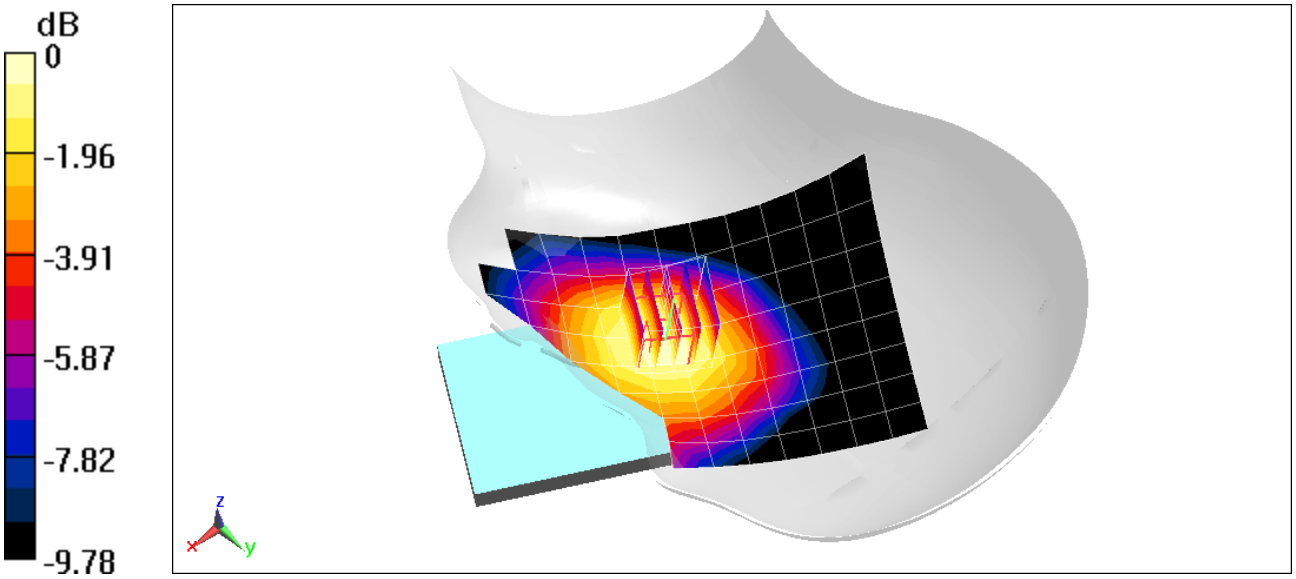
Communication System: UID 0, LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: 750 Head Medium parameters used (interpolated):
f = 707.5 MHz; σ = 0.855 S/m; ε_r = 42.635; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 07-29-2019; Ambient Temp: 21.2°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN3589; ConvF(8.67, 8.67, 8.67) @ 707.5 MHz; Calibrated: 1/25/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/22/2018
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 (7450)

Mode: LTE Band 12, Left Head, Cheek, Mid.ch,
QPSK, 10 MHz Bandwidth, 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 = 13.28 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.165 W/kg
SAR(1 g) = 0.134 W/kg



0 dB = 0.154 W/kg = -8.12 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01780

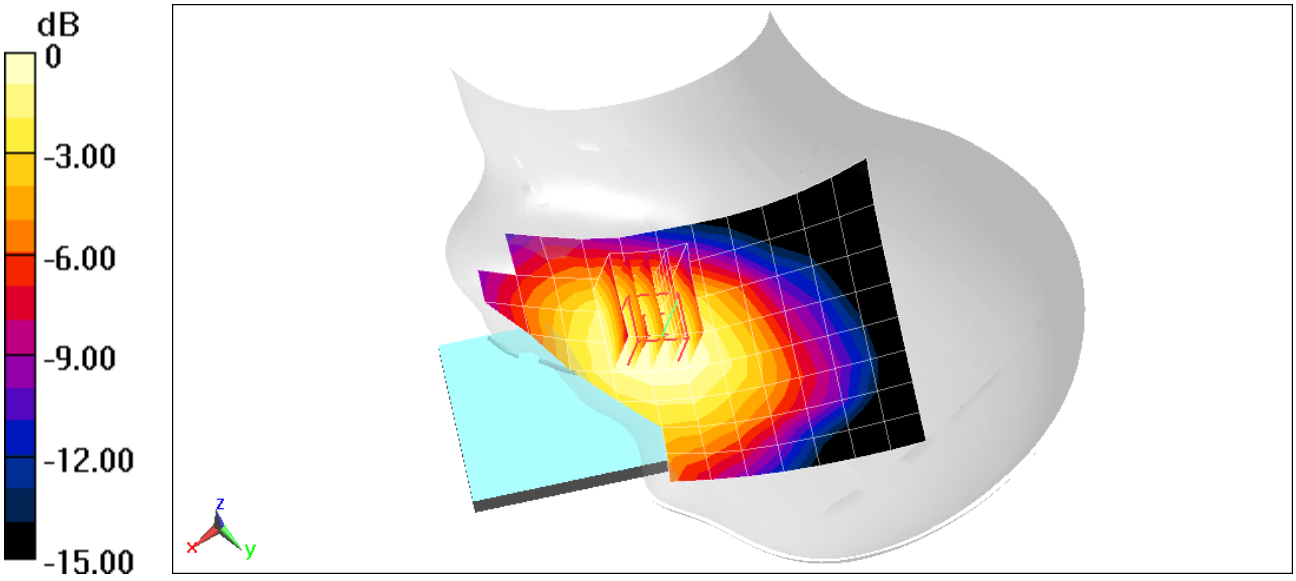
Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1
Medium: 750 Head Medium parameters used (interpolated):
f = 782 MHz; σ = 0.883 S/m; ε_r = 42.399; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 07-29-2019; Ambient Temp: 21.2°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN3589; ConvF(8.67, 8.67, 8.67) @ 782 MHz; Calibrated: 1/25/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/22/2018
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 (7450)

Mode: LTE Band 13, Left Head, Cheek, Mid.ch,
QPSK, 10 MHz Bandwidth, 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 = 12.55 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.163 W/kg
SAR(1 g) = 0.128 W/kg



0 dB = 0.144 W/kg = -8.42 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01780

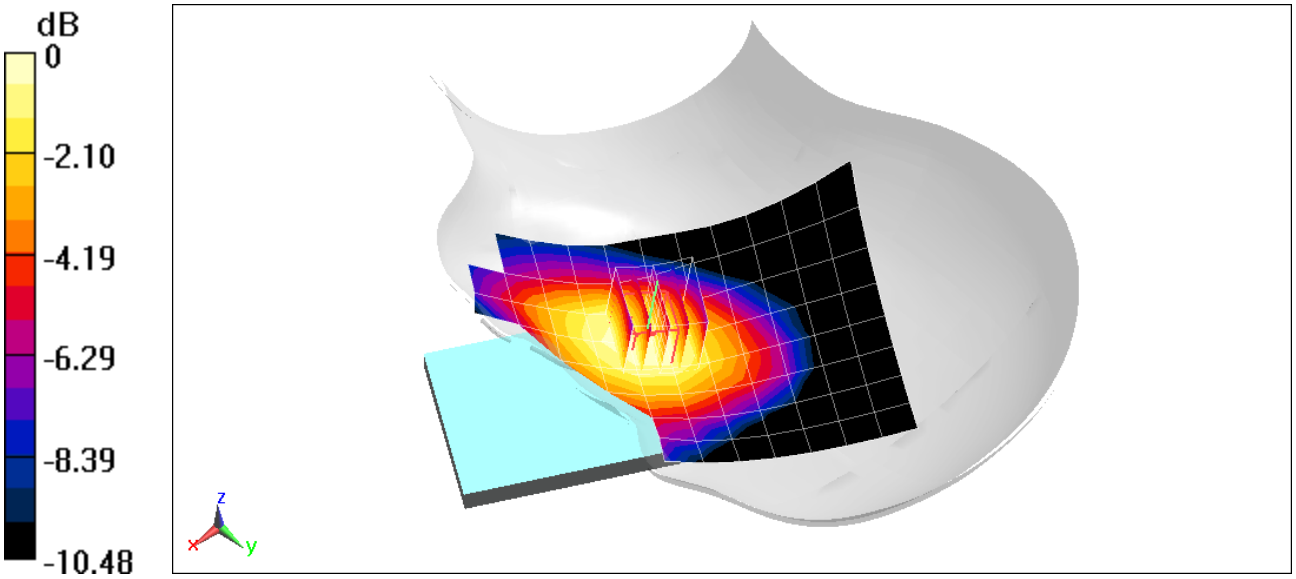
Communication System: UID 0, LTE Band 14; Frequency: 793 MHz; Duty Cycle: 1:1
Medium: 750 Head Medium parameters used (interpolated):
f = 793 MHz; σ = 0.917 S/m; ε_r = 42.692; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 08-12-2019; Ambient Temp: 22.1°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN3914; ConvF(10, 10, 10) @ 793 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 2/14/2019
Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1687
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 14, Left Head, Cheek, Mid.ch,
QPSK, 10 MHz Bandwidth, 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 = 12.15 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.156 W/kg
SAR(1 g) = 0.122 W/kg



0 dB = 0.142 W/kg = -8.48 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01780

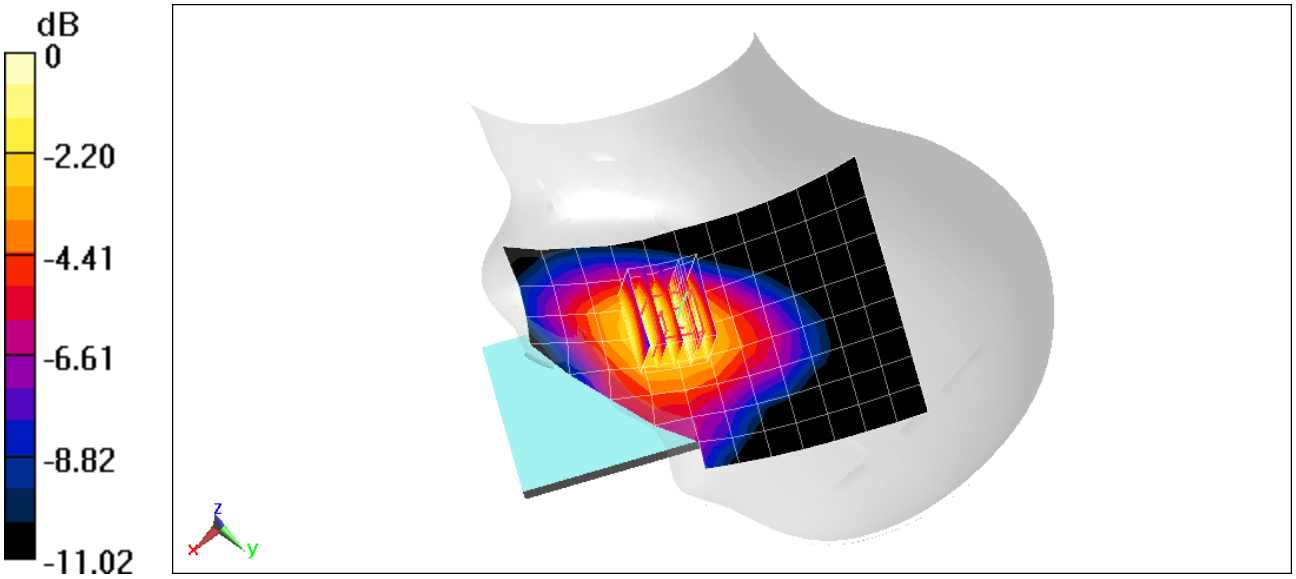
Communication System: UID 0, LTE Band 26; Frequency: 831.5 MHz; Duty Cycle: 1:1
Medium: 835-2600 Head Medium parameters used (interpolated):
$f = 831.5$ MHz; $\sigma = 0.93$ S/m; $\varepsilon_r = 42.465$; $\rho = 1000$ kg/m^3
Phantom section: Left Section

Test Date: 08-26-2019; Ambient Temp: 22.8°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN7547; ConvF(9.59, 9.59, 9.59) @ 831.5 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
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 26 (Cell.), Left Head, Cheek, Mid.ch,
15 MHz Bandwidth, QPSK, 1 RB, 74 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.57 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 0.169 W/kg
SAR(1 g) = 0.135 W/kg



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

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01780

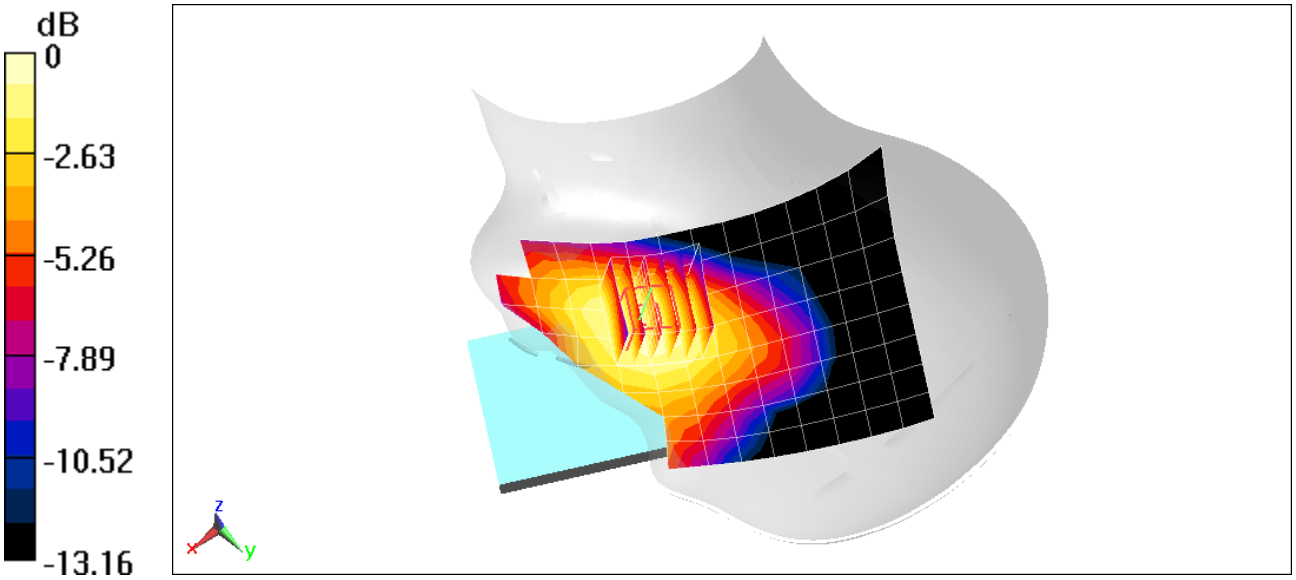
Communication System: UID 0, LTE Band 5 (Cell.); Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: 835 Head Medium parameters used (interpolated):
f = 836.5 MHz; σ = 0.902 S/m; ε_r = 42.251; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 07-30-2019; Ambient Temp: 22.9°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN3589; ConvF(8.39, 8.39, 8.39) @ 836.5 MHz; Calibrated: 1/25/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/22/2018
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 (7450)

Mode: LTE Band 5 (Cell.), ULCA, Left Head, Cheek, Mid.ch,
PCC: 10 MHz Bandwidth, QPSK, Ch. 20525, 1 RB, 0 RB Offset
SCC: 5 MHz Bandwidth, QPSK, Ch. 20453, 1 RB, 24 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 = 11.80 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.142 W/kg
SAR(1 g) = 0.114 W/kg



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

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01764

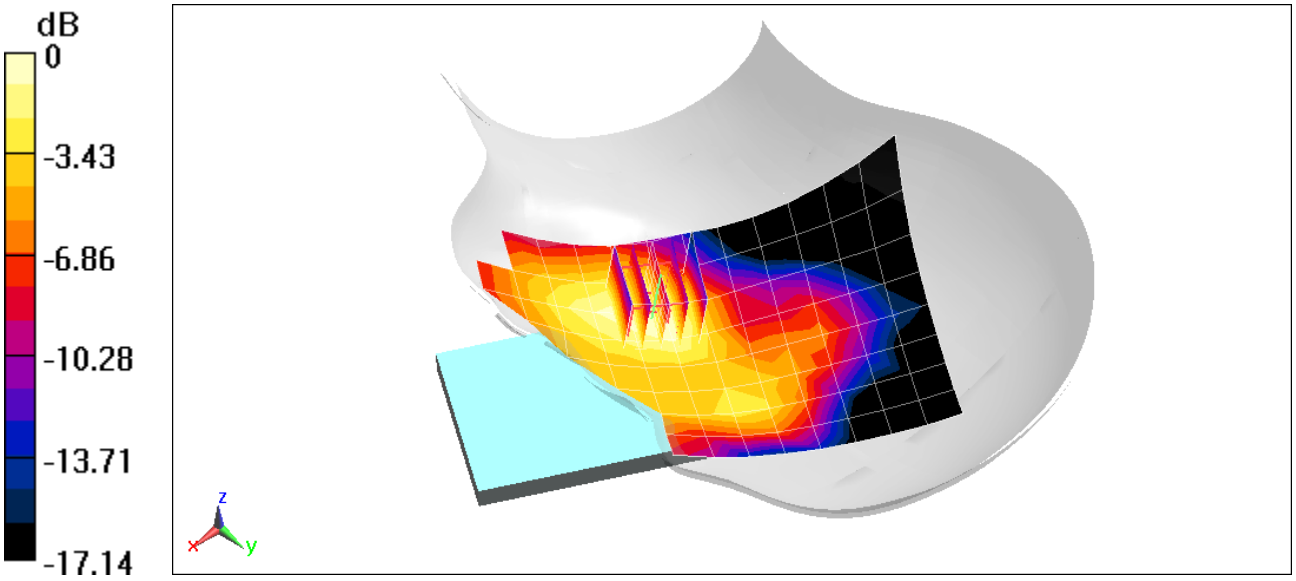
Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1770 MHz; Duty Cycle: 1:1
Medium: 1750 Head Medium parameters used (interpolated):
$f = 1770$ MHz; $\sigma = 1.381$ S/m; $\varepsilon_r = 40.392$; $\rho = 1000$ kg/m^3
Phantom section: Left Section

Test Date: 08-07-2019; Ambient Temp: 20.5°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7538; ConvF(8.67, 8.67, 8.67) @ 1770 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Left Twin-SAM V5.0 30; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 66 (AWS), Left Head, Cheek, 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 = 8.714 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.143 W/kg
SAR(1 g) = 0.093 W/kg



0 dB = 0.121 W/kg = -9.17 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01798

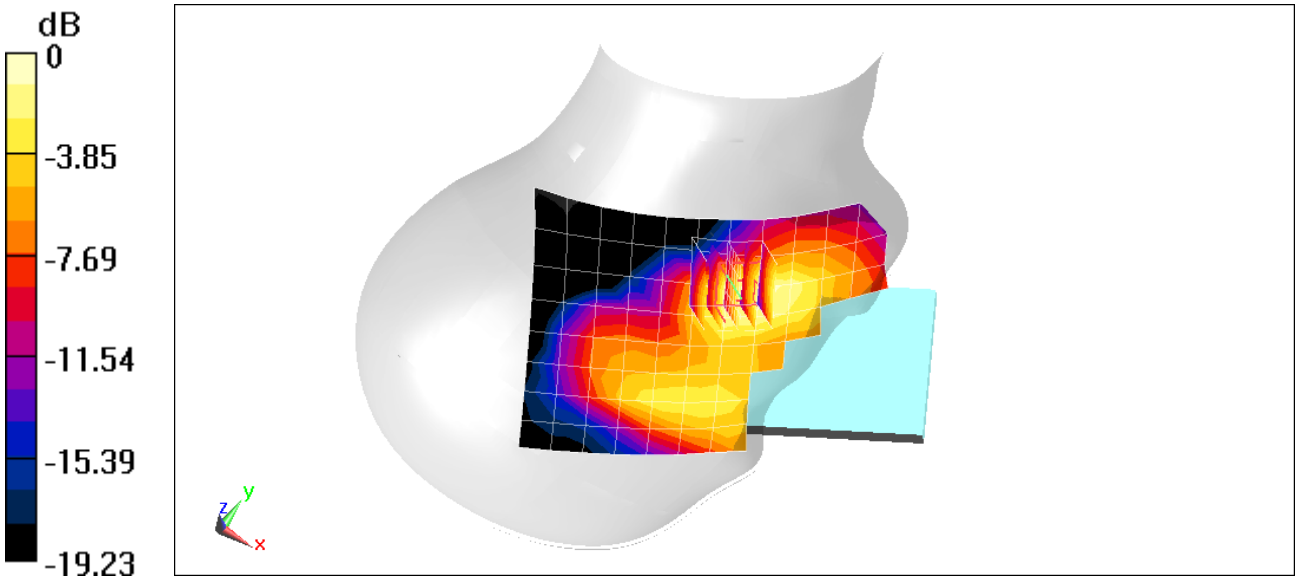
Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1860 MHz; Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used (interpolated):
f = 1860 MHz; σ = 1.391 S/m; ε_r = 41.588; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 08-06-2019; Ambient Temp: 23.2°C; Tissue Temp: 22.6°C

Probe: EX3DV4 - SN3914; ConvF(7.8, 7.8, 7.8) @ 1860 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 2/14/2019
Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1687
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 25 (PCS), Right Head, Cheek, Low.ch,
20 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 = 9.896 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 0.180 W/kg
SAR(1 g) = 0.115 W/kg



0 dB = 0.154 W/kg = -8.12 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01798

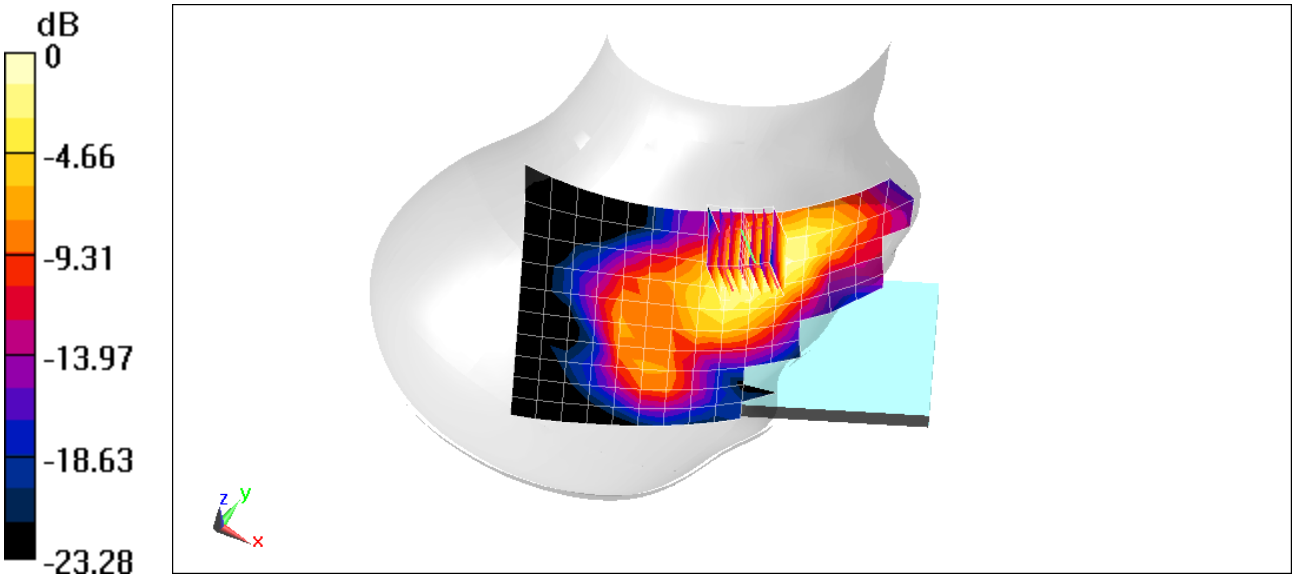
Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2310 MHz; σ = 1.716 S/m; ε_r = 38.859; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 08-12-2019; Ambient Temp: 21.9°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7547; ConvF(7.57, 7.57, 7.57) @ 2310 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
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, Right Head, Cheek, Mid.ch,
10 MHz Bandwidth, QPSK, 1 RB, 25 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 = 16.14 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 0.650 W/kg
SAR(1 g) = 0.373 W/kg



0 dB = 0.538 W/kg = -2.69 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01764

