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SAR EVALUATION REPORT

Applicant Name:
Samsung Electronics Co., Ltd.
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Yeongtong-gu, Suwon-si
Gyeonggi-do, 16677, Korea

Date of Testing:
12/29/19 - 01/22/20
Test Site/Location:
PCTEST, Columbia, MD, USA
Document Serial No.:
1M1912020212-01-R2.A3L

FCC ID: **A3LSMF700U**

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

DUT Type: Portable Handset
Application Type: Certification
FCC Rule Part(s): CFR §2.1093
Model: SM-F700U/DS
Additional Models: SM-F700U1/DS, SM-F700W/DS

Equipment Class	Band & Mode	Tx Frequency	SAR			
			1g Head (W/kg)	1g Body-Worn (W/kg)	1g Hotspot (W/kg)	10g Phablet (W/kg)
PCE	GSM/GPRS/EDGE 850	824.20 - 848.80 MHz	0.23	0.20	0.52	N/A
PCE	GSM/GPRS/EDGE 1900	1850.20 - 1909.80 MHz	< 0.1	0.30	1.33	3.26
PCE	UMTS 850	826.40 - 846.60 MHz	0.23	0.22	0.41	N/A
PCE	UMTS 1750	1712.4 - 1752.6 MHz	0.10	0.43	0.95	1.81
PCE	UMTS 1900	1852.4 - 1907.6 MHz	< 0.1	0.55	1.32	3.27
PCE	CDMA/EVDO BC10 (§90S)	817.90 - 823.10 MHz	0.26	0.26	0.46	N/A
PCE	CDMA/EVDO BC0 (§22H)	824.70 - 848.31 MHz	0.24	0.31	0.52	N/A
PCE	PCS CDMA/EVDO	1851.25 - 1908.75 MHz	< 0.1	0.96	1.38	3.26
PCE	LTE Band 71	665.5 - 695.5 MHz	< 0.1	< 0.1	0.12	N/A
PCE	LTE Band 12	699.7 - 715.3 MHz	< 0.1	0.13	0.19	N/A
PCE	LTE Band 13	779.5 - 784.5 MHz	0.15	0.19	0.30	N/A
PCE	LTE Band 14	790.5 - 795.5 MHz	0.18	0.23	0.29	N/A
PCE	LTE Band 26 (Cell)	814.7 - 848.3 MHz	0.14	0.39	0.64	N/A
PCE	LTE Band 5 (Cell)	824.7 - 848.3 MHz	0.25	0.34	0.59	N/A
PCE	LTE Band 66 (AWS)	1710.7 - 1779.3 MHz	0.11	0.49	0.66	1.29
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	0.10	0.49	1.39	2.09
PCE	LTE Band 2 (PCS)	1850.7 - 1909.3 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 30	2307.5 - 2312.5 MHz	< 0.1	0.32	0.53	2.42
PCE	LTE Band 7	2502.5 - 2567.5 MHz	0.14	0.42	1.00	1.15
PCE	LTE Band 41	2498.5 - 2687.5 MHz	< 0.1	0.20	0.47	0.77
PCE	LTE Band 38	2572.5 - 2617.5 MHz	N/A	N/A	N/A	N/A
DTS	2.4 GHz WLAN	2412 - 2462 MHz	0.32	0.20	1.04	N/A
NII	U-NII-1	5180 - 5240 MHz	N/A	N/A	N/A	N/A
NII	U-NII-2A	5260 - 5320 MHz	0.43	0.22	N/A	2.10
NII	U-NII-2C	5500 - 5720 MHz	0.45	0.17	N/A	1.49
NII	U-NII-3	5745 - 5825 MHz	0.54	0.24	0.46	N/A
DSS/DTS	Bluetooth	2402 - 2480 MHz	0.54	< 0.1	0.23	N/A
Simultaneous SAR per KDB 690783 D01v01r03:			0.81	1.42	1.47	3.87

Note: This revised Test Report (S/N: 1M1912020212-01-R2.A3L) supersedes and replaces the previously issued test report on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.

This wireless portable device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment/general population exposure limits specified in ANSI/IEEE C95.1-1992 and has been tested in accordance with the measurement procedures specified in Section 1.8 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
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
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
LTE Band 71	Voice/Data	665.5 - 695.5 MHz
LTE Band 12	Voice/Data	699.7 - 715.3 MHz
LTE Band 13	Voice/Data	779.5 - 784.5 MHz
LTE Band 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 41	Voice/Data	2498.5 - 2687.5 MHz
LTE Band 38	Voice/Data	2572.5 - 2617.5 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
ANT+	Data	2402 - 2480 MHz
MST	Data	555 Hz - 8.33 kHz
WPT	N/A	110 kHz - 148 kHz

1.2 Power Reduction for SAR

This device utilizes a power reduction mechanism for some wireless modes and bands for SAR compliance under portable hotspot conditions and under some conditions when the device is being used in close proximity to the user's hand and when headphones are inserted. All hotspot SAR evaluations for this device were performed at the maximum allowed output power when hotspot is enabled. FCC KDB Publication 616217 D04v01r02 Section 6 was used as a guideline for selecting SAR test distances for this device when being used in phablet use conditions. 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.

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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 2G/3G/4G Output Power

GSM/GPRS/EDGE 850										
Power Level		Voice (in dBm)	Data - Burst Average GMSK (in dBm)				Data - Burst Average 8-PSK (in dBm)			
		1 TX Slot	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots
Max	Max allowed power	34.0	34.0	33.5	31.0	29.5	29.0	27.5	25.5	24.5
	Nominal	33.0	33.0	32.5	30.0	28.5	28.0	26.5	24.5	23.5
GSM/GPRS/EDGE 1900										
Power Level		Voice (in dBm)	Data - Burst Average GMSK (in dBm)				Data - Burst Average 8-PSK (in dBm)			
		1 TX Slot	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots
Max	Max allowed power	31.0	31.0	29.0	27.5	25.8	27.0	26.0	24.0	22.5
	Nominal	30.0	30.0	28.0	26.5	24.8	26.0	25.0	23.0	21.5
EarJack Mode Active	Max allowed power	29.0	29.0	27.0	25.0	23.3	27.0	26.0	24.0	22.5
	Nominal	28.0	28.0	26.0	24.0	22.3	26.0	25.0	23.0	21.5
Hotspot Mode Active	Max allowed power	N/A	29.0	27.0	25.0	23.3	27.0	26.0	24.0	22.5
	Nominal	N/A	28.0	26.0	24.0	22.3	26.0	25.0	23.0	21.5
Proximity Sensor Active	Max allowed power	29.0	29.0	27.0	25.0	23.3	27.0	26.0	24.0	22.5
	Nominal	28.0	28.0	26.0	24.0	22.3	26.0	25.0	23.0	21.5

UMTS Band 5 (850 MHz)					
Power Level		Modulated Average Output Power (in dBm)			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
Max	Max allowed power	25.0	23.0	23.0	23.0
	Nominal	24.0	22.0	22.0	22.0
UMTS Band 4 (1750 MHz)					
Power Level		Modulated Average Output Power (in dBm)			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
Max	Max allowed power	24.0	22.5	22.5	22.5
	Nominal	23.0	21.5	21.5	21.5
RCV Mode Active	Max allowed power	22.0	20.5	20.5	20.5
	Nominal	21.0	19.5	19.5	19.5
Hotspot Mode Active	Max allowed power	22.0	20.5	20.5	20.5
	Nominal	21.0	19.5	19.5	19.5
Proximity Sensor Active	Max allowed power	22.0	20.5	20.5	20.5
	Nominal	21.0	19.5	19.5	19.5
UMTS Band 2 (1900 MHz)					
Power Level		Modulated Average Output Power (in dBm)			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
Max	Max allowed power	25.0	23.0	23.0	23.0
	Nominal	24.0	22.0	22.0	22.0
RCV Mode Active	Max allowed power	22.5	20.5	20.5	20.5
	Nominal	21.5	19.5	19.5	19.5
Hotspot Mode Active	Max allowed power	22.5	20.5	20.5	20.5
	Nominal	21.5	19.5	19.5	19.5
Proximity Sensor Active	Max allowed power	22.5	20.5	20.5	20.5
	Nominal	21.5	19.5	19.5	19.5

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CDMA BC10 (815 MHz)				
Power Level		Modulated Average Output Power (in dBm)		
		1x-RTT	EVDO Rev 0	EVDO Rev A
Max	Max allowed power	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8
CDMA BC0 (835 MHz)				
Power Level		Modulated Average Output Power (in dBm)		
		1x-RTT	EVDO Rev 0	EVDO Rev A
Max	Max allowed power	25.5	25.5	25.5
	Nominal	24.5	24.5	24.5
CDMA BC1 (1900 MHz)				
Power Level		Modulated Average Output Power (in dBm)		
		1x-RTT	EVDO Rev 0	EVDO Rev A
Max	Max allowed power	25.5	25.5	25.5
	Nominal	24.5	24.5	24.5
EarJack Mode Active	Max allowed power	21.9	21.9	21.9
	Nominal	20.9	20.9	20.9
Hotspot Mode Active	Max allowed power	21.9	21.9	21.9
	Nominal	20.9	20.9	20.9
Proximity Sensor Active	Max allowed power	21.9	21.9	21.9
	Nominal	20.9	20.9	20.9

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Mode / Band		Modulated Average Output Power (in dBm)			
		Max	EarJack Mode Active	Hotspot Mode Active	Proximity Sensor Active
LTE FDD Band 71	Max allowed power	25.5	25.5	25.5	25.5
	Nominal	24.5	24.5	24.5	24.5
LTE FDD Band 12	Max allowed power	25.7	25.7	25.7	25.7
	Nominal	24.7	24.7	24.7	24.7
LTE FDD Band 13	Max allowed power	25.7	25.7	25.7	25.7
	Nominal	24.7	24.7	24.7	24.7
LTE FDD Band 14	Max allowed power	25.7	25.7	25.7	25.7
	Nominal	24.7	24.7	24.7	24.7
LTE FDD Band 5	Max allowed power	25.7	25.7	25.7	25.7
	Nominal	24.7	24.7	24.7	24.7
LTE FDD Band 26	Max allowed power	25.7	25.7	25.7	25.7
	Nominal	24.7	24.7	24.7	24.7
LTE FDD Band 4	Max allowed power	25.0	21.2	21.2	21.2
	Nominal	24.0	20.2	20.2	20.2
LTE FDD Band 66	Max allowed power	25.2	21.2	21.2	21.2
	Nominal	24.2	20.2	20.2	20.2
LTE FDD Band 2	Max allowed power	25.1	21.6	21.6	21.6
	Nominal	24.1	20.6	20.6	20.6
LTE FDD Band 25	Max allowed power	25.1	21.6	21.6	21.6
	Nominal	24.1	20.6	20.6	20.6
LTE FDD Band 30	Max allowed power	25.7	22.9	22.9	22.9
	Nominal	24.7	21.9	21.9	21.9
LTE FDD Band 7	Max allowed power	25.4	22.6	22.6	22.6
	Nominal	24.4	21.6	21.6	21.6
LTE TDD Band 38	Max allowed power	25.5	22.7	22.7	22.7
	Nominal	24.5	21.7	21.7	21.7
LTE TDD Band 41 (PC3)	Max allowed power	25.5	22.7	22.7	22.7
	Nominal	24.5	21.7	21.7	21.7
LTE TDD Band 41 (PC2)	Max allowed power	27.0	24.7	24.7	24.7
	Nominal	26.0	23.7	23.7	23.7

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1.3.2 Maximum Bluetooth and WLAN Output Power

Mode	Band	IEEE 802.11 (in dBm)									
		SISO						MIMO			
		Antenna 1/Antenna 2									
		b		g		n		g (CDD + STBC)		n (CDD+STBC, SDM)	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
2.4 GHz WIFI	2.45 GHz	22.0	21.0	22.0 ch. 1: 16.5 ch. 9: 21.0 ch. 10: 19.5 ch. 11: 18.5	21.0 ch. 1: 15.5 ch. 9: 20.0 ch. 10 18.5 ch. 11 17.5	22.0 ch. 1: 16.5 ch. 9: 21.0 ch. 10: 19.5 ch. 11: 18.5	21.0 ch. 1: 15.5 ch. 9: 20.0 ch. 10 18.5 ch. 11 17.5	25.0 ch. 1: 19.5 ch. 9: 24.0 ch. 10: 22.5 ch. 11: 21.5	24.0 ch. 1: 18.5 ch. 9: 23.0 ch. 10 21.5 ch. 11 20.5	25.0 ch. 1: 19.5 ch. 9: 24.0 ch. 10: 22.5 ch. 11: 21.5	24.0 ch. 1: 18.5 ch. 9: 23.0 ch. 10 21.5 ch. 11 20.5

Mode	Band	IEEE 802.11 (in dBm)											
		SISO						MIMO					
		Antenna 1/Antenna 2											
		a		n		ac		a (CDD + STBC)		n (CDD+STBC, SDM)		ac (CDD+STBC, SDM)	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
5 GHz WIFI (20MHz BW)	5200 MHz	18.0	17.0	18.0	17.0	17.0	16.0	21.0	20.0	21.0	20.0	20.0	19.0
	5300 MHz	18.0	17.0	18.0	17.0	17.0	16.0	21.0	20.0	21.0	20.0	20.0	19.0
	5500 MHz	18.0	17.0	18.0	17.0	17.0	16.0	21.0	20.0	21.0	20.0	20.0	19.0
	5800 MHz	18.0	17.0	18.0	17.0	17.0	16.0	21.0	20.0	21.0	20.0	20.0	19.0
5 GHz WIFI (40MHz BW)	5200 MHz			16.0	15.0	16.0	15.0			19.0	18.0	19.0	18.0
	5300 MHz			16.0	15.0	16.0	15.0			19.0	18.0	19.0	18.0
	5500 MHz			16.0	15.0	16.0	15.0			19.0	18.0	19.0	18.0
	5800 MHz			16.0	15.0	16.0	15.0			19.0	18.0	19.0	18.0
5 GHz WIFI (80MHz BW)	5200 MHz					15.0	14.0					18.0	17.0
	5300 MHz					15.0	14.0					18.0	17.0
	5500 MHz					15.0	14.0					18.0	17.0
	5800 MHz					15.0	14.0					18.0	17.0

Mode / Band		Modulated Average - Single Tx Chain (dBm)
Bluetooth	Maximum	**18.0**
	Nominal	**17.0**
Bluetooth (EDR)	Maximum	**16.5**
	Nominal	**15.5**
Bluetooth LE	Maximum	**7.0**
	Nominal	**6.0**

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1.3.3 Reduced WLAN Output Power

Mode	Band	IEEE 802.11 (in dBm)									
		SISO						MIMO			
		Antenna 1/Antenna 2									
		b		g		n		g (CDD + STBC)		n (CDD+STBC, SDM)	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
2.4 GHz WIFI	2.45 GHz	13.0	12.0	13.0	12.0	13.0	12.0	16.0	15.0	16.0	15.0

Mode	Band	IEEE 802.11 (in dBm)											
		SISO						MIMO					
		Antenna 1/Antenna 2											
		a		n		ac		a (CDD + STBC)		n (CDD+STBC, SDM)		ac (CDD+STBC, SDM)	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
5 GHz WIFI (20MHz BW)	5200 MHz	11.0	10.0	11.0	10.0	11.0	10.0	14.0	13.0	14.0	13.0	14.0	13.0
	5300 MHz	11.0	10.0	11.0	10.0	11.0	10.0	14.0	13.0	14.0	13.0	14.0	13.0
	5500 MHz	11.0	10.0	11.0	10.0	11.0	10.0	14.0	13.0	14.0	13.0	14.0	13.0
	5800 MHz	11.0	10.0	11.0	10.0	11.0	10.0	14.0	13.0	14.0	13.0	14.0	13.0
5 GHz WIFI (40MHz BW)	5200 MHz			11.0	10.0	11.0	10.0			14.0	13.0	14.0	13.0
	5300 MHz			11.0	10.0	11.0	10.0			14.0	13.0	14.0	13.0
	5500 MHz			11.0	10.0	11.0	10.0			14.0	13.0	14.0	13.0
	5800 MHz			11.0	10.0	11.0	10.0			14.0	13.0	14.0	13.0
5 GHz WIFI (80MHz BW)	5200 MHz					11.0	10.0					14.0	13.0
	5300 MHz					11.0	10.0					14.0	13.0
	5500 MHz					11.0	10.0					14.0	13.0
	5800 MHz					11.0	10.0					14.0	13.0

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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 for both open and closed configurations can be found in Appendix E. Since the diagonal dimension of this device when open is > 160 mm and <200 mm, it is considered a “phablet.” When the device is in the open configuration, it is considered a "Portable Handset". In the closed configuration, only a simple display/interaction of notifications occurs. Therefore, when the device is closed, the only testing considered is for body-worn and hotspot.

Table 1-1
Device Edges/Sides for SAR Testing Open

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

Table 1-2
Device Edges/Sides for SAR Testing Closed

Mode	Back	Front	Top	Bottom	Right	Left
GPRS 850	Yes	Yes	No	Yes	Yes	Yes
GPRS 1900	Yes	Yes	No	Yes	Yes	Yes
UMTS 850	Yes	Yes	No	Yes	Yes	Yes
UMTS 1750	Yes	Yes	No	Yes	Yes	Yes
UMTS 1900	Yes	Yes	No	Yes	Yes	Yes
EVDO BC10 (§90S)	Yes	Yes	No	Yes	Yes	Yes
EVDO BC0 (§22H)	Yes	Yes	No	Yes	Yes	Yes
PCS EVDO	Yes	Yes	No	Yes	Yes	Yes
LTE Band 71	Yes	Yes	No	Yes	Yes	Yes
LTE Band 12	Yes	Yes	No	Yes	Yes	Yes
LTE Band 13	Yes	Yes	No	Yes	Yes	Yes
LTE Band 14	Yes	Yes	No	Yes	Yes	Yes
LTE Band 26 (Cell)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 5 (Cell)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 66 (AWS)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 25 (PCS)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 30	Yes	Yes	No	Yes	No	Yes
LTE Band 7	Yes	Yes	No	Yes	No	Yes
LTE Band 41	Yes	Yes	No	Yes	No	Yes
2.4 GHz WLAN Ant 1	Yes	Yes	No	Yes	Yes	No
2.4 GHz WLAN Ant 2	Yes	Yes	Yes	Yes	Yes	No
5 GHz WLAN	Yes	Yes	No	Yes	Yes	No
Bluetooth	Yes	Yes	No	Yes	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-1, U-NII-2A, U-NII-2C operations are disabled.

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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 E.

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 1-3
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 Bluetooth + 5 GHz WI-FI Ant 2	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered
7	1x CDMA voice + 2.4 GHz WI-FI Ant 1 + 5 GHz WI-FI Ant 2	Yes	Yes	N/A	Yes	
8	GSM voice + 2.4 GHz WI-FI	Yes	Yes	N/A	Yes	
9	GSM voice + 5 GHz WI-FI	Yes	Yes	N/A	Yes	
10	GSM voice + 2.4 GHz Bluetooth	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered
11	GSM voice + 2.4 GHz WI-FI MIMO	Yes	Yes	N/A	Yes	
12	GSM voice + 5 GHz WI-FI MIMO	Yes	Yes	N/A	Yes	
13	GSM voice + 2.4 GHz Bluetooth + 5 GHz WI-FI Ant 2	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered
14	GSM voice + 2.4 GHz WI-FI Ant 1 + 5 GHz WI-FI Ant 2	Yes	Yes	N/A	Yes	
15	UMTS + 2.4 GHz WI-FI	Yes	Yes	Yes	Yes	
16	UMTS + 5 GHz WI-FI	Yes	Yes	Yes	Yes	
17	UMTS + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
18	UMTS + 2.4 GHz WI-FI MIMO	Yes	Yes	Yes	Yes	
19	UMTS + 5 GHz WI-FI MIMO	Yes	Yes	Yes	Yes	
20	UMTS + 2.4 GHz Bluetooth + 5 GHz WI-FI Ant 2	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
21	UMTS + 2.4 GHz WI-FI Ant 1 + 5 GHz WI-FI Ant 2	Yes	Yes	Yes	Yes	
22	LTE + 2.4 GHz WI-FI	Yes	Yes	Yes	Yes	
23	LTE + 5 GHz WI-FI	Yes	Yes	Yes	Yes	
24	LTE + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
25	LTE + 2.4 GHz WI-FI MIMO	Yes	Yes	Yes	Yes	
26	LTE + 5 GHz WI-FI MIMO	Yes	Yes	Yes	Yes	
27	LTE + 2.4 GHz Bluetooth + 5 GHz WI-FI Ant 2	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
28	LTE + 2.4 GHz WI-FI Ant 1 + 5 GHz WI-FI Ant 2	Yes	Yes	Yes	Yes	
29	CDMA/EVDO data + 2.4 GHz WI-FI	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
30	CDMA/EVDO data + 5 GHz WI-FI	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
31	CDMA/EVDO data + 2.4 GHz Bluetooth	Yes*^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered ^ Bluetooth Tethering is considered
32	CDMA/EVDO data + 2.4 GHz WI-FI MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
33	CDMA/EVDO data + 5 GHz WI-FI MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
34	CDMA/EVDO data + 2.4 GHz Bluetooth + 5 GHz WI-FI Ant 2	Yes*^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered ^ Bluetooth Tethering is considered
35	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
36	GPRS/EDGE + 2.4 GHz WI-FI	N/A	N/A	Yes	Yes	
37	GPRS/EDGE + 5 GHz WI-FI	N/A	N/A	Yes	Yes	
38	GPRS/EDGE + 2.4 GHz Bluetooth	N/A	N/A	Yes^	Yes	^ Bluetooth Tethering is considered
39	GPRS/EDGE + 2.4 GHz WI-FI MIMO	N/A	N/A	Yes	Yes	
40	GPRS/EDGE + 5 GHz WI-FI MIMO	N/A	N/A	Yes	Yes	
41	GPRS/EDGE + 2.4 GHz Bluetooth + 5 GHz WI-FI Ant 2	N/A	N/A	Yes^	Yes	^ Bluetooth Tethering is considered
42	GPRS/EDGE + 2.4 GHz WI-FI Ant 1 + 5 GHz WI-FI Ant 2	N/A	N/A	Yes	Yes	

1. 2.4 GHz WLAN and 2.4 GHz Bluetooth share the same antenna path and cannot transmit simultaneously.
2. All licensed modes share the same antenna path and cannot transmit simultaneously.
3. When the user utilizes multiple services in UMTS 3G mode it uses multi-Radio Access Bearer or multi-RAB. The power control is based on a physical control channel (Dedicated Physical Control Channel [DPCCH]) and power control will be adjusted to meet the needs of both services. Therefore, the UMTS+WLAN scenario also represents the UMTS Voice/DATA + WLAN Hotspot scenario.
4. Per the manufacturer, WIFI Direct is not expected to be used in conjunction with a held-to-ear or body-worn accessory voice call. Therefore, there are no simultaneous transmission scenarios involving WIFI direct beyond that listed in the above table.
5. 5 GHz Wireless Router is only supported for the U-NII-3 by S/W, therefore U-NII-1, U-NII-2A, and U-NII-2C were not evaluated for wireless router conditions.
6. This device supports VOLTE.
7. This device supports VOWIFI.
8. This device supports Bluetooth Tethering.
9. 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.

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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-1, U-NII-2A & U-NII-2C WIFI, only 2.4 GHz and U-NII-3 WIFI Hotspot SAR tests and combinations are considered for SAR with respect to Wireless Router configurations according to FCC KDB 941225 D06v02r01.

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

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.

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

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

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

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

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

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 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.

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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 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 41 (2498.5 - 2687.5 MHz)				
	LTE Band 38 (2572.5 - 2617.5 MHz)				
Channel Bandwidths	LTE Band 71: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 12: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 13: 5 MHz, 10 MHz				
	LTE Band 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 41: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 38: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
Channel Numbers and Frequencies (MHz)	Low	Low-Mid	Mid	Mid-High	High
LTE Band 71: 5 MHz	665.5 (133147)		680.5 (133297)	695.5 (133447)	
LTE Band 71: 10 MHz	668 (133172)		680.5 (133297)	693 (133422)	
LTE Band 71: 15 MHz	670.5 (133197)		680.5 (133297)	690.5 (133397)	
LTE Band 71: 20 MHz	673 (133222)		680.5 (133297)	688 (133372)	
LTE Band 12: 1.4 MHz	699.7 (23017)		707.5 (23095)	715.3 (23173)	
LTE Band 12: 3 MHz	700.5 (23025)		707.5 (23095)	714.5 (23165)	
LTE Band 12: 5 MHz	701.5 (23035)		707.5 (23095)	713.5 (23155)	
LTE Band 12: 10 MHz	704 (23060)		707.5 (23095)	711 (23130)	
LTE Band 13: 5 MHz	779.5 (23205)		782 (23230)	784.5 (23255)	
LTE Band 13: 10 MHz	N/A		782 (23230)	N/A	
LTE Band 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 41: 5 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 10 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 15 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 20 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 38: 5 MHz	2572.5 (37775)		2595 (38000)	2617.5 (38225)	
LTE Band 38: 10 MHz	2575 (37800)		2595 (38000)	2615 (38200)	
LTE Band 38: 15 MHz	2577.5 (37825)		2595 (38000)	2612.5 (38175)	
LTE Band 38: 20 MHz	2580 (37850)		2595 (38000)	2610 (38150)	
UE Category	DL UE Cat.16 (QPSK, 16QAM, 64QAM, 256QAM), UL UE Cat.13 (QPSK, 16QAM, 64QAM)				
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 as shown in Appendix F. All uplink communications are identical to the Release 8 Specifications. Uplink communications are done on the PCC. The following LTE Release 14 Features are not supported: Relay, HetNet, Enhanced MIMO, eICIC, eMBMS, Cross-Carrier Scheduling, Enhanced SCFDMA, MDH, WI-FI Offloading.				

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3 INTRODUCTION

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

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

3.1 SAR Definition

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

Equation 3-1
SAR Mathematical Equation

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

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

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

where:

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

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

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4 DOSIMETRIC ASSESSMENT

4.1 Measurement Procedure

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

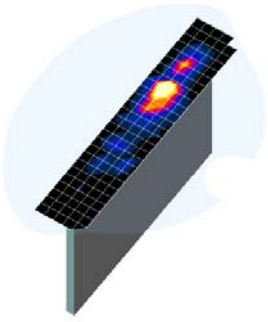


Figure 4-1
Sample SAR Area Scan

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

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

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

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

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

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

*Also compliant to IEEE 1528-2013 Table 6

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5 DEFINITION OF REFERENCE POINTS

5.1 EAR REFERENCE POINT

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

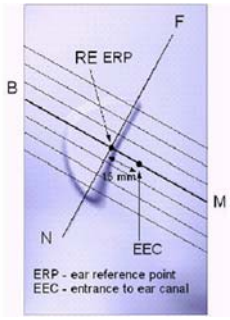


Figure 5-1
Close-Up Side view of ERP

5.2 HANDSET REFERENCE POINTS

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

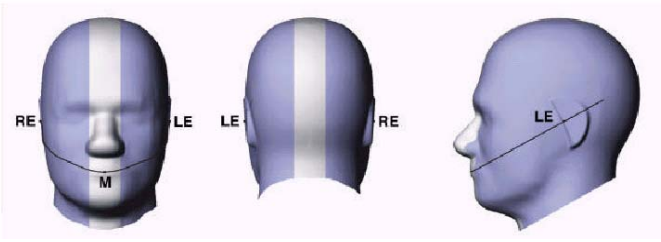


Figure 5-2
Front, back and side view of SAM Twin Phantom

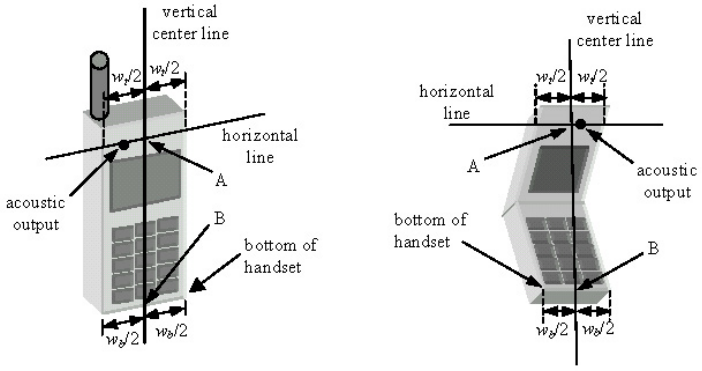


Figure 5-3
Handset Vertical Center & Horizontal Line Reference Points

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6 TEST CONFIGURATION POSITIONS

6.1 Device Holder

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

6.2 Positioning for Cheek

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



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

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

6.3 Positioning for Ear / 15º Tilt

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

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

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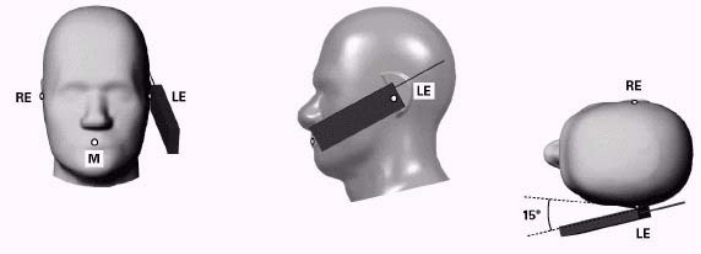


Figure 6-2 Front, Side and Top View of Ear/15º Tilt Position

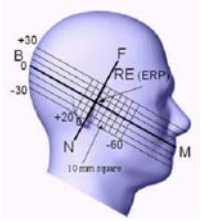


Figure 6-3
Side view w/ relevant markings

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

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

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

6.5 Body-Worn Accessory Configurations

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

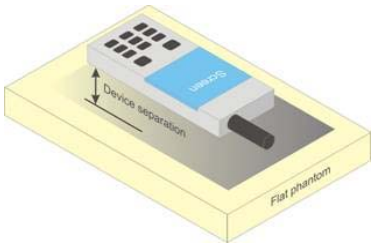


Figure 6-4
Sample Body-Worn Diagram

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

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

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

6.6 Extremity Exposure Configurations

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

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

6.7 Wireless Router Configurations

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

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

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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 nonreduced output power level. FCC KDB Publication 616217 D04v01r02 Section 6 was used as a guideline for selecting SAR test distances for this device at these additional test positions. Sensor triggering distance summary data is included in Appendix G.

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

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7 RF EXPOSURE LIMITS

7.1 Uncontrolled Environment

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

7.2 Controlled Environment

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

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

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

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

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8 FCC MEASUREMENT PROCEDURES

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

8.1 Measured and Reported SAR

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

8.2 3G SAR Test Reduction Procedure

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

8.3 Procedures Used to Establish RF Signal for SAR

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

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

8.4 SAR Measurement Conditions for CDMA2000

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

8.4.1 Output Power Verification

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

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

Table 8-1
Parameters for Max. Power for RC1

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

Table 8-2
Parameters for Max. Power for RC3

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

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

8.4.2 Head SAR Measurements

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

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

8.4.3 Body-worn SAR Measurements

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

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

8.4.4 Body-worn SAR Measurements for EVDO Devices

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

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

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

8.4.5 Body SAR Measurements for EVDO Hotspot

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

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

8.4.6 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

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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.

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8.6.2 MPR

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

8.6.3 A-MPR

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

8.6.4 Required RB Size and RB Offsets for SAR Testing

According to FCC KDB 941225 D05v02r04:

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

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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

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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.

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The channel of the transmission mode with the highest average RF output conducted power will be the initial test configuration.

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

8.7.8 Subsequent Test Configuration Procedures

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

8.7.9 MIMO SAR considerations

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

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9 RF CONDUCTED POWERS

9.1 GSM Conducted Powers

Table 9-1
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	33.49	33.56	**32.65**	30.24	28.45	27.52	26.23	24.05	22.91
	190	33.44	33.41	**32.65**	30.70	28.68	27.78	26.15	24.10	23.25
	251	33.38	33.45	**32.35**	30.78	28.51	27.80	26.12	24.11	23.20
GSM 1900	512	29.27	29.44	27.70	**26.17**	25.16	25.60	24.49	22.55	21.22
	661	29.50	29.68	27.81	**26.28**	25.51	26.01	24.87	22.94	21.68
	810	29.52	29.34	27.53	**26.10**	25.12	25.72	24.59	22.73	21.35
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	24.46	24.53	**26.63**	25.98	25.44	18.49	20.21	19.79	19.90
	190	24.41	24.38	**26.63**	26.44	25.67	18.75	20.13	19.84	20.24
	251	24.35	24.42	**26.33**	26.52	25.50	18.77	20.10	19.85	20.19
GSM 1900	512	20.24	20.41	21.68	**21.91**	22.15	16.57	18.47	18.29	18.21
	661	20.47	20.65	21.79	**22.02**	22.50	16.98	18.85	18.68	18.67
	810	20.49	20.31	21.51	**21.84**	22.11	16.69	18.57	18.47	18.34
GSM 850	**Frame Avg.Targets:**	23.80	23.80	**26.31**	25.57	25.32	18.80	20.31	20.07	20.32
GSM 1900		20.80	20.80	21.81	**22.07**	21.62	16.80	18.81	18.57	18.32

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Table 9-2
Reduced Conducted Power – Hotspot Mode Active

Maximum Burst-Averaged Output Power									
		GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
Band	Channel	GPRS [dBm] 1 Tx Slot	GPRS [dBm] 2 Tx Slot	GPRS [dBm] 3 Tx Slot	GPRS [dBm] 4 Tx Slot	EDGE [dBm] 1 Tx Slot	EDGE [dBm] 2 Tx Slot	EDGE [dBm] 3 Tx Slot	EDGE [dBm] 4 Tx Slot
GSM 1900	512	27.43	25.39	**24.26**	23.03	25.60	24.49	22.55	21.22
	661	27.82	25.57	**24.66**	23.27	26.01	24.87	22.94	21.68
	810	27.41	25.02	**24.15**	23.12	25.72	24.59	22.73	21.35
Calculated Maximum Frame-Averaged Output Power									
		GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
Band	Channel	GPRS [dBm] 1 Tx Slot	GPRS [dBm] 2 Tx Slot	GPRS [dBm] 3 Tx Slot	GPRS [dBm] 4 Tx Slot	EDGE [dBm] 1 Tx Slot	EDGE [dBm] 2 Tx Slot	EDGE [dBm] 3 Tx Slot	EDGE [dBm] 4 Tx Slot
GSM 1900	512	18.40	19.37	**20.00**	20.02	16.57	18.47	18.29	18.21
	661	18.79	19.55	**20.40**	20.26	16.98	18.85	18.68	18.67
	810	18.38	19.00	**19.89**	20.11	16.69	18.57	18.47	18.34
GSM 1900	Frame Avg.Targets:	18.80	19.81	**19.57**	19.12	16.80	18.81	18.57	18.32

Table 9-3
Reduced Conducted Power – Grip Sensor and/or Earjack Mode Active

Maximum Burst-Averaged Output Power										
		Voice	GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
Band	Channel	GSM [dBm] CS (1 Slot)	GPRS [dBm] 1 Tx Slot	GPRS [dBm] 2 Tx Slot	GPRS [dBm] 3 Tx Slot	GPRS [dBm] 4 Tx Slot	EDGE [dBm] 1 Tx Slot	EDGE [dBm] 2 Tx Slot	EDGE [dBm] 3 Tx Slot	EDGE [dBm] 4 Tx Slot
GSM 1900	512	27.45	27.43	25.39	**24.26**	23.03	25.60	24.49	22.55	21.22
	661	27.91	27.82	25.57	**24.66**	23.27	26.01	24.87	22.94	21.68
	810	27.56	27.41	25.02	**24.15**	23.12	25.72	24.59	22.73	21.35
Calculated Maximum Frame-Averaged Output Power										
		Voice	GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
Band	Channel	GSM [dBm] CS (1 Slot)	GPRS [dBm] 1 Tx Slot	GPRS [dBm] 2 Tx Slot	GPRS [dBm] 3 Tx Slot	GPRS [dBm] 4 Tx Slot	EDGE [dBm] 1 Tx Slot	EDGE [dBm] 2 Tx Slot	EDGE [dBm] 3 Tx Slot	EDGE [dBm] 4 Tx Slot
GSM 1900	512	18.42	18.40	19.37	**20.00**	20.02	16.57	18.47	18.29	18.21
	661	18.88	18.79	19.55	**20.40**	20.26	16.98	18.85	18.68	18.67
	810	18.53	18.38	19.00	**19.89**	20.11	16.69	18.57	18.47	18.34
GSM 1900	Frame Avg.Targets:	18.80	18.80	19.81	**19.57**	19.12	16.80	18.81	18.57	18.32

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Note:

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

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



Figure 9-1
Power Measurement Setup

9.2 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	24.12	24.28	24.24	23.18	23.29	23.03	23.72	24.15	23.96	-
99		12.2 kbps AMR	24.19	24.28	24.29	23.24	23.28	23.05	23.74	24.17	24.03	-
6	HSDPA	Subtest 1	22.24	22.32	22.41	22.09	22.03	21.91	22.23	22.31	22.37	0
6		Subtest 2	22.22	22.43	22.43	22.08	22.06	21.92	22.23	22.32	22.35	0
6		Subtest 3	21.73	21.91	21.87	21.60	21.54	21.38	21.67	21.80	21.81	0.5
6		Subtest 4	21.65	21.83	21.86	21.61	21.55	21.38	21.72	21.80	21.86	0.5
6	HSUPA	Subtest 1	22.18	22.34	22.36	22.18	22.10	21.95	22.18	22.22	22.29	0
6		Subtest 2	20.15	20.31	20.32	20.12	20.11	19.95	20.13	20.19	20.23	2
6		Subtest 3	21.11	21.34	21.34	21.15	21.08	20.92	20.64	20.67	20.76	1
6		Subtest 4	20.15	20.33	20.35	20.10	20.06	19.91	19.48	19.52	19.55	2
6		Subtest 5	22.19	22.37	22.41	22.20	22.13	21.96	22.16	22.29	22.31	0
8	DC-HSDPA	Subtest 1	22.16	22.35	22.35	22.12	22.06	21.93	22.17	22.23	22.28	0
8		Subtest 2	22.18	22.40	22.36	22.15	22.10	21.98	22.21	22.23	22.29	0
8		Subtest 3	21.69	21.88	21.86	21.64	21.60	21.46	21.71	21.76	21.81	0.5
8		Subtest 4	21.70	21.87	21.87	21.66	21.61	21.46	21.72	21.76	21.80	0.5

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Table 9-5
Reduced Conducted Power – Hotspot Mode, Grip Sensor and/or Earjack Mode Active

3GPP Release Version	Mode	3GPP 34.121 Subtest	AWS Band [dBm]			PCS Band [dBm]			3GPP MPR [dB]
			1312	1412	1513	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	21.17	21.12	21.06	21.64	22.01	21.90	-
99		12.2 kbps AMR	21.16	21.19	21.00	21.57	22.00	21.80	-
6	HSDPA	Subtest 1	19.80	19.27	19.13	19.76	19.81	19.86	0
6		Subtest 2	19.82	19.28	19.17	19.76	19.82	19.86	0
6		Subtest 3	19.37	18.81	18.72	19.25	19.31	19.37	0.5
6		Subtest 4	19.36	18.81	18.67	19.31	19.37	19.38	0.5
6	HSUPA	Subtest 1	19.87	19.33	19.19	19.78	19.83	19.86	0
6		Subtest 2	17.80	17.29	17.18	17.74	17.78	17.81	2
6		Subtest 3	18.72	18.22	18.04	18.20	18.30	18.36	1
6		Subtest 4	17.60	17.06	16.96	17.06	17.11	17.12	2
6		Subtest 5	19.84	19.31	19.21	19.79	19.84	19.88	0
8	DC-HSDPA	Subtest 1	19.82	19.31	19.20	19.79	19.85	19.86	0
8		Subtest 2	19.91	19.36	19.26	19.79	19.88	19.90	0
8		Subtest 3	19.43	18.89	18.75	19.31	19.38	19.40	0.5
8		Subtest 4	19.40	18.87	18.75	19.30	19.39	19.41	0.5

DC-HSDPA considerations

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

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

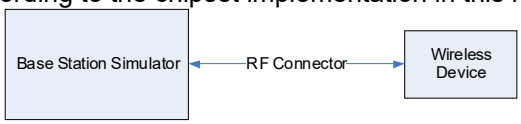


Figure 9-2
Power Measurement Setup

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9.3 CDMA Conducted Powers

Table 9-6
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	24.68	24.67	24.70	24.69	24.68	24.22	24.29
Cellular	1013	22H	824.7	24.95	24.89	24.93	24.94	24.95	24.46	24.51
	384	22H	836.52	24.98	24.96	25.00	24.98	24.97	24.61	24.65
	777	22H	848.31	24.60	24.62	24.61	24.66	24.62	24.55	24.59
PCS	25	24E	1851.25	24.23	24.21	24.35	24.25	24.25	23.76	23.88
	600	24E	1880	24.60	24.59	24.65	24.61	24.60	24.23	24.33
	1175	24E	1908.75	24.03	24.09	24.02	24.04	24.08	24.03	24.05

Table 9-7
Reduced Conducted Power – Hotspot Mode, Grip Sensor and/or Earjack Mode Active

Band	Channel	Rule Part	Frequency	SO55 [dBm]	SO55 [dBm]	SO75 [dBm]	TDSO SO32 [dBm]	TDSO SO32 [dBm]	1x EvDO Rev. 0 [dBm]	1x EvDO Rev. A [dBm]
	F-RC		MHz	RC1	RC3	RC11	FCH+SCH	FCH	(RTAP)	(RETAP)
PCS	25	24E	1851.25	21.45	21.49	21.51	21.39	21.42	21.45	21.46
	600	24E	1880	21.80	21.76	21.85	21.71	21.73	21.80	21.87
	1175	24E	1908.75	21.66	21.67	21.73	21.61	21.59	21.61	21.69

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 9-3
Power Measurement Setup

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9.4 LTE Conducted Powers

9.4.1 LTE Band 71

Table 9-8
LTE Band 71 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	24.14	0	0
	1	50	**24.19**		0
	1	99	24.11		0
	50	0	23.25	0-1	1
	50	25	**23.34**		1
	50	50	23.31		1
	100	0	23.29		1
16QAM	1	0	23.55	0-1	1
	1	50	23.42		1
	1	99	23.37		1
	50	0	22.25	0-2	2
	50	25	22.35		2
	50	50	22.32		2
	100	0	22.32		2
64QAM	1	0	22.55	0-2	2
	1	50	22.42		2
	1	99	22.34		2
	50	0	21.33	0-3	3
	50	25	21.41		3
	50	50	21.37		3
	100	0	21.32		3

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

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Table 9-9
LTE Band 71 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	24.02	0	0
	1	36	24.05		0
	1	74	24.02		0
	36	0	23.11	0-1	1
	36	18	23.22		1
	36	37	23.17		1
	75	0	23.19		1
16QAM	1	0	23.38	0-1	1
	1	36	23.24		1
	1	74	23.33		1
	36	0	22.09	0-2	2
	36	18	22.18		2
	36	37	22.15		2
	75	0	22.13		2
64QAM	1	0	22.41	0-2	2
	1	36	22.26		2
	1	74	22.26		2
	36	0	21.12	0-3	3
	36	18	21.22		3
	36	37	21.22		3
	75	0	21.18		3

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

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Table 9-10
LTE Band 71 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	23.63	23.92	23.95	0	0
	1	25	23.62	23.89	23.91		0
	1	49	23.61	23.86	23.77		0
	25	0	22.65	23.06	23.06	0-1	1
	25	12	22.73	23.06	23.04		1
	25	25	22.81	23.04	23.01		1
	50	0	22.73	23.00	23.00		1
16QAM	1	0	22.82	23.22	23.31	0-1	1
	1	25	22.94	23.21	23.15		1
	1	49	22.94	23.11	22.98		1
	25	0	21.65	22.04	22.02	0-2	2
	25	12	21.75	22.06	22.01		2
	25	25	21.81	22.04	21.99		2
	50	0	21.72	22.04	21.98		2
64QAM	1	0	21.80	22.14	22.23	0-2	2
	1	25	21.93	22.15	22.14		2
	1	49	21.93	22.06	21.95		2
	25	0	20.63	21.05	21.04	0-3	3
	25	12	20.75	21.03	21.01		3
	25	25	20.80	21.07	20.99		3
	50	0	20.76	21.08	21.03		3

Table 9-11
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	23.46	23.84	23.79	0	0
	1	12	23.61	23.94	23.90		0
	1	24	23.66	23.97	23.92		0
	12	0	22.64	23.01	22.98	0-1	1
	12	6	22.71	23.07	23.00		1
	12	13	22.77	23.10	23.05		1
	25	0	22.68	23.01	22.95		1
16QAM	1	0	22.72	23.08	23.09	0-1	1
	1	12	22.91	23.28	23.17		1
	1	24	23.06	23.30	23.14		1
	12	0	21.61	22.00	21.97	0-2	2
	12	6	21.77	22.08	22.04		2
	12	13	21.78	22.13	22.05		2
	25	0	21.68	22.00	21.94		2
64QAM	1	0	21.66	22.06	22.09	0-2	2
	1	12	21.84	22.18	22.12		2
	1	24	21.99	22.22	22.08		2
	12	0	20.60	21.00	20.97	0-3	3
	12	6	20.75	21.10	21.01		3
	12	13	20.79	21.11	21.05		3
	25	0	20.71	21.02	20.97		3

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9.4.2 LTE Band 12

Table 9-12
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	**24.88**	0	0
	1	25	24.87		0
	1	49	24.84		0
	25	0	**24.08**	0-1	1
	25	12	24.04		1
	25	25	23.93		1
	50	0	24.05		1
16QAM	1	0	24.09	0-1	1
	1	25	24.20		1
	1	49	24.22		1
	25	0	23.03	0-2	2
	25	12	23.05		2
	25	25	22.95		2
	50	0	23.04		2
64QAM	1	0	22.72	0-2	2
	1	25	22.91		2
	1	49	22.70		2
	25	0	21.55	0-3	3
	25	12	21.96		3
	25	25	21.98		3
	50	0	21.74		3

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

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Table 9-13
LTE Band 12 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	24.66	24.64	24.72	0	0
	1	12	24.66	24.79	24.78		0
	1	24	24.54	24.74	24.29		0
	12	0	23.77	23.80	23.82	0-1	1
	12	6	23.81	23.92	23.83		1
	12	13	23.77	23.82	23.56		1
	25	0	23.81	23.81	23.80		1
16QAM	1	0	23.99	24.03	24.03	0-1	1
	1	12	24.00	24.14	24.12		1
	1	24	23.91	24.10	23.83		1
	12	0	22.86	22.86	22.90	0-2	2
	12	6	22.91	23.02	22.90		2
	12	13	22.84	22.88	22.71		2
	25	0	22.84	22.88	22.80		2
64QAM	1	0	23.05	22.83	22.70	0-2	2
	1	12	22.59	22.91	22.76		2
	1	24	22.37	23.11	22.20		2
	12	0	21.73	21.68	21.95	0-3	3
	12	6	21.50	21.98	21.64		3
	12	13	21.33	21.99	21.19		3
	25	0	21.44	21.78	21.59		3

Table 9-14
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	24.63	24.66	24.65	0	0
	1	7	24.72	24.74	24.35		0
	1	14	24.61	24.74	24.21		0
	8	0	23.77	23.79	23.76	0-1	1
	8	4	23.87	23.90	23.63		1
	8	7	23.80	23.87	23.45		1
	15	0	23.83	23.83	23.65		1
16QAM	1	0	24.00	24.00	24.10	0-1	1
	1	7	24.09	24.14	23.88		1
	1	14	23.89	24.09	23.80		1
	8	0	22.88	22.92	22.88	0-2	2
	8	4	22.98	23.00	22.77		2
	8	7	22.92	22.96	22.65		2
	15	0	22.89	22.89	22.76		2
64QAM	1	0	22.83	22.87	22.66	0-2	2
	1	7	22.52	22.88	22.29		2
	1	14	22.21	22.85	22.20		2
	8	0	21.88	21.87	21.59	0-3	3
	8	4	21.73	21.96	21.42		3
	8	7	21.53	22.00	21.40		3
	15	0	21.61	21.95	21.38		3

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Table 9-15
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	24.63	24.64	24.31	0	0
	1	2	24.73	24.70	24.27		0
	1	5	24.67	24.66	24.22		0
	3	0	24.64	24.65	24.34		0
	3	2	24.73	24.72	24.35		0
	3	3	24.67	24.71	24.31		0
	6	0	23.77	23.80	23.42	0-1	1
16QAM	1	0	24.00	24.06	23.83	0-1	1
	1	2	24.11	24.09	23.79		1
	1	5	24.02	24.09	23.76		1
	3	0	23.88	23.92	23.42		1
	3	2	23.97	24.00	23.41		1
	3	3	23.88	23.95	23.47		1
	6	0	22.88	22.92	22.61	0-2	2
64QAM	1	0	22.65	22.92	22.05	0-2	2
	1	2	22.63	22.95	22.05		2
	1	5	22.42	22.98	21.84		2
	3	0	23.06	22.92	22.21		2
	3	2	22.99	22.96	22.23		2
	3	3	22.88	22.95	22.15		2
	6	0	21.88	21.83	21.03	0-3	3

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9.4.3 LTE Band 13

Table 9-16
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	24.65	0	0
	1	25	**24.83**		0
	1	49	24.68		0
	25	0	**24.01**	0-1	1
	25	12	23.96		1
	25	25	23.94		1
	50	0	23.97		1
16QAM	1	0	24.17	0-1	1
	1	25	24.05		1
	1	49	24.01		1
	25	0	22.97	0-2	2
	25	12	22.99		2
	25	25	22.93		2
	50	0	22.95		2
64QAM	1	0	22.49	0-2	2
	1	25	23.04		2
	1	49	22.91		2
	25	0	21.83	0-3	3
	25	12	21.96		3
	25	25	21.90		3
	50	0	21.95		3

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Table 9-17
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	24.82	0	0
	1	12	24.85		0
	1	24	24.78		0
	12	0	23.93	0-1	1
	12	6	23.94		1
	12	13	23.92		1
	25	0	23.94		1
16QAM	1	0	24.12	0-1	1
	1	12	24.07		1
	1	24	23.99		1
	12	0	22.96	0-2	2
	12	6	23.00		2
	12	13	22.97		2
	25	0	22.95		2
64QAM	1	0	23.08	0-2	2
	1	12	22.93		2
	1	24	22.97		2
	12	0	21.92	0-3	3
	12	6	21.97		3
	12	13	21.93		3
	25	0	21.93		3

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

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9.4.4 LTE Band 14

Table 9-18
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	**24.51**	0	0
	1	25	24.42		0
	1	49	24.29		0
	25	0	**23.55**	0-1	1
	25	12	23.52		1
	25	25	23.48		1
	50	0	23.47		1
16QAM	1	0	23.89	0-1	1
	1	25	23.54		1
	1	49	23.53		1
	25	0	22.56	0-2	2
	25	12	22.49		2
	25	25	22.57		2
	50	0	22.49		2
64QAM	1	0	22.75	0-2	2
	1	25	22.55		2
	1	49	22.53		2
	25	0	21.56	0-3	3
	25	12	21.51		3
	25	25	21.36		3
	50	0	21.54		3

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Table 9-19
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	24.45	0	0
	1	12	24.38		0
	1	24	24.43		0
	12	0	23.55	0-1	1
	12	6	23.52		1
	12	13	23.53		1
	25	0	23.53		1
16QAM	1	0	23.79	0-1	1
	1	12	23.71		1
	1	24	23.64		1
	12	0	22.55	0-2	2
	12	6	22.58		2
	12	13	22.56		2
	25	0	22.52		2
64QAM	1	0	22.76	0-2	2
	1	12	22.66		2
	1	24	22.57		2
	12	0	21.53	0-3	3
	12	6	21.60		3
	12	13	21.50		3
	25	0	21.50		3

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

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9.4.5 LTE Band 26 (Cell)

Table 9-20
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	24.50	0	0
	1	36	24.64		0
	1	74	**24.66**		0
	36	0	23.72	0-1	1
	36	18	**23.76**		1
	36	37	23.70		1
	75	0	23.75		1
16QAM	1	0	23.86	0-1	1
	1	36	23.97		1
	1	74	23.96		1
	36	0	22.71	0-2	2
	36	18	22.80		2
	36	37	22.70		2
	75	0	22.73		2
64QAM	1	0	22.75	0-2	2
	1	36	22.93		2
	1	74	22.85		2
	36	0	21.72	0-3	3
	36	18	21.79		3
	36	37	21.73		3
	75	0	21.75		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.