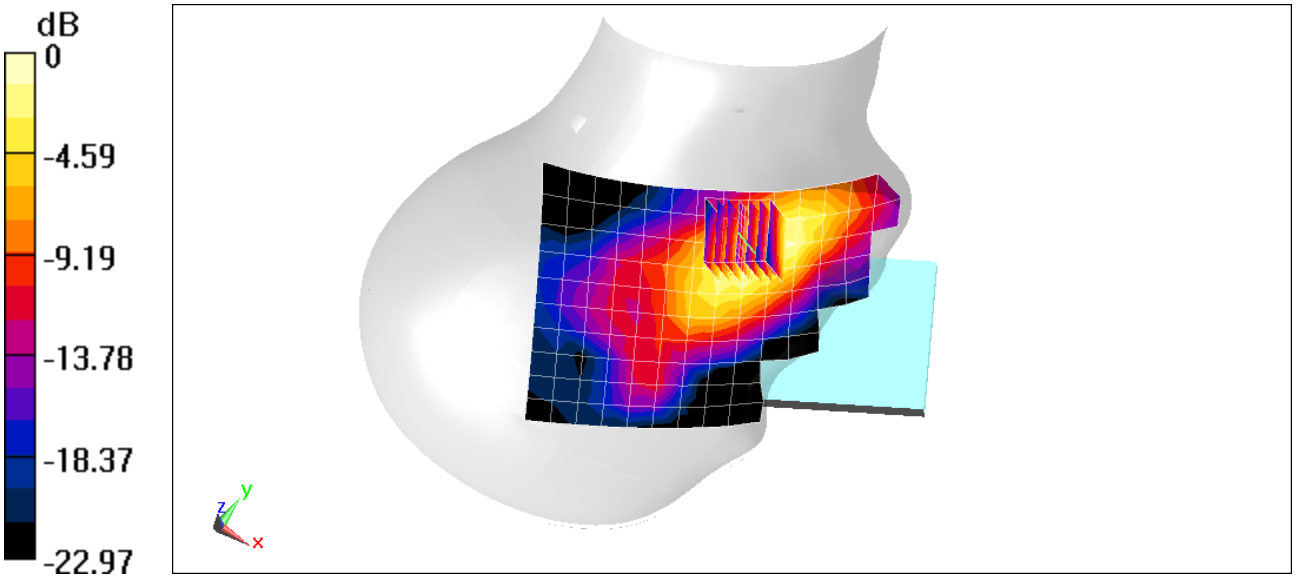
Communication System: UID 0, _LTE Band 7; Frequency: 2510 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used (interpolated):
$f = 2510$ MHz; $\sigma = 1.869$ S/m; $\varepsilon_r = 38.529$; $\rho = 1000$ kg/m^3
Phantom section: Right Section

Test Date: 08-12-2019; Ambient Temp: 21.9°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7547; ConvF(7.17, 7.17, 7.17) @ 2510 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
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, Cheek, Low.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 = 18.26 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.870 W/kg
SAR(1 g) = 0.493 W/kg



0 dB = 0.725 W/kg = -1.40 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01772

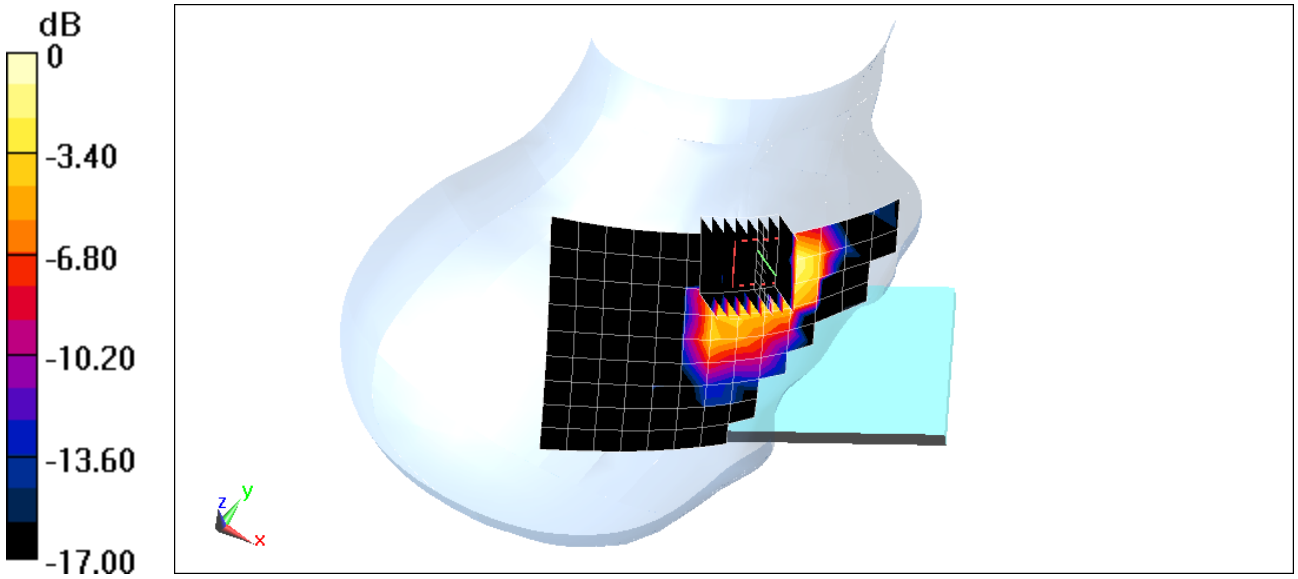
Communication System: UID 0, LTE Band 48; Frequency: 3603.3 MHz; Duty Cycle: 1:1.58
Medium: 3500-3700 Head Medium parameters used (interpolated):
$f = 3603.3$ MHz; $\sigma = 2.969$ S/m; $\varepsilon_r = 36.933$; $\rho = 1000$ kg/m^3
Phantom section: Right Section

Test Date: 08-06-2019; Ambient Temp: 22.3°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN3589; ConvF(6.02, 6.02, 6.02) @ 3603.3 MHz; Calibrated: 1/25/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/22/2018
Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: 1648
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

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

Area Scan (10x17x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (8x8x8)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 4.821 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.160 W/kg
SAR(1 g) = 0.051 W/kg



0 dB = 0.108 W/kg = -9.67 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01798

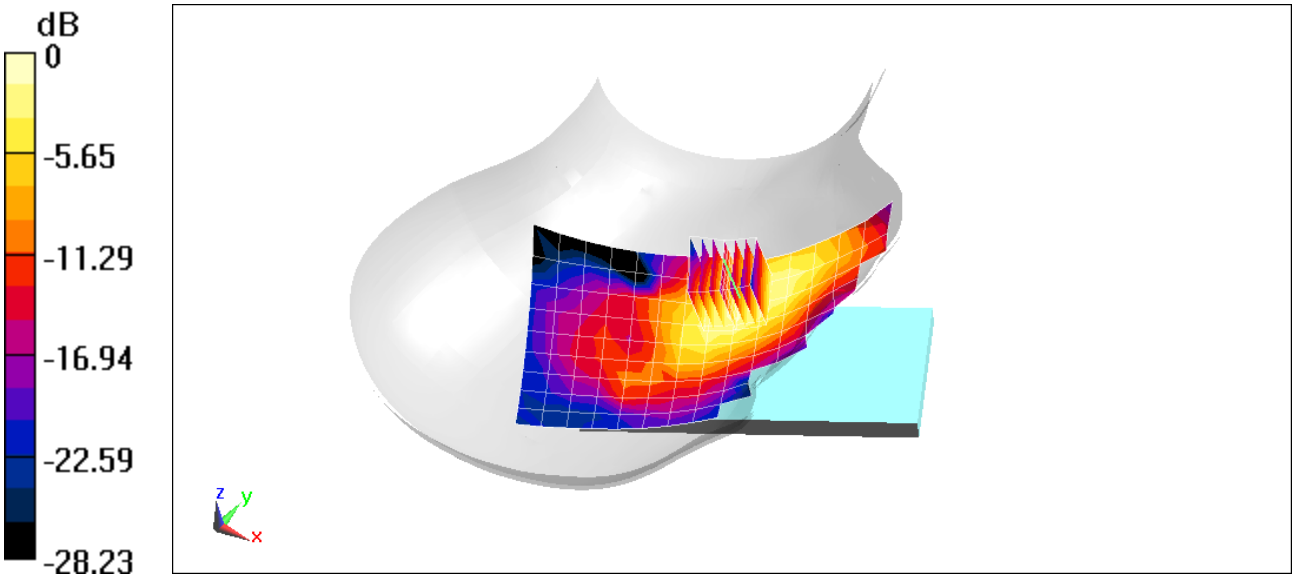
Communication System: UID 0, _LTE Band 41 (Class 2); Frequency: 2680 MHz; Duty Cycle: 1:2.31
Medium: 2450 Head Medium parameters used (interpolated):
$f = 2680$ MHz; $\sigma = 2.019$ S/m; $\varepsilon_r = 39.175$; $\rho = 1000$ kg/m^3
Phantom section: Right Section

Test Date: 08-21-2019; Ambient Temp: 24.5°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7547; ConvF(6.99, 6.99, 6.99) @ 2680 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
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, HPUE, Right Head, Cheek, High.ch,
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (10x17x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.58 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 0.480 W/kg
SAR(1 g) = 0.262 W/kg



0 dB = 0.399 W/kg = -3.99 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01624

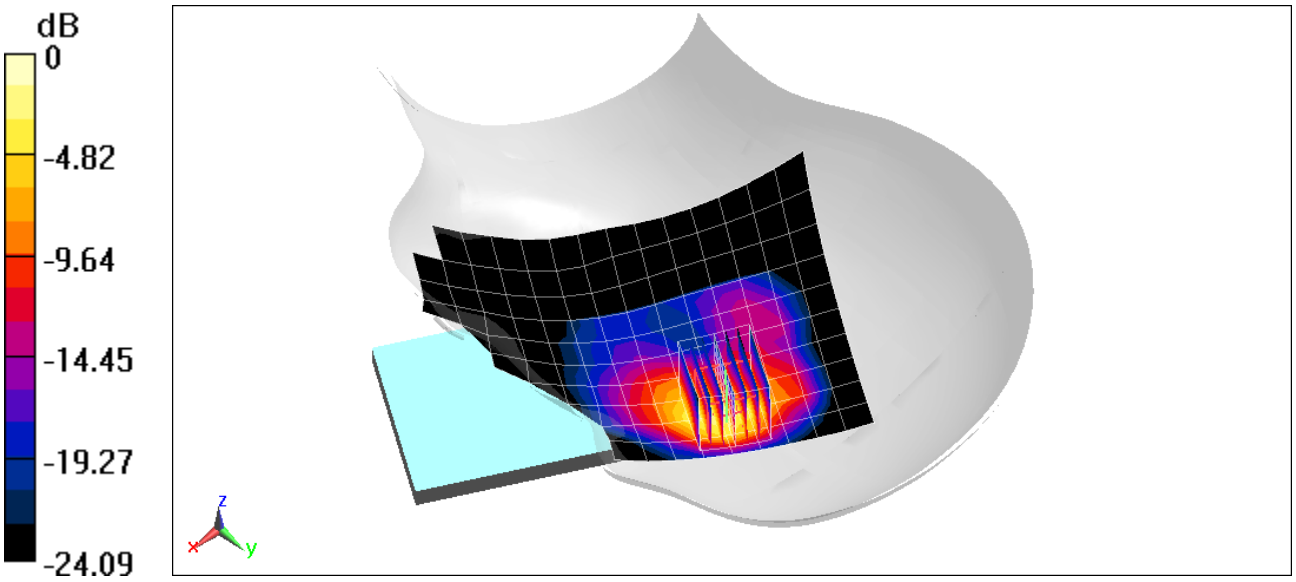
Communication System: UID 0, _IEEE 802.11b; Frequency: 2412 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used (interpolated):
$f = 2412$ MHz; $\sigma = 1.794$ S/m; $\varepsilon_r = 38.693$; $\rho = 1000$ kg/m^3
Phantom section: Left Section

Test Date: 08-12-2019; Ambient Temp: 21.9°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7547; ConvF(7.17, 7.17, 7.17) @ 2412 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
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, Left Head, Cheek, Ch 1, 1 Mbps

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (8x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.632 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 2.48 W/kg
SAR(1 g) = 0.950 W/kg



0 dB = 1.82 W/kg = 2.60 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01616

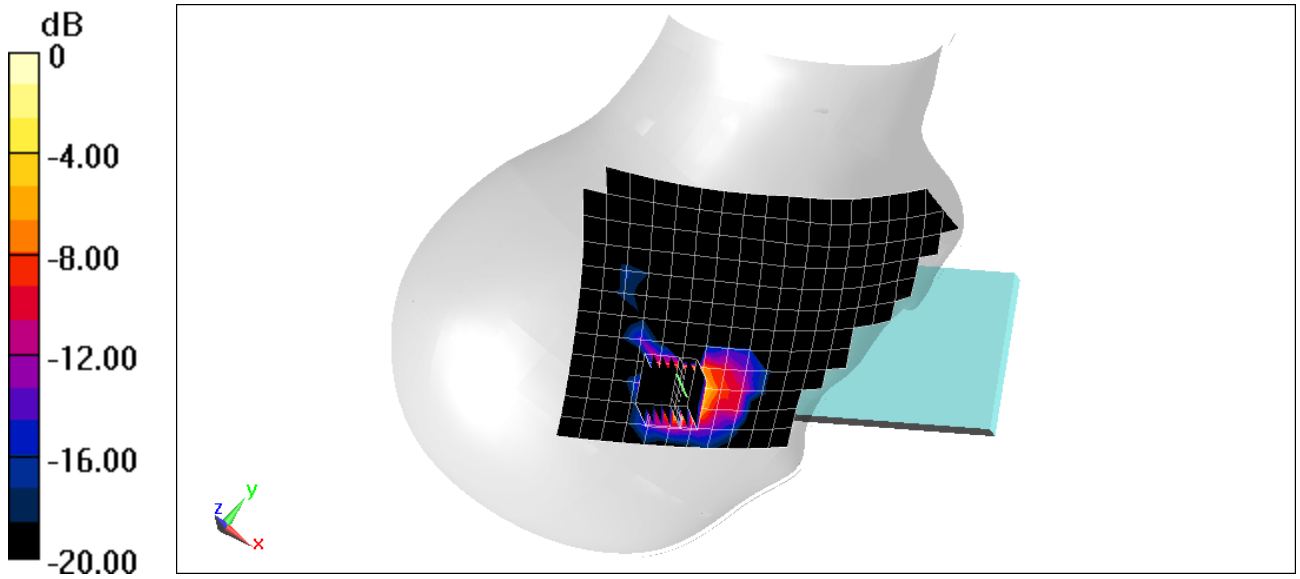
Communication System: UID 0, _IEEE 802.11n; Frequency: 5795 MHz; Duty Cycle: 1:1
Medium: 5GHz Head Medium parameters used (interpolated):
f = 5795 MHz; σ = 5.279 S/m; ε_r = 35.264; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 08-06-2019; Ambient Temp: 22.5°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN7406; ConvF(5.23, 5.23, 5.23) @ 5795 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/8/2019
Phantom: Twin-SAM V5.0 Right 20; Type: QD 000 P40 CD; Serial: 1759
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: IEEE 802.11n, Antenna 1, U-NII-3, 40 MHz Bandwidth,
Right Head, Cheek, Ch 159, 13.5 Mbps

Area Scan (13x19x1): 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 = 1.218 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 2.30 W/kg
SAR(1 g) = 0.367 W/kg



0 dB = 1.19 W/kg = 0.76 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01624

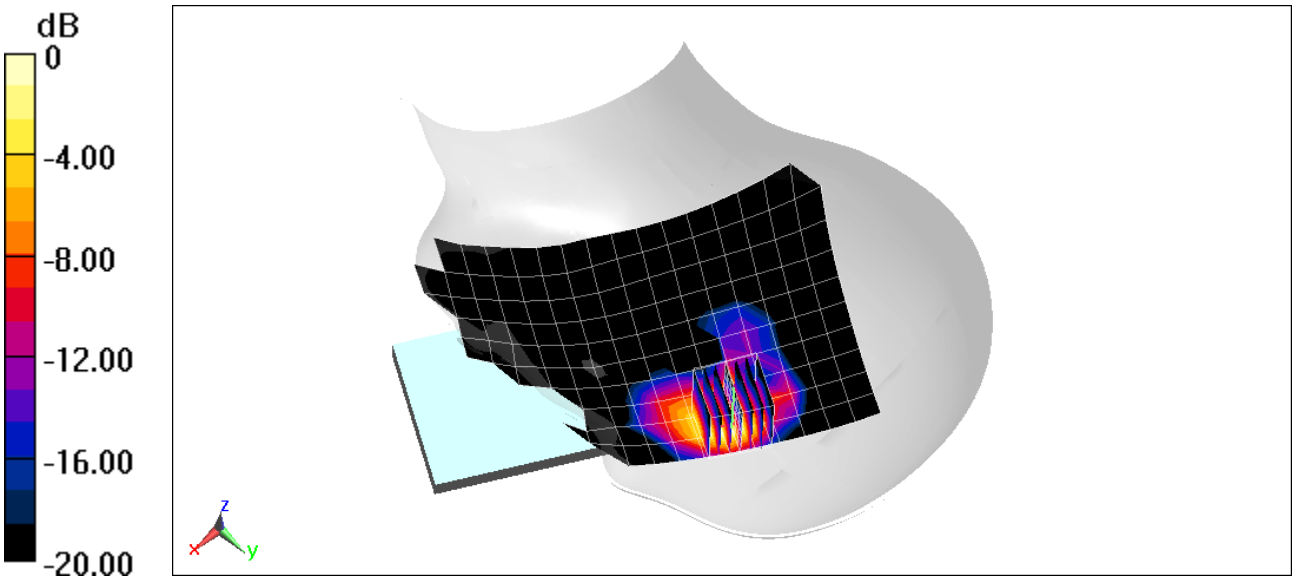
Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.297
Medium: 2450 Head Medium parameters used (interpolated):
f = 2441 MHz; σ = 1.816 S/m; ε_r = 38.633; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 08-12-2019; Ambient Temp: 21.9°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7547; ConvF(7.17, 7.17, 7.17) @ 2441 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
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, Left Head, Cheek, 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 = 7.107 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 0.214 W/kg
SAR(1 g) = 0.075 W/kg



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

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01772

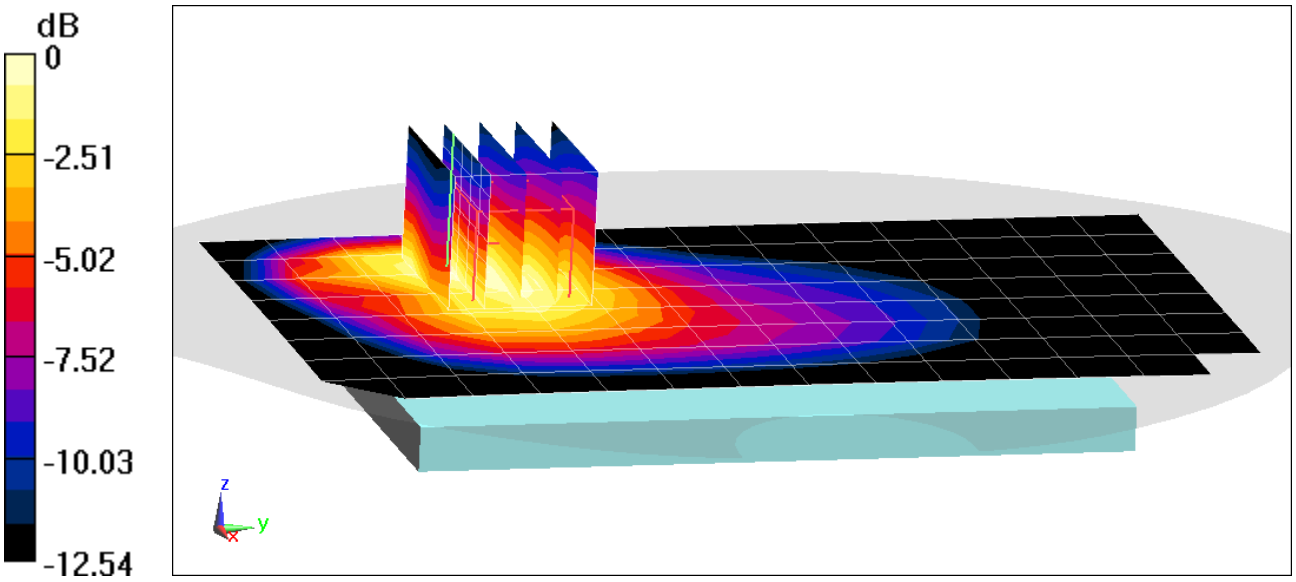
Communication System: UID 0, CDMA; Frequency: 820.1 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
$f = 820.1$ MHz; $\sigma = 1.003$ S/m; $\varepsilon_r = 54.511$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-31-2019; Ambient Temp: 20.5°C; Tissue Temp: 20.8°C

Probe: EX3DV4 - SN7538; ConvF(9.85, 9.85, 9.85) @ 820.1 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Left Twin-SAM V5.0 30; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: Cell. CDMA BC10, Rule Part 90S, Body SAR, Back side, Mid.ch

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.88 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 1.05 W/kg
SAR(1 g) = 0.625 W/kg



0 dB = 0.866 W/kg = -0.62 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01772

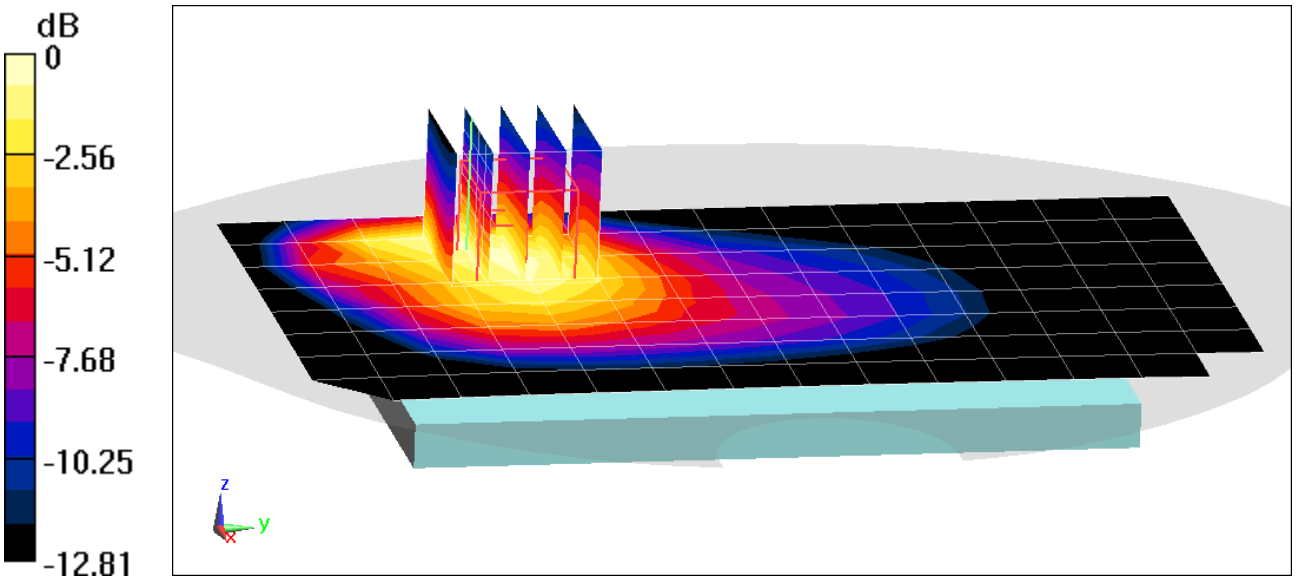
Communication System: UID 0, CDMA; Frequency: 820.1 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 820.1 MHz; σ = 1.003 S/m; ε_r = 54.511; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-31-2019; Ambient Temp: 20.5°C; Tissue Temp: 20.8°C

Probe: EX3DV4 - SN7538; ConvF(9.85, 9.85, 9.85) @ 820.1 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Left Twin-SAM V5.0 30; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: Cell. EVDO BC10, Rule Part 90S, 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 = 27.08 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.708 W/kg



0 dB = 1.01 W/kg = 0.04 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01772

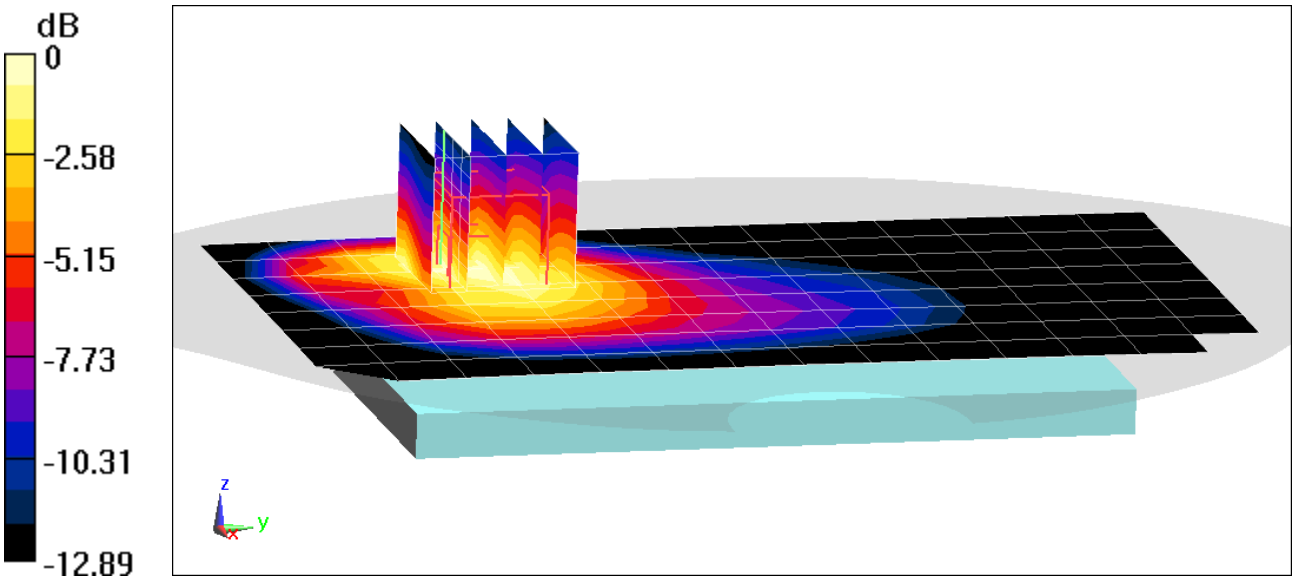
Communication System: UID 0, CDMA; Frequency: 848.31 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 848.31 MHz; σ = 1.013 S/m; ε_r = 54.427; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-31-2019; Ambient Temp: 20.5°C; Tissue Temp: 20.8°C