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Table 9-21
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	24.39	24.66	24.81	0	0
	1	25	24.44	24.77	24.78		0
	1	49	24.53	24.76	24.69		0
	25	0	23.53	23.73	23.90	0-1	1
	25	12	23.52	23.85	23.90		1
	25	25	23.58	23.84	23.83		1
	50	0	23.52	23.85	23.86		1
16QAM	1	0	23.57	23.75	23.90	0-1	1
	1	25	23.58	23.92	23.94		1
	1	49	23.65	23.88	23.83		1
	25	0	22.55	22.80	22.94	0-2	2
	25	12	22.60	22.88	22.95		2
	25	25	22.62	22.84	22.90		2
	50	0	22.54	22.89	22.95		2
64QAM	1	0	22.58	22.95	22.84	0-2	2
	1	25	22.56	23.13	22.71		2
	1	49	22.86	22.91	22.55		2
	25	0	21.54	21.72	21.71	0-3	3
	25	12	21.44	21.89	21.67		3
	25	25	21.38	21.80	21.43		3
	50	0	21.43	21.88	21.59		3

Table 9-22
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	24.21	24.60	24.74	0	0
	1	12	24.38	24.74	24.80		0
	1	24	24.41	24.70	24.73		0
	12	0	23.40	23.72	23.80	0-1	1
	12	6	23.46	23.81	23.92		1
	12	13	23.48	23.83	23.81		1
	25	0	23.47	23.75	23.80		1
16QAM	1	0	23.44	23.81	23.88	0-1	1
	1	12	23.51	23.91	23.92		1
	1	24	23.58	23.90	23.83		1
	12	0	22.42	22.79	22.83	0-2	2
	12	6	22.49	22.83	22.91		2
	12	13	22.53	22.85	22.86		2
	25	0	22.50	22.80	22.82		2
64QAM	1	0	22.56	22.91	22.88	0-2	2
	1	12	22.66	22.96	22.69		2
	1	24	22.65	23.04	22.41		2
	12	0	21.49	21.77	21.64	0-3	3
	12	6	21.55	21.92	21.54		3
	12	13	21.61	21.88	21.43		3
	25	0	21.42	21.78	21.40		3

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Table 9-23
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	24.23	24.65	24.80	0	0
	1	7	24.31	24.73	24.71		0
	1	14	24.32	24.70	24.71		0
	8	0	23.38	23.75	23.84	0-1	1
	8	4	23.42	23.78	23.84		1
	8	7	23.38	23.77	23.79		1
	15	0	23.41	23.78	23.81		1
16QAM	1	0	23.37	23.78	24.09	0-1	1
	1	7	23.47	23.87	24.07		1
	1	14	23.42	23.83	24.02		1
	8	0	22.43	22.82	22.98	0-2	2
	8	4	22.48	22.83	23.00		2
	8	7	22.47	22.80	22.89		2
	15	0	22.49	22.80	22.89		2
64QAM	1	0	22.62	22.91	22.70	0-2	2
	1	7	22.59	23.08	22.53		2
	1	14	22.55	22.98	22.32		2
	8	0	21.41	21.91	21.65	0-3	3
	8	4	21.55	21.84	21.52		3
	8	7	21.56	21.86	21.39		3
	15	0	21.46	21.83	21.40		3

Table 9-24
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	24.21	24.61	24.65	0	0
	1	2	24.36	24.73	24.77		0
	1	5	24.27	24.62	24.61		0
	3	0	24.22	24.60	24.66		0
	3	2	24.32	24.71	24.72		0
	3	3	24.31	24.68	24.66		0
	6	0	23.33	23.70	23.74	0-1	1
16QAM	1	0	23.53	23.99	24.04	0-1	1
	1	2	23.65	24.09	24.02		1
	1	5	23.55	23.96	23.93		1
	3	0	23.40	23.79	23.84		1
	3	2	23.47	23.88	23.91		1
	3	3	23.42	23.86	23.81		1
	6	0	22.41	22.82	22.85	0-2	2
64QAM	1	0	22.55	22.99	22.32	0-2	2
	1	2	22.66	23.13	22.41		2
	1	5	22.56	22.81	22.22		2
	3	0	22.42	22.72	22.20		2
	3	2	22.52	22.92	22.34		2
	3	3	22.47	22.88	22.09		2
	6	0	21.37	21.72	21.23	0-3	3

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9.4.6 LTE Band 5 (Cell)

Table 9-25
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	25.38	0	0
	1	25	**25.42**		0
	1	49	25.25		0
	25	0	24.47	0-1	1
	25	12	**24.49**		1
	25	25	24.43		1
	50	0	24.44		1
16QAM	1	0	24.67	0-1	1
	1	25	24.64		1
	1	49	24.61		1
	25	0	23.53	0-2	2
	25	12	23.50		2
	25	25	23.45		2
	50	0	23.45		2
64QAM	1	0	23.66	0-2	2
	1	25	23.59		2
	1	49	23.50		2
	25	0	22.46	0-3	3
	25	12	22.46		3
	25	25	22.42		3
	50	0	22.49		3

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

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Table 9-26
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	24.95	25.11	25.14	0	0
	1	12	25.05	25.20	25.21		0
	1	24	25.09	25.18	25.16		0
	12	0	24.02	24.24	24.23	0-1	1
	12	6	24.15	24.26	24.30		1
	12	13	24.21	24.33	24.34		1
	25	0	24.15	24.21	24.25		1
16QAM	1	0	24.24	24.38	24.44	0-1	1
	1	12	24.43	24.45	24.59		1
	1	24	24.43	24.48	24.48		1
	12	0	23.17	23.27	23.30	0-2	2
	12	6	23.29	23.35	23.39		2
	12	13	23.30	23.39	23.41		2
	25	0	23.22	23.27	23.32		2
64QAM	1	0	23.31	23.43	23.48	0-2	2
	1	12	23.43	23.53	23.47		2
	1	24	23.45	23.52	23.12		2
	12	0	22.21	22.36	22.37	0-3	3
	12	6	22.31	22.39	22.41		3
	12	13	22.31	22.46	22.34		3
	25	0	22.27	22.32	22.33		3

Table 9-27
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	24.94	25.11	25.08	0	0
	1	7	25.03	25.17	25.18		0
	1	14	25.09	25.22	25.23		0
	8	0	24.01	24.21	24.20	0-1	1
	8	4	24.15	24.34	24.33		1
	8	7	24.14	24.28	24.28		1
	15	0	24.10	24.25	24.23		1
16QAM	1	0	24.18	24.43	24.40	0-1	1
	1	7	24.41	24.51	24.53		1
	1	14	24.46	24.58	24.54		1
	8	0	23.20	23.30	23.39	0-2	2
	8	4	23.30	23.47	23.49		2
	8	7	23.33	23.41	23.45		2
	15	0	23.21	23.28	23.30		2
64QAM	1	0	23.19	23.45	23.42	0-2	2
	1	7	23.38	23.53	23.40		2
	1	14	23.41	23.56	23.08		2
	8	0	22.12	22.27	22.32	0-3	3
	8	4	22.28	22.46	22.42		3
	8	7	22.31	22.43	22.22		3
	15	0	22.25	22.35	22.37		3

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Table 9-28
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	24.88	24.99	25.10	0	0
	1	2	25.00	25.18	25.20		0
	1	5	25.00	25.12	25.17		0
	3	0	24.93	25.00	25.10		0
	3	2	24.97	25.17	25.16		0
	3	3	24.98	25.16	25.15		0
	6	0	24.00	24.14	24.19	0-1	1
16QAM	1	0	24.22	24.40	24.46	0-1	1
	1	2	24.35	24.52	24.52		1
	1	5	24.32	24.50	24.45		1
	3	0	24.10	24.22	24.30		1
	3	2	24.22	24.35	24.37		1
	3	3	24.18	24.31	24.32		1
	6	0	23.14	23.25	23.28	0-2	2
64QAM	1	0	23.22	23.38	23.24	0-2	2
	1	2	23.35	23.51	23.50		2
	1	5	23.35	23.47	22.96		2
	3	0	23.21	23.30	23.21		2
	3	2	23.28	23.40	23.08		2
	3	3	23.27	23.40	22.93		2
	6	0	22.12	22.26	22.05	0-3	3

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9.4.7 LTE Band 66 (AWS)

Table 9-29
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	24.00	24.24	24.25	0	0
	1	50	24.19	24.01	**24.43**		0
	1	99	24.33	24.16	23.98		0
	50	0	23.37	23.35	**23.58**	0-1	1
	50	25	23.42	23.28	23.49		1
	50	50	23.33	23.33	23.24		1
	100	0	23.32	23.31	23.46		1
16QAM	1	0	23.26	23.21	23.78	0-1	1
	1	50	23.38	23.61	23.60		1
	1	99	23.19	23.47	23.78		1
	50	0	22.35	22.37	22.53	0-2	2
	50	25	22.36	22.30	22.49		2
	50	50	22.33	22.29	22.39		2
	100	0	22.34	22.30	22.57		2
64QAM	1	0	22.32	22.55	22.55	0-2	2
	1	50	22.56	22.34	22.32		2
	1	99	22.45	22.48	22.31		2
	50	0	21.37	21.42	21.55	0-3	3
	50	25	21.45	21.38	21.36		3
	50	50	21.43	21.37	21.37		3
	100	0	21.41	21.40	21.43		3

Table 9-30
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	23.74	24.01	24.17	0	0
	1	36	23.96	23.91	24.00		0
	1	74	23.97	23.96	23.95		0
	36	0	23.00	23.15	23.27	0-1	1
	36	18	23.13	23.12	23.26		1
	36	37	23.10	23.06	23.18		1
	75	0	23.13	23.12	23.21		1
16QAM	1	0	23.13	23.31	23.42	0-1	1
	1	36	23.23	23.27	23.41		1
	1	74	23.21	23.22	23.30		1
	36	0	22.06	22.17	22.28	0-2	2
	36	18	22.18	22.13	22.28		2
	36	37	22.14	22.11	22.27		2
	75	0	22.16	22.14	22.30		2
64QAM	1	0	22.22	22.49	22.45	0-2	2
	1	36	22.46	22.38	22.10		2
	1	74	22.49	22.43	21.89		2
	36	0	21.35	21.29	21.48	0-3	3
	36	18	21.48	21.36	21.44		3
	36	37	21.54	21.38	21.43		3
	75	0	21.35	21.37	21.39		3

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Table 9-31
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	23.73	23.78	23.96	0	0
	1	25	23.81	23.80	23.93		0
	1	49	23.81	23.80	23.95		0
	25	0	22.88	22.95	23.07	0-1	1
	25	12	22.97	22.94	23.07		1
	25	25	22.92	22.90	23.04		1
	50	0	22.97	22.95	23.05		1
16QAM	1	0	23.05	23.09	23.22	0-1	1
	1	25	23.17	23.15	23.25		1
	1	49	23.22	23.08	23.35		1
	25	0	21.79	21.96	22.10	0-2	2
	25	12	21.99	21.96	22.10		2
	25	25	21.96	21.91	22.08		2
	50	0	21.96	21.95	22.11		2
64QAM	1	0	22.00	22.27	22.25	0-2	2
	1	25	22.21	22.22	22.33		2
	1	49	22.24	22.37	22.35		2
	25	0	21.23	21.22	21.24	0-3	3
	25	12	21.30	21.23	21.22		3
	25	25	21.25	21.28	21.20		3
	50	0	21.26	21.17	21.21		3

Table 9-32
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	23.70	23.73	23.90	0	0
	1	12	23.66	23.84	23.92		0
	1	24	23.87	23.86	24.03		0
	12	0	22.86	22.87	23.02	0-1	1
	12	6	22.79	22.93	23.08		1
	12	13	22.92	22.95	23.16		1
	25	0	22.64	22.96	23.06		1
16QAM	1	0	22.80	23.11	23.21	0-1	1
	1	12	22.96	23.12	23.26		1
	1	24	23.12	23.24	23.36		1
	12	0	21.78	21.94	22.12	0-2	2
	12	6	21.88	21.99	22.15		2
	12	13	22.01	22.02	22.17		2
	25	0	21.76	21.96	22.11		2
64QAM	1	0	21.95	22.22	22.26	0-2	2
	1	12	21.94	22.28	22.27		2
	1	24	22.03	22.45	22.34		2
	12	0	21.04	21.33	21.25	0-3	3
	12	6	21.11	21.36	21.22		3
	12	13	21.24	21.35	21.31		3
	25	0	20.92	21.16	21.22		3

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Table 9-33
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	23.87	23.75	23.91	0	0
	1	7	23.75	23.79	24.00		0
	1	14	23.84	23.86	24.00		0
	8	0	22.84	22.84	23.01	0-1	1
	8	4	22.77	22.94	23.03		1
	8	7	22.85	22.89	23.06		1
	15	0	22.66	22.99	23.05		1
16QAM	1	0	22.84	23.04	23.26	0-1	1
	1	7	22.90	23.17	23.31		1
	1	14	22.96	23.11	23.33		1
	8	0	21.83	21.99	22.13	0-2	2
	8	4	21.91	22.04	22.20		2
	8	7	21.92	22.05	22.19		2
	15	0	21.76	21.95	22.10		2
64QAM	1	0	21.99	22.18	22.25	0-2	2
	1	7	21.97	22.25	22.30		2
	1	14	22.03	22.48	22.40		2
	8	0	20.97	21.33	21.20	0-3	3
	8	4	21.05	21.21	21.31		3
	8	7	21.08	21.37	21.35		3
	15	0	20.94	21.25	21.27		3

Table 9-34
LTE Band 66 (AWS) Conducted Powers -1.4 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	23.87	23.75	23.91	0	0
	1	7	23.75	23.79	24.00		0
	1	14	23.84	23.86	24.00		0
	8	0	22.84	22.84	23.01	0-1	1
	8	4	22.77	22.94	23.03		1
	8	7	22.85	22.89	23.06		1
	15	0	22.66	22.99	23.05		1
16QAM	1	0	22.84	23.04	23.26	0-1	1
	1	7	22.90	23.17	23.31		1
	1	14	22.96	23.11	23.33		1
	8	0	21.83	21.99	22.13	0-2	2
	8	4	21.91	22.04	22.20		2
	8	7	21.92	22.05	22.19		2
	15	0	21.76	21.95	22.10		2
64QAM	1	0	21.99	22.18	22.25	0-2	2
	1	7	21.97	22.25	22.30		2
	1	14	22.03	22.48	22.40		2
	8	0	20.97	21.33	21.20	0-3	3
	8	4	21.05	21.21	21.31		3
	8	7	21.08	21.37	21.35		3
	15	0	20.94	21.25	21.27		3

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Table 9-35
LTE Band 66 (AWS) Reduced Conducted Powers - 20 MHz Bandwidth – Hotspot/Proximity Sensor and/or Earjack Mode Active

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	20.78	21.02	20.92	0	0
	1	50	20.76	20.97	**21.12**		0
	1	99	20.77	20.91	20.77		0
	50	0	21.06	21.10	21.12	0-1	0
	50	25	21.06	21.07	**21.14**		0
	50	50	20.99	20.97	21.05		0
	100	0	21.05	21.03	21.10		0
16QAM	1	0	21.11	21.14	21.18	0-1	0
	1	50	21.17	21.02	21.06		0
	1	99	21.18	21.17	20.94		0
	50	0	21.06	21.14	21.11	0-2	0
	50	25	21.06	21.13	21.11		0
	50	50	20.98	21.05	21.03		0
	100	0	21.06	21.02	21.12		0
64QAM	1	0	21.04	21.08	21.20	0-2	0
	1	50	21.01	21.10	21.12		0
	1	99	21.02	21.05	21.00		0
	50	0	20.81	20.95	21.15	0-3	0
	50	25	21.19	20.77	21.16		0
	50	50	21.11	20.92	20.77		0
	100	0	21.11	20.90	21.16		0

Table 9-36
LTE Band 66 (AWS) Reduced Conducted Powers - 15 MHz Bandwidth – Hotspot/ Proximity Sensor and/or Earjack Mode Active

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	20.67	20.63	20.80	0	0
	1	36	20.55	20.55	20.73		0
	1	74	20.58	20.51	20.66		0
	36	0	20.77	20.72	20.85	0-1	0
	36	18	20.74	20.70	20.84		0
	36	37	20.70	20.68	20.81		0
	75	0	20.73	20.70	20.84		0
16QAM	1	0	20.90	20.89	21.07	0-1	0
	1	36	20.86	20.81	21.03		0
	1	74	20.90	20.80	20.93		0
	36	0	20.77	20.72	20.85	0-2	0
	36	18	20.71	20.70	20.82		0
	36	37	20.70	20.66	20.82		0
	75	0	20.74	20.70	20.83		0
64QAM	1	0	20.90	20.90	21.05	0-2	0
	1	36	20.85	20.80	20.97		0
	1	74	20.93	20.82	20.98		0
	36	0	20.26	20.59	20.90	0-3	0
	36	18	20.75	20.53	20.89		0
	36	37	20.78	20.65	20.57		0
	75	0	20.73	20.51	20.88		0

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Table 9-37
LTE Band 66 (AWS) Reduced Conducted Powers - 10 MHz Bandwidth – Hotspot/Proximity Sensor and/or Earjack Mode Active

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	20.44	20.40	20.52	0	0
	1	25	20.46	20.42	20.57		0
	1	49	20.46	20.51	20.60		0
	25	0	20.60	20.53	20.70	0-1	0
	25	12	20.60	20.57	20.70		0
	25	25	20.56	20.51	20.67		0
	50	0	20.58	20.53	20.68		0
16QAM	1	0	20.71	20.73	20.76	0-1	0
	1	25	20.71	20.71	20.89		0
	1	49	20.80	20.74	20.90		0
	25	0	20.57	20.56	20.69	0-2	0
	25	12	20.62	20.56	20.67		0
	25	25	20.56	20.49	20.71		0
	50	0	20.56	20.53	20.68		0
64QAM	1	0	20.64	20.74	20.79	0-2	0
	1	25	20.70	20.68	20.83		0
	1	49	20.75	20.73	20.85		0
	25	0	20.06	20.52	20.70	0-3	0
	25	12	20.36	20.52	20.58		0
	25	25	20.56	20.51	20.52		0
	50	0	20.27	20.46	20.51		0

Table 9-38
LTE Band 66 (AWS) Reduced Conducted Powers - 5 MHz Bandwidth – Hotspot/Proximity Sensor and/or Earjack Mode Active

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	20.37	20.35	20.51	0	0
	1	12	20.48	20.43	20.61		0
	1	24	20.50	20.50	20.71		0
	12	0	20.58	20.50	20.64	0-1	0
	12	6	20.60	20.56	20.73		0
	12	13	20.59	20.54	20.76		0
	25	0	20.57	20.57	20.76		0
16QAM	1	0	20.66	20.66	20.79	0-1	0
	1	12	20.79	20.71	20.92		0
	1	24	20.80	20.75	21.00		0
	12	0	20.59	20.50	20.71	0-2	0
	12	6	20.65	20.60	20.71		0
	12	13	20.63	20.61	20.79		0
	25	0	20.60	20.58	20.72		0
64QAM	1	0	20.62	20.63	20.79	0-2	0
	1	12	20.73	20.71	20.92		0
	1	24	20.80	20.73	20.98		0
	12	0	19.99	20.54	20.53	0-3	0
	12	6	20.13	20.57	20.55		0
	12	13	20.18	20.56	20.77		0
	25	0	19.98	20.41	20.46		0

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Table 9-39
LTE Band 66 (AWS) Reduced Conducted Powers - 3 MHz Bandwidth – Hotspot/Proximity Sensor and/or Earjack Mode Active

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	20.37	20.40	20.51	0	0
	1	7	20.47	20.45	20.60		0
	1	14	20.47	20.47	20.61		0
	8	0	20.58	20.53	20.62	0-1	0
	8	4	20.56	20.59	20.72		0
	8	7	20.56	20.57	20.74		0
	15	0	20.58	20.56	20.65		0
16QAM	1	0	20.66	20.64	20.79	0-1	0
	1	7	20.73	20.70	20.89		0
	1	14	20.81	20.76	20.95		0
	8	0	20.61	20.50	20.70	0-2	0
	8	4	20.68	20.66	20.79		0
	8	7	20.62	20.66	20.81		0
	15	0	20.60	20.56	20.67		0
64QAM	1	0	20.59	20.64	20.75	0-2	0
	1	7	20.72	20.71	20.83		0
	1	14	20.74	20.64	20.85		0
	8	0	20.00	20.53	20.55	0-3	0
	8	4	20.07	20.56	20.77		0
	8	7	20.07	20.54	20.76		0
	15	0	20.01	20.51	20.61		0

Table 9-40
LTE Band 66 (AWS) Reduced Conducted Powers -1.4 MHz Bandwidth – Hotspot/Proximity Sensor and/or Earjack Mode Active

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	20.39	20.37	20.51	0	0
	1	2	20.46	20.45	20.59		0
	1	5	20.42	20.35	20.56		0
	3	0	20.36	20.38	20.54		0
	3	2	20.45	20.43	20.60		0
	3	3	20.43	20.42	20.61		0
	6	0	20.50	20.48	20.58	0-1	0
16QAM	1	0	20.70	20.62	20.75	0-1	0
	1	2	20.69	20.72	20.85		0
	1	5	20.64	20.65	20.85		0
	3	0	20.52	20.53	20.66		0
	3	2	20.56	20.55	20.68		0
	3	3	20.56	20.51	20.73		0
	6	0	20.53	20.51	20.68	0-2	0
64QAM	1	0	20.60	20.60	20.74	0-2	0
	1	2	20.67	20.69	20.84		0
	1	5	20.61	20.60	20.80		0
	3	0	20.55	20.54	20.64		0
	3	2	20.62	20.61	20.73		0
	3	3	20.56	20.54	20.73		0
	6	0	19.92	20.42	20.64	0-3	0

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9.4.8 LTE Band 25 (PCS)

Table 9-41
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	24.12	24.13	24.10	0	0
	1	50	24.08	24.23	24.07		0
	1	99	24.22	**24.29**	24.01		0
	50	0	23.18	23.33	23.17	0-1	1
	50	25	23.21	**23.44**	23.23		1
	50	50	23.24	23.43	23.22		1
	100	0	23.19	23.41	23.21		1
16QAM	1	0	23.22	23.22	23.28	0-1	1
	1	50	23.15	23.39	23.25		1
	1	99	23.29	23.36	23.19		1
	50	0	22.15	22.21	22.12	0-2	2
	50	25	22.22	22.22	22.14		2
	50	50	22.21	22.26	22.17		2
	100	0	22.18	22.20	22.16		2
64QAM	1	0	22.15	22.23	22.26	0-2	2
	1	50	22.21	22.36	22.24		2
	1	99	22.19	22.37	22.10		2
	50	0	21.18	21.37	21.25	0-3	3
	50	25	21.15	21.44	21.29		3
	50	50	21.22	21.45	21.13		3
	100	0	21.16	21.38	21.24		3

Table 9-42
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	23.72	23.97	23.83	0	0
	1	36	23.73	23.99	23.73		0
	1	74	23.76	24.02	23.80		0
	36	0	22.82	23.06	22.85	0-1	1
	36	18	22.88	23.13	22.91		1
	36	37	22.89	23.13	22.95		1
	75	0	22.87	23.09	22.90		1
16QAM	1	0	23.01	23.31	23.19	0-1	1
	1	36	23.01	23.29	23.05		1
	1	74	23.06	23.33	23.06		1
	36	0	21.83	22.07	21.88	0-2	2
	36	18	21.88	22.16	21.94		2
	36	37	21.89	22.14	21.93		2
	75	0	21.86	22.09	21.89		2
64QAM	1	0	21.99	22.24	22.32	0-2	2
	1	36	21.94	22.24	22.20		2
	1	74	22.06	22.22	21.98		2
	36	0	20.86	21.08	21.09	0-3	3
	36	18	20.88	21.17	21.14		3
	36	37	20.90	21.13	20.82		3
	75	0	20.86	21.12	21.10		3

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Table 9-43
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	23.65	23.85	23.86	0	0
	1	25	23.71	23.85	23.88		0
	1	49	23.68	23.83	23.90		0
	25	0	22.78	22.93	22.69	0-1	1
	25	12	22.80	22.95	22.72		1
	25	25	22.84	22.95	22.72		1
	50	0	22.78	22.91	22.73		1
16QAM	1	0	23.01	23.09	23.01	0-1	1
	1	25	22.86	23.07	22.87		1
	1	49	22.85	23.08	22.87		1
	25	0	21.71	21.94	21.69	0-2	2
	25	12	21.73	21.95	21.71		2
	25	25	21.74	21.94	21.75		2
	50	0	21.71	21.96	21.72		2
64QAM	1	0	21.84	22.07	22.14	0-2	2
	1	25	21.81	22.06	22.08		2
	1	49	21.80	22.04	22.12		2
	25	0	20.69	20.91	20.98	0-3	3
	25	12	20.70	20.93	21.00		3
	25	25	20.72	20.94	20.89		3
	50	0	20.72	20.96	21.01		3

Table 9-44
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	23.71	23.74	23.85	0	0
	1	12	23.60	23.88	23.88		0
	1	24	23.63	23.93	23.91		0
	12	0	22.69	22.86	22.68	0-1	1
	12	6	22.75	22.88	22.72		1
	12	13	22.75	22.99	22.78		1
	25	0	22.72	22.90	22.68		1
16QAM	1	0	22.87	23.04	22.86	0-1	1
	1	12	22.91	23.17	22.88		1
	1	24	22.99	23.17	22.87		1
	12	0	21.74	21.89	21.74	0-2	2
	12	6	21.75	21.99	21.79		2
	12	13	21.77	22.02	21.82		2
	25	0	21.76	21.92	21.72		2
64QAM	1	0	21.81	21.93	21.81	0-2	2
	1	12	21.86	22.14	22.07		2
	1	24	21.85	22.09	22.12		2
	12	0	20.73	20.84	20.97	0-3	3
	12	6	20.75	20.95	20.94		3
	12	13	20.74	20.98	21.05		3
	25	0	20.72	20.89	20.90		3

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Table 9-45
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	23.75	23.74	23.84	0	0
	1	7	23.74	23.85	23.82		0
	1	14	23.74	23.91	23.89		0
	8	0	22.71	22.87	22.71	0-1	1
	8	4	22.77	22.92	22.71		1
	8	7	22.76	22.94	22.70		1
	15	0	22.80	22.93	22.73		1
16QAM	1	0	22.83	22.95	22.76	0-1	1
	1	7	22.93	23.16	22.84		1
	1	14	22.93	23.12	22.94		1
	8	0	21.76	21.91	21.77	0-2	2
	8	4	21.85	22.02	21.86		2
	8	7	21.82	22.08	21.78		2
	15	0	21.71	21.90	21.71		2
64QAM	1	0	21.77	21.90	21.96	0-2	2
	1	7	21.88	22.04	22.05		2
	1	14	21.81	22.08	22.19		2
	8	0	20.69	20.83	20.90	0-3	3
	8	4	20.76	20.94	21.04		3
	8	7	20.75	21.00	21.12		3
	15	0	20.70	20.90	21.02		3

Table 9-46
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	23.75	23.73	23.79	0	0
	1	2	23.73	23.88	23.90		0
	1	5	23.68	23.81	23.89		0
	3	0	23.77	23.75	23.70		0
	3	2	23.73	23.88	23.76		0
	3	3	23.69	23.83	23.69		0
	6	0	22.75	22.81	22.78	0-1	1
16QAM	1	0	22.86	22.93	22.91	0-1	1
	1	2	22.95	23.18	22.91		1
	1	5	22.85	23.09	22.85		1
	3	0	22.72	22.84	22.65		1
	3	2	22.77	22.98	22.76		1
	3	3	22.70	22.90	22.69		1
	6	0	21.68	21.87	21.67	0-2	2
64QAM	1	0	21.80	21.90	22.06	0-2	2
	1	2	21.90	22.08	21.97		2
	1	5	21.83	22.00	22.00		2
	3	0	21.68	21.85	22.00		2
	3	2	21.80	21.99	22.01		2
	3	3	21.75	21.96	21.97		2
	6	0	20.69	20.86	20.85	0-3	3

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Table 9-47
LTE Band 25 (PCS) Reduced Conducted Powers - 20 MHz Bandwidth – Hotspot/Proximity Sensor and/or Earjack Mode Active

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	20.73	21.02	20.99	0	0
	1	50	20.61	**21.06**	20.74		0
	1	99	20.67	21.01	20.83		0
	50	0	20.71	20.96	20.77	0-1	0
	50	25	20.77	**21.04**	20.76		0
	50	50	20.76	21.00	20.80		0
	100	0	20.76	20.95	20.73		0
16QAM	1	0	21.19	21.37	21.12	0-1	0
	1	50	21.13	21.31	21.04		0
	1	99	21.22	21.39	21.09		0
	50	0	20.73	20.95	20.76	0-2	0
	50	25	20.76	21.03	20.75		0
	50	50	20.78	21.01	20.73		0
	100	0	20.74	21.00	20.72		0
64QAM	1	0	21.38	21.21	21.06	0-2	0
	1	50	21.29	21.24	20.96		0
	1	99	21.38	21.27	20.93		0
	50	0	20.78	21.01	20.78	0-3	0
	50	25	20.81	21.09	20.81		0
	50	50	20.83	21.07	20.72		0
	100	0	20.73	20.98	20.78		0

Table 9-48
LTE Band 25 (PCS) Reduced Conducted Powers - 15 MHz Bandwidth - Hotspot/Proximity Sensor and/or Earjack Mode Active

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	20.36	20.65	20.45	0	0
	1	36	20.39	20.59	20.36		0
	1	74	20.44	20.64	20.37		0
	36	0	20.49	20.68	20.50	0-1	0
	36	18	20.53	20.75	20.58		0
	36	37	20.54	20.75	20.55		0
	75	0	20.52	20.75	20.54		0
16QAM	1	0	20.64	20.86	20.84	0-1	0
	1	36	20.61	20.90	20.68		0
	1	74	20.71	20.89	20.75		0
	36	0	20.47	20.66	20.51	0-2	0
	36	18	20.54	20.77	20.55		0
	36	37	20.51	20.75	20.55		0
	75	0	20.51	20.73	20.50		0
64QAM	1	0	20.61	20.81	20.77	0-2	0
	1	36	20.61	20.85	20.66		0
	1	74	20.63	20.85	20.64		0
	36	0	20.51	20.72	20.56	0-3	0
	36	18	20.56	20.81	20.60		0
	36	37	20.55	20.80	20.59		0
	75	0	20.50	20.75	20.56		0

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Table 9-49
LTE Band 25 (PCS) Reduced Conducted Powers - 10 MHz Bandwidth - Hotspot/Proximity Sensor and/or Earjack Mode Active

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	20.26	20.45	20.21	0	0
	1	25	20.20	20.44	20.21		0
	1	49	20.19	20.39	20.21		0
	25	0	20.35	20.57	20.35	0-1	0
	25	12	20.36	20.61	20.34		0
	25	25	20.35	20.58	20.35		0
	50	0	20.34	20.57	20.34		0
16QAM	1	0	20.55	20.76	20.58	0-1	0
	1	25	20.50	20.76	20.51		0
	1	49	20.43	20.75	20.53		0
	25	0	20.36	20.61	20.34	0-2	0
	25	12	20.40	20.62	20.36		0
	25	25	20.39	20.64	20.37		0
	50	0	20.38	20.57	20.36		0
64QAM	1	0	20.50	20.66	20.58	0-2	0
	1	25	20.45	20.71	20.44		0
	1	49	20.37	20.67	20.52		0
	25	0	20.32	20.53	20.33	0-3	0
	25	12	20.32	20.57	20.36		0
	25	25	20.34	20.60	20.35		0
	50	0	20.36	20.58	20.38		0

Table 9-50
LTE Band 25 (PCS) Reduced Conducted Powers - 5 MHz Bandwidth - Hotspot/Proximity Sensor and/or Earjack Mode Active

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	20.23	20.39	20.20	0	0
	1	12	20.30	20.51	20.23		0
	1	24	20.26	20.50	20.22		0
	12	0	20.31	20.46	20.32	0-1	0
	12	6	20.44	20.54	20.35		0
	12	13	20.39	20.62	20.39		0
	25	0	20.42	20.54	20.32		0
16QAM	1	0	20.54	20.65	20.53	0-1	0
	1	12	20.63	20.79	20.53		0
	1	24	20.65	20.86	20.61		0
	12	0	20.44	20.53	20.37	0-2	0
	12	6	20.48	20.59	20.44		0
	12	13	20.53	20.64	20.43		0
	25	0	20.45	20.55	20.35		0
64QAM	1	0	20.46	20.60	20.41	0-2	0
	1	12	20.52	20.75	20.49		0
	1	24	20.51	20.76	20.53		0
	12	0	20.34	20.52	20.33	0-3	0
	12	6	20.43	20.56	20.41		0
	12	13	20.44	20.60	20.41		0
	25	0	20.37	20.49	20.34		0

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Table 9-51
LTE Band 25 (PCS) Reduced Conducted Powers - 3 MHz Bandwidth - Hotspot/Proximity Sensor and/or Earjack Mode Active

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	20.20	20.31	20.13	0	0
	1	7	20.25	20.47	20.23		0
	1	14	20.30	20.50	20.22		0
	8	0	20.36	20.46	20.28	0-1	0
	8	4	20.41	20.52	20.37		0
	8	7	20.37	20.60	20.33		0
	15	0	20.39	20.51	20.35		0
16QAM	1	0	20.52	20.60	20.43	0-1	0
	1	7	20.61	20.80	20.56		0
	1	14	20.54	20.80	20.60		0
	8	0	20.43	20.57	20.40	0-2	0
	8	4	20.54	20.62	20.46		0
	8	7	20.55	20.70	20.46		0
	15	0	20.42	20.53	20.37		0
64QAM	1	0	20.45	20.57	20.33	0-2	0
	1	7	20.51	20.74	20.48		0
	1	14	20.50	20.69	20.48		0
	8	0	20.36	20.51	20.32	0-3	0
	8	4	20.40	20.55	20.37		0
	8	7	20.37	20.62	20.34		0
	15	0	20.40	20.54	20.33		0

Table 9-52
LTE Band 25 (PCS) Reduced Conducted Powers -1.4 MHz Bandwidth - Hotspot/Proximity Sensor and/or Earjack Mode Active

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	20.19	20.33	20.14	0	0
	1	2	20.28	20.45	20.22		0
	1	5	20.20	20.41	20.17		0
	3	0	20.20	20.34	20.19		0
	3	2	20.26	20.47	20.19		0
	3	3	20.24	20.41	20.17		0
	6	0	20.30	20.44	20.24	0-1	0
16QAM	1	0	20.49	20.64	20.41	0-1	0
	1	2	20.60	20.80	20.54		0
	1	5	20.50	20.70	20.48		0
	3	0	20.38	20.46	20.32		0
	3	2	20.40	20.61	20.34		0
	3	3	20.40	20.58	20.32		0
	6	0	20.39	20.52	20.34	0-2	0
64QAM	1	0	20.41	20.55	20.38	0-2	0
	1	2	20.53	20.70	20.48		0
	1	5	20.44	20.63	20.44		0
	3	0	20.34	20.46	20.28		0
	3	2	20.41	20.63	20.39		0
	3	3	20.37	20.59	20.30		0
	6	0	20.34	20.44	20.29	0-3	0

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9.4.9 LTE Band 30

Table 9-53
LTE Band 30 Maximum 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	24.73	0	0
	1	25	24.68		0
	1	49	**24.79**		0
	25	0	23.82	0-1	1
	25	12	23.88		1
	25	25	**23.94**		1
	50	0	23.85		1
16QAM	1	0	24.14	0-1	1
	1	25	24.03		1
	1	49	24.08		1
	25	0	22.86	0-2	2
	25	12	22.87		2
	25	25	22.93		2
	50	0	22.95		2
64QAM	1	0	22.26	0-2	2
	1	25	22.19		2
	1	49	22.54		2
	25	0	21.20	0-3	3
	25	12	21.21		3
	25	25	21.34		3
	50	0	21.19		3

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Table 9-54
LTE Band 30 Maximum 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	24.52	0	0
	1	12	24.63		0
	1	24	24.83		0
	12	0	23.69	0-1	1
	12	6	23.94		1
	12	13	23.95		1
	25	0	23.75		1
16QAM	1	0	23.98	0-1	1
	1	12	24.10		1
	1	24	24.02		1
	12	0	22.91	0-2	2
	12	6	23.03		2
	12	13	22.97		2
	25	0	22.88		2
64QAM	1	0	22.12	0-2	2
	1	12	22.31		2
	1	24	22.54		2
	12	0	21.14	0-3	3
	12	6	21.15		3
	12	13	21.24		3
	25	0	21.16		3

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

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Table 9-55
LTE Band 30 Reduced Conducted Powers - 10 MHz Bandwidth - Hotspot/Proximity Sensor and/or Earjack Mode Active

LTE Band 30 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**22.26**	0	0
	1	25	22.24		0
	1	49	22.24		0
	25	0	22.21	0-1	0
	25	12	**22.22**		0
	25	25	22.21		0
	50	0	22.20		0
16QAM	1	0	22.18	0-1	0
	1	25	22.19		0
	1	49	22.18		0
	25	0	22.18	0-2	0
	25	12	22.18		0
	25	25	22.19		0
	50	0	22.18		0
64QAM	1	0	22.18	0-2	0
	1	25	22.15		0
	1	49	22.05		0
	25	0	21.80	0-3	0.2
	25	12	21.75		0.2
	25	25	21.81		0.2
	50	0	21.74		0.2

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Table 9-56
LTE Band 30 Reduced Conducted Powers - 5 MHz Bandwidth – Hotspot/Proximity Sensor and/or Earjack Mode Active

LTE Band 30 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	22.00	0	0
	1	12	21.80		0
	1	24	21.91		0
	12	0	22.16	0-1	0
	12	6	22.18		0
	12	13	22.08		0
	25	0	22.13		0
16QAM	1	0	22.23	0-1	0
	1	12	22.21		0
	1	24	22.03		0
	12	0	22.14	0-2	0
	12	6	22.15		0
	12	13	22.06		0
	25	0	22.10		0
64QAM	1	0	22.08	0-2	0
	1	12	22.11		0
	1	24	22.24		0
	12	0	21.86	0-3	0.2
	12	6	21.76		0.2
	12	13	21.74		0.2
	25	0	21.86		0.2

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

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9.4.10 LTE Band 7

Table 9-57
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	24.40	**24.43**	24.09	0	0
	1	50	24.07	24.24	24.42		0
	1	99	24.02	24.32	24.22		0
	50	0	23.42	**23.45**	23.38	0-1	1
	50	25	23.18	23.30	23.41		1
	50	50	23.19	23.26	23.43		1
	100	0	23.17	23.23	23.40		1
16QAM	1	0	23.53	23.22	23.53	0-1	1
	1	50	23.60	23.21	23.77		1
	1	99	23.60	23.41	23.78		1
	50	0	22.72	22.33	22.45	0-2	2
	50	25	22.14	22.27	22.52		2
	50	50	22.16	22.30	22.51		2
	100	0	22.21	22.18	22.45		2
64QAM	1	0	21.76	21.62	22.44	0-2	2
	1	50	22.27	22.03	22.50		2
	1	99	22.69	21.61	22.21		2
	50	0	20.92	21.24	21.21	0-3	3
	50	25	21.00	21.25	21.49		3
	50	50	20.81	20.73	21.20		3
	100	0	20.80	20.92	21.15		3

Table 9-58
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	24.35	24.16	24.17	0	0
	1	36	24.36	23.90	24.25		0
	1	74	24.56	23.96	24.26		0
	36	0	23.41	22.90	23.32	0-1	1
	36	18	23.22	22.90	23.38		1
	36	37	23.11	22.87	23.31		1
	75	0	23.08	22.93	23.35		1
16QAM	1	0	23.34	23.40	23.32	0-1	1
	1	36	23.51	23.14	23.39		1
	1	74	23.48	23.06	23.36		1
	36	0	22.38	21.87	22.18	0-2	2
	36	18	22.23	21.94	22.25		2
	36	37	22.19	21.88	22.16		2
	75	0	22.15	21.87	22.19		2
64QAM	1	0	21.57	21.86	22.18	0-2	2
	1	36	21.64	21.72	22.25		2
	1	74	21.77	21.71	22.11		2
	36	0	20.75	20.94	21.16	0-3	3
	36	18	20.77	20.87	21.31		3
	36	37	20.80	20.86	21.01		3
	75	0	20.67	20.90	20.92		3

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Table 9-59
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	24.22	23.97	24.00	0	0
	1	25	24.13	23.82	23.96		0
	1	49	24.18	23.88	23.98		0
	25	0	23.11	22.91	22.82	0-1	1
	25	12	23.27	22.80	22.99		1
	25	25	23.28	22.70	22.84		1
	50	0	23.19	22.80	22.87		1
16QAM	1	0	23.13	23.00	22.77	0-1	1
	1	25	23.33	23.01	22.78		1
	1	49	23.32	23.00	22.82		1
	25	0	22.18	22.22	21.65	0-2	2
	25	12	22.35	21.98	21.54		2
	25	25	22.39	21.92	21.89		2
	50	0	22.31	21.82	21.68		2
64QAM	1	0	21.47	21.84	21.98	0-2	2
	1	25	21.83	21.88	22.02		2
	1	49	21.88	21.85	21.99		2
	25	0	20.66	20.80	20.68	0-3	3
	25	12	20.67	20.75	20.99		3
	25	25	20.62	20.88	20.62		3
	50	0	20.87	20.79	20.69		3

Table 9-60
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	24.10	23.82	23.92	0	0
	1	12	24.19	23.80	23.87		0
	1	24	24.21	23.85	23.81		0
	12	0	23.24	22.77	22.88	0-1	1
	12	6	23.37	22.81	22.97		1
	12	13	23.26	22.82	22.95		1
	25	0	23.27	22.77	22.91		1
16QAM	1	0	23.16	23.01	22.85	0-1	1
	1	12	23.43	23.12	22.61		1
	1	24	23.44	23.09	22.84		1
	12	0	22.29	22.15	21.62	0-2	2
	12	6	22.34	21.97	21.63		2
	12	13	22.35	21.93	21.74		2
	25	0	22.35	21.84	21.61		2
64QAM	1	0	21.53	21.97	22.00	0-2	2
	1	12	21.70	21.93	22.07		2
	1	24	21.70	21.90	21.91		2
	12	0	20.57	20.84	20.62	0-3	3
	12	6	20.55	20.80	20.83		3
	12	13	20.60	20.86	20.73		3
	25	0	20.72	20.76	20.60		3

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Table 9-61
LTE Band 7 Reduced Conducted Powers - 20 MHz Bandwidth – Hotspot/Proximity Sensor and/or Earjack Mode Active

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	21.85	21.88	22.39	0	0
	1	50	21.83	21.89	**22.51**		0
	1	99	21.66	21.94	22.31		0
	50	0	21.95	22.08	22.30	0-1	0
	50	25	22.03	22.10	**22.36**		0
	50	50	21.92	22.14	22.32		0
	100	0	21.96	22.07	22.30		0
16QAM	1	0	22.06	22.30	22.34	0-1	0
	1	50	22.01	22.20	22.40		0
	1	99	21.88	22.34	22.39		0
	50	0	21.95	22.12	22.41	0-2	0
	50	25	22.03	22.14	22.48		0
	50	50	21.92	22.17	22.42		0
	100	0	22.01	22.16	22.58		0
64QAM	1	0	21.74	22.04	21.70	0-2	0
	1	50	22.09	22.29	22.49		0
	1	99	22.08	22.10	22.29		0
	50	0	21.15	21.53	21.51	0-3	0.2
	50	25	21.15	21.52	21.53		0.2
	50	50	21.05	21.26	21.64		0.2
	100	0	20.92	21.32	21.48		0.2

Table 9-62
LTE Band 7 Reduced Conducted Powers - 15 MHz Bandwidth – Hotspot/Proximity Sensor and/or Earjack Mode Active

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	21.49	21.69	22.30	0	0
	1	36	21.44	21.51	22.26		0
	1	74	21.41	21.53	22.25		0
	36	0	21.58	21.66	22.24	0-1	0
	36	18	21.62	21.64	22.34		0
	36	37	21.60	21.63	22.21		0
	75	0	21.55	21.58	22.16		0
16QAM	1	0	21.71	21.81	21.99	0-1	0
	1	36	21.65	21.74	22.30		0
	1	74	21.59	21.61	22.27		0
	36	0	21.58	21.67	22.32	0-2	0
	36	18	21.61	21.68	22.22		0
	36	37	21.59	21.62	22.34		0
	75	0	21.60	21.64	22.37		0
64QAM	1	0	20.99	21.57	21.56	0-2	0
	1	36	21.01	21.77	22.05		0
	1	74	21.69	21.34	21.86		0
	36	0	20.52	20.92	21.18	0-3	0.2
	36	18	20.78	20.99	21.54		0.2
	36	37	20.64	20.69	21.28		0.2
	75	0	20.70	20.63	21.20		0.2

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Table 9-63
LTE Band 7 Reduced Conducted Powers - 10 MHz Bandwidth – Hotspot/Proximity Sensor and/or Earjack Mode Active

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20800 (2505.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21400 (2565.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	21.48	21.50	22.19	0	0
	1	25	21.41	21.54	22.05		0
	1	49	21.45	21.40	21.97		0
	25	0	21.43	21.59	22.13	0-1	0
	25	12	21.62	21.58	22.16		0
	25	25	21.60	21.61	22.08		0
	50	0	21.59	21.51	22.17		0
16QAM	1	0	21.70	21.80	22.14	0-1	0
	1	25	21.63	21.73	22.12		0
	1	49	21.61	21.71	22.17		0
	25	0	21.64	21.70	22.10	0-2	0
	25	12	21.63	21.65	22.16		0
	25	25	21.57	21.68	22.15		0
	50	0	21.60	21.66	22.05		0
64QAM	1	0	20.82	21.74	21.84	0-2	0
	1	25	21.63	21.79	22.10		0
	1	49	21.60	21.69	21.72		0
	25	0	20.54	20.93	21.09	0-3	0.2
	25	12	20.51	21.04	21.14		0.2
	25	25	20.74	20.84	21.01		0.2
	50	0	20.54	20.91	21.00		0.2

Table 9-64
LTE Band 7 Reduced Conducted Powers - 5 MHz Bandwidth – Hotspot/Proximity Sensor and/or Earjack Mode Active

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	21.43	21.49	21.94	0	0
	1	12	21.56	21.66	21.98		0
	1	24	21.59	21.68	21.97		0
	12	0	21.61	21.65	21.99	0-1	0
	12	6	21.73	21.76	21.88		0
	12	13	21.70	21.79	21.80		0
	25	0	21.67	21.71	21.90		0
16QAM	1	0	21.60	21.78	21.98	0-1	0
	1	12	21.80	21.80	21.93		0
	1	24	21.79	21.90	21.83		0
	12	0	21.55	21.65	21.73	0-2	0
	12	6	21.69	21.75	21.99		0
	12	13	21.71	21.80	21.77		0
	25	0	21.62	21.76	21.99		0
64QAM	1	0	21.52	21.76	21.59	0-2	0
	1	12	21.82	21.94	21.49		0
	1	24	21.83	21.90	21.36		0
	12	0	20.70	21.03	20.86	0-3	0.2
	12	6	20.89	21.05	20.86		0.2
	12	13	21.01	21.01	20.97		0.2
	25	0	20.71	20.86	20.88		0.2

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9.4.12 LTE Band 41

Table 9-65
LTE Band 41 PC3 Maximum 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	23.86	24.06	24.38	24.27	24.01	0	0
	1	50	23.82	24.05	**24.53**	24.19	24.07		0
	1	99	23.83	24.02	24.37	23.91	24.15		0
	50	0	22.93	23.24	23.52	23.32	23.24	0-1	1
	50	25	22.95	23.22	**23.58**	23.33	23.30		1
	50	50	22.89	23.09	23.50	23.18	23.29		1
	100	0	22.91	23.21	23.47	23.26	23.27		1
16QAM	1	0	22.83	22.71	23.45	23.27	22.63	0-1	1
	1	50	22.79	22.73	23.62	23.25	22.79		1
	1	99	22.75	22.65	23.45	22.92	22.84		1
	50	0	21.88	22.26	22.59	22.32	22.26	0-2	2
	50	25	21.92	22.28	22.67	22.30	22.34		2
	50	50	21.82	22.11	22.59	22.17	22.34		2
	100	0	21.94	22.17	22.53	22.33	22.25		2
64QAM	1	0	21.95	22.17	22.45	22.40	22.14	0-2	2
	1	50	21.89	22.15	22.49	22.32	22.23		2
	1	99	21.85	22.13	22.32	22.00	22.28		2
	50	0	21.03	21.22	21.51	21.42	21.24	0-3	3
	50	25	21.03	21.20	21.53	21.41	21.30		3
	50	50	20.95	21.08	21.47	21.23	21.29		3
	100	0	20.91	21.21	21.54	21.30	21.33		3

Table 9-66
LTE Band 41 PC3 Maximum 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	23.59	23.88	24.25	23.93	23.72	0	0
	1	36	23.50	23.87	24.23	23.75	23.81		0
	1	74	23.58	23.87	24.25	23.64	23.87		0
	36	0	22.67	23.11	23.46	23.06	23.03	0-1	1
	36	18	22.71	23.11	23.48	23.05	23.06		1
	36	37	22.69	23.03	23.43	22.95	23.00		1
	75	0	22.72	23.10	23.45	22.98	23.03		1
16QAM	1	0	22.82	23.17	23.43	23.25	22.78	0-1	1
	1	36	22.73	23.11	23.46	23.01	22.76		1
	1	74	22.80	23.12	23.39	22.86	22.88		1
	36	0	21.80	22.25	22.51	22.13	21.89	0-2	2
	36	18	21.83	22.26	22.52	22.09	21.90		2
	36	37	21.81	22.17	22.50	21.99	21.89		2
	75	0	21.89	22.28	22.58	22.13	21.95		2
64QAM	1	0	21.84	22.20	22.46	22.23	21.94	0-2	2
	1	36	21.78	22.16	22.47	22.07	21.99		2
	1	74	21.83	22.12	22.41	21.81	21.97		2
	36	0	21.11	21.61	21.55	21.46	21.18	0-3	3
	36	18	20.91	21.63	21.50	21.46	21.21		3
	36	37	21.21	21.53	21.46	21.30	21.23		3
	75	0	21.25	21.56	21.56	21.41	21.25		3

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Table 9-67
LTE Band 41 PC3 Maximum 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	23.57	23.79	24.14	23.84	23.69	0	0
	1	25	23.59	23.71	24.05	23.83	23.71		0
	1	49	23.55	23.68	24.06	23.69	23.55		0
	25	0	22.66	22.92	23.28	23.05	22.92	0-1	1
	25	12	22.67	22.91	23.26	23.05	22.91		1
	25	25	22.58	22.85	23.21	22.95	22.83		1
	50	0	22.65	22.91	23.25	23.03	22.90		1
16QAM	1	0	22.79	23.15	23.39	23.06	22.98	0-1	1
	1	25	22.77	23.08	23.31	23.07	23.00		1
	1	49	22.81	23.03	23.29	22.93	22.86		1
	25	0	21.77	22.24	22.49	22.25	22.13	0-2	2
	25	12	21.75	22.22	22.46	22.23	22.12		2
	25	25	21.71	22.17	22.40	22.17	22.06		2
	50	0	21.77	22.21	22.45	22.24	22.14		2
64QAM	1	0	21.77	22.26	22.32	22.04	22.13	0-2	2
	1	25	21.74	22.20	22.30	21.88	22.08		2
	1	49	21.68	21.93	22.19	21.77	21.94		2
	25	0	21.09	21.40	21.59	21.36	21.33	0-3	3
	25	12	21.15	21.43	21.64	21.25	21.25		3
	25	25	21.09	21.44	21.55	21.19	21.20		3
	50	0	21.22	21.53	21.68	21.33	21.30		3

Table 9-68
LTE Band 41 PC3 Maximum 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	23.63	23.89	24.12	23.71	23.67	0	0
	1	12	23.73	23.95	24.19	23.71	23.68		0
	1	24	23.73	23.94	24.11	23.72	23.69		0
	12	0	22.79	22.97	23.10	22.79	22.84	0-1	1
	12	6	22.86	23.05	23.21	22.81	22.86		1
	12	13	22.86	23.03	23.28	22.85	22.82		1
	25	0	22.86	23.01	23.26	22.86	22.80		1
16QAM	1	0	22.94	23.11	23.34	22.99	22.96	0-1	1
	1	12	22.92	23.18	23.41	22.95	22.97		1
	1	24	22.92	23.22	23.39	22.96	22.96		1
	12	0	21.91	22.08	22.29	21.96	21.89	0-2	2
	12	6	21.97	22.17	22.35	21.94	21.92		2
	12	13	21.92	22.12	22.34	21.95	21.94		2
	25	0	22.06	22.22	22.43	22.10	22.00		2
64QAM	1	0	21.73	22.22	22.30	21.98	21.98	0-2	2
	1	12	21.69	22.30	22.31	22.00	22.00		2
	1	24	21.72	22.31	22.36	21.97	22.00		2
	12	0	21.04	21.54	21.48	21.25	21.20	0-3	3
	12	6	21.07	21.64	21.35	21.18	21.30		3
	12	13	20.99	21.53	21.38	21.28	21.25		3
	25	0	21.07	21.60	21.46	21.30	21.31		3

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Table 9-69
LTE Band 41 PC2 Maximum 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	25.87	25.90	25.89	25.99	25.93	0	0
	1	50	**26.21**	25.89	25.98	26.19	25.64		0
	1	99	26.13	25.89	25.90	26.09	25.37		0
	50	0	25.24	24.84	25.19	25.01	24.94	0-1	1
	50	25	**25.37**	24.95	25.15	25.03	24.83		1
	50	50	25.33	25.07	25.07	25.01	24.73		1
	100	0	25.21	24.80	24.98	24.88	24.68		1
16QAM	1	0	25.17	25.23	25.11	25.26	24.90	0-1	1
	1	50	25.37	25.20	25.20	25.25	24.91		1
	1	99	25.31	25.25	25.16	25.17	24.66		1
	50	0	24.25	23.99	24.22	24.07	23.94	0-2	2
	50	25	24.35	24.07	24.22	24.16	23.86		2
	50	50	24.34	24.15	24.15	24.21	23.68		2
	100	0	24.21	23.94	24.03	23.97	23.69		2
64QAM	1	0	23.71	23.72	23.60	23.35	23.46	0-2	2
	1	50	24.03	23.69	23.69	23.57	23.24		2
	1	99	24.03	23.71	23.82	23.45	23.03		2
	50	0	22.37	22.26	22.33	22.26	22.00	0-3	3
	50	25	22.38	22.28	22.33	22.27	21.95		3
	50	50	22.45	22.27	22.30	22.28	21.94		3
	100	0	22.38	22.25	22.28	22.30	21.95		3