Probe: EX3DV4 - SN7538; ConvF(9.85, 9.85, 9.85) @ 848.31 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Left Twin-SAM V5.0 30; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: Cell. CDMA, Rule Part 22H, 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 = 29.09 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 1.41 W/kg
SAR(1 g) = 0.820 W/kg



0 dB = 1.16 W/kg = 0.64 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01772

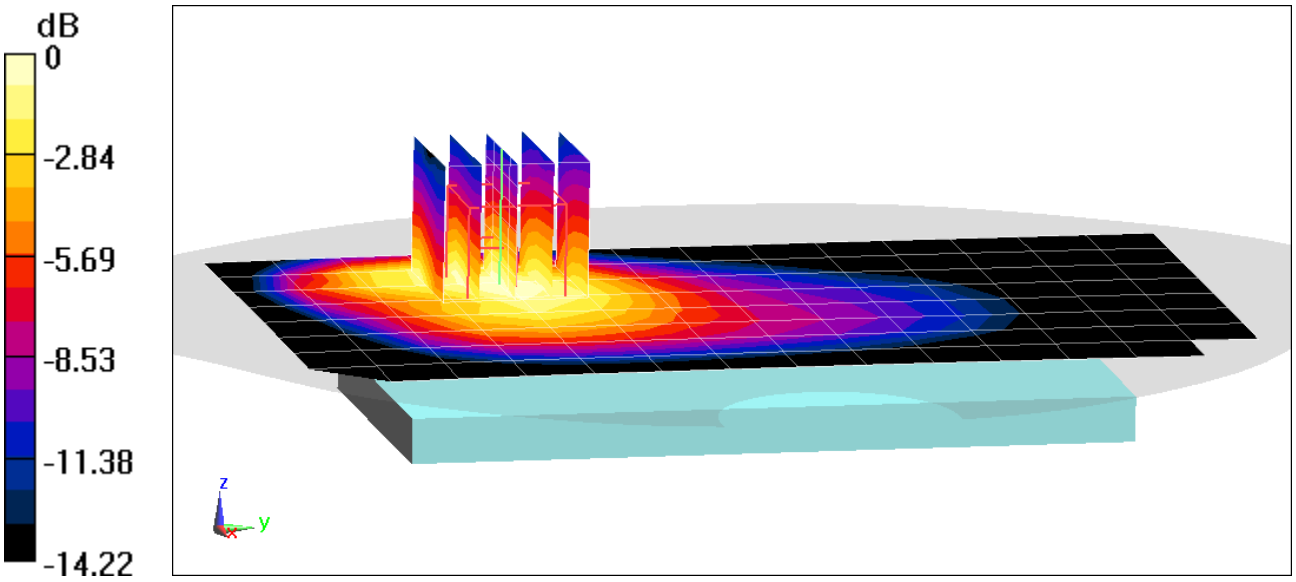
Communication System: UID 0, CDMA; Frequency: 848.31 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 848.31 MHz; σ = 1.013 S/m; ε_r = 54.427; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-31-2019; Ambient Temp: 20.5°C; Tissue Temp: 20.8°C

Probe: EX3DV4 - SN7538; ConvF(9.85, 9.85, 9.85) @ 848.31 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Left Twin-SAM V5.0 30; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: Cell. EVDO, Rule Part 22H, 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 = 29.64 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 1.44 W/kg
SAR(1 g) = 0.842 W/kg



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

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01780

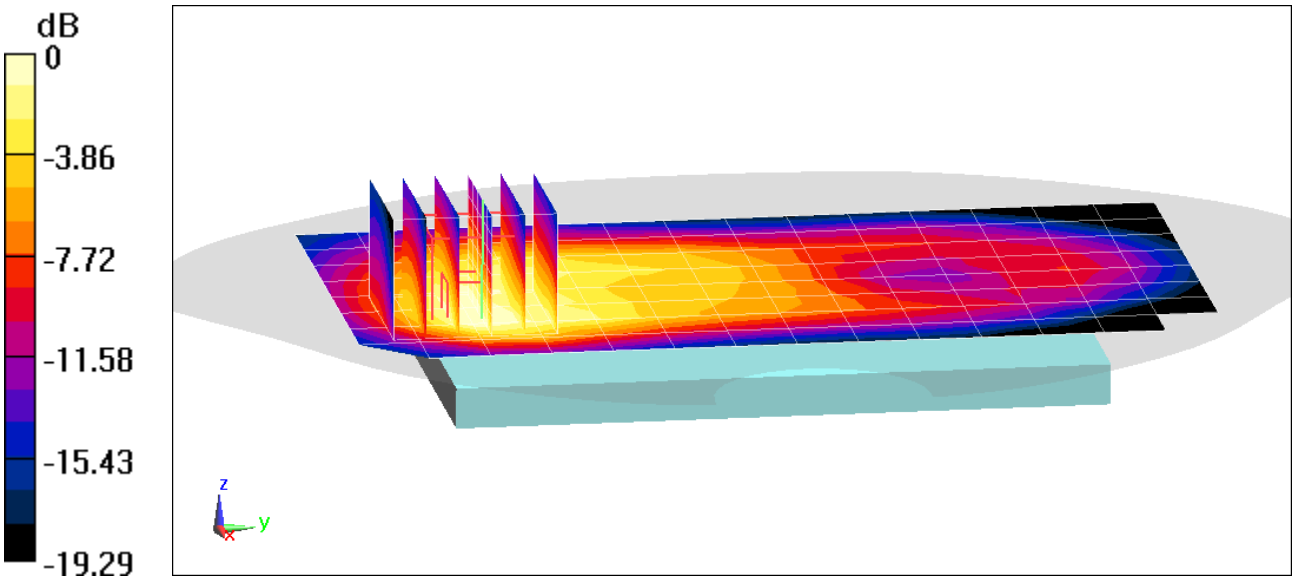
Communication System: UID 0, CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.53 S/m; ε_r = 52.2; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-29-2019; Ambient Temp: 20.7°C; Tissue Temp: 23.5°C

Probe: EX3DV4 - SN7488; ConvF(8.37, 8.37, 8.37) @ 1880 MHz; Calibrated: 1/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/15/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1800
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.47 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.910 W/kg
SAR(1 g) = 0.524 W/kg



0 dB = 0.718 W/kg = -1.44 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01780

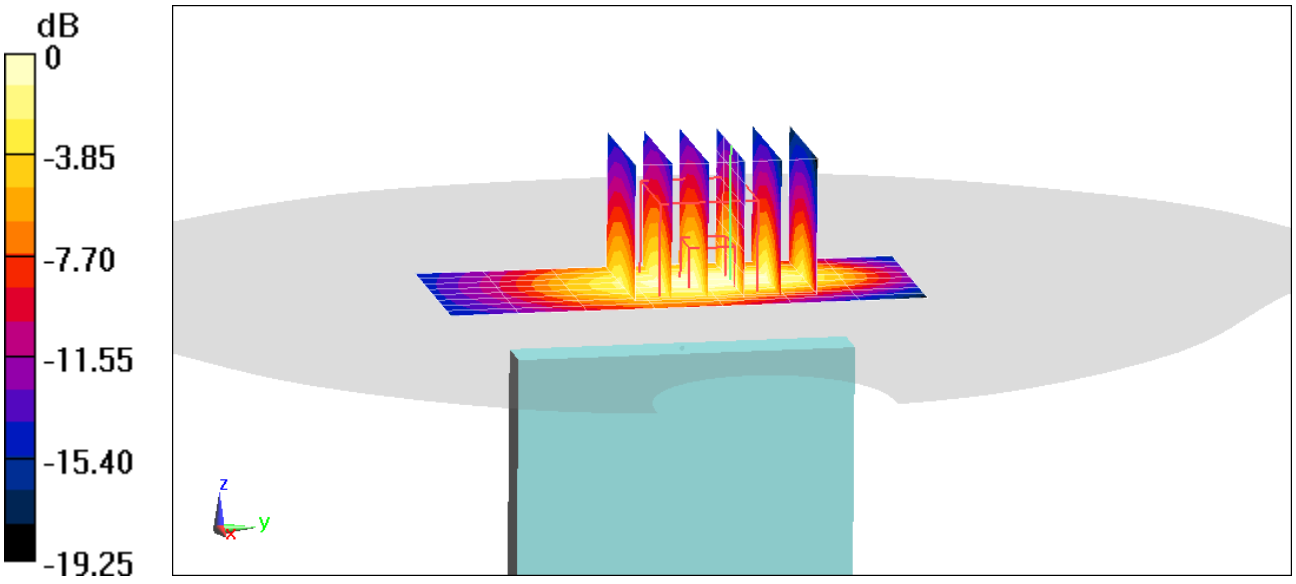
Communication System: UID 0, CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.53 S/m; ε_r = 52.2; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-29-2019; Ambient Temp: 20.7°C; Tissue Temp: 23.5°C

Probe: EX3DV4 - SN7488; ConvF(8.37, 8.37, 8.37) @ 1880 MHz; Calibrated: 1/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/15/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1800
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: PCS EVDO, Body SAR, Bottom Edge, Mid.ch

Area Scan (9x8x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 29.90 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 2.23 W/kg
SAR(1 g) = 1.25 W/kg



0 dB = 1.87 W/kg = 2.72 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01772

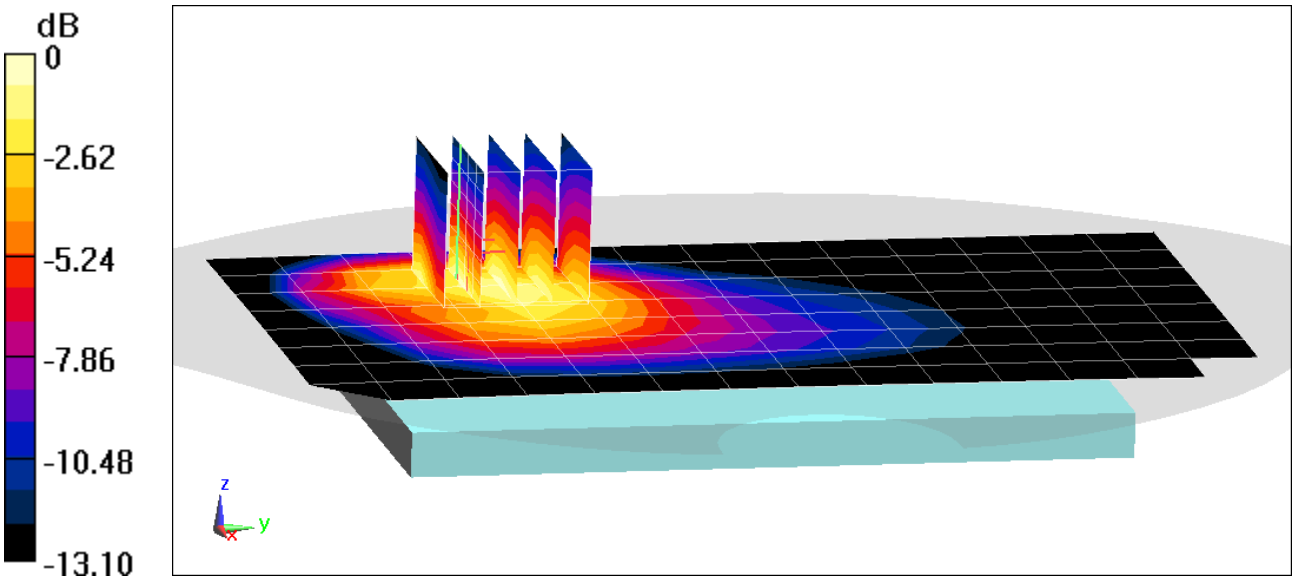
Communication System: UID 0, GSM GPRS; 3 Tx slots; Frequency: 848.8 MHz; Duty Cycle: 1:2.76
Medium: 835 Body Medium parameters used (interpolated):
f = 848.8 MHz; σ = 1.014 S/m; ε_r = 54.425; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-31-2019; Ambient Temp: 20.5°C; Tissue Temp: 20.8°C

Probe: EX3DV4 - SN7538;ConvF(9.85, 9.85, 9.85) @ 848.8 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Left Twin-SAM V5.0 30; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 29.73 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 1.45 W/kg
SAR(1 g) = 0.839 W/kg



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

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01764

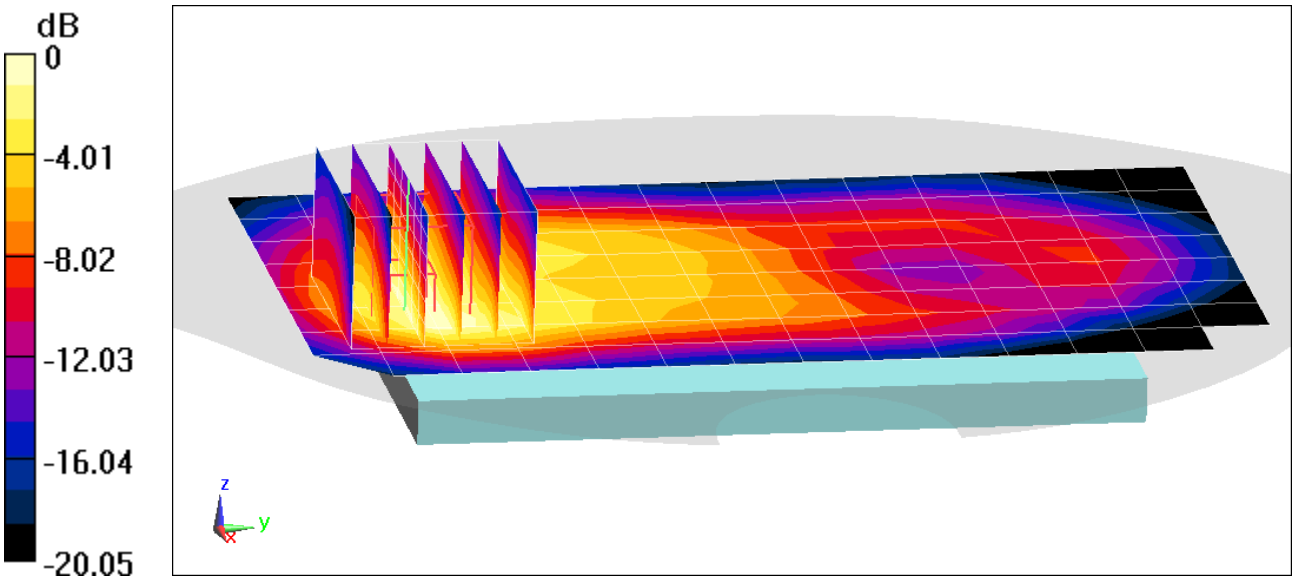
Communication System: UID 0, _GSM GPRS; 3 Tx slots; Frequency: 1880 MHz; Duty Cycle: 1:2.76
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.537 S/m; ε_r = 53.726; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-31-2019; Ambient Temp: 20.5°C; Tissue Temp: 23.9°C

Probe: EX3DV4 - SN7488; ConvF(8.37, 8.37, 8.37) @ 1880 MHz; Calibrated: 1/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/15/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1800
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: GPRS 1900, Body SAR, Back side, Mid.ch, 3 Tx Slots

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (7x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.75 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.666 W/kg
SAR(1 g) = 0.375 W/kg



0 dB = 0.570 W/kg = -2.44 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01764

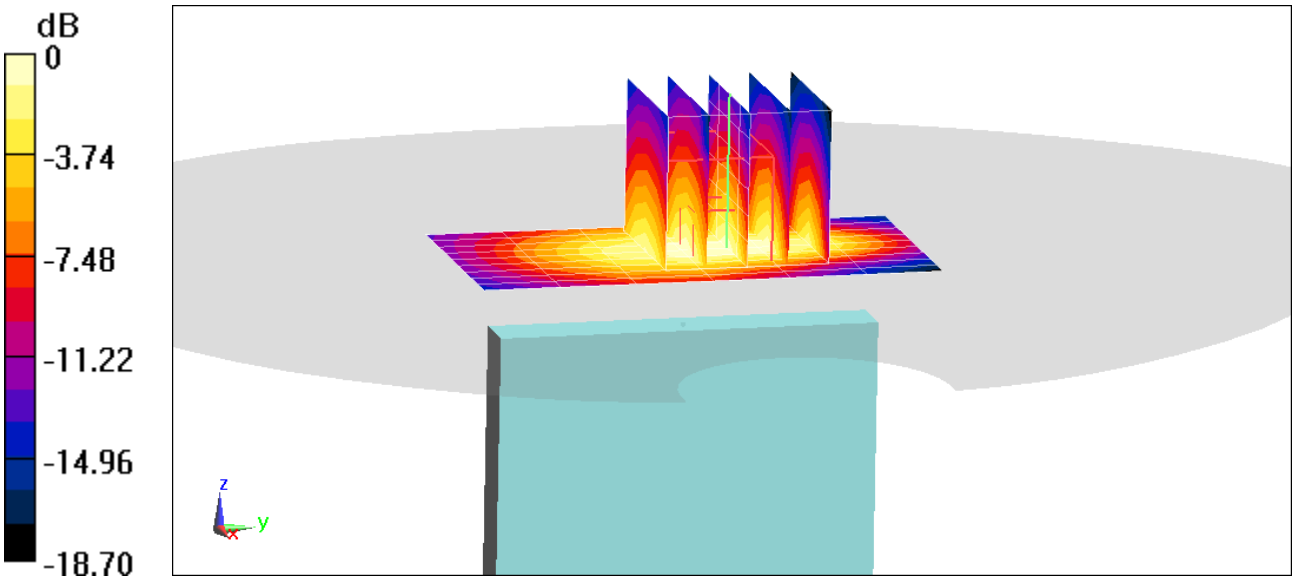
Communication System: UID 0, _GSM GPRS; 3 Tx slots; Frequency: 1880 MHz; Duty Cycle: 1:2.76
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.537 S/m; ε_r = 53.726; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-31-2019; Ambient Temp: 20.5°C; Tissue Temp: 23.9°C

Probe: EX3DV4 - SN7488; ConvF(8.37, 8.37, 8.37) @ 1880 MHz; Calibrated: 1/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/15/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1800
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: GPRS 1900, Body SAR, Bottom Edge, Mid.ch, 3 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 = 26.28 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 1.70 W/kg
SAR(1 g) = 0.972 W/kg



0 dB = 1.44 W/kg = 1.58 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01772

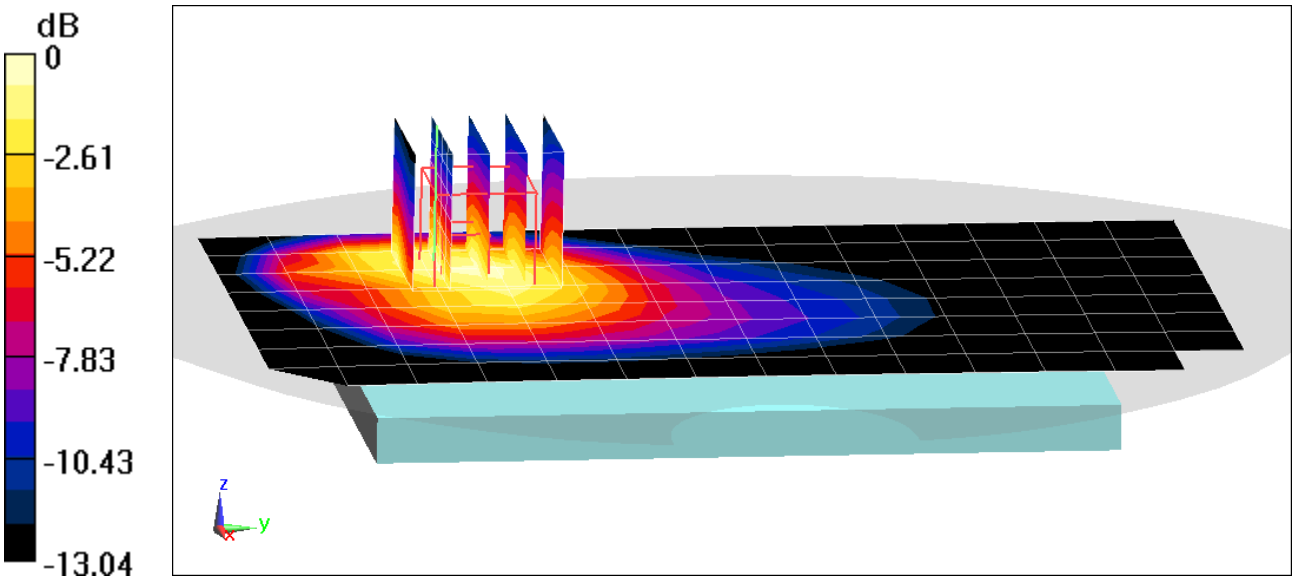
Communication System: UID 0, UMTS; Frequency: 846.6 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 846.6 MHz; σ = 1.005 S/m; ε_r = 53.687; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-29-2019; Ambient Temp: 20.5°C; Tissue Temp: 20.6°C

Probe: EX3DV4 - SN7538; ConvF(9.85, 9.85, 9.85) @ 846.6 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Left Twin-SAM V5.0 30; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: UMTS 850, 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 = 32.08 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 1.71 W/kg
SAR(1 g) = 0.989 W/kg



0 dB = 1.39 W/kg = 1.43 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01764

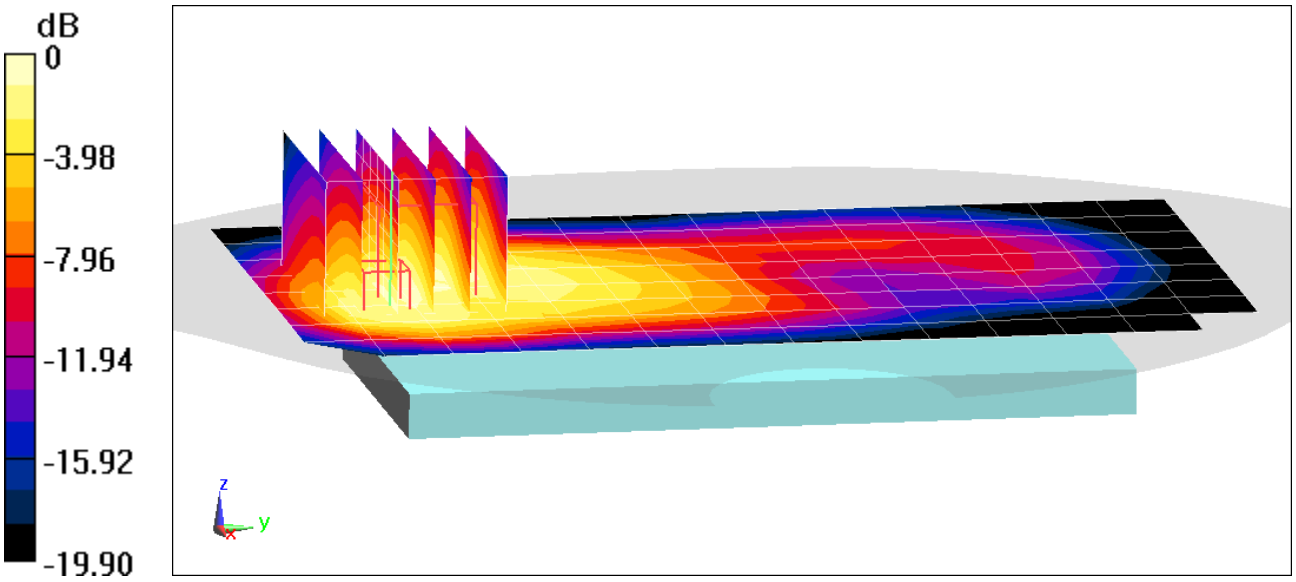
Communication System: UID 0, UMTS; Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used (interpolated):
f = 1752.6 MHz; σ = 1.488 S/m; ε_r = 53.041; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 08-07-2019; Ambient Temp: 22.0°C; Tissue Temp: 21.1°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 (7450)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (7x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.89 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 1.10 W/kg
SAR(1 g) = 0.645 W/kg



0 dB = 0.935 W/kg = -0.29 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01764