Table 9-70
LTE Band 41 PC2 Maximum 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	26.01	25.93	26.13	26.20	25.73	0	0
	1	36	26.10	26.00	26.27	26.31	25.55		0
	1	74	26.13	25.95	26.09	26.24	25.33		0
	36	0	25.27	25.16	25.44	25.50	24.87	0-1	1
	36	18	25.33	25.20	25.44	25.57	24.82		1
	36	37	25.29	25.21	25.35	25.54	24.68		1
	75	0	25.19	25.15	25.34	25.50	24.73		1
16QAM	1	0	25.39	25.27	25.55	25.57	24.98	0-1	1
	1	36	25.47	25.23	25.57	25.65	24.84		1
	1	74	25.50	25.26	25.52	25.63	24.66		1
	36	0	24.30	24.09	24.44	24.52	23.80	0-2	2
	36	18	24.43	24.09	24.46	24.54	23.77		2
	36	37	24.37	24.11	24.38	24.49	23.68		2
	75	0	24.31	24.10	24.39	24.45	23.73		2
64QAM	1	0	23.52	23.30	23.69	23.69	23.18	0-2	2
	1	36	23.67	23.27	23.72	23.70	23.02		2
	1	74	23.73	23.31	23.64	23.68	23.03		2
	36	0	22.64	22.33	22.84	22.75	22.11	0-3	3
	36	18	22.81	22.35	22.89	22.76	22.09		3
	36	37	22.80	22.35	22.79	22.75	22.01		3
	75	0	22.70	22.31	22.76	22.70	22.00		3

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Table 9-71
LTE Band 41 PC2 Maximum 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	26.10	25.95	26.17	26.21	25.53	0	0
	1	25	26.06	26.02	26.26	26.36	25.52		0
	1	49	26.03	25.99	26.16	26.22	25.31		0
	25	0	25.30	25.15	25.50	25.47	24.77	0-1	1
	25	12	25.29	25.17	25.56	25.54	24.79		1
	25	25	25.24	25.17	25.46	25.48	24.72		1
	50	0	25.28	25.01	25.42	25.42	24.68		1
16QAM	1	0	25.52	25.19	25.61	25.61	24.98	0-1	1
	1	25	25.46	25.28	25.67	25.65	24.96		1
	1	49	25.43	25.28	25.60	25.63	24.78		1
	25	0	24.44	24.19	24.59	24.60	23.91	0-2	2
	25	12	24.44	24.25	24.65	24.68	23.92		2
	25	25	24.40	24.25	24.53	24.63	23.86		2
	50	0	24.41	24.16	24.49	24.58	23.80		2
64QAM	1	0	23.64	23.35	23.70	23.69	23.01	0-2	2
	1	25	23.75	23.43	23.72	23.79	23.01		2
	1	49	23.75	23.39	23.71	23.71	23.00		2
	25	0	22.69	22.30	22.78	22.70	22.04	0-3	3
	25	12	22.82	22.31	22.82	22.79	22.09		3
	25	25	22.81	22.31	22.77	22.79	22.00		3
	50	0	22.72	22.30	22.76	22.77	22.02		3

Table 9-72
LTE Band 41 PC2 Maximum 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	25.40	25.52	25.77	25.92	25.86	0	0
	1	12	25.38	25.50	25.73	25.97	25.84		0
	1	24	25.41	25.61	25.78	25.99	25.74		0
	12	0	24.55	24.70	24.81	25.00	24.94	0-1	1
	12	6	24.56	24.81	24.84	25.02	24.90		1
	12	13	24.57	24.81	24.87	25.04	24.88		1
	25	0	24.60	24.79	24.88	25.06	24.77		1
16QAM	1	0	24.68	24.84	25.05	25.27	25.07	0-1	1
	1	12	24.66	24.80	25.08	25.23	25.06		1
	1	24	24.74	24.93	25.08	25.28	24.98		1
	12	0	23.54	23.69	23.83	24.02	23.93	0-2	2
	12	6	23.54	23.79	23.83	24.02	23.98		2
	12	13	23.56	23.79	23.89	24.11	23.92		2
	25	0	23.58	23.82	23.82	24.02	23.77		2
64QAM	1	0	24.13	24.00	23.85	23.86	23.44	0-2	2
	1	12	24.16	24.07	23.92	23.95	23.43		2
	1	24	24.22	24.10	23.90	23.90	23.33		2
	12	0	22.62	22.64	22.45	22.42	22.13	0-3	3
	12	6	22.67	22.70	22.53	22.50	22.13		3
	12	13	22.66	22.66	22.46	22.46	22.10		3
	25	0	22.54	22.42	22.48	22.45	22.09		3

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Table 9-73
LTE Band 41 PC3 Reduced Conducted Powers - 20 MHz Bandwidth – Hotspot Mode/ Proximity Sensor and/or Earjack Mode Active

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	21.64	21.69	21.91	22.07	21.70	0	0
	1	50	21.41	21.74	**22.18**	21.99	21.69		0
	1	99	21.47	21.71	21.87	21.58	21.89		0
	50	0	21.63	21.94	22.15	22.15	21.91	0-1	0
	50	25	21.67	21.92	**22.16**	22.02	21.97		0
	50	50	21.69	21.74	22.05	21.85	21.94		0
	100	0	21.70	21.89	22.14	22.03	21.90		0
16QAM	1	0	21.62	21.66	21.88	21.77	21.76	0-1	0
	1	50	21.39	21.65	21.92	21.57	21.67		0
	1	99	21.51	21.77	21.87	22.18	21.88		0
	50	0	21.67	21.95	22.21	22.10	22.00	0-2	0
	50	25	21.73	21.95	22.11	21.95	22.03		0
	50	50	21.71	21.78	22.10	22.09	22.05		0
	100	0	21.74	21.95	22.16	21.96	22.07		0
64QAM	1	0	21.33	21.64	21.70	21.87	21.56	0-2	0
	1	50	21.32	21.46	21.69	21.67	21.51		0
	1	99	21.53	21.54	21.60	21.41	21.70		0
	50	0	21.32	21.63	21.88	21.81	21.56	0-3	0.2
	50	25	21.40	21.69	21.84	21.70	21.65		0.2
	50	50	21.37	21.57	21.82	21.65	21.62		0.2
	100	0	21.30	21.58	21.88	21.62	21.58		0.2

Table 9-74
LTE Band 41 PC3 Reduced Conducted Powers - 15 MHz Bandwidth – Hotspot Mode / Proximity Sensor and/or Earjack Mode Active

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	21.47	21.51	21.65	22.01	22.03	0	0
	1	36	21.45	21.50	21.59	22.07	22.02		0
	1	74	21.49	21.46	21.61	21.95	22.05		0
	36	0	21.52	21.62	21.71	22.15	21.98	0-1	0
	36	18	21.59	21.61	21.87	22.11	22.03		0
	36	37	21.57	21.56	21.95	22.01	22.06		0
	75	0	21.54	21.57	21.92	22.04	21.96		0
16QAM	1	0	21.71	21.74	21.98	22.17	21.75	0-1	0
	1	36	21.65	21.66	21.81	22.04	21.70		0
	1	74	21.72	21.55	21.75	21.88	21.81		0
	36	0	21.56	21.63	21.68	21.84	21.75	0-2	0
	36	18	21.65	21.71	21.57	21.82	21.73		0
	36	37	21.63	21.62	21.99	21.73	21.72		0
	75	0	21.54	21.55	21.67	21.70	21.68		0
64QAM	1	0	21.74	21.74	21.59	21.60	21.87	0-2	0
	1	36	21.63	21.75	21.88	21.47	21.71		0
	1	74	21.74	21.65	21.87	21.38	21.65		0
	36	0	21.21	21.28	21.66	21.35	21.32	0-3	0.2
	36	18	21.23	21.37	21.73	21.35	21.32		0.2
	36	37	21.22	21.31	21.70	21.29	21.22		0.2
	75	0	21.26	21.37	21.76	21.42	21.27		0.2

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Table 9-75
LTE Band 41 PC3 Reduced Conducted Powers - 10 MHz Bandwidth – Hotspot Mode/ Proximity Sensor and/or Earjack Mode Active

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	21.31	21.38	21.72	21.35	21.57	0	0
	1	25	21.22	21.32	21.65	21.35	21.48		0
	1	49	21.31	21.36	21.60	21.26	21.49		0
	25	0	21.35	21.40	21.59	21.42	21.62	0-1	0
	25	12	21.36	21.44	21.70	21.47	21.61		0
	25	25	21.35	21.39	21.69	21.44	21.55		0
	50	0	21.30	21.38	21.59	21.44	21.55		0
16QAM	1	0	21.38	21.24	21.60	21.37	21.48	0-1	0
	1	25	21.36	21.18	21.47	21.26	21.40		0
	1	49	21.30	21.27	21.52	21.28	21.38		0
	25	0	21.27	21.42	21.73	21.50	21.61	0-2	0
	25	12	21.35	21.43	21.75	21.45	21.57		0
	25	25	21.34	21.40	21.65	21.50	21.53		0
	50	0	21.34	21.43	21.67	21.46	21.56		0
64QAM	1	0	21.40	21.34	21.65	21.31	21.51	0-2	0
	1	25	21.33	21.29	21.53	21.21	21.34		0
	1	49	21.36	21.36	21.50	21.13	21.37		0
	25	0	20.96	21.08	21.37	21.13	21.16	0-3	0.2
	25	12	21.00	21.19	21.40	21.18	21.20		0.2
	25	25	21.05	21.08	21.54	21.08	21.11		0.2
	50	0	21.03	21.13	21.55	21.16	21.21		0.2

Table 9-76
LTE Band 41 PC3 Reduced Conducted Powers - 5 MHz Bandwidth – Hotspot Mode/ Proximity Sensor and/or Earjack Mode Active

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	21.62	21.56	21.52	21.30	21.67	0	0
	1	12	21.42	21.50	21.23	21.33	21.58		0
	1	24	21.41	21.54	21.29	21.34	21.59		0
	12	0	21.45	21.58	21.29	21.40	21.72	0-1	0
	12	6	21.46	21.64	21.40	21.49	21.71		0
	12	13	21.45	21.59	21.41	21.47	21.65		0
	25	0	21.40	21.58	21.29	21.45	21.65		0
16QAM	1	0	21.48	21.44	21.30	21.56	21.58	0-1	0
	1	12	21.46	21.50	21.27	21.53	21.50		0
	1	24	21.40	21.46	21.22	21.53	21.48		0
	12	0	21.37	21.62	21.43	21.41	21.71	0-2	0
	12	6	21.45	21.60	21.35	21.50	21.67		0
	12	13	21.44	21.60	21.35	21.48	21.63		0
	25	0	21.44	21.63	21.37	21.35	21.66		0
64QAM	1	0	21.50	21.54	21.35	21.26	21.61	0-2	0
	1	12	21.43	21.49	21.23	21.25	21.44		0
	1	24	21.46	21.56	21.20	21.27	21.47		0
	12	0	21.19	21.64	21.17	21.03	21.26	0-3	0.2
	12	6	21.27	21.49	21.23	21.08	21.30		0.2
	12	13	21.18	21.39	21.17	21.09	21.21		0.2
	25	0	21.19	21.41	21.16	21.20	21.31		0.2

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Table 9-77
LTE Band 41 PC2 Reduced Conducted Powers - 20 MHz Bandwidth – Hotspot Mode/ Proximity Sensor and/or Earjack Mode Active

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	23.72	23.84	23.90	24.01	24.11	0	0
	1	50	23.56	23.75	**24.21**	23.86	23.91		0
	1	99	23.70	23.83	23.76	24.06	23.79		0
	50	0	23.77	23.94	24.24	24.19	24.16	0-1	0
	50	25	23.81	24.00	**24.25**	24.12	24.10		0
	50	50	23.81	23.94	24.12	23.96	24.02		0
	100	0	23.75	24.01	24.00	24.08	24.11		0
16QAM	1	0	23.84	24.04	24.04	24.27	24.32	0-1	0
	1	50	23.70	23.90	24.12	24.18	24.04		0
	1	99	23.93	24.01	24.01	23.84	23.79		0
	50	0	23.88	24.02	24.22	23.73	23.72	0-2	0
	50	25	23.85	24.03	24.22	23.82	23.80		0
	50	50	23.82	23.92	24.08	23.87	23.90		0
	100	0	23.81	24.01	24.13	23.83	23.80		0
64QAM	1	0	23.35	23.50	23.41	23.51	23.40	0-2	0
	1	50	23.20	23.28	23.41	23.61	23.41		0
	1	99	23.25	23.09	23.31	23.54	23.46		0
	50	0	22.58	22.47	22.64	22.68	22.70	0-3	0.7
	50	25	22.43	22.48	22.65	22.77	22.72		0.7
	50	50	22.45	22.46	22.60	22.83	22.78		0.7
	100	0	22.28	22.45	22.63	22.76	22.77		0.7

Table 9-78
LTE Band 41 PC2 Reduced Conducted Powers - 15 MHz Bandwidth – Hotspot Mode/ Proximity Sensor and/or Earjack Mode Active

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	23.75	23.87	23.75	24.23	23.66	0	0
	1	36	23.75	23.86	23.70	24.09	23.66		0
	1	74	23.79	23.89	23.68	23.94	23.69		0
	36	0	23.80	23.93	23.88	24.17	23.75	0-1	0
	36	18	23.75	24.00	23.87	24.17	23.77		0
	36	37	23.60	23.94	23.87	24.08	23.78		0
	75	0	23.67	23.95	23.87	24.11	23.78		0
16QAM	1	0	24.18	24.01	24.00	24.35	24.06	0-1	0
	1	36	24.05	23.98	23.97	24.23	23.97		0
	1	74	24.18	23.91	23.92	24.25	24.07		0
	36	0	23.94	23.88	23.90	24.18	23.79	0-2	0
	36	18	23.95	23.79	23.94	24.17	23.83		0
	36	37	23.99	23.70	23.90	24.07	23.70		0
	75	0	23.87	23.83	23.92	24.11	23.69		0
64QAM	1	0	23.43	23.43	23.64	23.85	23.50	0-2	0
	1	36	23.35	23.52	23.71	23.45	23.41		0
	1	74	23.37	23.36	23.62	23.40	23.20		0
	36	0	22.55	22.54	22.78	22.68	23.12	0-3	0.7
	36	18	22.82	22.63	22.89	22.70	22.88		0.7
	36	37	22.72	22.64	22.82	22.83	22.74		0.7
	75	0	22.62	22.59	22.74	22.74	22.70		0.7

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Table 9-79
LTE Band 41 PC2 Reduced Conducted Powers - 10 MHz Bandwidth – Hotspot Mode/Proximity Sensor and/or Earjack Mode Active

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	23.71	23.74	23.71	23.96	23.72	0	0
	1	25	23.73	23.74	23.63	23.88	23.69		0
	1	49	23.74	23.86	23.58	23.84	23.58		0
	25	0	23.80	23.98	23.82	24.08	23.92	0-1	0
	25	12	23.82	23.98	23.77	24.04	23.89		0
	25	25	23.83	23.96	23.70	24.01	23.84		0
	50	0	23.81	23.96	23.67	24.02	23.83		0
16QAM	1	0	24.11	24.05	23.94	24.17	24.00	0-1	0
	1	25	24.12	24.07	24.00	24.13	23.94		0
	1	49	24.12	24.00	23.83	24.14	23.87		0
	25	0	23.84	23.98	23.86	24.09	23.90	0-2	0
	25	12	23.88	24.05	23.82	24.09	23.91		0
	25	25	23.75	23.98	23.77	24.12	23.86		0
	50	0	23.74	23.91	23.86	24.12	23.89		0
64QAM	1	0	23.55	23.60	23.43	23.30	23.22	0-2	0
	1	25	23.46	23.57	23.37	23.29	23.21		0
	1	49	23.25	23.52	23.35	23.38	23.15		0
	25	0	22.67	23.45	22.72	22.53	22.78	0-3	0.7
	25	12	22.45	23.54	22.82	22.68	22.67		0.7
	25	25	22.59	23.32	22.74	22.64	22.64		0.7
	50	0	22.55	23.44	22.60	22.75	22.75		0.7

Table 9-80
LTE Band 41 PC2 Reduced Conducted Powers - 5 MHz Bandwidth – Hotspot Mode/ Proximity Sensor and/or Earjack Mode Active

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	23.69	23.65	23.66	23.59	23.64	0	0
	1	12	23.67	23.61	23.64	23.64	23.61		0
	1	24	23.57	23.54	23.46	23.51	23.59		0
	12	0	23.64	23.88	23.69	23.72	23.60	0-1	0
	12	6	23.81	23.80	23.57	23.67	23.67		0
	12	13	23.70	23.85	23.62	23.74	23.67		0
	25	0	23.84	23.79	23.69	23.61	23.68		0
16QAM	1	0	23.88	23.82	23.71	23.84	23.84	0-1	0
	1	12	23.91	23.82	23.72	23.90	23.87		0
	1	24	23.92	23.68	23.59	23.84	23.97		0
	12	0	23.79	23.58	23.64	23.76	23.67	0-2	0
	12	6	23.84	23.73	23.56	23.72	23.73		0
	12	13	23.76	23.77	23.63	23.67	23.54		0
	25	0	23.83	23.76	23.54	23.76	23.59		0
64QAM	1	0	23.61	23.64	23.47	23.53	23.39	0-2	0
	1	12	23.51	23.63	23.54	23.57	23.31		0
	1	24	23.51	23.80	23.51	23.55	23.10		0
	12	0	22.75	23.74	23.08	23.01	22.84	0-3	0.7
	12	6	22.64	23.81	23.00	22.87	22.78		0.7
	12	13	22.63	23.79	22.97	22.98	22.64		0.7
	25	0	22.66	22.94	22.82	22.81	22.77		0.7

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9.5 WLAN Conducted Powers

Table 9-81
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
		Average	Average	Average
2412	1	21.89	16.19	16.11
2417	2	N/A	21.97	21.73
2437	6	21.92	21.99	21.83
2447	8	N/A	21.82	21.67
2462	11	21.66	18.49	18.39

Table 9-82
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
		Average	Average	Average
2412	1	21.67	16.29	16.10
2417	2	N/A	21.67	21.95
2437	6	21.96	21.98	21.98
2447	8	N/A	21.77	21.86
2462	11	21.69	18.30	18.22

Table 9-83
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	17.71	17.99	16.96
5200	40	17.96	17.76	16.79
5220	44	17.89	17.61	16.61
5240	48	17.87	17.74	16.63
5260	52	17.90	17.78	16.68
5280	56	17.82	17.66	16.64
5300	60	17.97	17.76	16.70
5320	64	17.77	17.62	16.98
5500	100	17.99	17.83	16.78
5600	120	17.95	17.86	16.87
5620	124	17.93	17.75	16.82
5720	144	17.94	17.81	16.83
5745	149	17.67	17.98	16.97
5785	157	17.98	17.90	16.87
5825	165	17.97	17.88	16.93

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Table 9-84
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	17.95	17.85	16.83
5200	40	17.97	17.94	16.91
5220	44	17.91	17.66	16.66
5240	48	17.92	17.81	16.73
5260	52	17.48	17.98	16.51
5280	56	17.98	17.91	16.86
5300	60	17.52	17.93	16.94
5320	64	17.61	17.97	16.98
5500	100	17.96	17.82	16.73
5600	120	17.87	17.71	16.66
5620	124	17.74	17.72	16.98
5720	144	17.78	17.78	16.62
5745	149	17.56	17.45	16.91
5785	157	17.83	17.65	16.97
5825	165	17.55	17.98	16.93

Table 9-85
5 GHz WLAN Maximum Average RF Power – MIMO

5GHz (20MHz) 802.11n Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
5180	36	17.99	17.85	20.93
5200	40	17.76	17.94	20.86
5220	44	17.61	17.66	20.65
5240	48	17.74	17.81	20.79
5260	52	17.78	17.98	20.89
5280	56	17.66	17.91	20.80
5300	60	17.76	17.93	20.86
5320	64	17.62	17.97	20.81
5500	100	17.83	17.82	20.84
5600	120	17.86	17.71	20.80
5620	124	17.75	17.72	20.75
5720	144	17.81	17.78	20.81
5745	149	17.98	17.45	20.73
5785	157	17.90	17.65	20.79
5825	165	17.88	17.98	20.94

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Table 9-86
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
		Average	Average	Average
2412	1	12.59	12.92	12.79
2437	6	12.66	12.87	12.73
2462	11	12.47	12.43	12.30

Table 9-87
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
		Average	Average	Average
2412	1	12.83	12.69	12.60
2437	6	12.15	12.66	12.60
2462	11	12.53	12.59	12.42

Table 9-88
5 GHz WLAN Reduced Average RF Power – Ant 1

5GHz (80MHz) Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11ac
		Average
5210	42	10.97
5290	58	10.97
5530	106	10.41
5610	122	10.53
5690	138	10.71
5775	155	10.72

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Table 9-89
5 GHz WLAN Reduced Average RF Power – Ant 2

5GHz (80MHz) Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11ac
		Average
5210	42	10.72
5290	58	10.69
5530	106	10.55
5610	122	10.47
5690	138	10.54
5775	155	10.72

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.

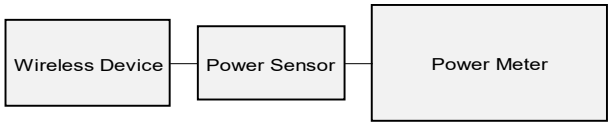


Figure 9-4
Power Measurement Setup

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9.6 Bluetooth Conducted Powers

Table 9-90
Bluetooth Average RF Power

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
			[dBm]	[mW]
2402	1.0	0	16.23	42.015
2441	1.0	39	17.89	61.489
2480	1.0	78	16.24	42.073
2402	2.0	0	14.50	28.177
2441	2.0	39	16.17	41.410
2480	2.0	78	14.53	28.373
2402	3.0	0	14.55	28.517
2441	3.0	39	16.31	42.756
2480	3.0	78	14.57	28.635

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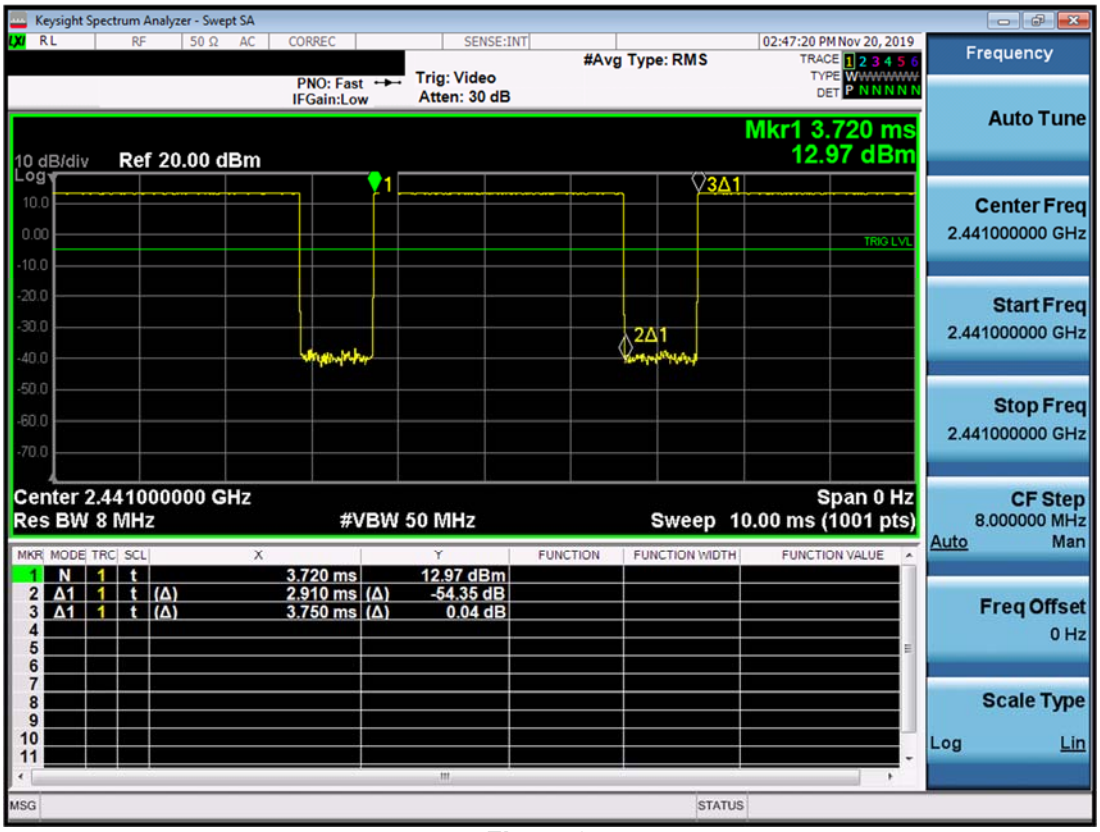


Figure 9-5
Bluetooth Transmission Plot

Equation 9-1
Bluetooth Duty Cycle Calculation

$$\boldsymbol{Duty\ Cycle} = \frac{\boldsymbol{Pulse\ Width}}{\boldsymbol{Period}} * \mathbf{100\%} = \frac{\mathbf{2.91}\boldsymbol{ms}}{\mathbf{3.75}\boldsymbol{ms}} * \mathbf{100\%} = \mathbf{77.6\%}$$