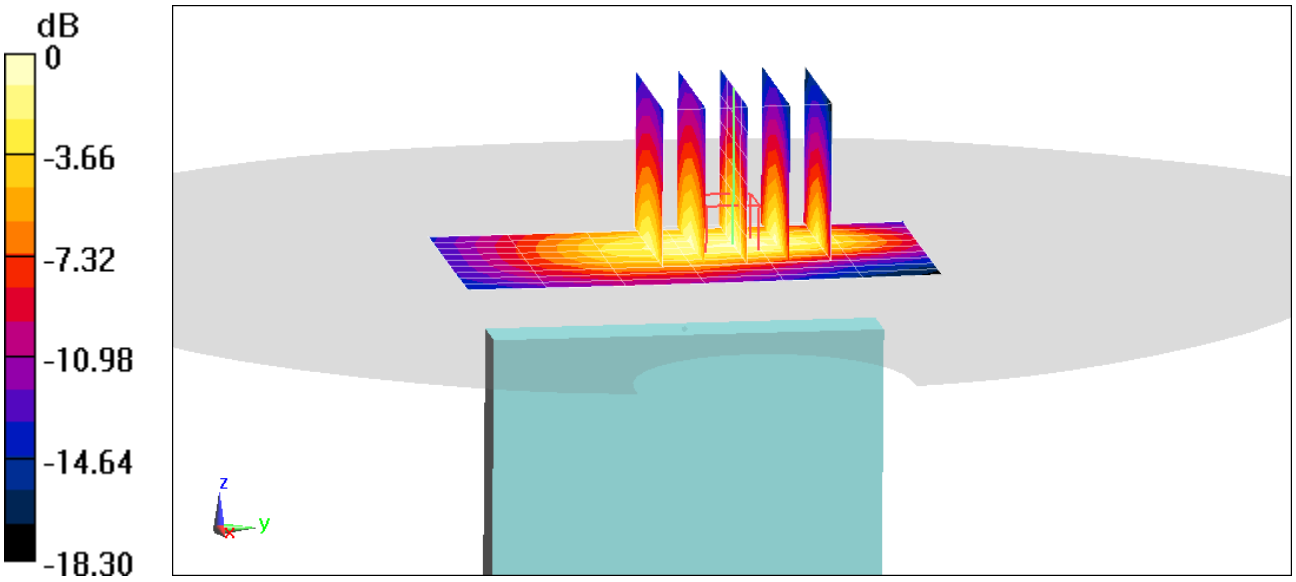
Communication System: UID 0, UMTS; Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used (interpolated):
f = 1752.6 MHz; σ = 1.512 S/m; ε_r = 51.564; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-24-2019; Ambient Temp: 23.0°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN7357; ConvF(8.26, 8.26, 8.26) @ 1752.6 MHz; Calibrated: 4/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/18/2019
Phantom: Twin-SAM V4.0 Front Right; Type: QD 000 P40 CC; Serial: 1167
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: UMTS 1750, 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 = 26.66 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 1.70 W/kg
SAR(1 g) = 0.967 W/kg



0 dB = 1.44 W/kg = 1.58 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01772

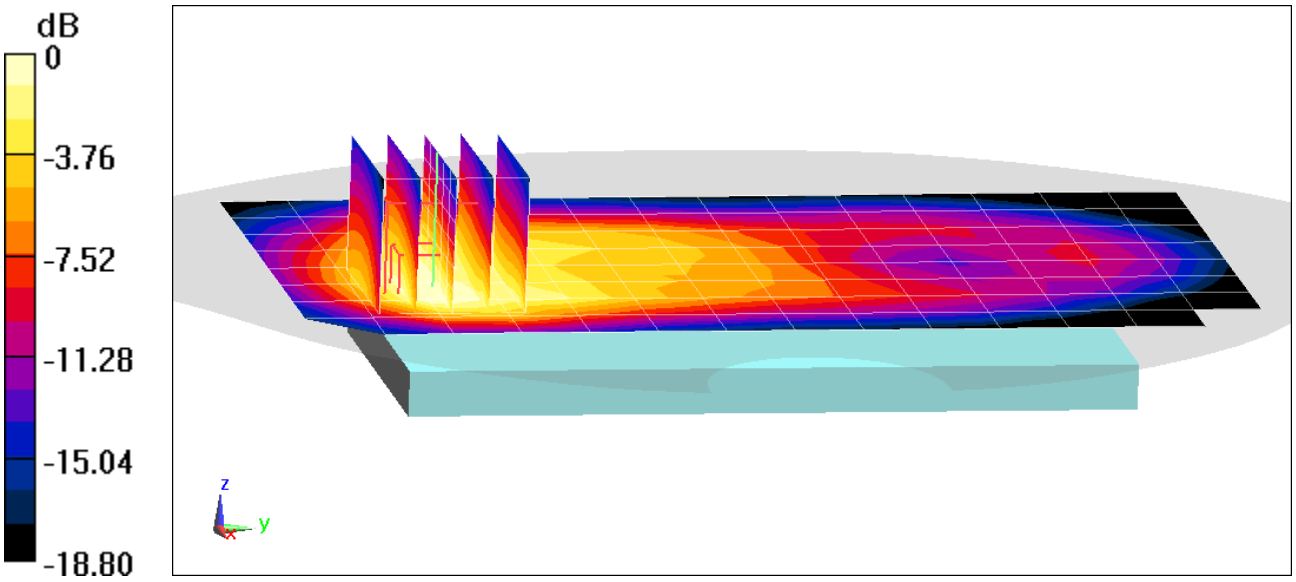
Communication System: UID 0, UMTS; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.53 S/m; ε_r = 52.2; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-29-2019; Ambient Temp: 20.7°C; Tissue Temp: 23.5°C

Probe: EX3DV4 - SN7488; ConvF(8.37, 8.37, 8.37) @ 1880 MHz; Calibrated: 1/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/15/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1800
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.77 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.939 W/kg
SAR(1 g) = 0.539 W/kg



0 dB = 0.745 W/kg = -1.28 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01772

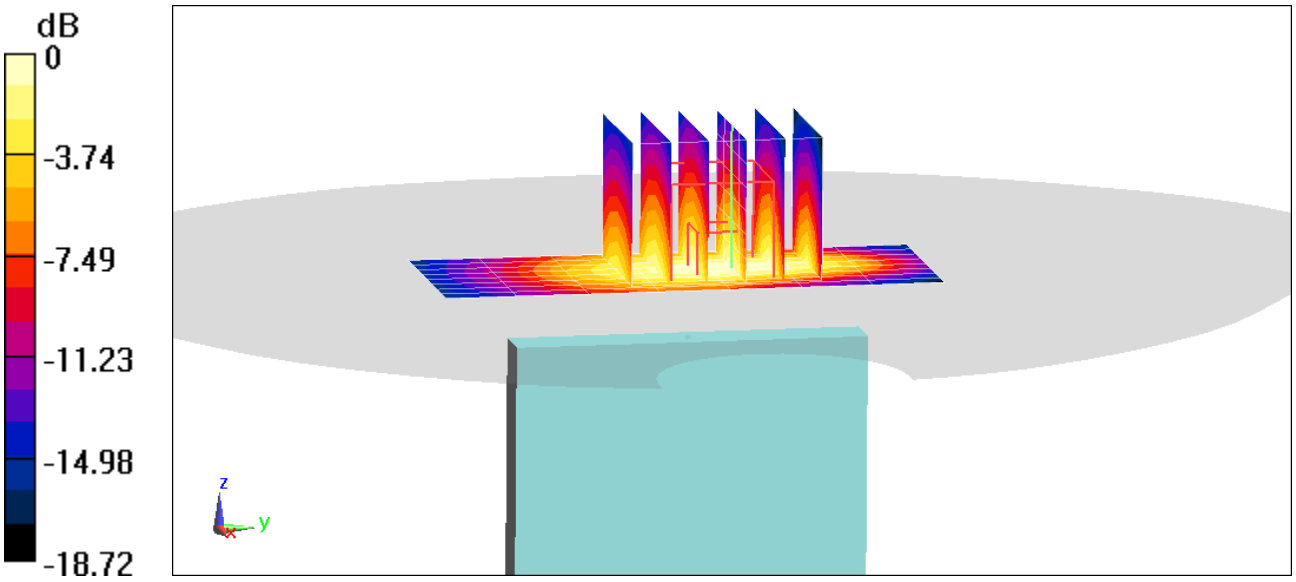
Communication System: UID 0, _UMTS; Frequency: 1852.4 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used (interpolated):
f = 1852.4 MHz; σ = 1.497 S/m; ε_r = 52.291; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-29-2019; Ambient Temp: 20.7°C; Tissue Temp: 23.5°C

Probe: EX3DV4 - SN7488; ConvF(8.37, 8.37, 8.37) @ 1852.4 MHz; Calibrated: 1/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/15/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1800
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: UMTS 1900, Body SAR, Bottom Edge, Low.ch

Area Scan (9x8x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 29.17 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 2.03 W/kg
SAR(1 g) = 1.16 W/kg



0 dB = 1.72 W/kg = 2.36 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01798

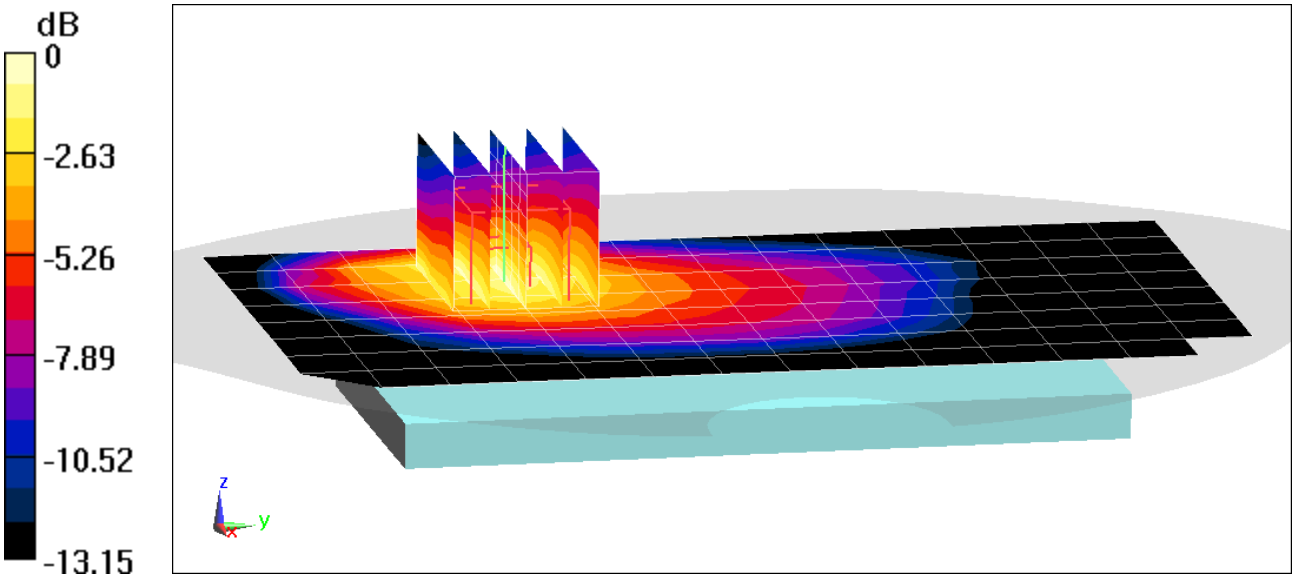
Communication System: UID 0, LTE Band 71; Frequency: 680.5 MHz; Duty Cycle: 1:1
Medium: 750 Body Medium parameters used (interpolated):
f = 680.5 MHz; σ = 0.924 S/m; ε_r = 55.104; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-30-2019; Ambient Temp: 23.2°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7409; ConvF(9.96, 9.96, 9.96) @ 680.5 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 (7450)

Mode: LTE Band 71, Body SAR, Back side, Mid.ch,
20 MHz Bandwidth, QPSK, 1 RB, 99 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.07 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.786 W/kg
SAR(1 g) = 0.464 W/kg



0 dB = 0.644 W/kg = -1.91 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01798

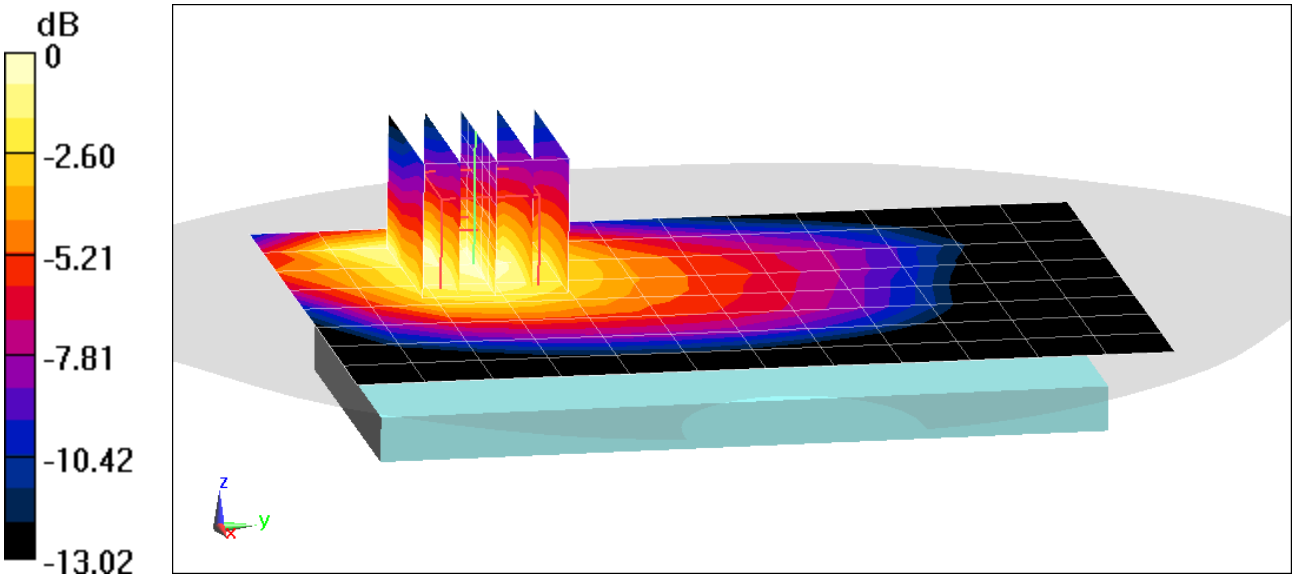
Communication System: UID 0, LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: 750 Body Medium parameters used (interpolated):
f = 707.5 MHz; σ = 0.934 S/m; ε_r = 55.035; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-30-2019; Ambient Temp: 23.2°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7409; ConvF(9.96, 9.96, 9.96) @ 707.5 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 (7450)

Mode: LTE Band 12, 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 (6x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.00 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.798 W/kg
SAR(1 g) = 0.471 W/kg



0 dB = 0.654 W/kg = -1.84 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01798

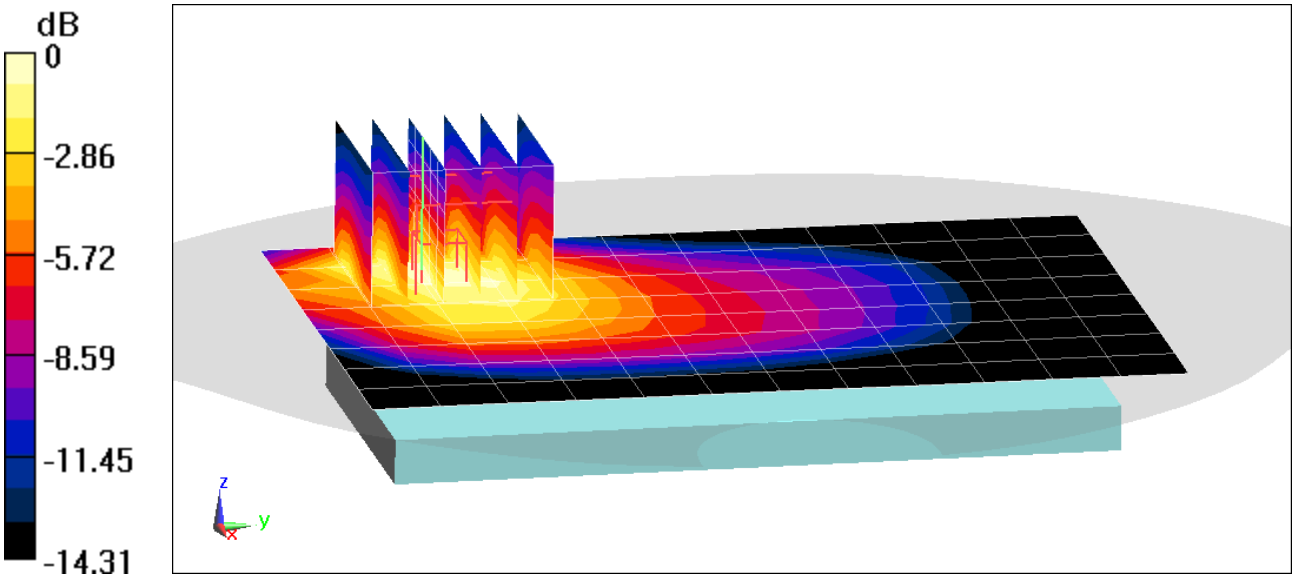
Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1
Medium: 750 Body Medium parameters used (interpolated):
f = 782 MHz; σ = 0.961 S/m; ε_r = 54.838; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-30-2019; Ambient Temp: 23.2°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7409; ConvF(9.96, 9.96, 9.96) @ 782 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 (7450)

Mode: LTE Band 13, 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 (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.94 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.837 W/kg
SAR(1 g) = 0.483 W/kg



0 dB = 0.683 W/kg = -1.66 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01764

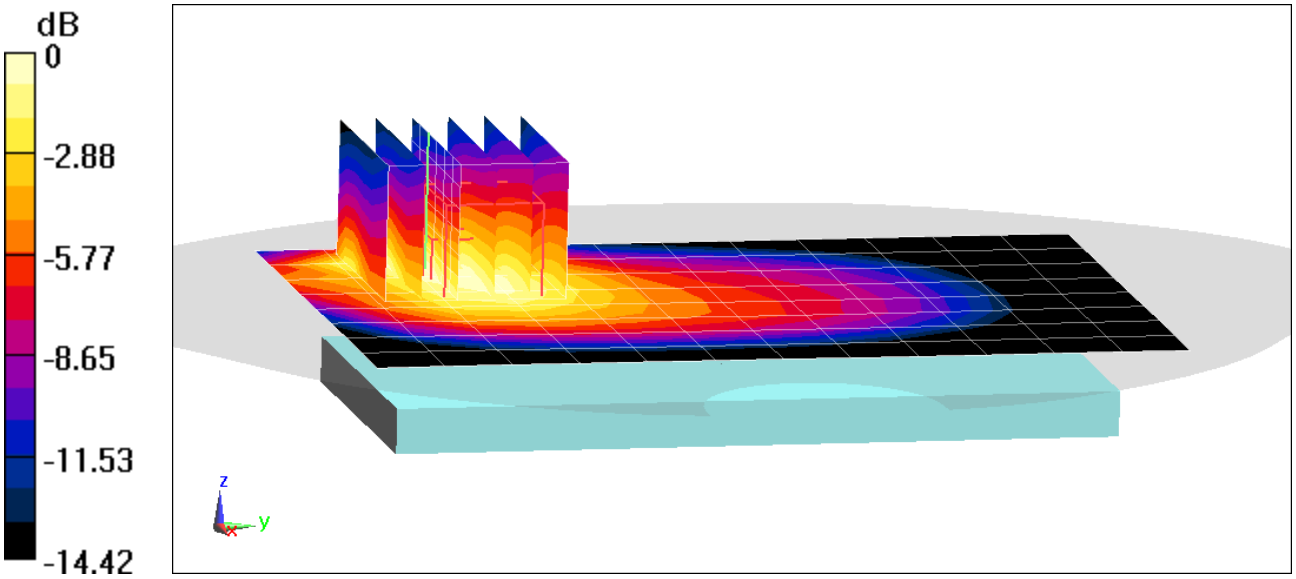
Communication System: UID 0, LTE Band 14; Frequency: 793 MHz; Duty Cycle: 1:1
Medium: 750 Body Medium parameters used (interpolated):
f = 793 MHz; σ = 0.967 S/m; ε_r = 53.79; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 08-12-2019; Ambient Temp: 22.0°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7409; ConvF(9.96, 9.96, 9.96) @ 793 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: LTE Band 14, 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 (7x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.23 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.928 W/kg
SAR(1 g) = 0.552 W/kg



0 dB = 0.770 W/kg = -1.14 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01772

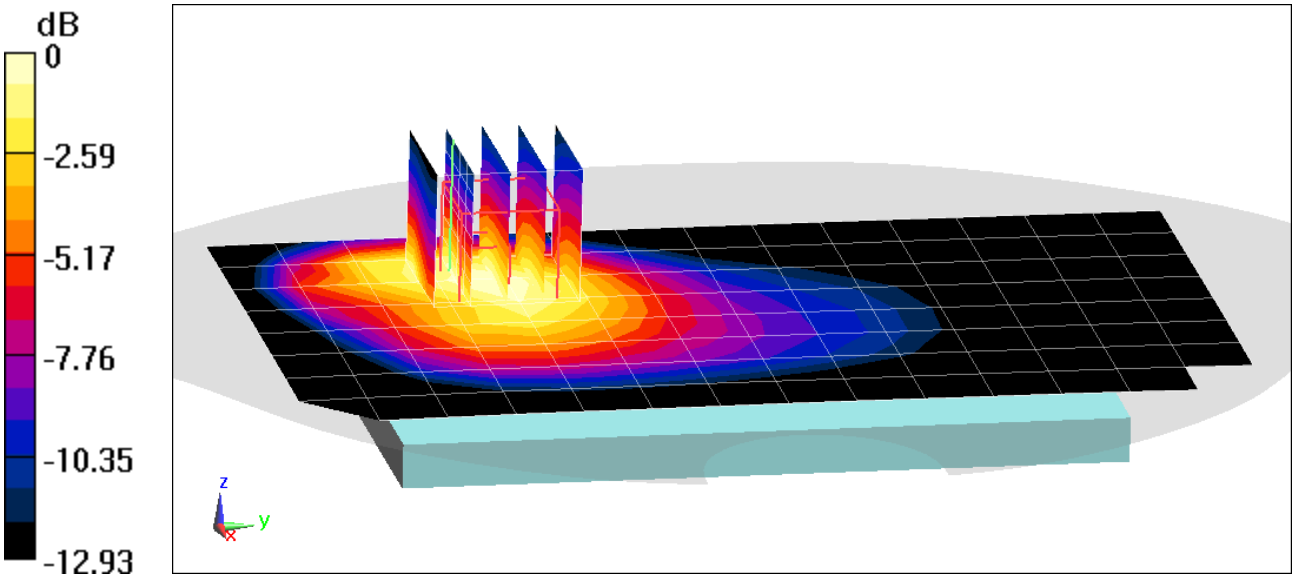
Communication System: UID 0, LTE Band 26; Frequency: 831.5 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 831.5 MHz; σ = 1 S/m; ε_r = 53.729; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-29-2019; Ambient Temp: 20.5°C; Tissue Temp: 20.6°C

Probe: EX3DV4 - SN7538; ConvF(9.85, 9.85, 9.85) @ 831.5 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Left Twin-SAM V5.0 30; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 26 (Cell.), Body SAR, Back side, Mid.ch,
15 MHz Bandwidth, QPSK, 1 RB, 74 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 29.40 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 1.42 W/kg
SAR(1 g) = 0.820 W/kg



0 dB = 1.16 W/kg = 0.64 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01772

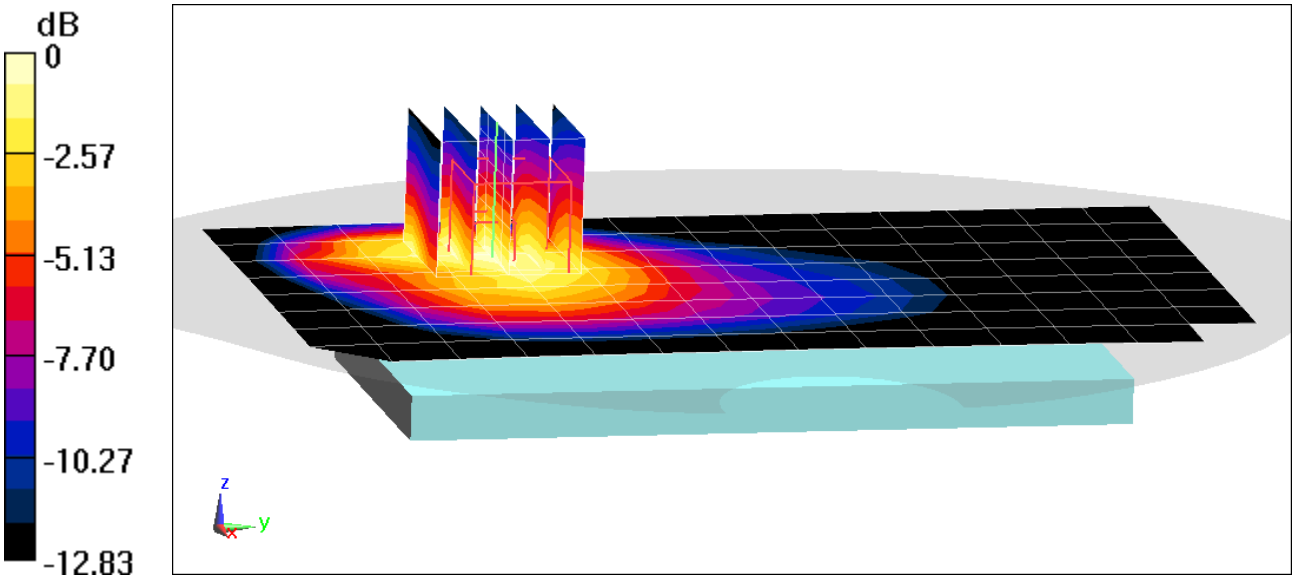
Communication System: UID 0, LTE Band 5; Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 836.5 MHz; σ = 1.009 S/m; ε_r = 54.466; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-31-2019; Ambient Temp: 20.5°C; Tissue Temp: 20.8°C

Probe: EX3DV4 - SN7538; ConvF(9.85, 9.85, 9.85) @ 836.5 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Left Twin-SAM V5.0 30; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 5 (Cell.), ULCA, Body SAR, Back side, Mid.ch,
PCC: 10 MHz Bandwidth, QPSK, Ch. 20525, 1 RB, 0 RB Offset
SCC: 5 MHz Bandwidth, QPSK, Ch. 20453, 1 RB, 24 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 = 29.79 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 1.45 W/kg
SAR(1 g) = 0.852 W/kg



0 dB = 1.19 W/kg = 0.76 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01798

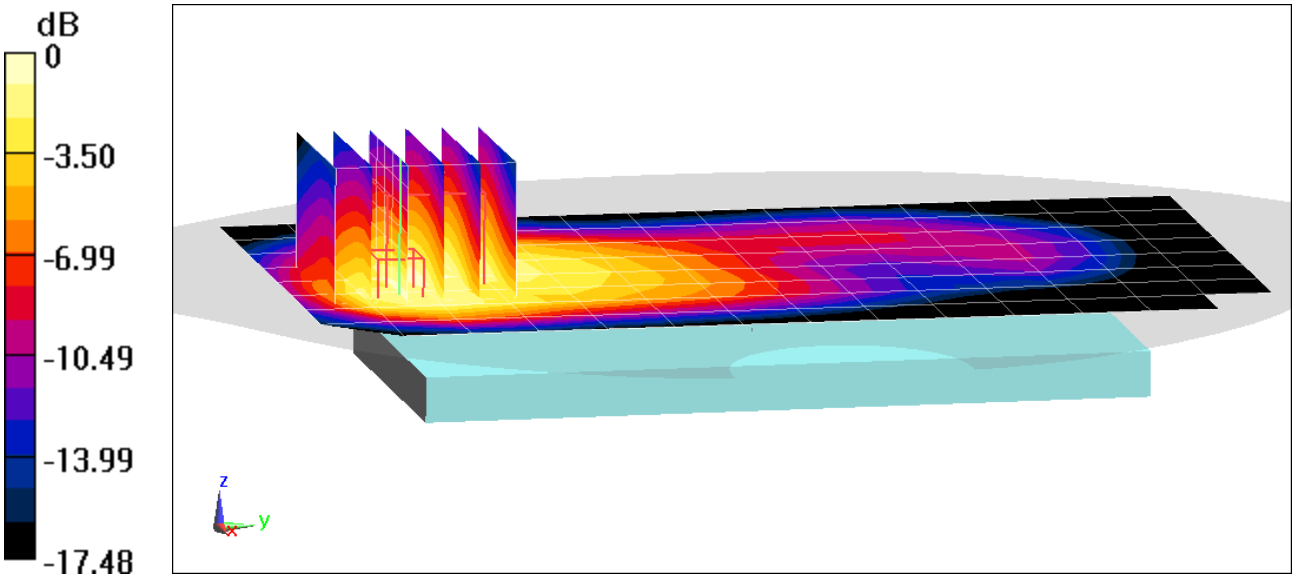
Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1770 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used (interpolated):
f = 1770 MHz; σ = 1.5 S/m; ε_r = 53.329; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-31-2019; Ambient Temp: 22.6°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7409; ConvF(7.85, 7.85, 7.85) @ 1770 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 (7450)

Mode: LTE Band 66 (AWS), 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 (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.55 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 1.23 W/kg
SAR(1 g) = 0.703 W/kg



0 dB = 1.05 W/kg = 0.21 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01798

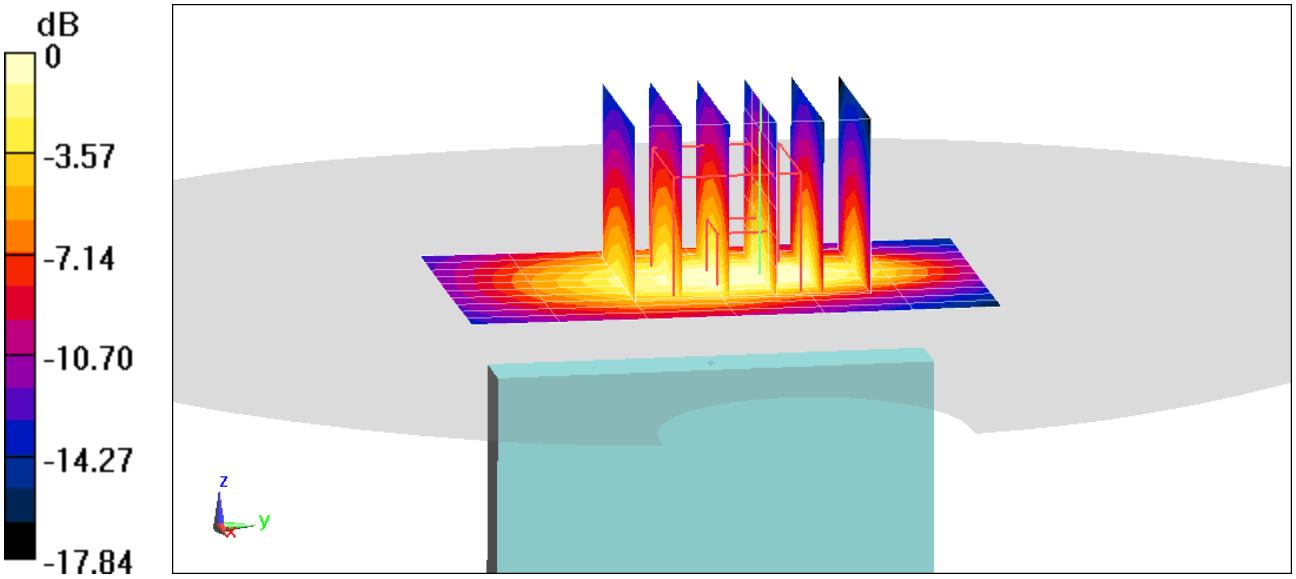
Communication System: UID 0, _LTE Band 66 (AWS); Frequency: 1770 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used (interpolated):
f = 1770 MHz; σ = 1.5 S/m; ε_r = 53.01; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 08-07-2019; Ambient Temp: 22.0°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7409; ConvF(7.85, 7.85, 7.85) @ 1770 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 (7450)

Mode: LTE Band 66 (AWS), Body SAR, Bottom Edge, High.ch, 20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (11x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.77 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 1.88 W/kg
SAR(1 g) = 1.06 W/kg



0 dB = 1.57 W/kg = 1.96 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01764

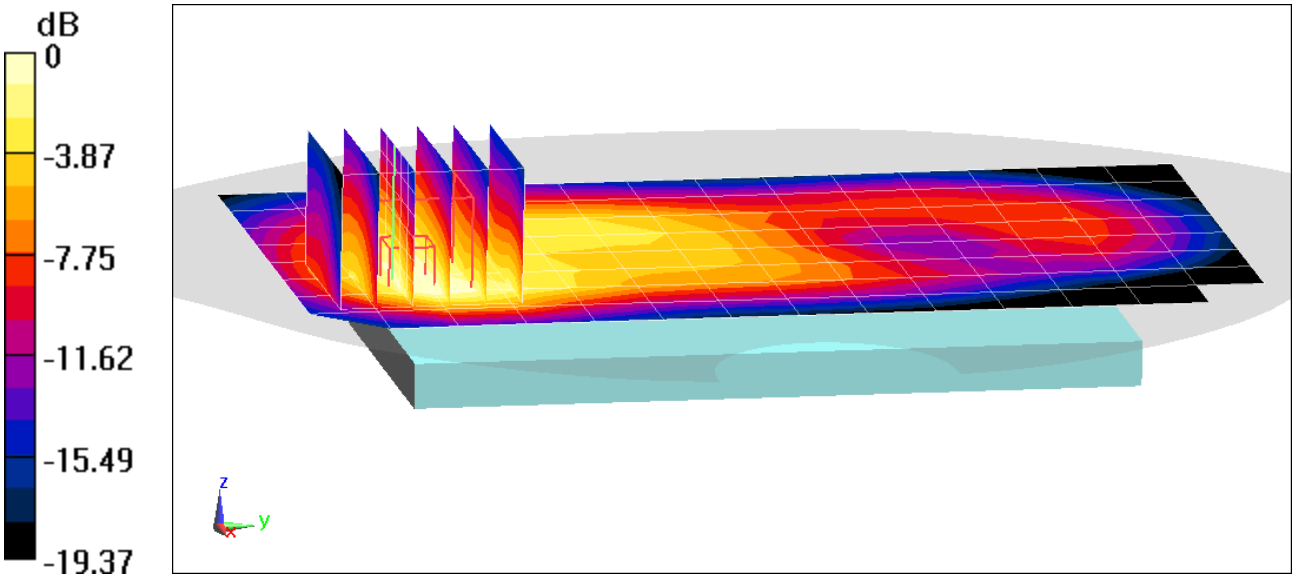
Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1860 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used (interpolated):
f = 1860 MHz; σ = 1.515 S/m; ε_r = 53.799; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-31-2019; Ambient Temp: 20.5°C; Tissue Temp: 23.9°C

Probe: EX3DV4 - SN7488; ConvF(8.37, 8.37, 8.37) @ 1860 MHz; Calibrated: 1/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/15/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1800
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 25 (PCS), Body SAR, Back side, Low.ch,
20 MHz Bandwidth, QPSK, 1 RB, 0 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 = 18.29 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.907 W/kg
SAR(1 g) = 0.506 W/kg



0 dB = 0.721 W/kg = -1.42 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01764

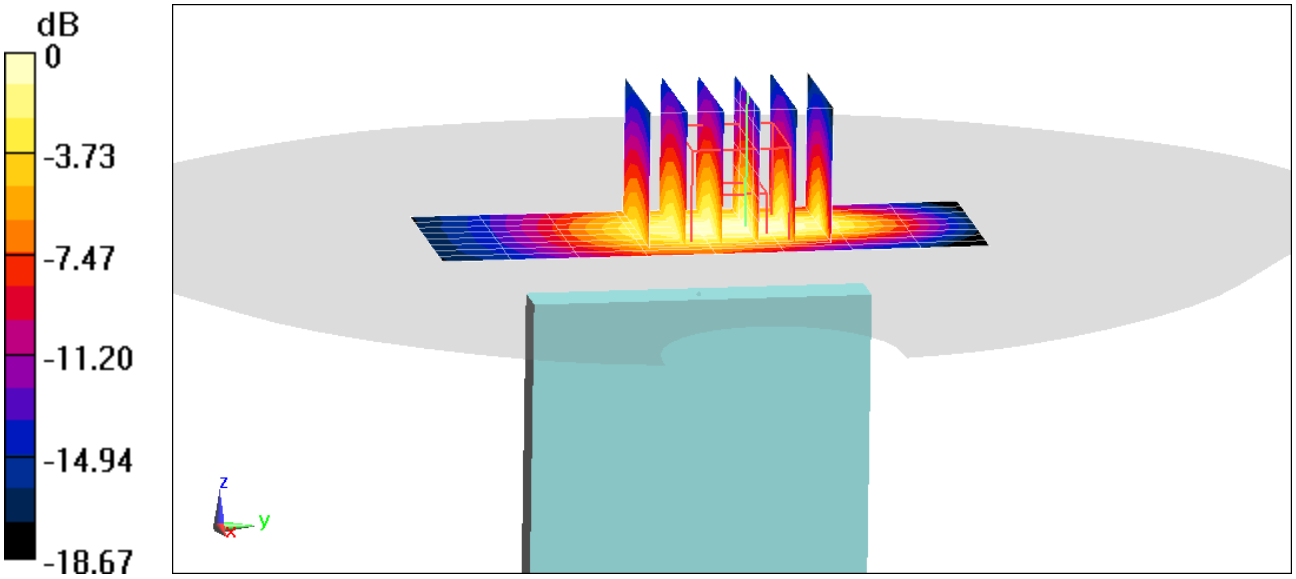
Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1905 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used (interpolated):
f = 1905 MHz; σ = 1.564 S/m; ε_r = 53.657; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-31-2019; Ambient Temp: 20.5°C; Tissue Temp: 23.9°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: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1800
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 25 (PCS), Body SAR, Bottom Edge, High.ch,
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (9x9x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 29.21 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 2.12 W/kg
SAR(1 g) = 1.2 W/kg



0 dB = 1.79 W/kg = 2.53 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01780

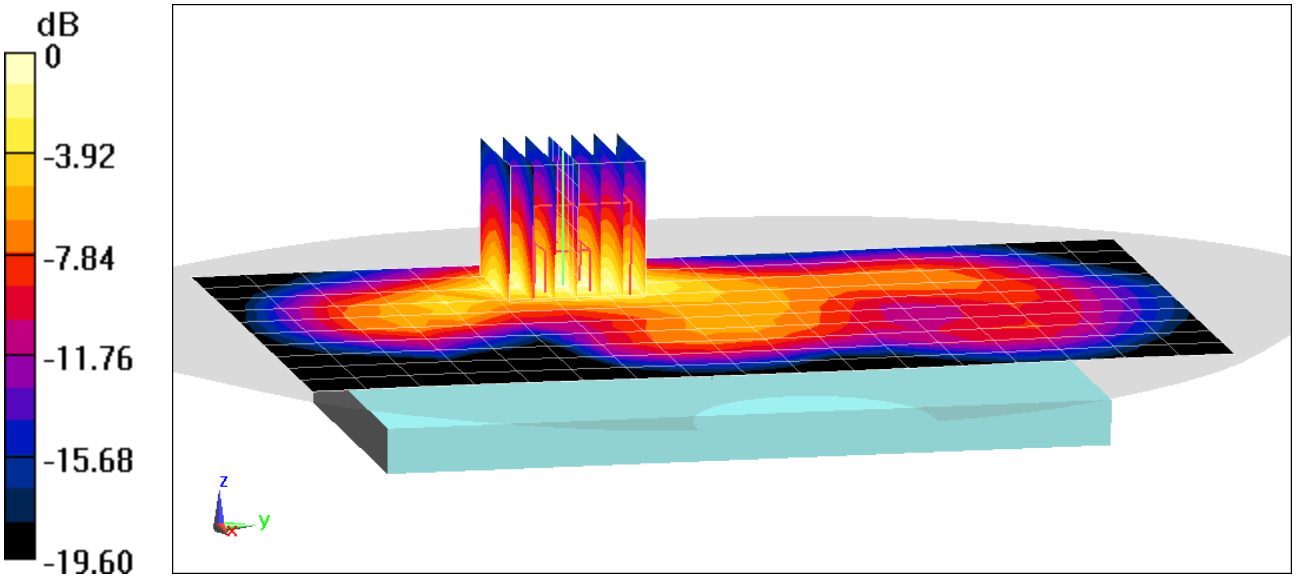
Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2310 MHz; σ = 1.859 S/m; ε_r = 51.866; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 08-07-2019; Ambient Temp: 22.5°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7417; ConvF(7.64, 7.64, 7.64) @ 2310 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/13/2019
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, 25 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 = 17.56 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.998 W/kg
SAR(1 g) = 0.521 W/kg



0 dB = 0.818 W/kg = -0.87 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01780

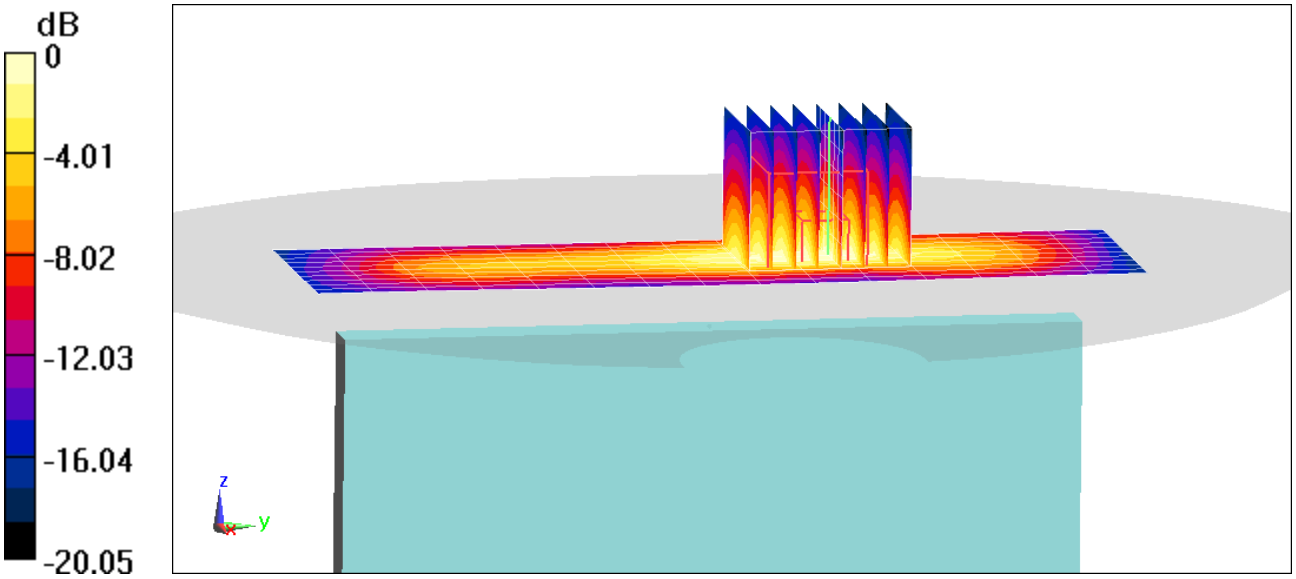
Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2310 MHz; σ = 1.859 S/m; ε_r = 51.866; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 08-07-2019; Ambient Temp: 22.5°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7417; ConvF(7.64, 7.64, 7.64) @ 2310 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/13/2019
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, Right Edge, Mid.ch,
10 MHz Bandwidth, QPSK, 1 RB, 25 RB Offset

Area Scan (11x16x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.87 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 1.07 W/kg
SAR(1 g) = 0.536 W/kg



0 dB = 0.858 W/kg = -0.67 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01780

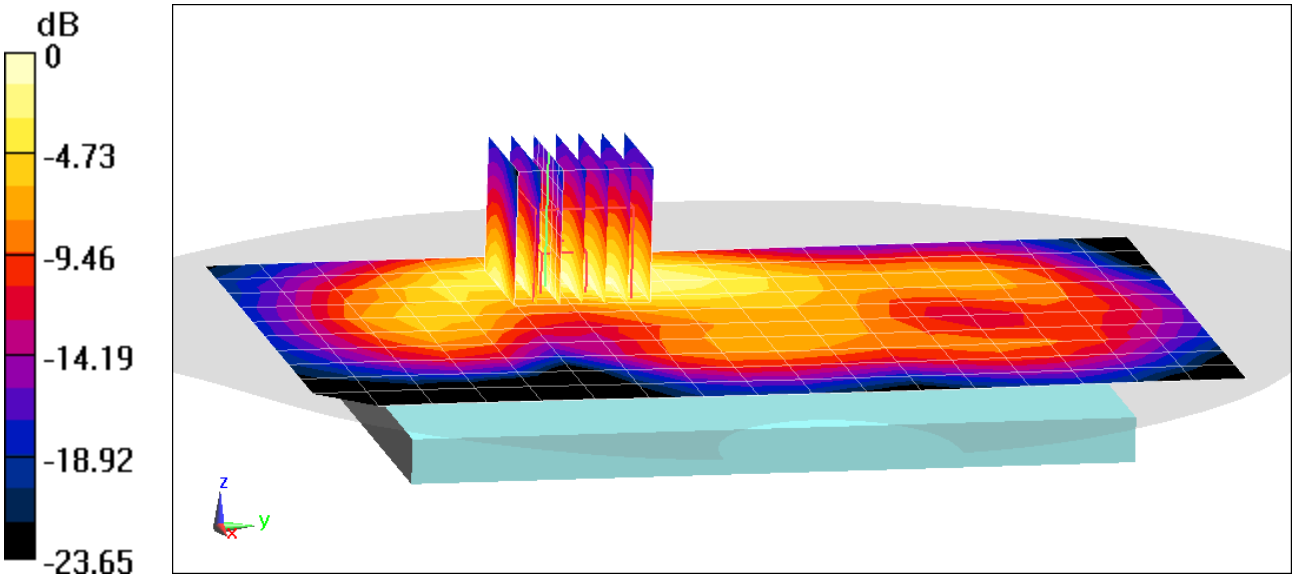
Communication System: UID 0, LTE Band 7; Frequency: 2510 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used (interpolated):
f = 2510 MHz; σ = 2.091 S/m; ε_r = 51.319; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 08-07-2019; Ambient Temp: 22.5°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7417; ConvF(7.51, 7.51, 7.51) @ 2510 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/13/2019
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 7, Body SAR, Back side, Low.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 = 18.43 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 1.31 W/kg
SAR(1 g) = 0.650 W/kg



0 dB = 1.03 W/kg = 0.13 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01780

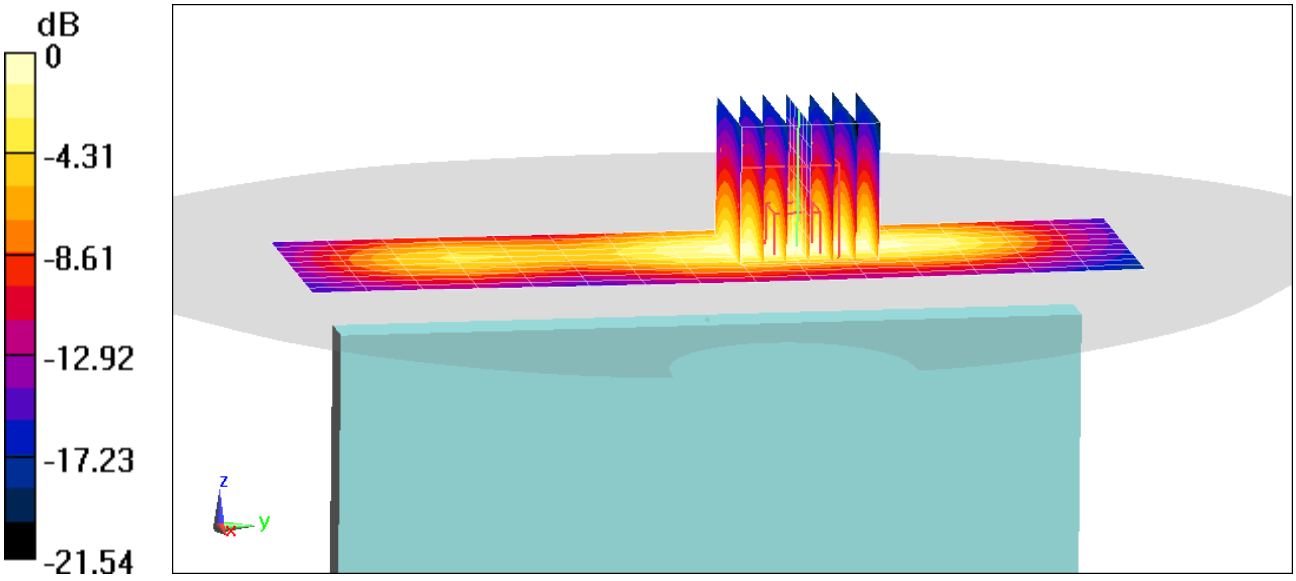
Communication System: UID 0, _LTE Band 7; Frequency: 2560 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used (interpolated):
$f = 2560$ MHz; $\sigma = 2.181$ S/m; $\varepsilon_r = 51.362$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 08-12-2019; Ambient Temp: 22.9°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7417; ConvF(7.37, 7.37, 7.37) @ 2560 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/13/2019
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 7, Body SAR, Right Edge, High.ch,
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (11x16x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.65 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 1.78 W/kg
SAR(1 g) = 0.842 W/kg



0 dB = 1.30 W/kg = 1.14 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01764