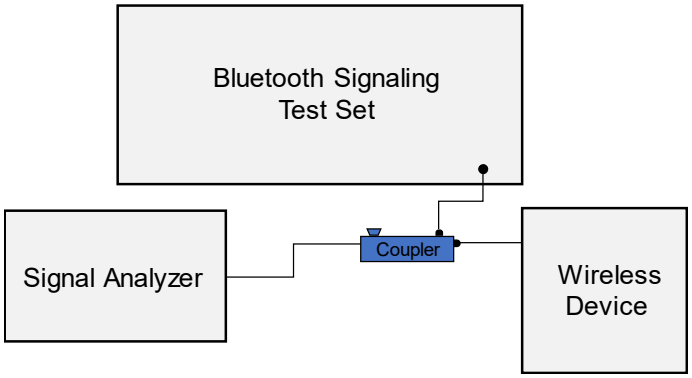


Figure 9-6
Power Measurement Setup

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10 SYSTEM VERIFICATION

10.1 Tissue Verification

Table 10-1
Measured Tissue Properties - Head

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (°C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
01/13/2020	750 Head	21	680	0.867	40.507	0.888	42.305	-2.36%	-4.25%
			695	0.873	40.465	0.889	42.227	-1.80%	-4.17%
			700	0.874	40.449	0.889	42.201	-1.69%	-4.15%
			710	0.878	40.415	0.890	42.149	-1.35%	-4.11%
			725	0.883	40.369	0.891	42.071	-0.90%	-4.05%
			740	0.888	40.318	0.893	41.994	-0.56%	-3.99%
			750	0.892	40.283	0.894	41.942	-0.22%	-3.96%
			755	0.894	40.267	0.894	41.916	0.00%	-3.93%
			770	0.899	40.221	0.895	41.838	0.45%	-3.86%
			785	0.905	40.183	0.896	41.760	1.00%	-3.78%
			800	0.910	40.145	0.897	41.682	1.45%	-3.69%
01/13/2020	835 Head	20.9	820	0.908	40.192	0.899	41.578	1.00%	-3.33%
			835	0.913	40.142	0.900	41.500	1.44%	-3.27%
			850	0.919	40.091	0.916	41.500	0.33%	-3.40%
01/18/2020	835 Head	20.5	820	0.907	40.769	0.899	41.578	0.89%	-1.95%
			835	0.914	40.726	0.900	41.500	1.56%	-1.87%
			850	0.919	40.674	0.916	41.500	0.33%	-1.99%
01/20/2020	835 Head	20.6	820	0.903	39.830	0.899	41.578	0.44%	-4.20%
			835	0.909	39.769	0.900	41.500	1.00%	-4.17%
			850	0.915	39.710	0.916	41.500	-0.11%	-4.31%
01/01/2020	1750 Head	21.2	1710	1.317	39.588	1.348	40.142	-2.30%	-1.38%
			1720	1.323	39.572	1.354	40.126	-2.29%	-1.38%
			1745	1.341	39.534	1.368	40.087	-1.97%	-1.38%
			1750	1.345	39.526	1.371	40.079	-1.90%	-1.38%
			1770	1.357	39.492	1.383	40.047	-1.88%	-1.39%
			1790	1.368	39.449	1.394	40.016	-1.87%	-1.42%
01/02/2020	1900 Head	20.6	1850	1.427	40.536	1.400	40.000	1.93%	1.34%
			1860	1.433	40.523	1.400	40.000	2.36%	1.31%
			1880	1.444	40.488	1.400	40.000	3.14%	1.22%
			1900	1.457	40.475	1.400	40.000	4.07%	1.19%
			1905	1.460	40.472	1.400	40.000	4.29%	1.18%
			1910	1.463	40.459	1.400	40.000	4.50%	1.15%
01/01/2020	2450 Head	21.7	2300	1.730	38.416	1.670	39.500	3.59%	-2.74%
			2310	1.738	38.400	1.679	39.480	3.51%	-2.74%
			2320	1.746	38.387	1.687	39.460	3.50%	-2.72%
			2400	1.804	38.269	1.756	39.289	2.73%	-2.60%
			2450	1.842	38.193	1.800	39.200	2.33%	-2.57%
			2500	1.882	38.099	1.855	39.136	1.46%	-2.65%
01/10/2020	2450 Head	22.1	2400	1.734	39.666	1.756	39.289	-1.25%	0.96%
			2450	1.773	39.585	1.800	39.200	-1.50%	0.98%
			2500	1.809	39.516	1.855	39.136	-2.48%	0.97%
01/03/2020	2450 Head	24	2500	1.886	38.704	1.855	39.136	1.67%	-1.10%
			2510	1.895	38.672	1.866	39.123	1.55%	-1.15%
			2535	1.918	38.636	1.893	39.092	1.32%	-1.17%
			2550	1.928	38.614	1.909	39.073	1.00%	-1.17%
			2560	1.934	38.607	1.920	39.060	0.73%	-1.16%
			2600	1.967	38.548	1.964	39.009	0.15%	-1.18%
			2650	2.006	38.458	2.018	38.945	-0.59%	-1.25%
01/10/2020	2450 Head	23.2	2500	1.853	37.413	1.855	39.136	-0.11%	-4.40%
			2510	1.861	37.400	1.866	39.123	-0.27%	-4.40%
			2535	1.881	37.360	1.893	39.092	-0.63%	-4.43%
			2550	1.893	37.336	1.909	39.073	-0.84%	-4.45%
			2560	1.901	37.322	1.920	39.060	-0.99%	-4.45%
			2600	1.930	37.273	1.964	39.009	-1.73%	-4.45%
			2650	1.970	37.193	2.018	38.945	-2.38%	-4.50%
			2680	1.994	37.144	2.051	38.907	-2.78%	-4.53%
			2700	2.009	37.110	2.073	38.882	-3.09%	-4.56%
01/13/2020	5200-5800 Head	21.5	5180	4.606	35.800	4.635	36.009	-0.63%	-0.58%
			5190	4.615	35.795	4.645	35.998	-0.65%	-0.56%
			5200	4.625	35.781	4.655	35.986	-0.64%	-0.57%
			5210	4.635	35.759	4.666	35.975	-0.66%	-0.60%
			5220	4.647	35.732	4.676	35.963	-0.62%	-0.64%
			5240	4.673	35.677	4.696	35.940	-0.49%	-0.73%
			5250	4.685	35.654	4.706	35.929	-0.45%	-0.77%
			5260	4.699	35.632	4.717	35.917	-0.38%	-0.79%
			5270	4.713	35.616	4.727	35.906	-0.30%	-0.81%
			5280	4.726	35.605	4.737	35.894	-0.23%	-0.81%
			5290	4.736	35.593	4.748	35.883	-0.25%	-0.81%
			5300	4.748	35.583	4.758	35.871	-0.21%	-0.80%
			5310	4.756	35.562	4.768	35.860	-0.25%	-0.83%
			5320	4.766	35.541	4.778	35.849	-0.25%	-0.86%
			5500	4.977	35.202	4.963	35.643	0.28%	-1.24%
			5510	4.992	35.192	4.973	35.632	0.38%	-1.23%
			5520	5.004	35.187	4.983	35.620	0.42%	-1.22%
			5530	5.014	35.177	4.994	35.609	0.40%	-1.21%
			5540	5.022	35.159	5.004	35.597	0.36%	-1.23%
			5550	5.028	35.134	5.014	35.586	0.28%	-1.27%
			5560	5.036	35.102	5.024	35.574	0.24%	-1.33%
			5580	5.064	35.049	5.045	35.551	0.38%	-1.41%
			5600	5.094	35.009	5.065	35.529	0.57%	-1.46%
			5610	5.106	34.997	5.076	35.518	0.59%	-1.47%
			5620	5.120	34.987	5.086	35.506	0.67%	-1.46%
			5640	5.146	34.969	5.106	35.483	0.78%	-1.45%
			5660	5.164	34.928	5.127	35.460	0.72%	-1.50%
			5670	5.173	34.905	5.137	35.449	0.70%	-1.53%
			5680	5.185	34.873	5.147	35.437	0.74%	-1.59%
			5690	5.199	34.847	5.158	35.426	0.79%	-1.63%
			5700	5.213	34.822	5.168	35.414	0.87%	-1.67%
			5710	5.227	34.808	5.178	35.403	0.95%	-1.68%
			5720	5.241	34.797	5.188	35.391	1.02%	-1.68%
			5745	5.273	34.772	5.214	35.363	1.13%	-1.67%
			5750	5.278	34.766	5.219	35.357	1.13%	-1.67%
			5755	5.283	34.759	5.224	35.351	1.13%	-1.67%
			5765	5.293	34.745	5.234	35.340	1.13%	-1.68%
			5775	5.303	34.719	5.245	35.329	1.11%	-1.73%
			5785	5.312	34.694	5.255	35.317	1.08%	-1.76%
			5795	5.324	34.665	5.265	35.305	1.12%	-1.81%
			5800	5.329	34.654	5.270	35.300	1.12%	-1.83%
			5805	5.338	34.647	5.275	35.294	1.19%	-1.83%
			5825	5.364	34.614	5.296	35.271	1.28%	-1.86%

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Table 10-2
Measured Tissue Body

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (°C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	%dev σ	%dev ε
01/06/2020	750 Body	21.1	680	0.919	54.560	0.958	55.804	-4.07%	-2.23%
			695	0.924	54.521	0.959	55.745	-3.65%	-2.20%
			700	0.926	54.509	0.959	55.726	-3.44%	-2.18%
			710	0.929	54.487	0.960	55.687	-3.23%	-2.15%
			725	0.935	54.443	0.961	55.629	-2.71%	-2.13%
			740	0.941	54.404	0.963	55.570	-2.28%	-2.10%
			750	0.945	54.380	0.964	55.531	-1.97%	-2.07%
			755	0.946	54.366	0.964	55.512	-1.87%	-2.06%
			770	0.952	54.330	0.965	55.453	-1.35%	-2.03%
			785	0.958	54.295	0.966	55.395	-0.83%	-1.99%
			800	0.964	54.260	0.967	55.336	-0.31%	-1.94%
1/15/2020	835 Body	21.1	820	0.988	53.493	0.969	55.258	1.96%	-3.19%
			835	0.995	53.458	0.970	55.200	2.58%	-3.16%
			850	1.002	53.423	0.988	55.154	1.42%	-3.14%
1/18/2020	835 Body	19.8	820	0.967	53.174	0.969	55.258	-0.21%	-3.77%
			835	0.974	53.129	0.970	55.200	0.41%	-3.75%
			850	0.982	53.088	0.988	55.154	-0.61%	-3.75%
01/03/2020	1750 Body	20.4	1710	1.492	53.174	1.463	53.537	1.98%	-0.68%
			1720	1.505	53.132	1.469	53.511	2.45%	-0.71%
			1745	1.534	53.023	1.485	53.445	3.30%	-0.79%
			1750	1.540	53.000	1.488	53.432	3.49%	-0.81%
			1770	1.562	52.907	1.501	53.379	4.06%	-0.88%
			1790	1.583	52.818	1.514	53.326	4.56%	-0.95%
01/13/2020	1750 Body	20.8	1710	1.415	53.796	1.463	53.537	-3.28%	0.48%
			1720	1.427	53.763	1.469	53.511	-2.86%	0.47%
			1745	1.454	53.672	1.485	53.445	-2.09%	0.42%
			1750	1.459	53.654	1.488	53.432	-1.95%	0.42%
			1770	1.479	53.579	1.501	53.379	-1.47%	0.37%
			1790	1.500	53.506	1.514	53.326	-0.92%	0.34%
01/17/2020	1750 Body	21.0	1710	1.460	53.723	1.463	53.537	-0.21%	0.35%
			1720	1.472	53.679	1.469	53.511	0.20%	0.31%
			1745	1.500	53.579	1.485	53.445	1.01%	0.25%
			1750	1.505	53.556	1.488	53.432	1.14%	0.23%
			1770	1.525	53.466	1.501	53.379	1.60%	0.16%
			1790	1.546	53.379	1.514	53.326	2.11%	0.10%
01/01/2020	1900 Body	23.0	1850	1.528	50.919	1.520	53.300	0.53%	-4.47%
			1860	1.539	50.883	1.520	53.300	1.25%	-4.53%
			1880	1.560	50.821	1.520	53.300	2.63%	-4.65%
			1900	1.582	50.760	1.520	53.300	4.08%	-4.77%
			1905	1.587	50.743	1.520	53.300	4.41%	-4.80%
			1910	1.593	50.726	1.520	53.300	4.80%	-4.83%
01/09/2020	1900 Body	24.3	1850	1.495	52.292	1.520	53.300	-1.64%	-1.89%
			1860	1.505	52.263	1.520	53.300	-0.99%	-1.95%
			1880	1.526	52.202	1.520	53.300	0.39%	-2.06%
			1900	1.548	52.138	1.520	53.300	1.84%	-2.18%
			1905	1.553	52.119	1.520	53.300	2.17%	-2.22%
			1910	1.559	52.102	1.520	53.300	2.57%	-2.25%
01/12/2020	1900 Body	23.8	1850	1.507	52.158	1.520	53.300	-0.86%	-2.14%
			1860	1.517	52.129	1.520	53.300	-0.20%	-2.20%
			1880	1.538	52.070	1.520	53.300	1.18%	-2.31%
			1900	1.560	52.007	1.520	53.300	2.63%	-2.43%
			1905	1.566	51.991	1.520	53.300	3.03%	-2.46%
			1910	1.571	51.974	1.520	53.300	3.36%	-2.49%
01/13/2020	1900 Body	22.5	1850	1.523	51.243	1.520	53.300	0.20%	-3.86%
			1860	1.535	51.250	1.520	53.300	0.99%	-3.85%
			1880	1.558	51.254	1.520	53.300	2.50%	-3.84%
			1900	1.579	51.161	1.520	53.300	3.88%	-4.01%
			1905	1.584	51.120	1.520	53.300	4.21%	-4.09%
			1910	1.589	51.076	1.520	53.300	4.54%	-4.17%
01/15/2020	1900 Body	24.8	1850	1.487	52.310	1.520	53.300	-2.17%	-1.86%
			1860	1.497	52.278	1.520	53.300	-1.51%	-1.92%
			1880	1.519	52.212	1.520	53.300	-0.07%	-2.04%
			1900	1.542	52.146	1.520	53.300	1.45%	-2.17%
			1905	1.547	52.128	1.520	53.300	1.78%	-2.20%
			1910	1.553	52.109	1.520	53.300	2.17%	-2.23%
01/15/2020	1900 Body	22.2	1850	1.525	51.093	1.520	53.300	0.33%	-4.14%
			1860	1.536	51.055	1.520	53.300	1.05%	-4.21%
			1880	1.557	50.987	1.520	53.300	2.43%	-4.34%
			1900	1.578	50.921	1.520	53.300	3.82%	-4.46%
			1905	1.584	50.904	1.520	53.300	4.21%	-4.50%
			1910	1.589	50.886	1.520	53.300	4.54%	-4.53%
01/22/2020	1900 Body	23.8	1850	1.506	51.968	1.520	53.300	-0.92%	-2.50%
			1860	1.516	51.933	1.520	53.300	-0.26%	-2.56%
			1880	1.538	51.861	1.520	53.300	1.18%	-2.70%
			1900	1.560	51.782	1.520	53.300	2.63%	-2.85%
			1905	1.565	51.761	1.520	53.300	2.96%	-2.89%
			1910	1.570	51.742	1.520	53.300	3.29%	-2.92%

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Table 10-3
Measured Tissue Properties – Body Continued

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (˚C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	%dev σ	%dev ε
12/30/2019	2400 Body	23.6	2400	1.980	51.217	1.902	52.767	4.10%	-2.94%
			2450	2.041	51.070	1.950	52.700	4.67%	-3.09%
			2500	2.099	50.917	2.021	52.636	3.86%	-3.27%
01/13/2020	2400 Body	21.9	2300	1.837	50.989	1.809	52.900	1.55%	-3.61%
			2310	1.849	50.961	1.816	52.887	1.82%	-3.64%
			2320	1.860	50.934	1.826	52.873	1.86%	-3.67%
01/17/2020	2400 Body	22.9	2400	1.982	51.363	1.902	52.767	4.21%	-2.66%
			2450	2.043	51.219	1.950	52.700	4.77%	-2.81%
			2500	2.099	51.069	2.021	52.636	3.86%	-2.98%
			2510	2.111	51.039	2.035	52.623	3.73%	-3.01%
			2535	2.140	50.960	2.071	52.592	3.33%	-3.10%
			2550	2.159	50.916	2.092	52.573	3.20%	-3.15%
			2560	2.171	50.889	2.106	52.560	3.09%	-3.18%
			2600	2.218	50.777	2.163	52.509	2.54%	-3.30%
			2650	2.279	50.624	2.234	52.445	2.01%	-3.47%
			2680	2.315	50.536	2.277	52.407	1.67%	-3.57%
			2700	2.339	50.474	2.305	52.382	1.48%	-3.64%
01/20/2020	2400 Body	24.1	2300	1.857	51.362	1.809	52.900	2.65%	-2.91%
			2310	1.869	51.335	1.816	52.887	2.92%	-2.93%
			2320	1.881	51.310	1.826	52.873	3.01%	-2.96%
			2400	1.973	51.106	1.902	52.767	3.73%	-3.15%
			2450	2.034	50.961	1.950	52.700	4.31%	-3.30%
			2500	2.093	50.804	2.021	52.636	3.56%	-3.48%
			2510	2.105	50.771	2.035	52.623	3.44%	-3.52%
			2535	2.135	50.687	2.071	52.592	3.09%	-3.62%
			2550	2.153	50.645	2.092	52.573	2.92%	-3.67%
			2560	2.165	50.617	2.106	52.560	2.80%	-3.70%
			2600	2.212	50.494	2.163	52.509	2.27%	-3.84%
			2650	2.273	50.314	2.234	52.445	1.75%	-4.06%
			2680	2.309	50.231	2.277	52.407	1.41%	-4.15%
			2700	2.333	50.169	2.305	52.382	1.21%	-4.22%
01/20/2020	2400 Body	21.8	2300	1.778	51.477	1.809	52.900	-1.71%	-2.69%
			2310	1.790	51.442	1.816	52.887	-1.43%	-2.73%
			2320	1.802	51.408	1.826	52.873	-1.31%	-2.77%
			2400	1.904	51.125	1.902	52.767	0.11%	-3.11%
			2450	1.968	50.949	1.950	52.700	0.92%	-3.32%
			2500	2.037	50.770	2.021	52.636	0.79%	-3.55%
			2510	2.050	50.737	2.035	52.623	0.74%	-3.58%
			2535	2.085	50.645	2.071	52.592	0.68%	-3.70%
			2550	2.106	50.585	2.092	52.573	0.67%	-3.78%
			2560	2.121	50.544	2.106	52.560	0.71%	-3.84%
			2600	2.178	50.401	2.163	52.509	0.69%	-4.01%
			2650	2.248	50.211	2.234	52.445	0.63%	-4.26%
			2680	2.289	50.091	2.277	52.407	0.53%	-4.42%
			2700	2.317	50.017	2.305	52.382	0.52%	-4.51%
01/22/2020	2400 Body	22.5	2400	1.934	51.515	1.902	52.767	1.68%	-2.37%
			2450	2.010	51.325	1.950	52.700	3.08%	-2.61%
			2500	2.076	51.117	2.021	52.636	2.72%	-2.89%
			2510	2.092	51.070	2.035	52.623	2.80%	-2.95%
			2535	2.134	50.969	2.071	52.592	3.04%	-3.09%
			2550	2.156	50.924	2.092	52.573	3.06%	-3.14%
			2560	2.170	50.895	2.106	52.560	3.04%	-3.17%
			2600	2.227	50.726	2.163	52.509	2.96%	-3.40%
			2650	2.302	50.541	2.234	52.445	3.04%	-3.63%
			2680	2.338	50.430	2.277	52.407	2.68%	-3.77%
			2700	2.364	50.326	2.305	52.382	2.56%	-3.93%
01/22/2020	2400 Body	22.4	2300	1.813	51.711	1.809	52.900	0.22%	-2.25%
			2310	1.824	51.679	1.816	52.887	0.44%	-2.28%
			2320	1.836	51.653	1.826	52.873	0.55%	-2.31%
			2400	1.919	51.443	1.902	52.767	0.89%	-2.51%
			2450	1.983	51.313	1.950	52.700	1.69%	-2.63%
			2500	2.038	51.161	2.021	52.636	0.84%	-2.80%
			2510	2.051	51.127	2.035	52.623	0.79%	-2.84%
			2535	2.087	51.058	2.071	52.592	0.77%	-2.92%
			2550	2.106	51.031	2.092	52.573	0.67%	-2.93%
			2560	2.117	51.012	2.106	52.560	0.52%	-2.95%
			2600	2.164	50.885	2.163	52.509	0.05%	-3.09%
			2650	2.228	50.750	2.234	52.445	-0.27%	-3.23%
			2680	2.256	50.665	2.277	52.407	-0.92%	-3.32%
			2700	2.278	50.578	2.305	52.382	-1.17%	-3.44%

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Table 10-4
Measured Tissue Properties – Body Continued

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (°C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
			5180	5.394	47.031	5.276	49.041	2.24%	-4.10%
			5190	5.407	47.011	5.288	49.028	2.25%	-4.11%
			5200	5.419	46.993	5.299	49.014	2.26%	-4.12%
			5210	5.429	46.968	5.311	49.001	2.22%	-4.15%
			5220	5.435	46.971	5.323	48.987	2.10%	-4.12%
			5240	5.463	46.953	5.346	48.960	2.19%	-4.10%
			5250	5.478	46.920	5.358	48.947	2.24%	-4.14%
			5260	5.490	46.897	5.369	48.933	2.25%	-4.16%
			5270	5.502	46.889	5.381	48.919	2.25%	-4.15%
			5280	5.524	46.878	5.393	48.906	2.43%	-4.15%
			5290	5.545	46.848	5.404	48.892	2.61%	-4.18%
			5300	5.557	46.819	5.416	48.879	2.60%	-4.21%
			5310	5.565	46.803	5.428	48.865	2.52%	-4.22%
			5320	5.571	46.794	5.439	48.851	2.43%	-4.21%
			5500	5.816	46.501	5.650	48.607	2.94%	-4.33%
			5510	5.829	46.481	5.661	48.594	2.97%	-4.35%
			5520	5.840	46.480	5.673	48.580	2.94%	-4.32%
			5530	5.855	46.474	5.685	48.566	2.99%	-4.31%
			5540	5.865	46.458	5.696	48.553	2.97%	-4.31%
			5550	5.871	46.433	5.708	48.539	2.86%	-4.34%
			5560	5.881	46.423	5.720	48.526	2.81%	-4.33%
12/29/2019	5200-5800 Body	22.9	5580	5.918	46.395	5.743	48.499	3.05%	-4.34%
			5600	5.948	46.339	5.766	48.471	3.16%	-4.40%
			5610	5.961	46.322	5.778	48.458	3.17%	-4.41%
			5620	5.980	46.308	5.790	48.444	3.28%	-4.41%
			5640	6.009	46.277	5.813	48.417	3.37%	-4.42%
			5660	6.031	46.263	5.837	48.390	3.32%	-4.40%
			5670	6.048	46.260	5.848	48.376	3.42%	-4.37%
			5680	6.058	46.231	5.860	48.363	3.38%	-4.41%
			5690	6.070	46.210	5.872	48.349	3.37%	-4.42%
			5700	6.085	46.197	5.883	48.336	3.43%	-4.43%
			5710	6.102	46.196	5.895	48.322	3.51%	-4.40%
			5720	6.122	46.182	5.907	48.309	3.64%	-4.40%
			5745	6.153	46.103	5.936	48.275	3.66%	-4.50%
			5750	6.158	46.092	5.942	48.268	3.64%	-4.51%
			5755	6.164	46.088	5.947	48.261	3.65%	-4.50%
			5765	6.180	46.087	5.959	48.248	3.71%	-4.48%
			5775	6.198	46.081	5.971	48.234	3.80%	-4.46%
			5785	6.213	46.063	5.982	48.220	3.86%	-4.47%
			5795	6.226	46.045	5.994	48.207	3.87%	-4.48%
			5800	6.234	46.039	6.000	48.200	3.90%	-4.48%
			5805	6.242	46.039	6.006	48.193	3.93%	-4.47%
			5825	6.272	46.002	6.029	48.166	4.03%	-4.49%
			5180	5.370	48.460	5.276	49.041	1.78%	-1.18%
			5190	5.382	48.461	5.288	49.028	1.78%	-1.16%
			5200	5.398	48.459	5.299	49.014	1.87%	-1.13%
			5210	5.411	48.427	5.311	49.001	1.88%	-1.17%
			5220	5.422	48.388	5.323	48.987	1.86%	-1.22%
			5240	5.449	48.348	5.346	48.960	1.93%	-1.25%
			5250	5.465	48.326	5.358	48.947	2.00%	-1.27%
			5260	5.478	48.294	5.369	48.933	2.03%	-1.31%
			5270	5.489	48.280	5.381	48.919	2.01%	-1.31%
			5280	5.501	48.279	5.393	48.906	2.00%	-1.28%
			5290	5.513	48.285	5.404	48.892	2.02%	-1.24%
			5300	5.527	48.289	5.416	48.879	2.05%	-1.21%
			5310	5.538	48.278	5.428	48.865	2.03%	-1.20%
			5320	5.550	48.252	5.439	48.851	2.04%	-1.23%
			5500	5.781	47.928	5.650	48.607	2.32%	-1.40%
			5510	5.795	47.913	5.661	48.594	2.37%	-1.40%
			5520	5.812	47.911	5.673	48.580	2.45%	-1.38%
			5530	5.827	47.915	5.685	48.566	2.50%	-1.34%
			5540	5.839	47.911	5.696	48.553	2.51%	-1.32%
			5550	5.849	47.892	5.708	48.539	2.47%	-1.33%
			5560	5.857	47.856	5.720	48.526	2.40%	-1.38%
01/19/2020	5200-5800 Body	22.5	5580	5.882	47.790	5.743	48.499	2.42%	-1.46%
			5600	5.918	47.763	5.766	48.471	2.64%	-1.46%
			5610	5.931	47.747	5.778	48.458	2.65%	-1.47%
			5620	5.942	47.735	5.790	48.444	2.63%	-1.46%
			5640	5.976	47.743	5.813	48.417	2.80%	-1.39%
			5660	6.000	47.689	5.837	48.390	2.79%	-1.45%
			5670	6.007	47.661	5.848	48.376	2.72%	-1.48%
			5680	6.017	47.638	5.860	48.363	2.68%	-1.50%
			5690	6.034	47.617	5.872	48.349	2.76%	-1.51%
			5700	6.048	47.578	5.883	48.336	2.80%	-1.57%
			5710	6.059	47.549	5.895	48.322	2.78%	-1.60%
			5720	6.071	47.548	5.907	48.309	2.78%	-1.58%
			5745	6.110	47.567	5.936	48.275	2.93%	-1.47%
			5750	6.116	47.553	5.942	48.268	2.93%	-1.48%
			5755	6.121	47.537	5.947	48.261	2.93%	-1.50%
			5765	6.132	47.519	5.959	48.248	2.90%	-1.51%
			5775	6.146	47.503	5.971	48.234	2.93%	-1.52%
			5785	6.159	47.480	5.982	48.220	2.96%	-1.53%
			5795	6.173	47.446	5.994	48.207	2.99%	-1.58%
			5800	6.179	47.431	6.000	48.200	2.98%	-1.60%
			5805	6.184	47.419	6.006	48.193	2.96%	-1.61%
			5825	6.213	47.408	6.029	48.166	3.05%	-1.57%

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

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10.2 Test System Verification

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

Table 10-5
System Verification Results – 1g Head

System Verification TARGET & MEASURED												
SAR System #	Tissue Frequency (MHz)	Tissue Type	Date	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Source SN	Probe SN	Measured SAR_{1g} (W/kg)	1 W Target SAR_{1g} (W/kg)	1 W Normalized SAR_{1g} (W/kg)	$Deviation_{1g}$ (%)
E	750	HEAD	01/13/2020	23.4	21.0	0.200	1003	7417	1.530	8.280	7.650	-7.61%
M	835	HEAD	01/13/2020	21.9	20.9	0.200	4d047	7308	2.030	9.420	10.150	7.75%
E	835	HEAD	01/18/2020	23.1	20.5	0.200	4d133	7417	2.020	9.430	10.100	7.10%
E	835	HEAD	01/20/2020	20.7	21.1	0.200	4d047	7417	1.780	9.420	8.900	-5.52%
H	1750	HEAD	01/01/2020	22.1	21.2	0.100	1148	7406	3.440	37.000	34.400	-7.03%
L	1900	HEAD	01/02/2020	21.9	20.6	0.100	5d148	7410	4.180	39.100	41.800	6.91%
E	2300	HEAD	01/01/2020	24.0	21.7	0.100	1073	7417	4.920	49.200	49.200	0.00%
E	2450	HEAD	01/01/2020	24.0	21.7	0.100	719	7417	5.340	53.100	53.400	0.56%
G	2450	HEAD	01/10/2020	23.7	22.1	0.100	719	7409	5.490	53.100	54.900	3.39%
E	2600	HEAD	01/03/2020	24.3	22.0	0.100	1064	7417	6.140	58.100	61.400	5.68%
E	2600	HEAD	01/10/2020	23.1	22.2	0.100	1064	7417	6.070	58.100	60.700	4.48%
H	5250	HEAD	01/13/2020	23.0	21.5	0.050	1191	7406	3.740	80.800	74.800	-7.43%
H	5600	HEAD	01/13/2020	23.0	21.5	0.050	1191	7406	3.780	82.700	75.600	-8.59%
H	5750	HEAD	01/13/2020	23.0	21.5	0.050	1191	7406	3.710	80.200	74.200	-7.48%