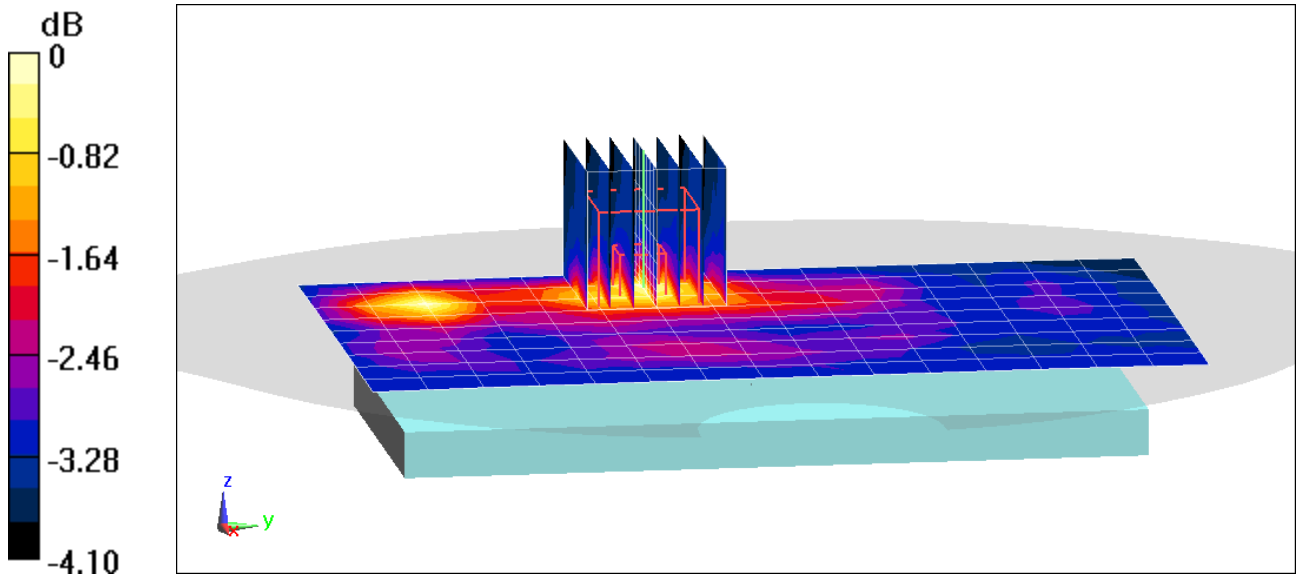
Communication System: UID 0, LTE Band 48; Frequency: 3603.3 MHz; Duty Cycle: 1:1.58
Medium: 3500-3700 Medium parameters used (interpolated):
f = 3603.3 MHz; σ = 3.477 S/m; ε_r = 51.307; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 08-05-2019; Ambient Temp: 20.0°C; Tissue Temp: 20.1°C

Probe: EX3DV4 - SN3949; ConvF(7.18, 7.18, 7.18) @ 3603.3 MHz; Calibrated: 8/24/2018
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 10/18/2018
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 (7450)

Mode: LTE Band 48, Body SAR, Back side, Low-Mid.ch,
20 MHz Bandwidth, QPSK, 1 RB, 99 RB Offset

Area Scan (10x16x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (8x7x8)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 6.844 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 0.256 W/kg
SAR(1 g) = 0.146 W/kg



0 dB = 0.203 W/kg = -6.93 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01798

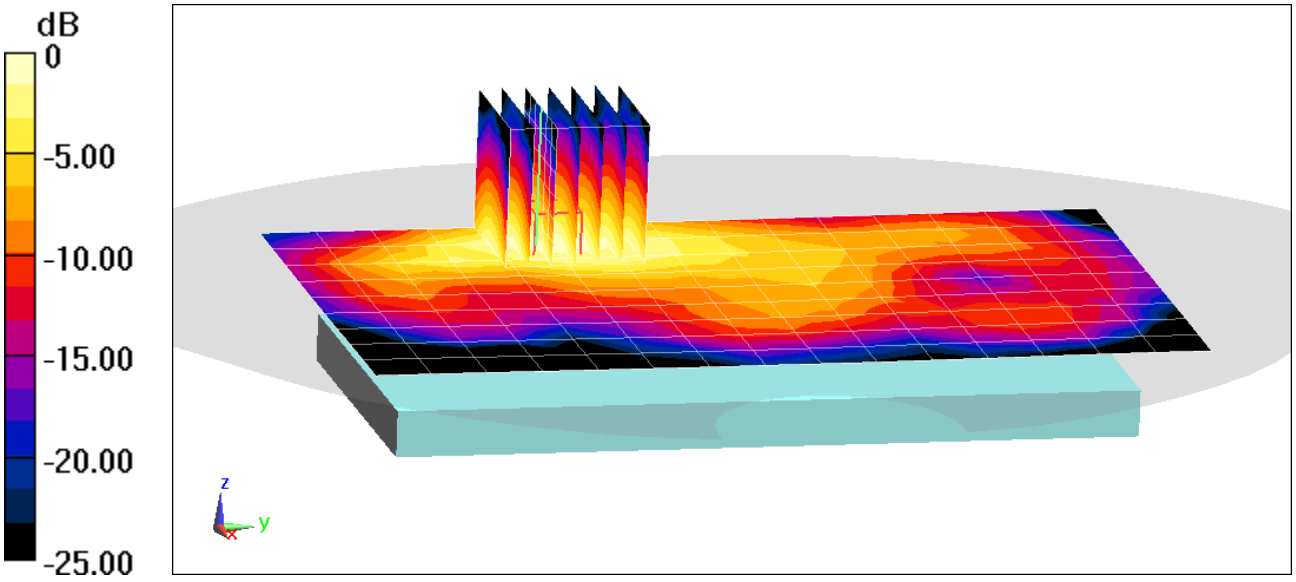
Communication System: UID 0, _LTE Band 41 (Class 2); Frequency: 2680 MHz; Duty Cycle: 1:2.31
Medium: 2450 Body Medium parameters used (interpolated):
f = 2680 MHz; σ = 2.371 S/m; ε_r = 51.531; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 08-21-2019; Ambient Temp: 21.9°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN7357; ConvF(7.39, 7.39, 7.39) @ 2680 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 41, HPUE, ULCA, Body SAR, Back side, High.ch
PCC: 20 MHz Bandwidth, QPSK, Ch. 41490, 1 RB, 0 RB Offset
SCC: 20 MHz Bandwidth, QPSK, Ch. 41292, 1 RB, 99 RB Offset

Area Scan (10x16x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.27 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 0.737 W/kg
SAR(1 g) = 0.344 W/kg



0 dB = 0.578 W/kg = -2.38 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01798

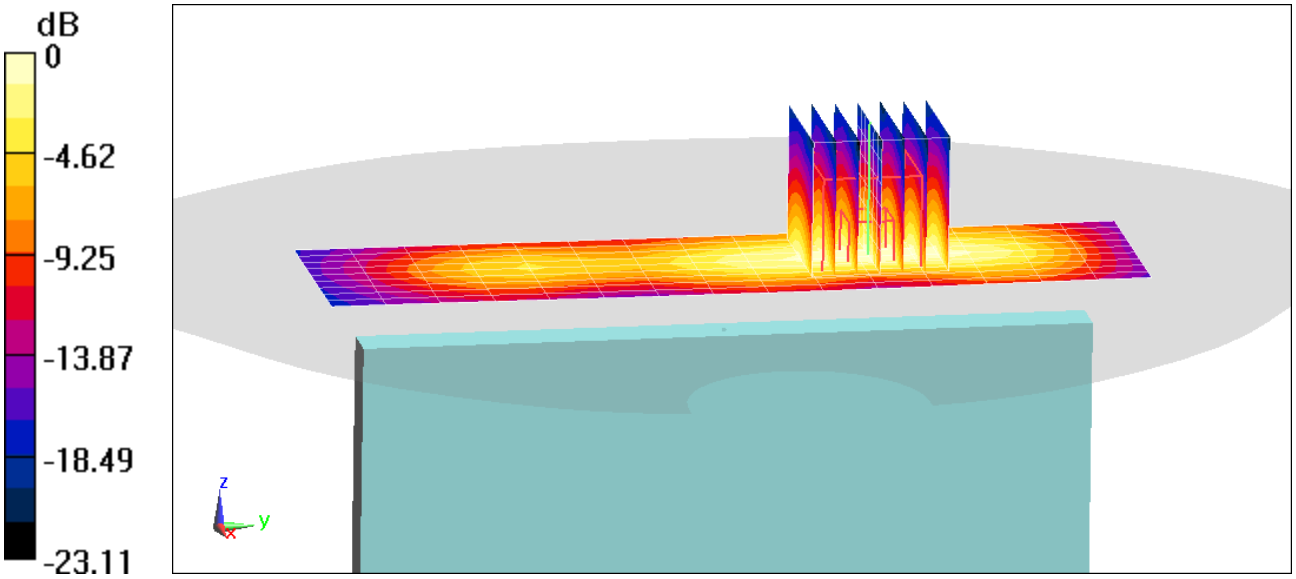
Communication System: UID 0, _LTE Band 41 (Class 2); Frequency: 2680 MHz; Duty Cycle: 1:2.31
Medium: 2450 Body Medium parameters used (interpolated):
f = 2680 MHz; σ = 2.306 S/m; ε_r = 50.366; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 08-22-2019; Ambient Temp: 23.4°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN7417; ConvF(7.37, 7.37, 7.37) @ 2680 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/13/2019
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 41, HPUE, Body SAR, Right Edge, High.ch,
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (10x16x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.68 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.856 W/kg
SAR(1 g) = 0.390 W/kg



0 dB = 0.664 W/kg = -1.78 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01616

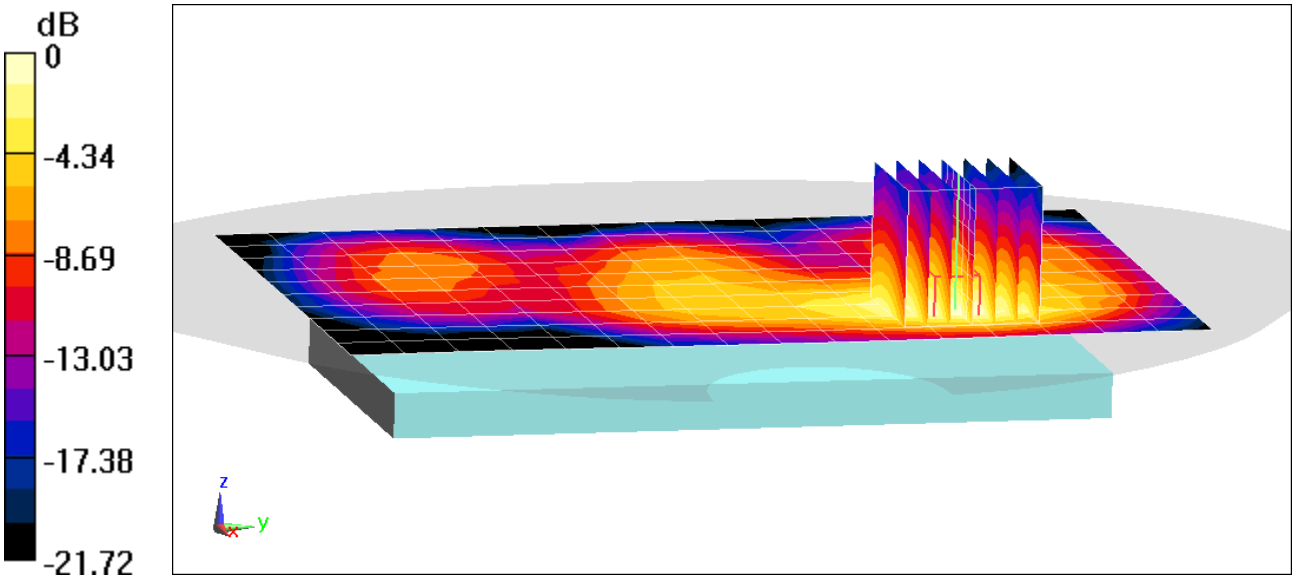
Communication System: UID 0, _IEEE 802.11b; Frequency: 2437 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used (interpolated):
f = 2437 MHz; σ = 2.004 S/m; ε_r = 51.525; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 08-07-2019; Ambient Temp: 22.5°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7417; ConvF(7.51, 7.51, 7.51) @ 2437 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/13/2019
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 2, 22 MHz Bandwidth,
Body SAR, Ch 6, 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 = 11.56 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.472 W/kg
SAR(1 g) = 0.239 W/kg



0 dB = 0.384 W/kg = -4.16 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01616

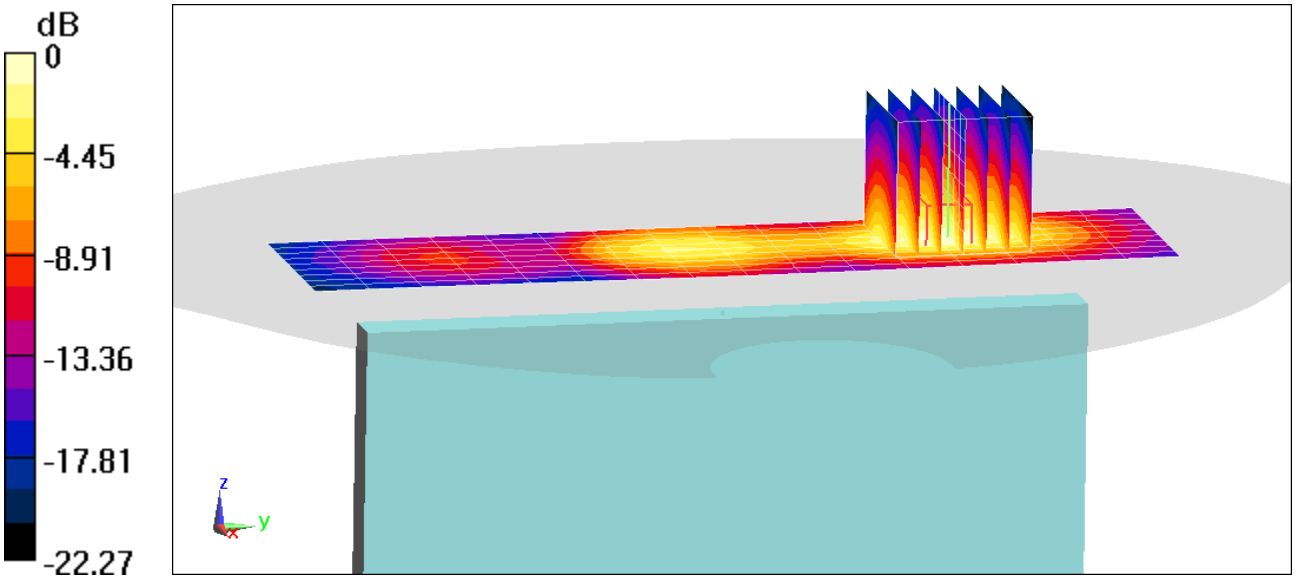
Communication System: UID 0, _IEEE 802.11b; Frequency: 2437 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used (interpolated):
f = 2437 MHz; σ = 2.016 S/m; ε_r = 51.274; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 08-09-2019; Ambient Temp: 22.7°C; Tissue Temp: 22.3°C

Probe: EX3DV4 - SN7417; ConvF(7.51, 7.51, 7.51) @ 2437 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/13/2019
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 2, 22 MHz Bandwidth,
Body SAR, Ch 6, 1 Mbps, Left Edge

Area Scan (10x17x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.67 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.999 W/kg
SAR(1 g) = 0.482 W/kg



0 dB = 0.808 W/kg = -0.93 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01624

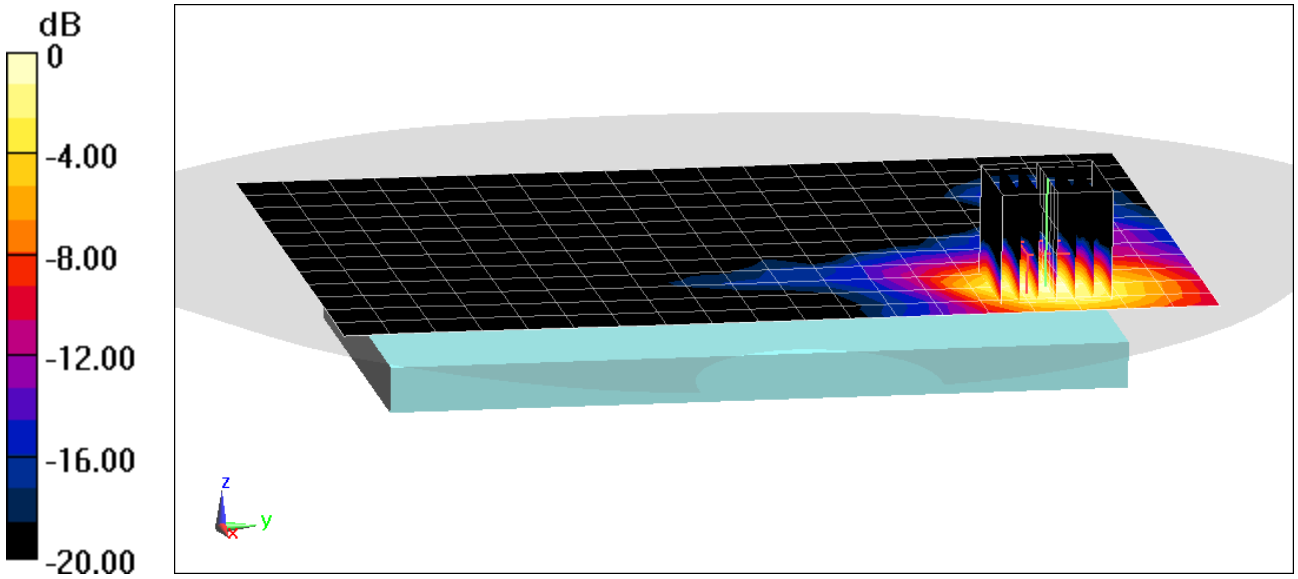
Communication System: UID 0, 802.11n 5.2-5.8 GHz Band; Frequency: 5785 MHz; Duty Cycle: 1:1
Medium: 5GHz Body Medium parameters used:
f = 5785 MHz; σ = 5.947 S/m; ε_r = 46.188; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date:08-05-2019 Ambient Temp: 20.3°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7410; ConvF(4.6, 4.6, 4.6) @ 5785 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 (7450)

Mode: IEEE 802.11n, MIMO, UNII-3, 20 MHz Bandwidth,
Body SAR, Ch 157, 13 Mbps, Back Side

Area Scan (13x20x1): 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 = 10.92 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 2.64 W/kg
SAR(1 g) = 0.652 W/kg



0 dB = 1.58 W/kg = 1.99 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01616

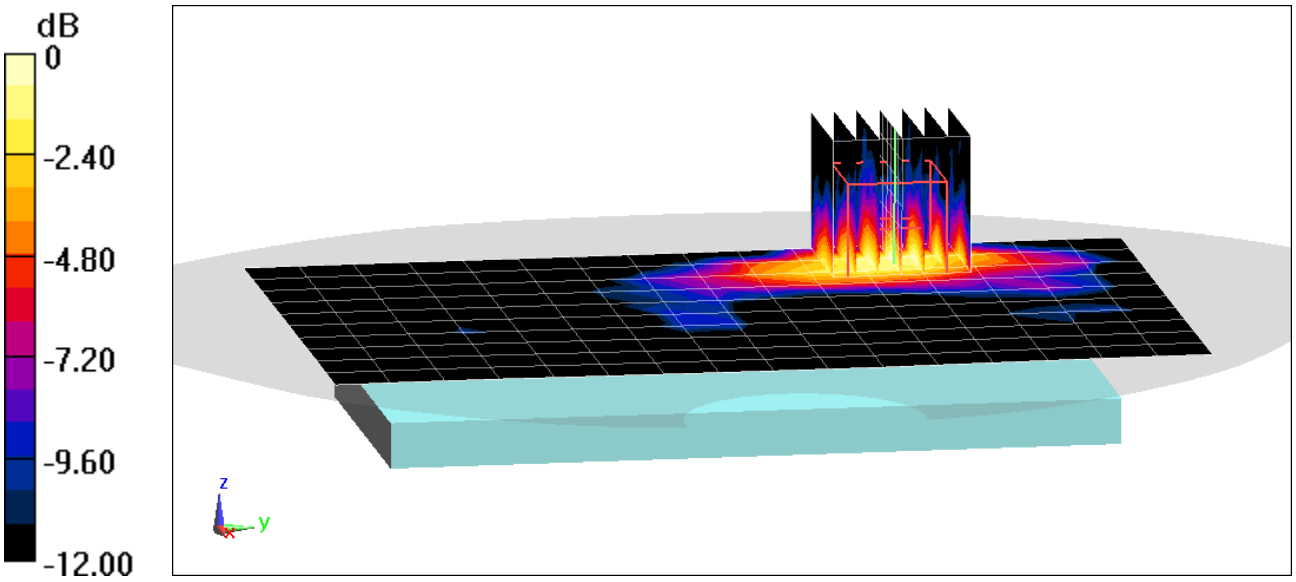
Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.297
Medium: 2450 Body Medium parameters used (interpolated):
f = 2441 MHz; σ = 2.009 S/m; ε_r = 51.514; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 08-07-2019; Ambient Temp: 22.5°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7417; ConvF(7.51, 7.51, 7.51) @ 2441 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/13/2019
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 = 3.295 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 0.0380 W/kg
SAR(1 g) = 0.018 W/kg



0 dB = 0.0291 W/kg = -15.36 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01616

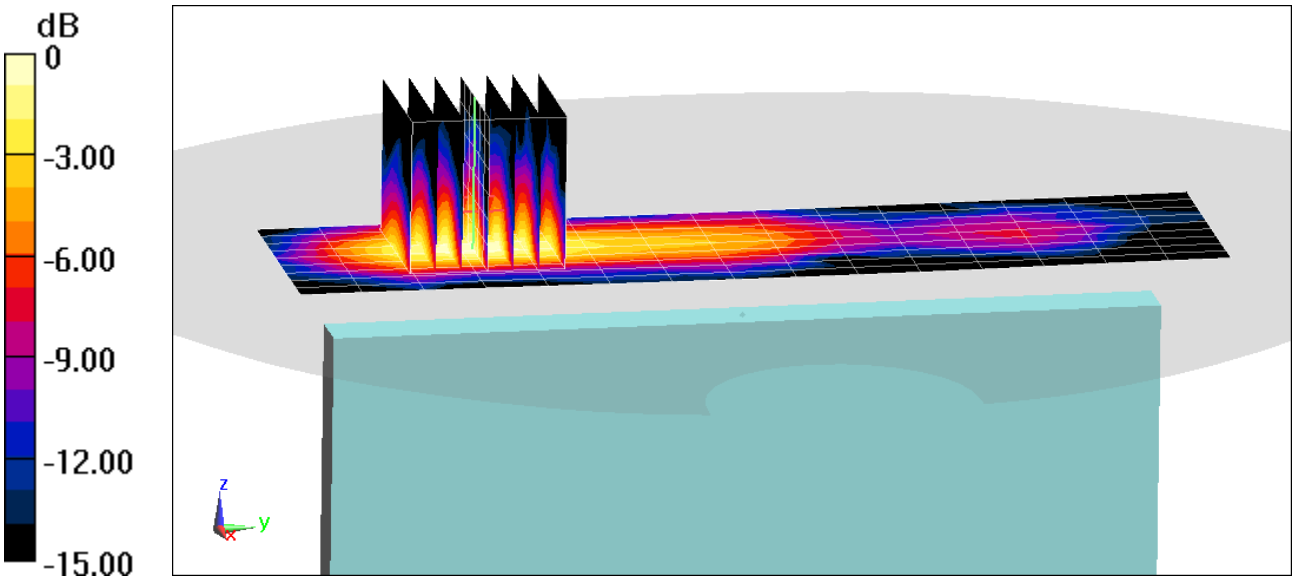
Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.297
Medium: 2450 Body Medium parameters used (interpolated):
f = 2441 MHz; σ = 2.021 S/m; ε_r = 51.264; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 08-09-2019; Ambient Temp: 22.7°C; Tissue Temp: 22.3°C

Probe: EX3DV4 - SN7417; ConvF(7.51, 7.51, 7.51) @ 2441 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/13/2019
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, Right Edge

Area Scan (10x16x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.360 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 0.0710 W/kg
SAR(1 g) = 0.034 W/kg



0 dB = 0.0573 W/kg = -12.42 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01772

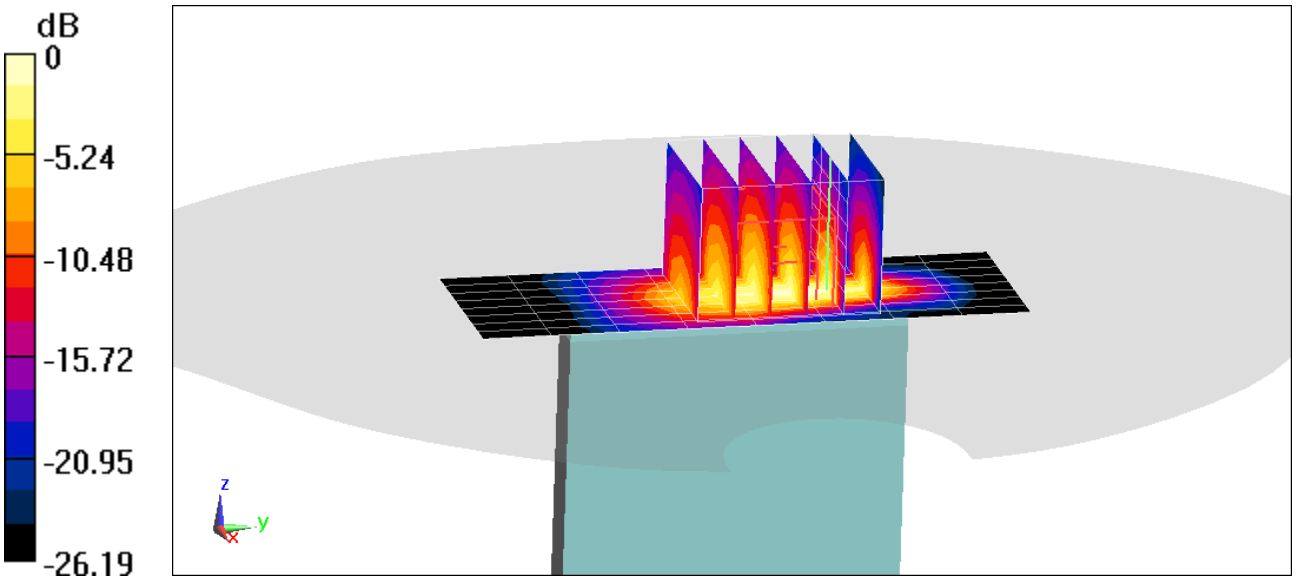
Communication System: UID 0, CDMA; Frequency: 1851.25 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used (interpolated):
f = 1851.25 MHz; σ = 1.513 S/m; ε_r = 52.706; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 08-05-2019; Ambient Temp: 19.7°C; Tissue Temp: 23.8°C

Probe: EX3DV4 - SN7488; ConvF(8.37, 8.37, 8.37) @ 1851.25 MHz; Calibrated: 1/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/15/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1800
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: PCS EVDO, Phablet SAR, Bottom Edge, Low.ch

Area Scan (9x9x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 71.64 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 16.9 W/kg
SAR(10 g) = 2.89 W/kg



0 dB = 13.6 W/kg = 11.34 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01764

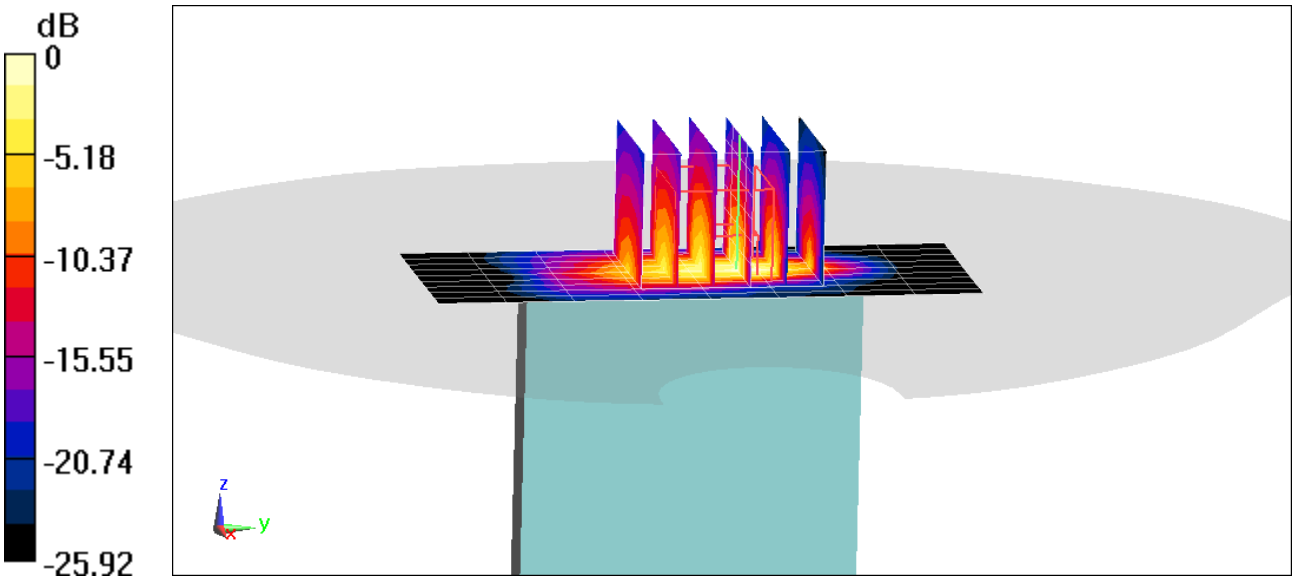
Communication System: UID 0, _UMTS; Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used (interpolated):
f = 1752.6 MHz; σ = 1.488 S/m; ε_r = 53.041; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 08-07-2019; Ambient Temp: 22.0°C; Tissue Temp: 21.1°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 (7450)

Mode: UMTS 1750, Phablet SAR, Bottom Edge, High.ch

Area Scan (10x9x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 75.13 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 19.1 W/kg
SAR(10 g) = 2.8 W/kg



0 dB = 15.6 W/kg = 11.93 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01772

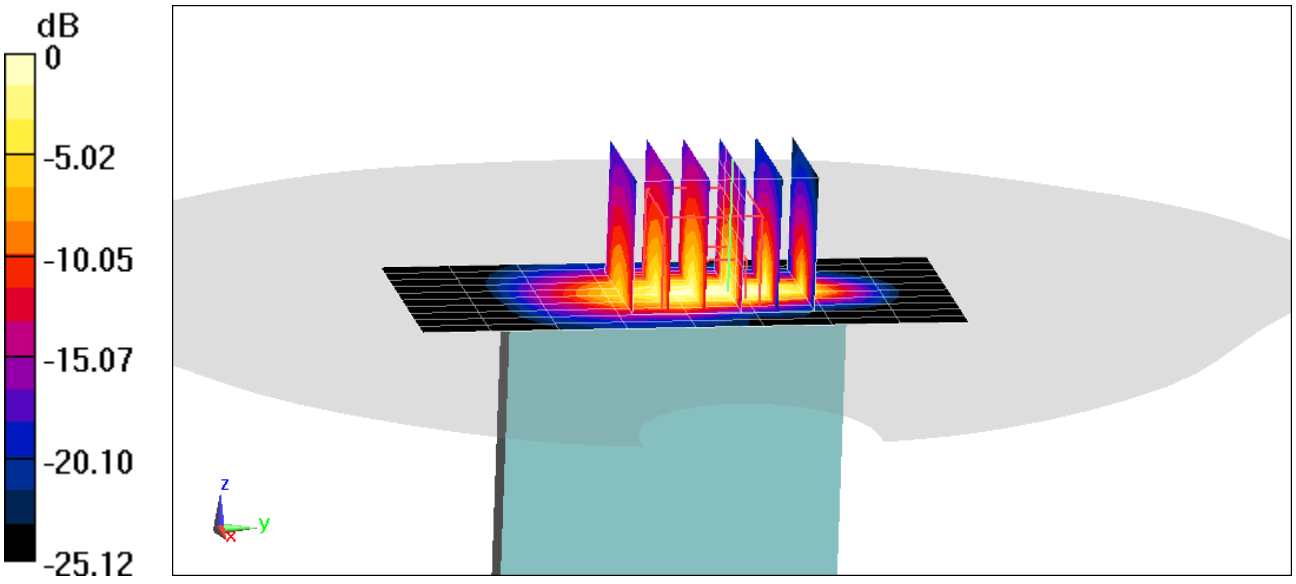
Communication System: UID 0, _UMTS; Frequency: 1852.4 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used (interpolated):
f = 1852.4 MHz; σ = 1.481 S/m; ε_r = 51.595; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 08-07-2019; Ambient Temp: 20.3°C; Tissue Temp: 22.2°C

Probe: EX3DV4 - SN7488; ConvF(8.37, 8.37, 8.37) @ 1852.4 MHz; Calibrated: 1/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/15/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1800
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: UMTS 1900, Phablet SAR, Bottom Edge, Low.ch

Area Scan (11x9x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 70.09 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 14.3 W/kg
SAR(10 g) = 2.66 W/kg



0 dB = 11.9 W/kg = 10.76 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01764

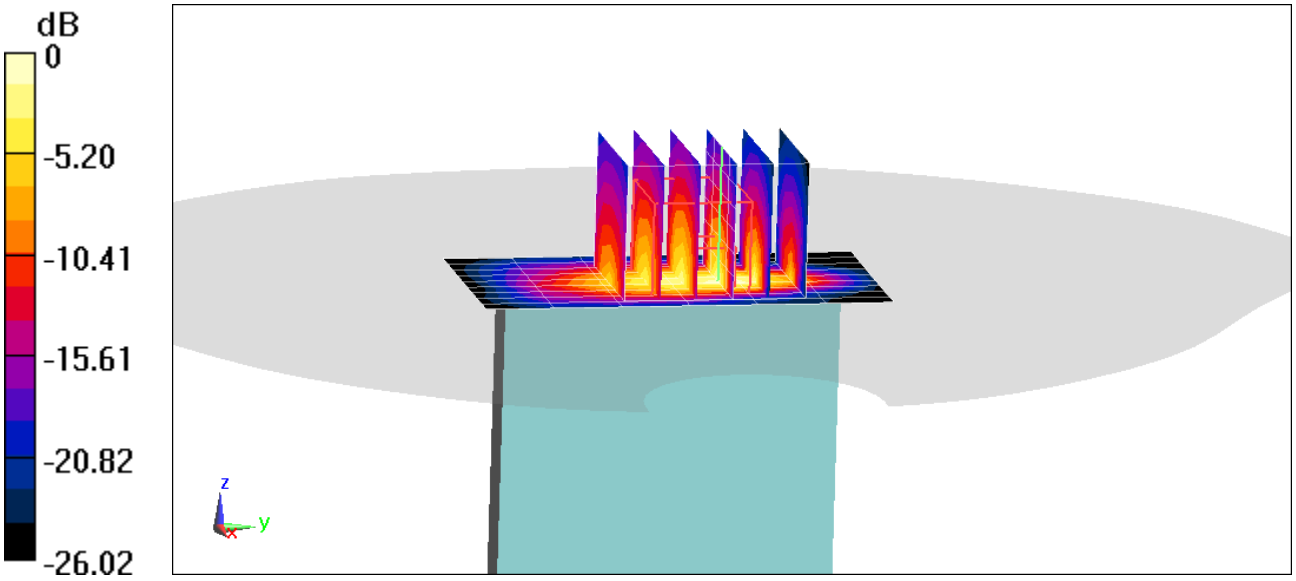
Communication System: UID 0, _LTE Band 66 (AWS); Frequency: 1770 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used (interpolated):
f = 1770 MHz; σ = 1.5 S/m; ε_r = 53.01; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 08-07-2019; Ambient Temp: 22.0°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7409; ConvF(7.85, 7.85, 7.85) @ 1770 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 (7450)

Mode: LTE Band 66 (AWS), Phablet SAR, Bottom Edge, High.ch, 20 MHz Bandwidth, QPSK, 100 RB, 0 RB Offset

Area Scan (10x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 75.94 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 20.9 W/kg
SAR(10 g) = 3.01 W/kg



0 dB = 16.6 W/kg = 12.20 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01764

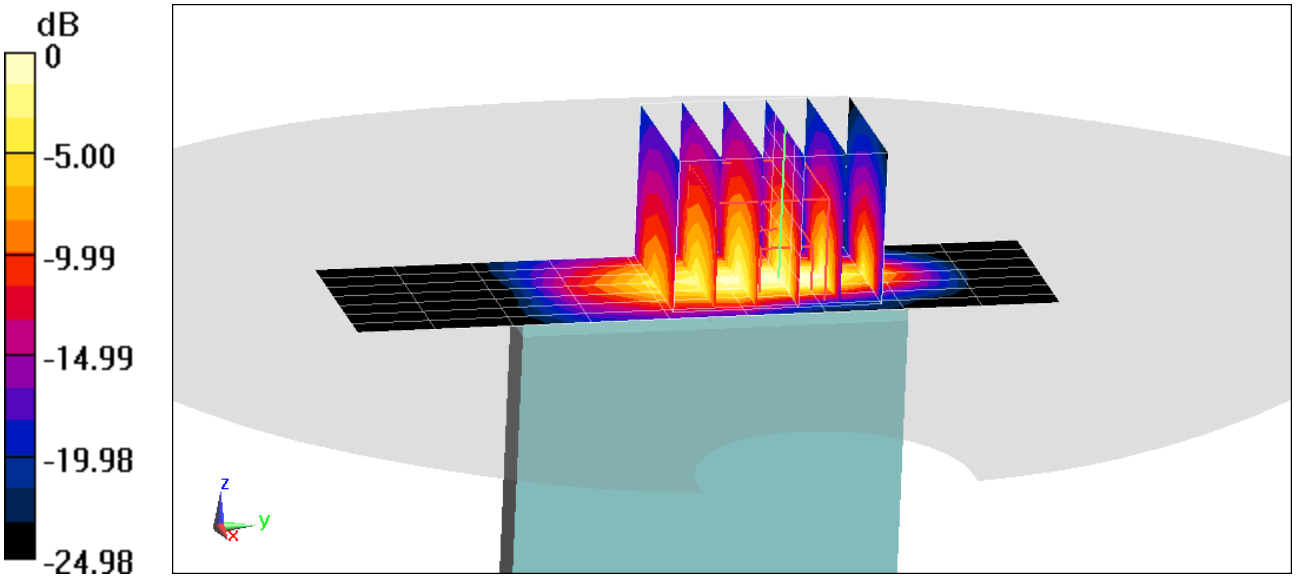
Communication System: UID 0, _LTE Band 25 (PCS); Frequency: 1860 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used (interpolated):
f = 1860 MHz; σ = 1.515 S/m; ε_r = 53.799; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 07-31-2019; Ambient Temp: 20.5°C; Tissue Temp: 23.9°C

Probe: EX3DV4 - SN7488; ConvF(8.37, 8.37, 8.37) @ 1860 MHz; Calibrated: 1/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/15/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1800
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 25 (PCS), Phablet SAR, Bottom Edge, Low.ch, 20 MHz Bandwidth, QPSK, 50 RB, 25 RB Offset

Area Scan (8x10x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 71.98 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 16.7 W/kg
SAR(10 g) = 2.93 W/kg



0 dB = 12.3 W/kg = 10.90 dBW/kg

DUT: ZNFG850UM; Type: Portable Handset; Serial: 01624

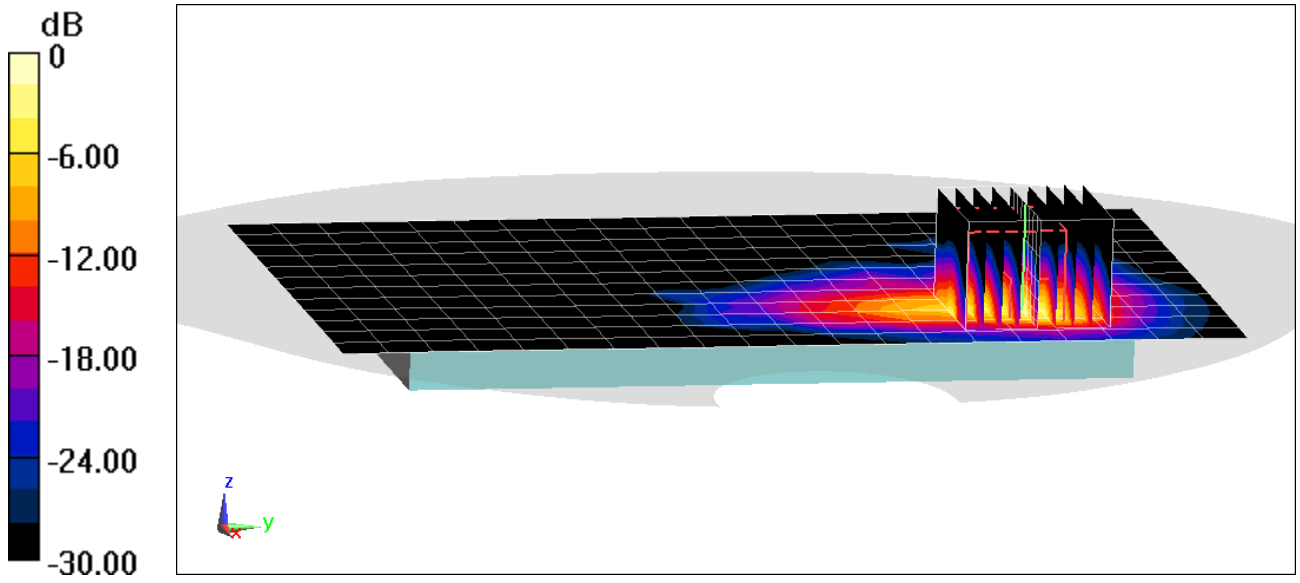
Communication System: UID 0, 802.11n 5.2-5.8 GHz Band; Frequency: 5280 MHz; Duty Cycle: 1:1
Medium: 5GHz Body Medium parameters used:
f = 5280 MHz; σ = 5.235 S/m; ε_r = 47.046; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date:08-05-2019 Ambient Temp: 20.3°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7410; ConvF(4.95, 4.95, 4.95) @ 5280 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 (7450)

Mode: IEEE 802.11n, MIMO, U-NII-2A, 20 MHz Bandwidth,
Phablet SAR, Ch 56, 13 Mbps, Back Side

Area Scan (13x21x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (9x9x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 6.947 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 62.0 W/kg
SAR(10 g) = 2.36 W/kg



0 dB = 29.8 W/kg = 14.74 dBW/kg

APPENDIX B: SYSTEM VERIFICATION

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1003

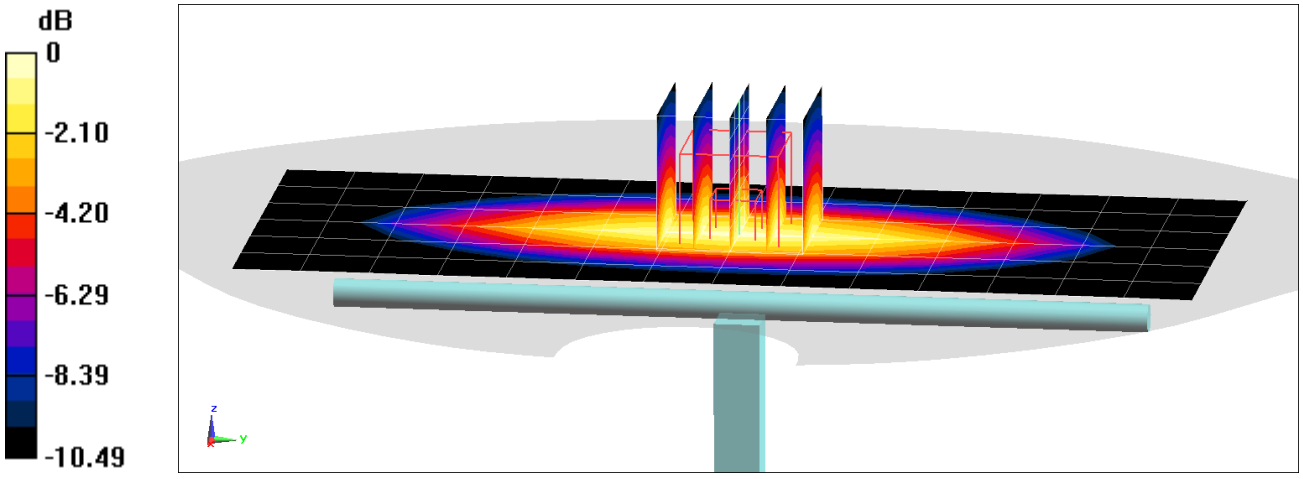
Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1
Medium: 750 Head Medium parameters used (interpolated):
f = 750 MHz; σ = 0.87 S/m; ε_r = 42.505; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 07-29-2019; Ambient Temp: 21.2°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN3589; ConvF(8.67, 8.67, 8.67) @ 750 MHz; Calibrated: 1/25/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/22/2018
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 (7450)

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) = 2.28 W/kg
SAR(1 g) = 1.54 W/kg
Deviation(1 g) = -7.00%



0 dB = 2.05 W/kg = 3.12 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1003

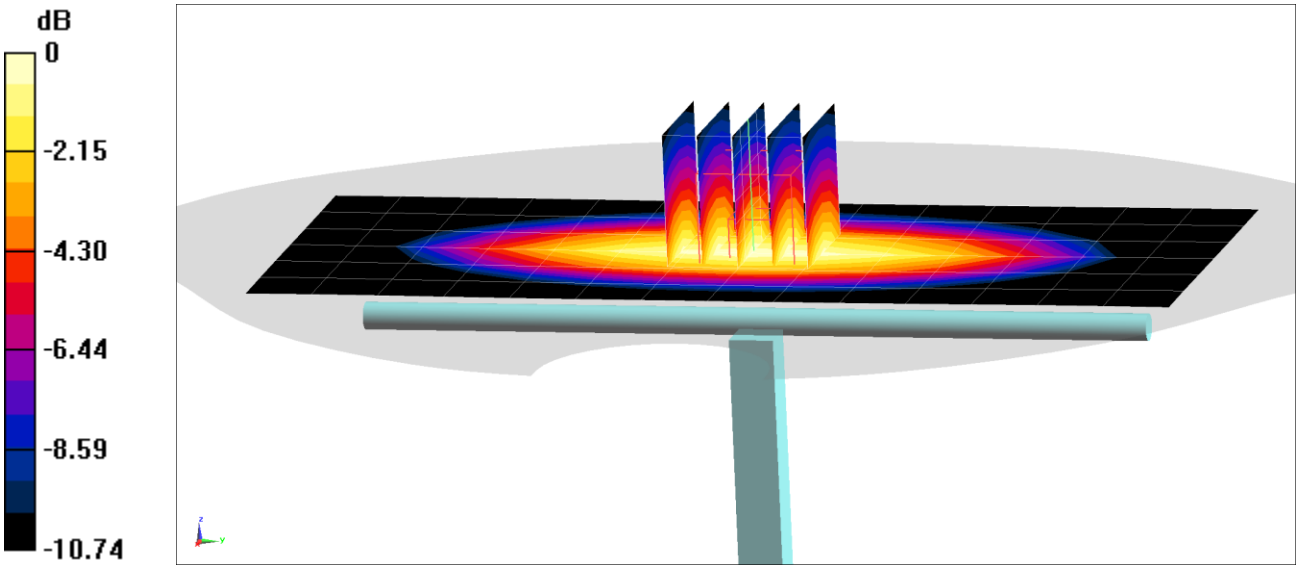
Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1
Medium: 750 Head Medium parameters used (interpolated):
f = 750 MHz; σ = 0.901 S/m; ε_r = 42.826; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 08-12-2019; Ambient Temp: 22.1°C; Tissue Temp: 21.6°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 Left 30; Type: QD 000 P40 CD; Serial: 1687
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) = 2.73 W/kg
SAR(1 g) = 1.73 W/kg
Deviation(1 g) = 4.47%



0 dB = 2.37 W/kg = 3.75 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d132

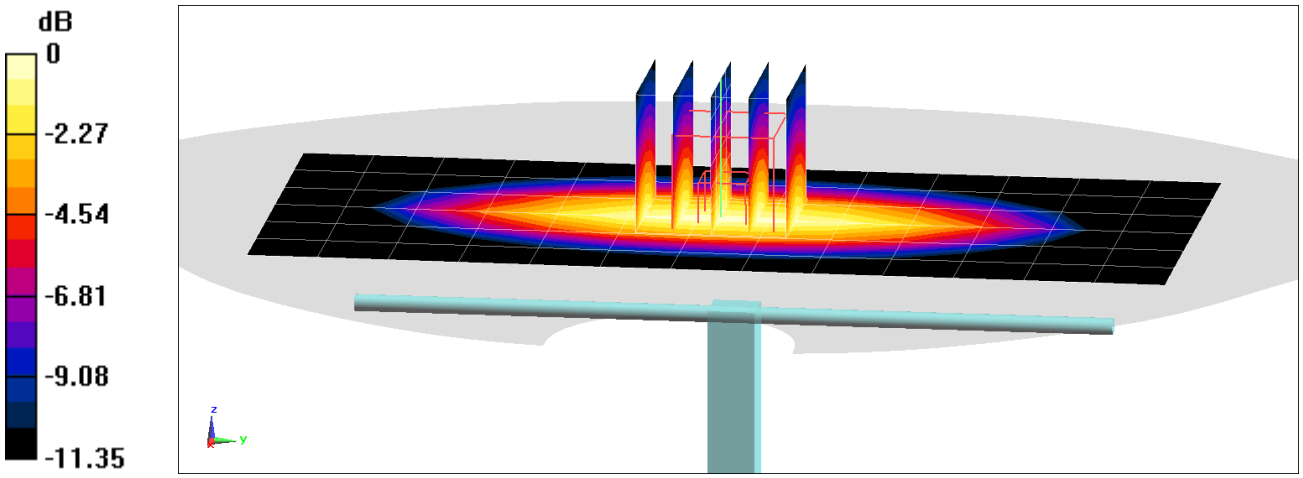
Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: 835 Head Medium parameters used:
f = 835 MHz; σ = 0.901 S/m; ε_r = 42.255; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 07-30-2019; Ambient Temp: 22.9°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN3589; ConvF(8.39, 8.39, 8.39) @ 835 MHz; Calibrated: 1/25/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/22/2018
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 (7450)