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Table 10-6
System Verification Results – 1g Body

System Verification TARGET & MEASURED												
SAR System #	Tissue Frequency (MHz)	Tissue Type	Date	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Source SN	Probe SN	Measured SAR_{1g} (W/kg)	1 W Target SAR_{1g} (W/kg)	1 W Normalized SAR_{1g} (W/kg)	$Deviation_{1g}$ (%)
H	750	BODY	01/06/2020	21.4	21.1	0.200	1003	7406	1.610	8.580	8.050	-6.18%
M	835	BODY	01/15/2020	22.1	21.1	0.200	4d047	7308	1.990	9.470	9.950	5.07%
M	835	BODY	01/18/2020	19.8	20.5	0.200	4d133	7308	1.980	9.750	9.900	1.54%
I	1750	BODY	01/03/2020	21.4	20.4	0.100	1150	7357	3.860	36.600	38.600	5.46%
I	1750	BODY	01/13/2020	21.2	20.8	0.100	1008	7357	3.790	37.400	37.900	1.34%
P	1900	BODY	01/01/2020	23.1	22.4	0.100	5d148	7551	4.040	39.100	40.400	3.32%
J	1900	BODY	01/09/2020	24.5	24.2	0.100	5d080	7571	4.220	39.200	42.200	7.65%
J	1900	BODY	01/12/2020	24.1	23.5	0.100	5d080	7571	4.150	39.200	41.500	5.87%
P	1900	BODY	01/13/2020	22.7	22.5	0.100	5d149	7551	4.180	39.400	41.800	6.09%
J	1900	BODY	01/22/2020	23.3	22.4	0.100	5d148	7571	4.160	39.100	41.600	6.39%
K	2300	BODY	01/13/2020	22.9	21.9	0.100	1073	7547	5.010	47.700	50.100	5.03%
K	2450	BODY	12/30/2019	23.0	23.6	0.100	797	7547	5.030	51.100	50.300	-1.57%
K	2450	BODY	01/17/2020	23.7	22.0	0.100	981	7547	5.190	50.900	51.900	1.96%
M	2450	BODY	01/22/2020	22.0	22.4	0.100	797	7308	5.140	51.100	51.400	0.59%
L	2450	BODY	01/22/2020	23.5	21.0	0.100	797	7410	5.090	51.100	50.900	-0.39%
K	2600	BODY	01/17/2020	23.7	22.0	0.100	1064	7547	5.430	55.600	54.300	-2.34%
L	2600	BODY	01/20/2020	20.9	20.3	0.100	1004	7410	5.550	54.800	55.500	1.28%
G	5250	BODY	12/29/2019	23.9	22.5	0.050	1191	7409	3.770	77.000	75.400	-2.08%
G	5600	BODY	12/29/2019	23.9	22.5	0.050	1191	7409	4.110	78.600	82.200	4.58%
G	5750	BODY	12/29/2019	23.9	22.5	0.050	1191	7409	3.880	76.900	77.600	0.91%

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Table 10-7
System Verification Results – 10g

System Verification TARGET & MEASURED												
SAR System #	Tissue Frequency (MHz)	Tissue Type	Date	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Source SN	Probe SN	Measured SAR_{10g} (W/kg)	1 W Target SAR_{10g} (W/kg)	1 W Normalized SAR_{10g} (W/kg)	$Deviation_{10g}$ (%)
I	1750	BODY	01/17/2020	22.9	21.0	0.100	1008	7357	2.080	19.900	20.800	4.52%
J	1900	BODY	01/12/2020	24.1	23.5	0.100	5d080	7571	2.130	20.600	21.300	3.40%
J	1900	BODY	01/15/2020	22.7	23.3	0.100	5d080	7571	2.140	20.600	21.400	3.88%
P	1900	BODY	01/15/2020	22.5	22.2	0.100	5d149	7551	2.090	20.700	20.900	0.97%
K	2300	BODY	01/13/2020	22.9	21.9	0.100	1073	7547	2.380	23.200	23.800	2.59%
K	2450	BODY	01/17/2020	23.7	22.0	0.100	981	7547	2.380	24.200	23.800	-1.65%
K	2600	BODY	01/17/2020	23.7	22.0	0.100	1064	7547	2.400	25.000	24.000	-4.00%
K	2600	BODY	01/20/2020	23.9	24.1	0.100	1004	7547	2.490	24.700	24.900	0.81%
G	5250	BODY	01/19/2020	23.9	22.0	0.050	1191	7409	0.977	21.400	19.540	-8.69%
G	5600	BODY	01/19/2020	23.9	22.0	0.050	1191	7409	1.100	21.900	22.000	0.46%
G	5750	BODY	01/19/2020	23.9	22.0	0.050	1191	7409	1.040	21.300	20.800	-2.35%

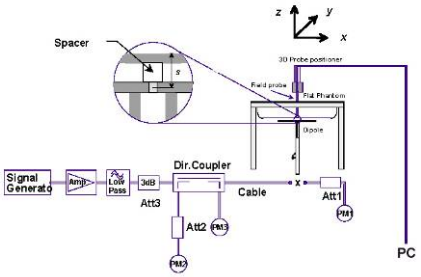


Figure 10-1
System Verification Setup Diagram



Figure 10-2
System Verification Setup Photo

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11 SAR DATA SUMMARY

11.1 Standalone Head SAR Data

Table 11-1
GSM 850 Head SAR - Open

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
836.60	190	GSM 850	GSM	34.0	33.44	-0.06	Right	Cheek	0417M	1:8.3	0.199	1.138	0.226	A1
836.60	190	GSM 850	GSM	34.0	33.44	-0.10	Right	Tilt	0417M	1:8.3	0.085	1.138	0.097	
836.60	190	GSM 850	GSM	34.0	33.44	0.01	Left	Cheek	0417M	1:8.3	0.108	1.138	0.123	
836.60	190	GSM 850	GSM	34.0	33.44	0.03	Left	Tilt	0417M	1:8.3	0.063	1.138	0.072	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-2
GSM 1900 Head SAR - Open

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1880.00	661	GSM 1900	GSM	31.0	29.50	0.17	Right	Cheek	0798M	1:8.3	0.028	1.413	0.040	A2
1880.00	661	GSM 1900	GSM	31.0	29.50	0.15	Right	Tilt	0798M	1:8.3	0.007	1.413	0.010	
1880.00	661	GSM 1900	GSM	31.0	29.50	-0.12	Left	Cheek	0798M	1:8.3	0.022	1.413	0.031	
1880.00	661	GSM 1900	GSM	31.0	29.50	0.17	Left	Tilt	0798M	1:8.3	0.014	1.413	0.020	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-3
UMTS 850 Head SAR - Open

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	25.0	24.28	0.05	Right	Cheek	0289M	1:1	0.191	1.180	0.225	A3
836.60	4183	UMTS 850	RMC	25.0	24.28	0.03	Right	Tilt	0289M	1:1	0.082	1.180	0.097	
836.60	4183	UMTS 850	RMC	25.0	24.28	-0.01	Left	Cheek	0289M	1:1	0.132	1.180	0.156	
836.60	4183	UMTS 850	RMC	25.0	24.28	0.00	Left	Tilt	0289M	1:1	0.074	1.180	0.087	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

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Table 11-4
UMTS 1750 Head SAR - Open

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	24.0	23.29	0.18	Right	Cheek	0278M	1:1	0.085	1.178	0.100	A4
1732.40	1412	UMTS 1750	RMC	24.0	23.29	0.15	Right	Tilt	0278M	1:1	0.040	1.178	0.047	
1732.40	1412	UMTS 1750	RMC	24.0	23.29	0.17	Left	Cheek	0278M	1:1	0.047	1.178	0.055	
1732.40	1412	UMTS 1750	RMC	24.0	23.29	0.14	Left	Tilt	0278M	1:1	0.044	1.178	0.052	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-5
UMTS 1900 Head SAR - Open

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	24.15	-0.11	Right	Cheek	0798M	1:1	0.063	1.216	0.077	A5
1880.00	9400	UMTS 1900	RMC	25.0	24.15	-0.17	Right	Tilt	0798M	1:1	0.027	1.216	0.033	
1880.00	9400	UMTS 1900	RMC	25.0	24.15	0.12	Left	Cheek	0798M	1:1	0.053	1.216	0.064	
1880.00	9400	UMTS 1900	RMC	25.0	24.15	0.16	Left	Tilt	0798M	1:1	0.031	1.216	0.038	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-6
CDMA BC10 (§90S) Head SAR - Open

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	25.8	24.67	0.02	Right	Cheek	0622M	1:1	0.201	1.297	**0.261**	A6
820.10	564	CDMA BC10 (§90S)	RC3 / SO55	25.8	24.67	0.03	Right	Tilt	0622M	1:1	0.095	1.297	0.123	
820.10	564	CDMA BC10 (§90S)	RC3 / SO55	25.8	24.67	0.07	Left	Cheek	0622M	1:1	0.163	1.297	0.211	
820.10	564	CDMA BC10 (§90S)	RC3 / SO55	25.8	24.67	0.06	Left	Tilt	0622M	1:1	0.098	1.297	0.127	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. A	25.8	24.29	0.03	Right	Cheek	0622M	1:1	0.168	1.416	0.238	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. A	25.8	24.29	0.09	Right	Tilt	0622M	1:1	0.093	1.416	0.132	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. A	25.8	24.29	0.01	Left	Cheek	0622M	1:1	0.147	1.416	0.208	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. A	25.8	24.29	0.04	Left	Tilt	0622M	1:1	0.087	1.416	0.123	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

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Table 11-7
CDMA BC0 (§22H) Head SAR - Open

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	24.96	-0.05	Right	Cheek	0622M	1:1	0.210	1.132	0.238	A7
836.52	384	CDMA BC0 (§22H)	RC3 / SO55	25.5	24.96	0.08	Right	Tilt	0622M	1:1	0.108	1.132	0.122	
836.52	384	CDMA BC0 (§22H)	RC3 / SO55	25.5	24.96	0.10	Left	Cheek	0622M	1:1	0.197	1.132	0.223	
836.52	384	CDMA BC0 (§22H)	RC3 / SO55	25.5	24.96	0.03	Left	Tilt	0622M	1:1	0.106	1.132	0.120	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	25.5	24.65	0.00	Right	Cheek	0622M	1:1	0.197	1.216	0.240	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	25.5	24.65	0.05	Right	Tilt	0622M	1:1	0.110	1.216	0.134	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	25.5	24.65	0.16	Left	Cheek	0622M	1:1	0.187	1.216	0.227	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	25.5	24.65	0.02	Left	Tilt	0622M	1:1	0.101	1.216	0.123	
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
PCS CDMA Head SAR - Open

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1880.00	600	PCS CDMA	RC3 / SO55	25.5	24.59	-0.04	Right	Cheek	0798M	1:1	0.071	1.233	0.088	A8
1880.00	600	PCS CDMA	RC3 / SO55	25.5	24.59	0.18	Right	Tilt	0798M	1:1	0.025	1.233	0.031	
1880.00	600	PCS CDMA	RC3 / SO55	25.5	24.59	-0.13	Left	Cheek	0798M	1:1	0.061	1.233	0.075	
1880.00	600	PCS CDMA	RC3 / SO55	25.5	24.59	-0.07	Left	Tilt	0798M	1:1	0.040	1.233	0.049	
1880.00	600	PCS CDMA	EVDO Rev. A	25.5	24.33	0.13	Right	Cheek	0798M	1:1	0.045	1.309	0.059	
1880.00	600	PCS CDMA	EVDO Rev. A	25.5	24.33	0.16	Right	Tilt	0798M	1:1	0.025	1.309	0.033	
1880.00	600	PCS CDMA	EVDO Rev. A	25.5	24.33	0.12	Left	Cheek	0798M	1:1	0.031	1.309	0.041	
1880.00	600	PCS CDMA	EVDO Rev. A	25.5	24.33	0.13	Left	Tilt	0798M	1:1	0.027	1.309	0.035	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

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Table 11-9
LTE Band 71 Head SAR - Open

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	24.19	0.18	0	Right	Cheek	QPSK	1	50	0278M	1:1	0.039	1.352	0.053	A9
680.50	133297	Mid	LTE Band 71	20	24.5	23.34	0.12	1	Right	Cheek	QPSK	50	25	0278M	1:1	0.025	1.306	0.033	
680.50	133297	Mid	LTE Band 71	20	25.5	24.19	-0.19	0	Right	Tilt	QPSK	1	50	0278M	1:1	0.017	1.352	0.023	
680.50	133297	Mid	LTE Band 71	20	24.5	23.34	0.14	1	Right	Tilt	QPSK	50	25	0278M	1:1	0.013	1.306	0.017	
680.50	133297	Mid	LTE Band 71	20	25.5	24.19	0.15	0	Left	Cheek	QPSK	1	50	0278M	1:1	0.033	1.352	0.045	
680.50	133297	Mid	LTE Band 71	20	24.5	23.34	0.21	1	Left	Cheek	QPSK	50	25	0278M	1:1	0.026	1.306	0.034	
680.50	133297	Mid	LTE Band 71	20	25.5	24.19	0.21	0	Left	Tilt	QPSK	1	50	0278M	1:1	0.017	1.352	0.023	
680.50	133297	Mid	LTE Band 71	20	24.5	23.34	0.12	1	Left	Tilt	QPSK	50	25	0278M	1:1	0.013	1.306	0.017	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-10
LTE Band 12 Head SAR - Open

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	25.7	24.88	0.03	0	Right	Cheek	QPSK	1	0	0278M	1:1	0.069	1.208	0.083	A10
707.50	23095	Mid	LTE Band 12	10	24.7	24.08	0.12	1	Right	Cheek	QPSK	25	0	0278M	1:1	0.056	1.153	0.065	
707.50	23095	Mid	LTE Band 12	10	25.7	24.88	0.12	0	Right	Tilt	QPSK	1	0	0278M	1:1	0.028	1.208	0.034	
707.50	23095	Mid	LTE Band 12	10	24.7	24.08	0.17	1	Right	Tilt	QPSK	25	0	0278M	1:1	0.023	1.153	0.027	
707.50	23095	Mid	LTE Band 12	10	25.7	24.88	0.10	0	Left	Cheek	QPSK	1	0	0278M	1:1	0.062	1.208	0.075	
707.50	23095	Mid	LTE Band 12	10	24.7	24.08	0.17	1	Left	Cheek	QPSK	25	0	0278M	1:1	0.061	1.153	0.070	
707.50	23095	Mid	LTE Band 12	10	25.7	24.88	-0.13	0	Left	Tilt	QPSK	1	0	0278M	1:1	0.028	1.208	0.034	
707.50	23095	Mid	LTE Band 12	10	24.7	24.08	-0.01	1	Left	Tilt	QPSK	25	0	0278M	1:1	0.027	1.153	0.031	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram									

Table 11-11
LTE Band 13 Head SAR - Open

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	25.7	24.83	0.02	0	Right	Cheek	QPSK	1	25	0278M	1:1	0.121	1.222	0.148	
782.00	23230	Mid	LTE Band 13	10	24.7	24.01	0.07	1	Right	Cheek	QPSK	25	0	0278M	1:1	0.101	1.172	0.118	
782.00	23230	Mid	LTE Band 13	10	25.7	24.83	-0.05	0	Right	Tilt	QPSK	1	25	0278M	1:1	0.065	1.222	0.079	
782.00	23230	Mid	LTE Band 13	10	24.7	24.01	0.12	1	Right	Tilt	QPSK	25	0	0278M	1:1	0.048	1.172	0.056	
782.00	23230	Mid	LTE Band 13	10	25.7	24.83	0.20	0	Left	Cheek	QPSK	1	25	0278M	1:1	0.125	1.222	0.153	A11
782.00	23230	Mid	LTE Band 13	10	24.7	24.01	0.07	1	Left	Cheek	QPSK	25	0	0278M	1:1	0.092	1.172	0.108	
782.00	23230	Mid	LTE Band 13	10	25.7	24.83	-0.11	0	Left	Tilt	QPSK	1	25	0278M	1:1	0.051	1.222	0.062	
782.00	23230	Mid	LTE Band 13	10	24.7	24.01	0.03	1	Left	Tilt	QPSK	25	0	0278M	1:1	0.038	1.172	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									

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Table 11-12
LTE Band 14 Head SAR – Open

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	25.7	24.51	-0.01	0	Right	Cheek	QPSK	1	0	0278M	1:1	0.137	1.315	0.180	A12
793.00	23330	Mid	LTE Band 14	10	24.7	23.55	0.06	1	Right	Cheek	QPSK	25	0	0278M	1:1	0.121	1.303	0.158	
793.00	23330	Mid	LTE Band 14	10	25.7	24.51	-0.01	0	Right	Tilt	QPSK	1	0	0278M	1:1	0.069	1.315	0.091	
793.00	23330	Mid	LTE Band 14	10	24.7	23.55	0.08	1	Right	Tilt	QPSK	25	0	0278M	1:1	0.060	1.303	0.078	
793.00	23330	Mid	LTE Band 14	10	25.7	24.51	0.15	0	Left	Cheek	QPSK	1	0	0278M	1:1	0.132	1.315	0.174	
793.00	23330	Mid	LTE Band 14	10	24.7	23.55	0.04	1	Left	Cheek	QPSK	25	0	0278M	1:1	0.107	1.303	0.139	
793.00	23330	Mid	LTE Band 14	10	25.7	24.51	-0.08	0	Left	Tilt	QPSK	1	0	0278M	1:1	0.074	1.315	0.097	
793.00	23330	Mid	LTE Band 14	10	24.7	23.55	0.08	1	Left	Tilt	QPSK	25	0	0278M	1:1	0.052	1.303	0.068	
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 – Open

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	25.7	24.66	-0.06	0	Right	Cheek	QPSK	1	74	0278M	1:1	0.113	1.271	0.144	A13
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.7	23.76	0.08	1	Right	Cheek	QPSK	36	18	0278M	1:1	0.095	1.242	0.118	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.7	24.66	-0.03	0	Right	Tilt	QPSK	1	74	0278M	1:1	0.049	1.271	0.062	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.7	23.76	0.19	1	Right	Tilt	QPSK	36	18	0278M	1:1	0.036	1.242	0.045	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.7	24.66	0.16	0	Left	Cheek	QPSK	1	74	0278M	1:1	0.110	1.271	0.140	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.7	23.76	0.18	1	Left	Cheek	QPSK	36	18	0278M	1:1	0.083	1.242	0.103	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.7	24.66	0.05	0	Left	Tilt	QPSK	1	74	0278M	1:1	0.062	1.271	0.079	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.7	23.76	0.11	1	Left	Tilt	QPSK	36	18	0278M	1:1	0.050	1.242	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 11-14
LTE Band 5 (Cell) Head SAR – Open

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)	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.42	0.08	0	Right	Cheek	QPSK	1	25	0289M	1:1	0.237	1.067	0.253	A14
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.7	24.49	0.05	1	Right	Cheek	QPSK	25	12	0289M	1:1	0.199	1.050	0.209	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.42	0.06	0	Right	Tilt	QPSK	1	25	0289M	1:1	0.116	1.067	0.124	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.7	24.49	0.07	1	Right	Tilt	QPSK	25	12	0289M	1:1	0.091	1.050	0.096	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.42	-0.08	0	Left	Cheek	QPSK	1	25	0289M	1:1	0.178	1.067	0.190	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.7	24.49	0.00	1	Left	Cheek	QPSK	25	12	0289M	1:1	0.152	1.050	0.160	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.42	0.17	0	Left	Tilt	QPSK	1	25	0289M	1:1	0.098	1.067	0.105	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.7	24.49	0.07	1	Left	Tilt	QPSK	25	12	0289M	1:1	0.084	1.050	0.088	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram										

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

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	25.2	24.43	-0.12	0	Right	Cheek	QPSK	1	50	0278M	1:1	0.089	1.194	0.106	A15
1770.00	132572	High	LTE Band 66 (AWS)	20	24.2	23.58	0.08	1	Right	Cheek	QPSK	50	0	0278M	1:1	0.081	1.153	0.093	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.2	24.43	-0.07	0	Right	Tilt	QPSK	1	50	0278M	1:1	0.046	1.194	0.055	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.2	23.58	0.15	1	Right	Tilt	QPSK	50	0	0278M	1:1	0.039	1.153	0.045	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.2	24.43	0.18	0	Left	Cheek	QPSK	1	50	0278M	1:1	0.058	1.194	0.069	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.2	23.58	0.03	1	Left	Cheek	QPSK	50	0	0278M	1:1	0.043	1.153	0.050	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.2	24.43	0.01	0	Left	Tilt	QPSK	1	50	0278M	1:1	0.055	1.194	0.066	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.2	23.58	0.19	1	Left	Tilt	QPSK	50	0	0278M	1:1	0.037	1.153	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 11-16
LTE Band 25 (PCS) Head SAR - Open

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.1	24.29	0.14	0	Right	Cheek	QPSK	1	99	0798M	1:1	0.083	1.205	0.100	A16
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.1	23.44	0.02	1	Right	Cheek	QPSK	50	25	0798M	1:1	0.057	1.164	0.066	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.1	24.29	0.16	0	Right	Tilt	QPSK	1	99	0798M	1:1	0.036	1.205	0.043	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.1	23.44	0.18	1	Right	Tilt	QPSK	50	25	0798M	1:1	0.022	1.164	0.026	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.1	24.29	0.08	0	Left	Cheek	QPSK	1	99	0798M	1:1	0.065	1.205	0.078	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.1	23.44	0.14	1	Left	Cheek	QPSK	50	25	0798M	1:1	0.046	1.164	0.054	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.1	24.29	-0.19	0	Left	Tilt	QPSK	1	99	0798M	1:1	0.042	1.205	0.051	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.1	23.44	0.16	1	Left	Tilt	QPSK	50	25	0798M	1:1	0.029	1.164	0.034	
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 - Open

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	25.7	24.79	0.17	0	Right	Cheek	QPSK	1	49	0417M	1:1	0.020	1.233	0.025	
2310.00	27710	Mid	LTE Band 30	10	24.7	23.94	0.16	1	Right	Cheek	QPSK	25	25	0417M	1:1	0.016	1.191	0.019	
2310.00	27710	Mid	LTE Band 30	10	25.7	24.79	0.15	0	Right	Tilt	QPSK	1	49	0417M	1:1	0.037	1.233	0.046	
2310.00	27710	Mid	LTE Band 30	10	24.7	23.94	0.15	1	Right	Tilt	QPSK	25	25	0417M	1:1	0.033	1.191	0.039	
2310.00	27710	Mid	LTE Band 30	10	25.7	24.79	0.14	0	Left	Cheek	QPSK	1	49	0417M	1:1	0.071	1.233	0.088	A17
2310.00	27710	Mid	LTE Band 30	10	24.7	23.94	0.14	1	Left	Cheek	QPSK	25	25	0417M	1:1	0.049	1.191	0.058	
2310.00	27710	Mid	LTE Band 30	10	25.7	24.79	0.14	0	Left	Tilt	QPSK	1	49	0417M	1:1	0.027	1.233	0.033	
2310.00	27710	Mid	LTE Band 30	10	24.7	23.94	0.18	1	Left	Tilt	QPSK	25	25	0417M	1:1	0.024	1.191	0.029	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Head 1.6 W/kg (mW/g) averaged over 1 gram			

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Table 11-18
LTE Band 7 Head SAR - Open

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
2535.00	21100	Mid	LTE Band 7	20	25.4	24.43	0.13	0	Right	Cheek	QPSK	1	0	0798M	1:1	0.079	1.250	0.099	
2535.00	21100	Mid	LTE Band 7	20	24.4	23.45	0.13	1	Right	Cheek	QPSK	50	0	0798M	1:1	0.060	1.245	0.075	
2535.00	21100	Mid	LTE Band 7	20	25.4	24.43	0.13	0	Right	Tilt	QPSK	1	0	0798M	1:1	0.055	1.250	0.069	
2535.00	21100	Mid	LTE Band 7	20	24.4	23.45	0.15	1	Right	Tilt	QPSK	50	0	0798M	1:1	0.043	1.245	0.054	
2535.00	21100	Mid	LTE Band 7	20	25.4	24.43	0.13	0	Left	Cheek	QPSK	1	0	0798M	1:1	0.115	1.250	0.144	A18
2535.00	21100	Mid	LTE Band 7	20	24.4	23.45	0.14	1	Left	Cheek	QPSK	50	0	0798M	1:1	0.083	1.245	0.103	
2535.00	21100	Mid	LTE Band 7	20	25.4	24.43	0.05	0	Left	Tilt	QPSK	1	0	0798M	1:1	0.027	1.250	0.034	
2535.00	21100	Mid	LTE Band 7	20	24.4	23.45	0.13	1	Left	Tilt	QPSK	50	0	0798M	1:1	0.017	1.245	0.021	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 11-19
LTE Band 41 Head SAR - Open

MEASUREMENT RESULTS																				
Power Class	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
	MHz	Ch.															(W/kg)		(W/kg)	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	25.5	24.53	0.06	0	Right	Cheek	QPSK	1	50	0798M	1:1.58	0.035	1.250	0.044	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.5	23.58	0.13	1	Right	Cheek	QPSK	50	25	0798M	1:1.58	0.026	1.236	0.032	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	25.5	24.53	0.14	0	Right	Tilt	QPSK	1	50	0798M	1:1.58	0.014	1.250	0.018	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.5	23.58	0.19	1	Right	Tilt	QPSK	50	25	0798M	1:1.58	0.012	1.236	0.015	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	25.5	24.53	0.17	0	Left	Cheek	QPSK	1	50	0798M	1:1.58	0.047	1.250	0.059	A19
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.5	23.58	0.13	1	Left	Cheek	QPSK	50	25	0798M	1:1.58	0.037	1.236	0.046	
Power Class 2	2593.00	40620	Mid	LTE Band 41	20	27.0	25.98	0.15	0	Left	Cheek	QPSK	1	50	0798M	1:2.31	0.041	1.265	0.052	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	25.5	24.53	0.12	0	Left	Tilt	QPSK	1	50	0798M	1:1.58	0.009	1.250	0.011	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.5	23.58	0.16	1	Left	Tilt	QPSK	50	25	0798M	1:1.58	0.007	1.236	0.009	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Head 1.6 W/kg (mW/g) averaged over 1 gram									

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Table 11-20
DTS Head SAR – Open