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) = 3.05 W/kg
SAR(1 g) = 1.96 W/kg
Deviation(1 g) = 2.19%



0 dB = 2.68 W/kg = 4.28 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d132

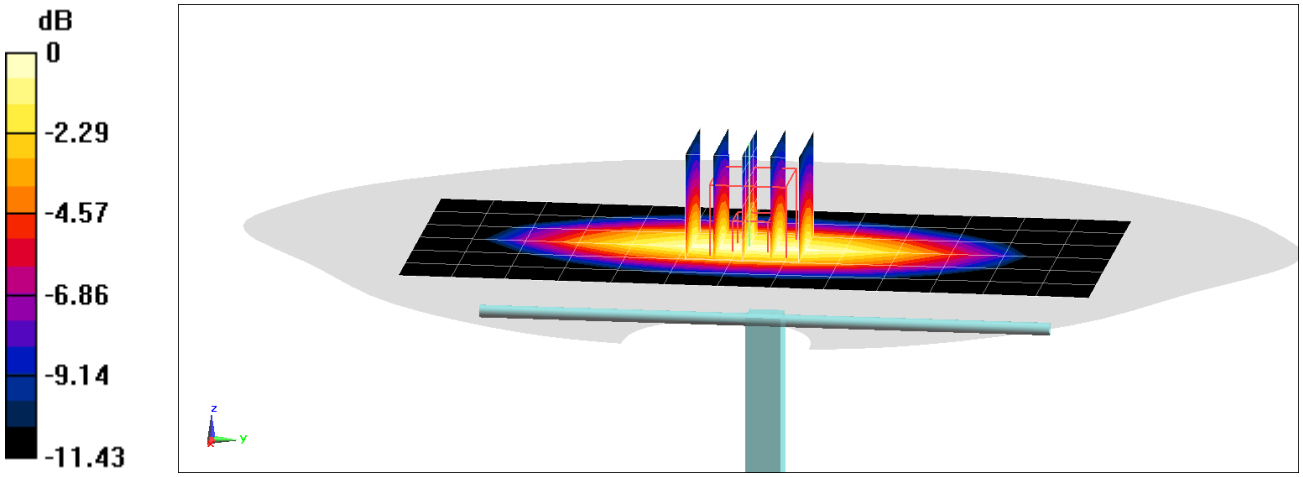
Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: 835 Head Medium parameters used:
f = 835 MHz; σ = 0.916 S/m; ε_r = 41.165; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 08-01-2019; Ambient Temp: 23.1°C; Tissue Temp: 22.3°C

Probe: EX3DV4 - SN3589; ConvF(8.39, 8.39, 8.39) @ 835 MHz; Calibrated: 1/25/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/22/2018
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 (7450)

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) = 3.18 W/kg
SAR(1 g) = 2.02 W/kg
Deviation(1 g) = 5.32%



0 dB = 2.77 W/kg = 4.42 dBW/kg

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d133

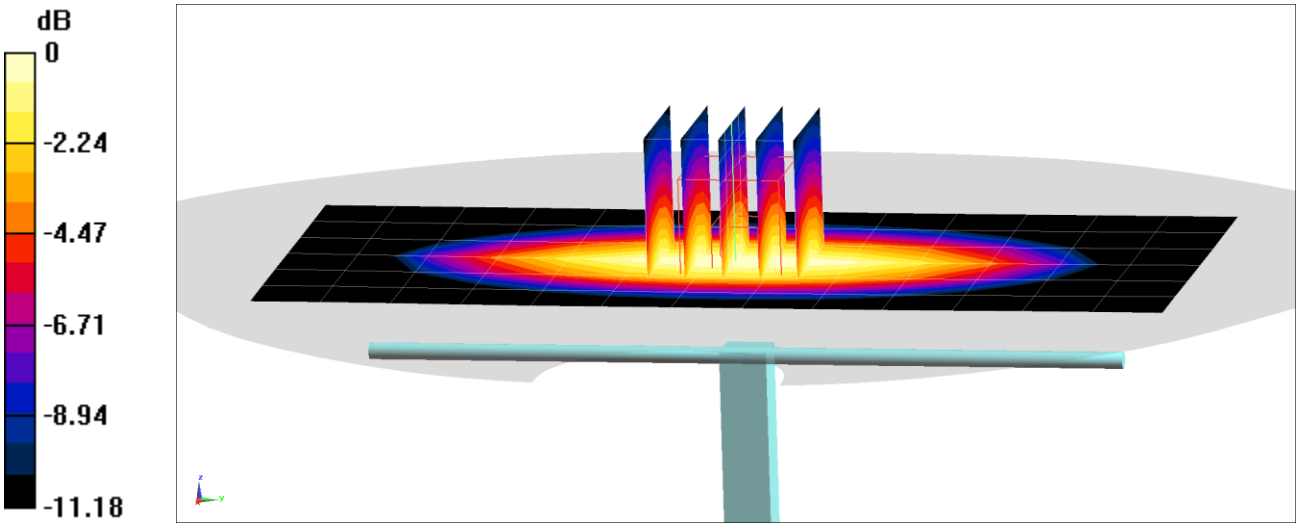
Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: 835 Head Medium parameters used:
f = 835 MHz; σ = 0.933 S/m; ε_r = 42.572; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 08-12-2019; Ambient Temp: 22.1°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN3914; ConvF(9.5, 9.5, 9.5) @ 835 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 2/14/2019
Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1687
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

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) = 3.12 W/kg
SAR(1 g) = 1.99 W/kg
Deviation(1 g) = 5.51%



0 dB = 2.72 W/kg = 4.35 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d047

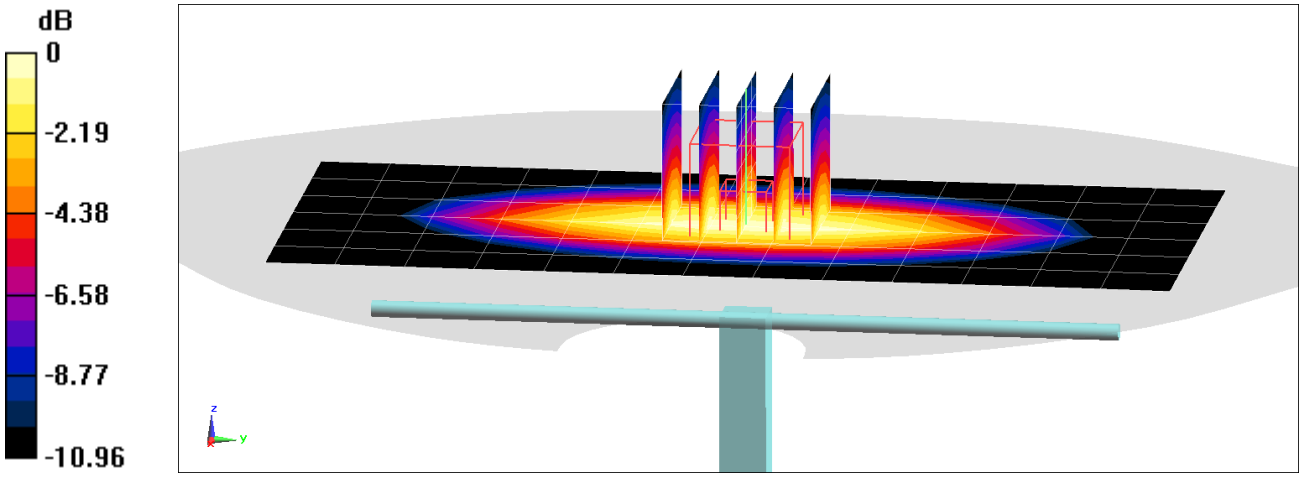
Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: 835 Head Medium parameters used:
f = 835 MHz; σ = 0.932 S/m; ε_r = 42.464; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 08-26-2019; Ambient Temp: 22.8°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN7547; ConvF(9.59, 9.59, 9.59) @ 835 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
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)

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) = 3.08 W/kg
SAR(1 g) = 2.02 W/kg
Deviation(1 g) = 7.22%



0 dB = 2.73 W/kg = 4.36 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1148

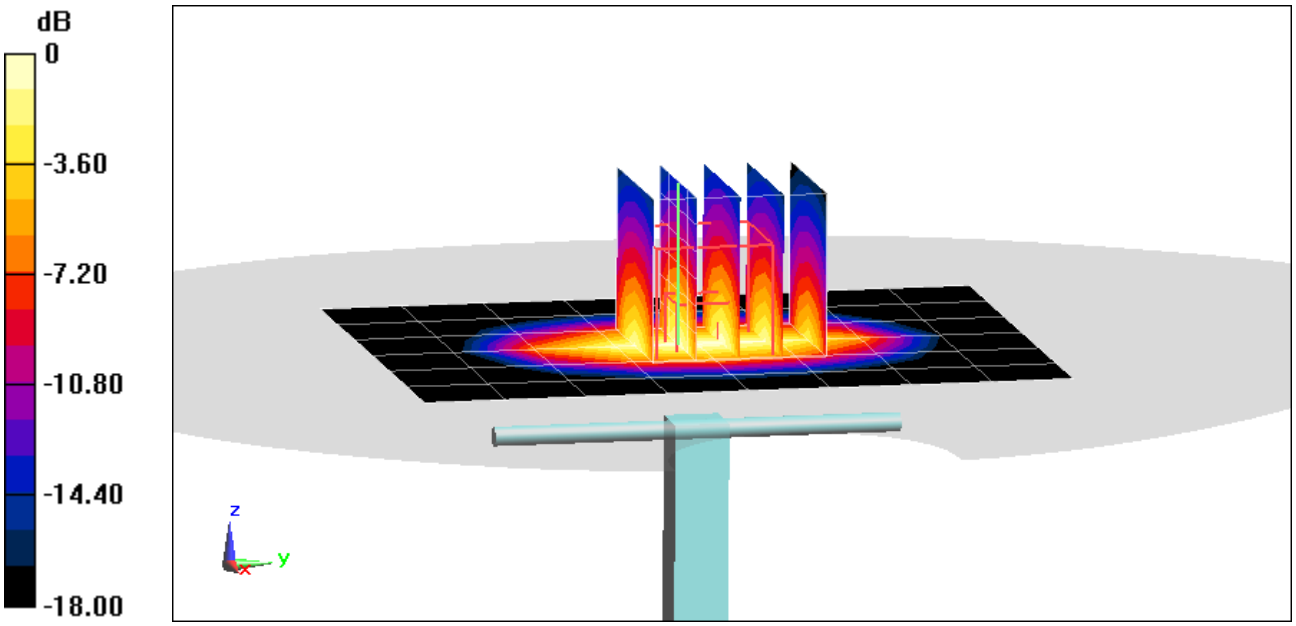
Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Head Medium parameters used:
f = 1750 MHz; σ = 1.37 S/m; ε_r = 40.428; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 08-07-2019; Ambient Temp: 20.5°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7538; ConvF(8.67, 8.67, 8.67) @ 1750 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Left Twin-SAM V5.0 30; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

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) = 3.7 W/kg
Deviation(1 g) = 0.00%



0 dB = 5.72 W/kg = 7.57 dBW/kg

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d080

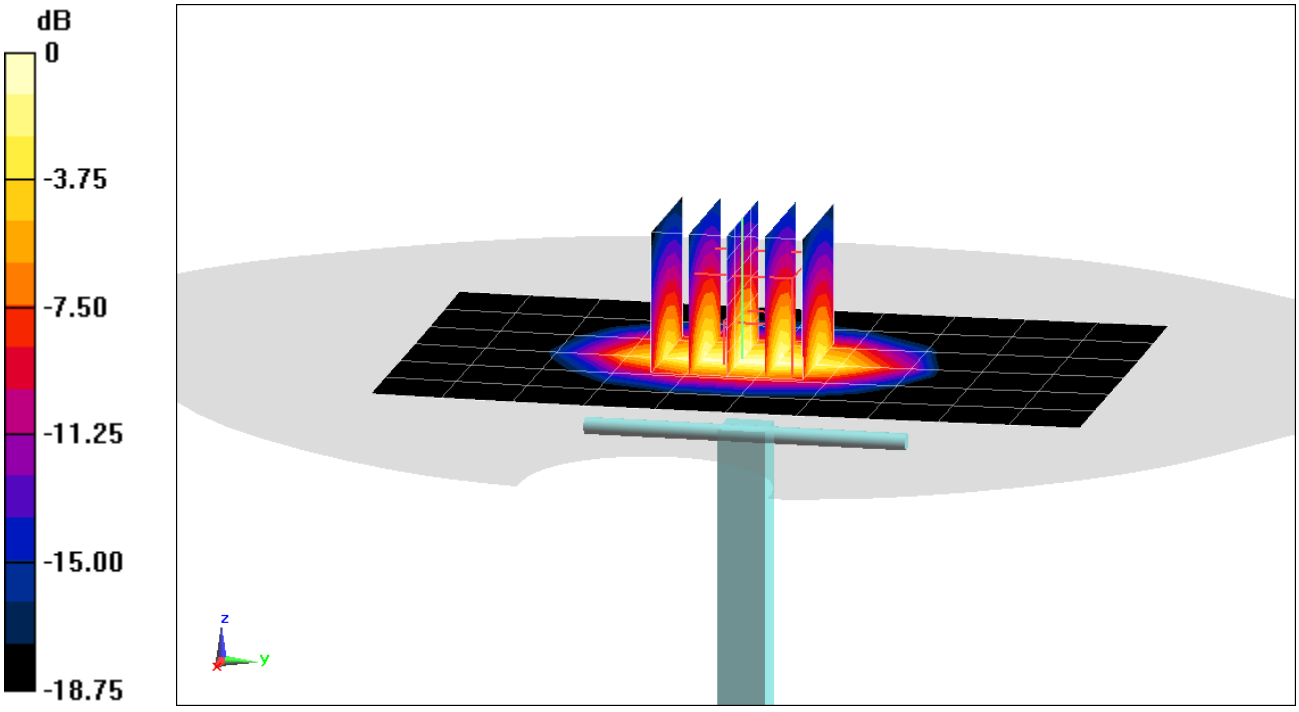
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Head; Medium parameters used (interpolated):
f = 1900 MHz; σ = 1.424 S/m; ε_r = 39.483; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-25-2019; Ambient Temp: 21.2°C; Tissue Temp: 20.1°C

Probe: EX3DV4 - SN7406; ConvF(8.18, 8.18, 8.18) @ 1900 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/8/2019
Phantom: Twin-SAM V5.0 Right 20; Type: QD 000 P40 CD; Serial: 1759
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

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) = 8.19 W/kg
SAR(1 g) = 4.27 W/kg
Deviation(1 g) = 7.29%



0 dB = 6.74 W/kg = 8.29 dBW/kg

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d080

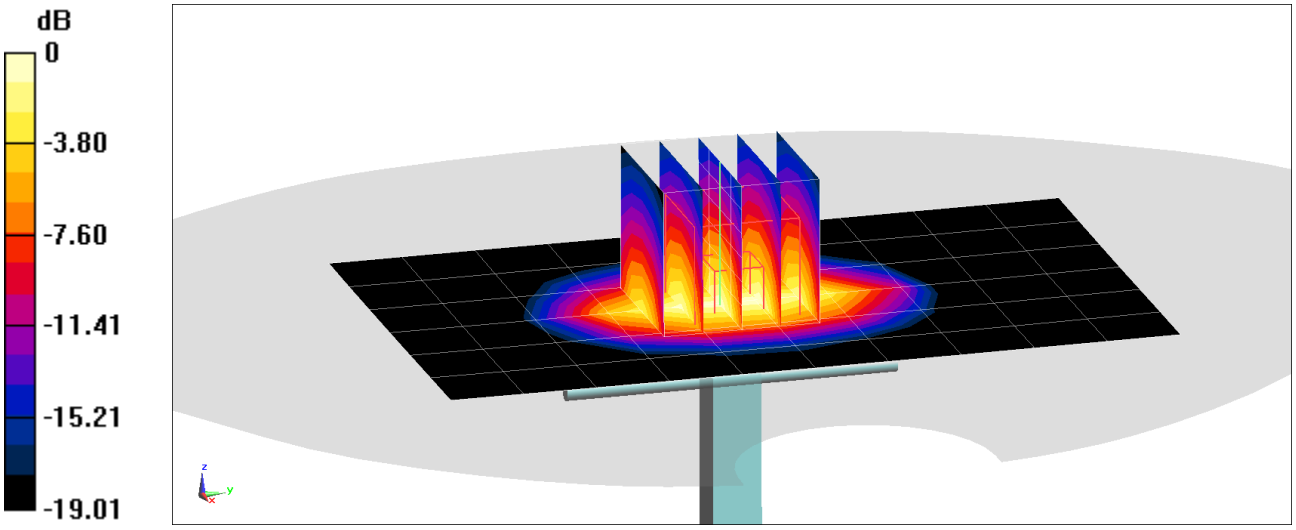
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used (interpolated):
f = 1900 MHz; σ = 1.433 S/m; ε_r = 41.422; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 08-06-2019; Ambient Temp: 23.2°C; Tissue Temp: 22.6°C

Probe: EX3DV4 - SN3914; ConvF(7.8, 7.8, 7.8) @ 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 Left 30; Type: QD 000 P40 CD; Serial: 1687
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) = 7.95 W/kg
SAR(1 g) = 4.21 W/kg
Deviation(1 g) = 5.78%



0 dB = 6.59 W/kg = 8.19 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 2300 MHz; Type: D2300V3; Serial: 1073

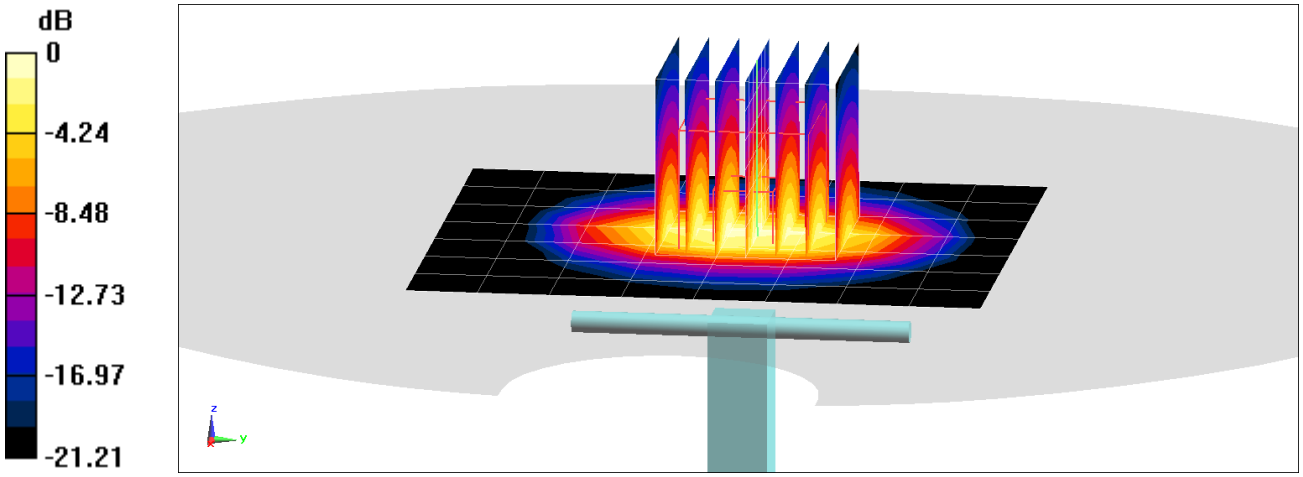
Communication System: UID 0, CW; Frequency: 2300 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2300 MHz; σ = 1.708 S/m; ε_r = 38.875; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 08-12-2019; Ambient Temp: 21.9°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7547; ConvF(7.57, 7.57, 7.57) @ 2300 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
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) = 10.5 W/kg
SAR(1 g) = 5.21 W/kg
Deviation(1 g) = 5.89%



0 dB = 8.57 W/kg = 9.33 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 981

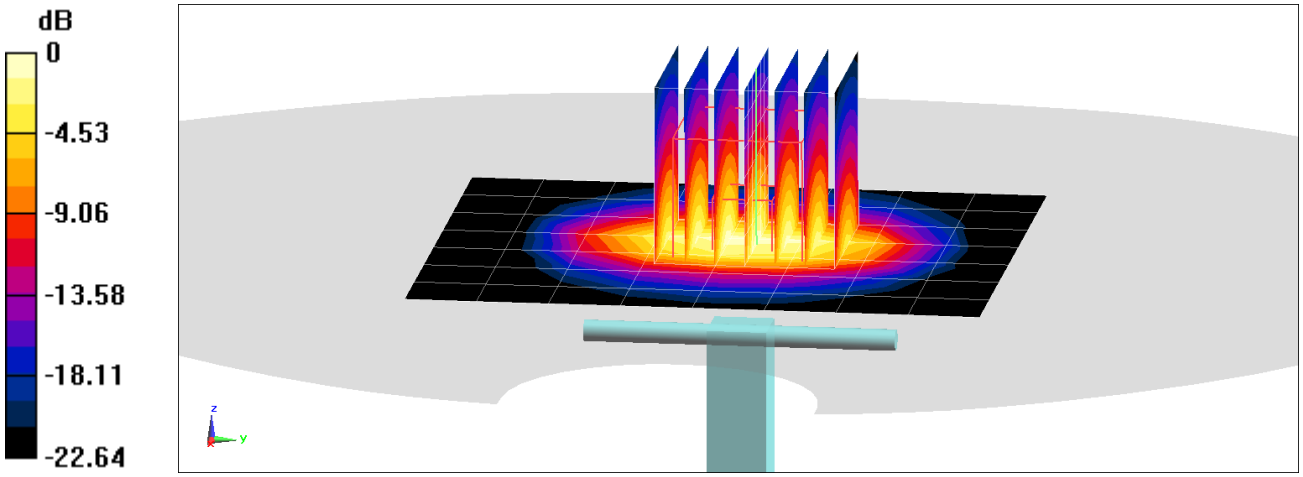
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2450 MHz; σ = 1.823 S/m; ε_r = 38.615; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 08-12-2019; Ambient Temp: 21.9°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7547; ConvF(7.17, 7.17, 7.17) @ 2450 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
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) = 5.53 W/kg
Deviation(1 g) = 5.74%



0 dB = 9.20 W/kg = 9.64 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 797

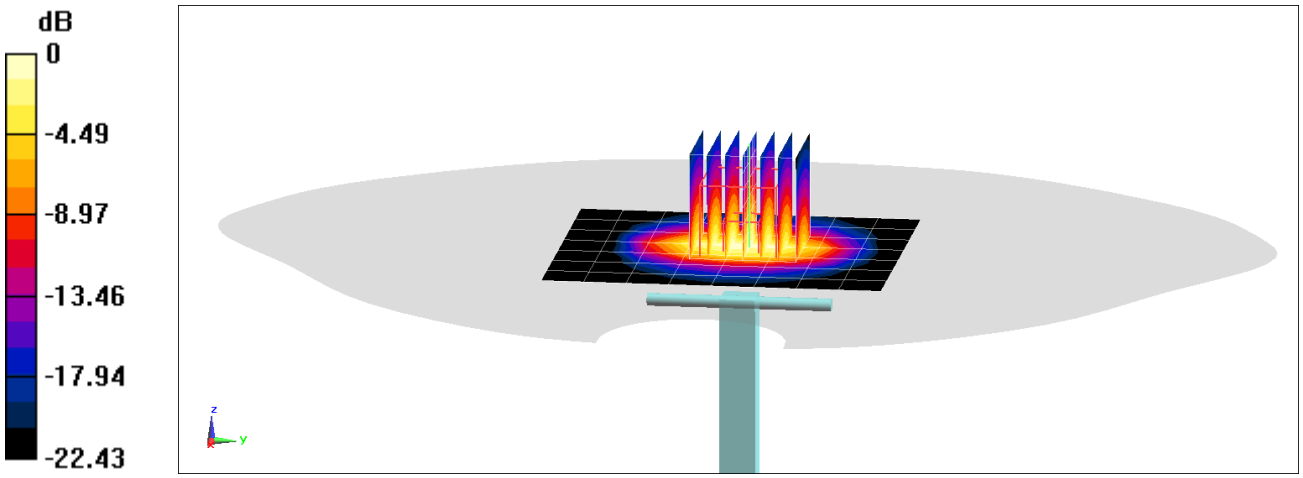
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2450 MHz; σ = 1.839 S/m; ε_r = 39.552; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 08-21-2019; Ambient Temp: 24.5°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7547; ConvF(7.17, 7.17, 7.17) @ 2450 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
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) = 10.4 W/kg
SAR(1 g) = 4.99 W/kg
Deviation(1 g) = -5.31%



0 dB = 8.34 W/kg = 9.21 dBW/kg