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	13.0	12.66	0.01	Right	Cheek	1	0417M	1	99.1	0.386	-	1.081	1.009	-	
2437	6	802.11b	DSSS	22	13.0	12.66	-0.07	Right	Tilt	1	0417M	1	99.1	0.479	-	1.081	1.009	-	
2437	6	802.11b	DSSS	22	13.0	12.66	0.18	Left	Cheek	1	0417M	1	99.1	0.514	-	1.081	1.009	-	
2437	6	802.11b	DSSS	22	13.0	12.66	0.03	Left	Tilt	1	0417M	1	99.1	0.580	0.297	1.081	1.009	**0.324**	A20
2412	1	802.11b	DSSS	22	13.0	12.83	0.18	Right	Cheek	2	0417M	1	99.0	0.062	-	1.040	1.010	-	
2412	1	802.11b	DSSS	22	13.0	12.83	0.19	Right	Tilt	2	0417M	1	99.0	0.035	-	1.040	1.010	-	
2412	1	802.11b	DSSS	22	13.0	12.83	0.15	Left	Cheek	2	0417M	1	99.0	0.154	0.095	1.040	1.010	0.100	
2412	1	802.11b	DSSS	22	13.0	12.83	0.00	Left	Tilt	2	0417M	1	99.0	0.032	-	1.040	1.010	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT **Spatial Peak** **Uncontrolled Exposure/General Population**								**Head** **1.6 W/kg (mW/g)** averaged over 1 gram											

Table 11-21
NII Head SAR - Open

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5290	58	802.11ac	OFDM	80	11.0	10.97	0.17	Right	Cheek	1	0605M	29.3	90.1	0.116	-	1.007	1.110	-	
5290	58	802.11ac	OFDM	80	11.0	10.97	0.14	Right	Tilt	1	0605M	29.3	90.1	0.099	-	1.007	1.110	-	
5290	58	802.11ac	OFDM	80	11.0	10.97	0.19	Left	Cheek	1	0605M	29.3	90.1	0.938	0.387	1.007	1.110	0.433	
5290	58	802.11ac	OFDM	80	11.0	10.97	0.18	Left	Tilt	1	0605M	29.3	90.1	0.326	0.156	1.007	1.110	0.174	
5290	58	802.11ac	OFDM	80	11.0	10.69	0.19	Right	Cheek	2	0605M	29.3	90.3	0.006	-	1.074	1.107	-	
5290	58	802.11ac	OFDM	80	11.0	10.69	0.00	Right	Tilt	2	0605M	29.3	90.3	0.002	-	1.074	1.107	-	
5290	58	802.11ac	OFDM	80	11.0	10.69	0.19	Left	Cheek	2	0605M	29.3	90.3	0.018	0.001	1.074	1.107	0.001	
5290	58	802.11ac	OFDM	80	11.0	10.69	0.00	Left	Tilt	2	0605M	29.3	90.3	0.007	-	1.074	1.107	-	
5690	138	802.11ac	OFDM	80	11.0	10.71	0.11	Right	Cheek	1	0605M	29.3	90.1	0.185	-	1.069	1.110	-	
5690	138	802.11ac	OFDM	80	11.0	10.71	0.14	Right	Tilt	1	0605M	29.3	90.1	0.146	-	1.069	1.110	-	
5690	138	802.11ac	OFDM	80	11.0	10.71	0.12	Left	Cheek	1	0605M	29.3	90.1	0.939	0.381	1.069	1.110	0.452	
5690	138	802.11ac	OFDM	80	11.0	10.71	0.18	Left	Tilt	1	0605M	29.3	90.1	0.553	0.151	1.069	1.110	0.179	
5530	106	802.11ac	OFDM	80	11.0	10.55	0.19	Right	Cheek	2	0605M	29.3	90.3	0.036	-	1.109	1.107	-	
5530	106	802.11ac	OFDM	80	11.0	10.55	0.00	Right	Tilt	2	0605M	29.3	90.3	0.029	-	1.109	1.107	-	
5530	106	802.11ac	OFDM	80	11.0	10.55	0.13	Left	Cheek	2	0605M	29.3	90.3	0.081	-	1.109	1.107	-	
5530	106	802.11ac	OFDM	80	11.0	10.55	0.19	Left	Tilt	2	0605M	29.3	90.3	0.099	0.000	1.109	1.107	0.000	
5775	155	802.11ac	OFDM	80	11.0	10.72	0.11	Right	Cheek	1	0605M	29.3	90.1	0.211	-	1.067	1.110	-	
5775	155	802.11ac	OFDM	80	11.0	10.72	0.13	Right	Tilt	1	0605M	29.3	90.1	0.185	-	1.067	1.110	-	
5775	155	802.11ac	OFDM	80	11.0	10.72	0.15	Left	Cheek	1	0605M	29.3	90.1	1.221	0.458	1.067	1.110	**0.542**	A21
5775	155	802.11ac	OFDM	80	11.0	10.72	0.16	Left	Tilt	1	0605M	29.3	90.1	0.526	0.189	1.067	1.110	0.224	
5775	155	802.11ac	OFDM	80	11.0	10.72	0.11	Right	Cheek	2	0605M	29.3	90.3	0.046	-	1.067	1.107	-	
5775	155	802.11ac	OFDM	80	11.0	10.72	0.19	Right	Tilt	2	0605M	29.3	90.3	0.035	-	1.067	1.107	-	
5775	155	802.11ac	OFDM	80	11.0	10.72	0.16	Left	Cheek	2	0605M	29.3	90.3	0.148	0.007	1.067	1.107	0.008	
5775	155	802.11ac	OFDM	80	11.0	10.72	0.15	Left	Tilt	2	0605M	29.3	90.3	0.140	-	1.067	1.107	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT **Spatial Peak** **Uncontrolled Exposure/General Population**								**Head** **1.6 W/kg (mW/g)** averaged over 1 gram											

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Table 11-22
DSS Head SAR - Open

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	18.0	17.89	-0.01	Right	Cheek	0289M	1	77.6	0.211	1.026	1.289	0.279	
2441.00	39	Bluetooth	FHSS	18.0	17.89	0.01	Right	Tilt	0289M	1	77.6	0.244	1.026	1.289	0.323	
2441.00	39	Bluetooth	FHSS	18.0	17.89	0.04	Left	Cheek	0289M	1	77.6	0.409	1.026	1.289	**0.541**	A22
2441.00	39	Bluetooth	FHSS	18.0	17.89	0.06	Left	Tilt	0289M	1	77.6	0.264	1.026	1.289	0.349	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT **Spatial Peak** **Uncontrolled Exposure/General Population**								**Head** **1.6 W/kg (mW/g)** averaged over 1 gram								

11.2 Standalone Open Body-Worn SAR Data

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

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
836.60	190	GSM 850	GSM	34.0	33.44	-0.01	15 mm	0417M	1:1	back	0.096	1.138	0.109	
1880.00	661	GSM 1900	GSM	31.0	29.50	-0.02	15 mm	0622M	1:1	back	0.213	1.413	0.301	A25
836.60	4183	UMTS 850	RMC	25.0	24.28	0.15	15 mm	0278M	1:1	back	0.148	1.180	0.175	
1732.40	1412	UMTS 1750	RMC	24.0	23.29	0.02	15 mm	2040M	1:1	back	0.367	1.178	0.432	A29
1880.00	9400	UMTS 1900	RMC	25.0	24.15	-0.01	15 mm	0622M	1:1	back	0.450	1.216	0.547	A31
820.10	564	CDMA BC10 (§90S)	TDSO / SO32	25.8	24.68	0.01	15 mm	0417M	1:1	back	0.161	1.294	0.208	
836.52	384	CDMA BC0 (§22H)	TDSO / SO32	25.5	24.97	-0.06	15 mm	0417M	1:1	back	0.142	1.130	0.160	
1851.25	25	PCS CDMA	TDSO / SO32	25.5	24.25	0.04	15 mm	0622M	1:1	back	0.719	1.334	**0.959**	A37
1880.00	600	PCS CDMA	TDSO / SO32	25.5	24.60	-0.07	15 mm	0622M	1:1	back	0.699	1.230	0.860	
1908.75	1175	PCS CDMA	TDSO / SO32	25.5	24.08	0.02	15 mm	0622M	1:1	back	0.657	1.387	0.911	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT **Spatial Peak** **Uncontrolled Exposure/General Population**								**Body** **1.6 W/kg (mW/g)** averaged over 1 gram						

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Table 11-24
LTE Body-Worn SAR - Open

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	24.19	0.07	0	0278M	QPSK	1	50	15 mm	back	1:1	0.067	1.352	0.091	A39
680.50	133297	Mid	LTE Band 71	20	24.5	23.34	0.12	1	0278M	QPSK	50	25	15 mm	back	1:1	0.055	1.306	0.072	
707.50	23095	Mid	LTE Band 12	10	25.7	24.88	0.04	0	0278M	QPSK	1	0	15 mm	back	1:1	0.106	1.208	0.128	A41
707.50	23095	Mid	LTE Band 12	10	24.7	24.08	0.00	1	0278M	QPSK	25	0	15 mm	back	1:1	0.089	1.153	0.103	
782.00	23230	Mid	LTE Band 13	10	25.7	24.83	0.00	0	0278M	QPSK	1	25	15 mm	back	1:1	0.151	1.222	0.185	A43
782.00	23230	Mid	LTE Band 13	10	24.7	24.01	-0.01	1	0278M	QPSK	25	0	15 mm	back	1:1	0.122	1.172	0.143	
793.00	23330	Mid	LTE Band 14	10	25.7	24.51	0.00	0	0278M	QPSK	1	0	15 mm	back	1:1	0.175	1.315	0.230	A45
793.00	23330	Mid	LTE Band 14	10	24.7	23.55	0.04	1	0278M	QPSK	25	0	15 mm	back	1:1	0.143	1.303	0.186	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.7	24.66	-0.06	0	0417M	QPSK	1	74	15 mm	back	1:1	0.129	1.271	0.164	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.7	23.76	-0.06	1	0417M	QPSK	36	18	15 mm	back	1:1	0.095	1.242	0.118	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.42	0.07	0	1637M	QPSK	1	25	15 mm	back	1:1	0.184	1.067	0.196	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.7	24.49	0.04	1	1637M	QPSK	25	12	15 mm	back	1:1	0.151	1.050	0.159	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.2	24.43	0.16	0	0289M	QPSK	1	50	15 mm	back	1:1	0.413	1.194	0.493	A51
1770.00	132572	High	LTE Band 66 (AWS)	20	24.2	23.58	0.12	1	0289M	QPSK	50	0	15 mm	back	1:1	0.336	1.153	0.387	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.1	24.29	0.03	0	0289M	QPSK	1	99	15 mm	back	1:1	0.404	1.205	0.487	A53
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.1	23.44	0.01	1	0289M	QPSK	50	25	15 mm	back	1:1	0.309	1.164	0.360	
2310.00	27710	Mid	LTE Band 30	10	25.7	24.79	-0.10	0	1634M	QPSK	1	49	15 mm	back	1:1	0.260	1.233	0.321	A55
2310.00	27710	Mid	LTE Band 30	10	24.7	23.94	0.18	1	1634M	QPSK	25	25	15 mm	back	1:1	0.216	1.191	0.257	
2535.00	21100	Mid	LTE Band 7	20	25.4	24.43	-0.05	0	1634M	QPSK	1	0	15 mm	back	1:1	0.337	1.250	0.421	A57
2535.00	21100	Mid	LTE Band 7	20	24.4	23.45	0.10	1	1634M	QPSK	50	0	15 mm	back	1:1	0.293	1.245	0.365	

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

Table 11-25
LTE Band 41 Body-Worn SAR - Open

MEASUREMENT RESULTS																			
Power Class	FREQUENCY			Mode	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
	MHz	Ch.														(W/kg)		(W/kg)	
Power Class 3	2593.00	40620	Mid	LTE Band 41	25.5	24.53	-0.20	0	1637M	QPSK	1	50	15 mm	back	1:1.58	0.157	1.250	0.196	A59
Power Class 3	2593.00	40620	Mid	LTE Band 41	24.5	23.58	0.09	1	1637M	QPSK	50	25	15 mm	back	1:1.58	0.127	1.236	0.157	
Power Class 2	2593.00	40620	Mid	LTE Band 41	27.0	25.98	0.08	0	1637M	QPSK	1	50	15 mm	back	1:2.31	0.155	1.265	0.196	

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

Table 11-26
DTS Body-Worn SAR - Open

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)	
2437	6	802.11b	DSSS	22	22.0	21.92	-0.01	15 mm	1	0622M	1	back	99.1	0.268	0.192	1.019	1.009	**0.197**	A61
2437	6	802.11b	DSSS	22	22.0	21.96	0.12	15 mm	2	0622M	1	back	99.0	0.044	0.029	1.009	1.010	0.030	

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

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Table 11-27
NII Body-Worn SAR - Open

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)	
5300	60	802.11a	OFDM	20	18.0	17.97	-0.18	15 mm	1	0605M	6	back	97.6	0.348	0.154	1.007	1.025	0.159	
5280	56	802.11a	OFDM	20	18.0	17.98	0.07	15 mm	2	0605M	6	back	97.5	0.486	0.211	1.005	1.026	0.218	
5500	100	802.11a	OFDM	20	18.0	17.99	0.16	15 mm	1	0605M	6	back	97.6	0.232	0.090	1.002	1.025	0.092	
5500	100	802.11a	OFDM	20	18.0	17.96	0.14	15 mm	2	0605M	6	back	97.5	0.345	0.160	1.009	1.026	0.166	
5785	157	802.11a	OFDM	20	18.0	17.98	0.12	15 mm	1	0605M	6	back	97.6	0.535	0.236	1.005	1.025	**0.243**	A63
5785	157	802.11a	OFDM	20	18.0	17.83	0.17	15 mm	2	0605M	6	back	97.5	0.375	0.165	1.040	1.026	0.176	

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 11-28
DSS Body-Worn SAR - Open

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	18.0	17.89	0.03	15 mm	0289M	1	back	77.6	0.041	1.026	1.289	**0.054**	A65

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

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11.3 Standalone Open Hotspot SAR Data

Table 11-29
GPRS/UMTS/CDMA Hotspot SAR Data – Open

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	# of Time Slots	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
836.60	190	GSM 850	GPRS	33.5	32.65	0.00	10 mm	0417M	2	1:4.15	back	0.327	1.216	0.398	
836.60	190	GSM 850	GPRS	33.5	32.65	-0.04	10 mm	0417M	2	1:4.15	front	0.235	1.216	0.286	
836.60	190	GSM 850	GPRS	33.5	32.65	-0.18	10 mm	0417M	2	1:4.15	bottom	0.197	1.216	0.240	
836.60	190	GSM 850	GPRS	33.5	32.65	-0.13	10 mm	0417M	2	1:4.15	right	0.210	1.216	0.255	
836.60	190	GSM 850	GPRS	33.5	32.65	0.05	10 mm	0417M	2	1:4.15	left	0.084	1.216	0.102	
1880.00	661	GSM 1900	GPRS	25.0	24.66	-0.03	10 mm	0622M	3	1:2.76	back	0.438	1.081	0.473	
1880.00	661	GSM 1900	GPRS	25.0	24.66	-0.11	10 mm	0622M	3	1:2.76	front	0.389	1.081	0.421	
1850.20	512	GSM 1900	GPRS	25.0	24.26	-0.14	10 mm	0622M	3	1:2.76	bottom	0.907	1.186	1.076	
1880.00	661	GSM 1900	GPRS	25.0	24.66	-0.09	10 mm	0622M	3	1:2.76	bottom	0.802	1.081	0.867	
1909.80	810	GSM 1900	GPRS	25.0	24.15	0.20	10 mm	0622M	3	1:2.76	bottom	1.090	1.216	1.325	A26
1880.00	661	GSM 1900	GPRS	25.0	24.66	0.16	10 mm	0622M	3	1:2.76	right	0.068	1.081	0.074	
1880.00	661	GSM 1900	GPRS	25.0	24.66	-0.01	10 mm	0622M	3	1:2.76	left	0.145	1.081	0.157	
836.60	4183	UMTS 850	RMC	25.0	24.28	-0.03	10 mm	0278M	N/A	1:1	back	0.310	1.180	0.366	
836.60	4183	UMTS 850	RMC	25.0	24.28	0.01	10 mm	0278M	N/A	1:1	front	0.193	1.180	0.228	
836.60	4183	UMTS 850	RMC	25.0	24.28	0.04	10 mm	0278M	N/A	1:1	bottom	0.181	1.180	0.214	
836.60	4183	UMTS 850	RMC	25.0	24.28	-0.01	10 mm	0278M	N/A	1:1	right	0.246	1.180	0.290	
836.60	4183	UMTS 850	RMC	25.0	24.28	-0.10	10 mm	0278M	N/A	1:1	left	0.087	1.180	0.103	
1732.40	1412	UMTS 1750	RMC	22.0	21.12	-0.01	10 mm	2040M	N/A	1:1	back	0.495	1.225	0.606	
1732.40	1412	UMTS 1750	RMC	22.0	21.12	0.02	10 mm	2040M	N/A	1:1	front	0.359	1.225	0.440	
1712.40	1312	UMTS 1750	RMC	22.0	21.17	0.02	10 mm	2040M	N/A	1:1	bottom	0.770	1.211	0.932	A30
1732.40	1412	UMTS 1750	RMC	22.0	21.12	-0.03	10 mm	2040M	N/A	1:1	bottom	0.676	1.225	0.828	
1752.60	1513	UMTS 1750	RMC	22.0	21.06	0.00	10 mm	2040M	N/A	1:1	bottom	0.763	1.242	0.948	
1732.40	1412	UMTS 1750	RMC	22.0	21.12	-0.07	10 mm	2040M	N/A	1:1	right	0.065	1.225	0.080	
1732.40	1412	UMTS 1750	RMC	22.0	21.12	0.07	10 mm	2040M	N/A	1:1	left	0.099	1.225	0.121	
1880.00	9400	UMTS 1900	RMC	22.5	22.01	-0.04	10 mm	0622M	N/A	1:1	back	0.510	1.119	0.571	
1880.00	9400	UMTS 1900	RMC	22.5	22.01	-0.02	10 mm	0622M	N/A	1:1	front	0.460	1.119	0.515	
1852.40	9262	UMTS 1900	RMC	22.5	21.64	0.03	10 mm	0622M	N/A	1:1	bottom	1.070	1.219	1.304	
1880.00	9400	UMTS 1900	RMC	22.5	22.01	0.01	10 mm	0622M	N/A	1:1	bottom	0.906	1.119	1.014	
1907.60	9538	UMTS 1900	RMC	22.5	21.90	-0.08	10 mm	0622M	N/A	1:1	bottom	1.150	1.148	1.320	A32
1880.00	9400	UMTS 1900	RMC	22.5	22.01	-0.03	10 mm	0622M	N/A	1:1	right	0.054	1.119	0.060	
1880.00	9400	UMTS 1900	RMC	22.5	22.01	-0.01	10 mm	0622M	N/A	1:1	left	0.144	1.119	0.161	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.8	24.22	-0.03	10 mm	0417M	N/A	1:1	back	0.252	1.439	0.363	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.8	24.22	0.02	10 mm	0417M	N/A	1:1	front	0.167	1.439	0.240	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.8	24.22	-0.03	10 mm	0417M	N/A	1:1	bottom	0.137	1.439	0.197	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.8	24.22	0.05	10 mm	0417M	N/A	1:1	right	0.184	1.439	0.265	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.8	24.22	0.10	10 mm	0417M	N/A	1:1	left	0.044	1.439	0.063	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.5	24.61	0.01	10 mm	0417M	N/A	1:1	back	0.292	1.227	0.358	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.5	24.61	0.02	10 mm	0417M	N/A	1:1	front	0.192	1.227	0.236	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.5	24.61	0.01	10 mm	0417M	N/A	1:1	bottom	0.163	1.227	0.200	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.5	24.61	-0.03	10 mm	0417M	N/A	1:1	right	0.176	1.227	0.216	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.5	24.61	-0.01	10 mm	0417M	N/A	1:1	left	0.036	1.227	0.044	
1880.00	600	PCS CDMA	EVDO Rev. 0	21.9	21.80	0.00	10 mm	0622M	N/A	1:1	back	0.522	1.023	0.534	
1880.00	600	PCS CDMA	EVDO Rev. 0	21.9	21.80	-0.09	10 mm	0622M	N/A	1:1	front	0.489	1.023	0.500	
1851.25	25	PCS CDMA	EVDO Rev. 0	21.9	21.45	-0.04	10 mm	0622M	N/A	1:1	bottom	1.130	1.109	1.253	
1880.00	600	PCS CDMA	EVDO Rev. 0	21.9	21.80	-0.01	10 mm	0622M	N/A	1:1	bottom	1.020	1.023	1.043	
1908.75	1175	PCS CDMA	EVDO Rev. 0	21.9	21.61	-0.05	10 mm	0622M	N/A	1:1	bottom	1.290	1.069	1.379	A38
1880.00	600	PCS CDMA	EVDO Rev. 0	21.9	21.80	-0.04	10 mm	0622M	N/A	1:1	right	0.056	1.023	0.057	
1880.00	600	PCS CDMA	EVDO Rev. 0	21.9	21.80	-0.02	10 mm	0622M	N/A	1:1	left	0.135	1.023	0.138	
1908.75	1175	PCS CDMA	EVDO Rev. 0	21.9	21.61	-0.06	10 mm	0622M	N/A	1:1	bottom	1.240	1.069	1.326	
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

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Table 11-30
LTE Band 71 Hotspot SAR - Open

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	24.19	-0.06	0	0278M	QPSK	1	50	10 mm	back	1:1	0.082	1.352	0.111	
680.50	133297	Mid	LTE Band 71	20	24.5	23.34	-0.09	1	0278M	QPSK	50	25	10 mm	back	1:1	0.067	1.306	0.088	
680.50	133297	Mid	LTE Band 71	20	25.5	24.19	0.04	0	0278M	QPSK	1	50	10 mm	front	1:1	0.072	1.352	0.097	
680.50	133297	Mid	LTE Band 71	20	24.5	23.34	0.00	1	0278M	QPSK	50	25	10 mm	front	1:1	0.058	1.306	0.076	
680.50	133297	Mid	LTE Band 71	20	25.5	24.19	0.03	0	0278M	QPSK	1	50	10 mm	bottom	1:1	0.043	1.352	0.058	
680.50	133297	Mid	LTE Band 71	20	24.5	23.34	0.00	1	0278M	QPSK	50	25	10 mm	bottom	1:1	0.035	1.306	0.046	
680.50	133297	Mid	LTE Band 71	20	25.5	24.19	-0.05	0	0278M	QPSK	1	50	10 mm	right	1:1	0.088	1.352	0.119	A40
680.50	133297	Mid	LTE Band 71	20	24.5	23.34	-0.04	1	0278M	QPSK	50	25	10 mm	right	1:1	0.072	1.306	0.094	
680.50	133297	Mid	LTE Band 71	20	25.5	24.19	0.13	0	0278M	QPSK	1	50	10 mm	left	1:1	0.057	1.352	0.077	
680.50	133297	Mid	LTE Band 71	20	24.5	23.34	0.01	1	0278M	QPSK	50	25	10 mm	left	1:1	0.044	1.306	0.057	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 11-31
LTE Band 12 Hotspot SAR - Open

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	25.7	24.88	-0.05	0	0278M	QPSK	1	0	10 mm	back	1:1	0.139	1.208	0.168	
707.50	23095	Mid	LTE Band 12	10	24.7	24.08	-0.07	1	0278M	QPSK	25	0	10 mm	back	1:1	0.117	1.153	0.135	
707.50	23095	Mid	LTE Band 12	10	25.7	24.88	-0.06	0	0278M	QPSK	1	0	10 mm	front	1:1	0.094	1.208	0.114	
707.50	23095	Mid	LTE Band 12	10	24.7	24.08	-0.03	1	0278M	QPSK	25	0	10 mm	front	1:1	0.079	1.153	0.091	
707.50	23095	Mid	LTE Band 12	10	25.7	24.88	0.06	0	0278M	QPSK	1	0	10 mm	bottom	1:1	0.076	1.208	0.092	
707.50	23095	Mid	LTE Band 12	10	24.7	24.08	-0.08	1	0278M	QPSK	25	0	10 mm	bottom	1:1	0.065	1.153	0.075	
707.50	23095	Mid	LTE Band 12	10	25.7	24.88	0.00	0	0278M	QPSK	1	0	10 mm	right	1:1	0.160	1.208	0.193	A42
707.50	23095	Mid	LTE Band 12	10	24.7	24.08	0.00	1	0278M	QPSK	25	0	10 mm	right	1:1	0.131	1.153	0.151	
707.50	23095	Mid	LTE Band 12	10	25.7	24.88	0.01	0	0278M	QPSK	1	0	10 mm	left	1:1	0.070	1.208	0.085	
707.50	23095	Mid	LTE Band 12	10	24.7	24.08	0.00	1	0278M	QPSK	25	0	10 mm	left	1:1	0.053	1.153	0.061	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram						

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Table 11-32
LTE Band 13 Hotspot SAR – Open

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	25.7	24.83	-0.11	0	0278M	QPSK	1	25	10 mm	back	1:1	0.246	1.222	0.301	A44
782.00	23230	Mid	LTE Band 13	10	24.7	24.01	-0.05	1	0278M	QPSK	25	0	10 mm	back	1:1	0.192	1.172	0.225	
782.00	23230	Mid	LTE Band 13	10	25.7	24.83	-0.02	0	0278M	QPSK	1	25	10 mm	front	1:1	0.174	1.222	0.213	
782.00	23230	Mid	LTE Band 13	10	24.7	24.01	-0.02	1	0278M	QPSK	25	0	10 mm	front	1:1	0.136	1.172	0.159	
782.00	23230	Mid	LTE Band 13	10	25.7	24.83	0.15	0	0278M	QPSK	1	25	10 mm	bottom	1:1	0.143	1.222	0.175	
782.00	23230	Mid	LTE Band 13	10	24.7	24.01	-0.05	1	0278M	QPSK	25	0	10 mm	bottom	1:1	0.111	1.172	0.130	
782.00	23230	Mid	LTE Band 13	10	25.7	24.83	0.00	0	0278M	QPSK	1	25	10 mm	right	1:1	0.079	1.222	0.097	
782.00	23230	Mid	LTE Band 13	10	24.7	24.01	0.07	1	0278M	QPSK	25	0	10 mm	right	1:1	0.060	1.172	0.070	
782.00	23230	Mid	LTE Band 13	10	25.7	24.83	-0.03	0	0278M	QPSK	1	25	10 mm	left	1:1	0.062	1.222	0.076	
782.00	23230	Mid	LTE Band 13	10	24.7	24.01	0.06	1	0278M	QPSK	25	0	10 mm	left	1:1	0.049	1.172	0.057	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram			

Table 11-33
LTE Band 14 Hotspot SAR - Open

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	25.7	24.51	0.02	0	0278M	QPSK	1	0	10 mm	back	1:1	0.217	1.315	0.285	A46
793.00	23330	Mid	LTE Band 14	10	24.7	23.55	-0.07	1	0278M	QPSK	25	0	10 mm	back	1:1	0.184	1.303	0.240	
793.00	23330	Mid	LTE Band 14	10	25.7	24.51	0.07	0	0278M	QPSK	1	0	10 mm	front	1:1	0.208	1.315	0.274	
793.00	23330	Mid	LTE Band 14	10	24.7	23.55	0.01	1	0278M	QPSK	25	0	10 mm	front	1:1	0.177	1.303	0.231	
793.00	23330	Mid	LTE Band 14	10	25.7	24.51	0.01	0	0278M	QPSK	1	0	10 mm	bottom	1:1	0.183	1.315	0.241	
793.00	23330	Mid	LTE Band 14	10	24.7	23.55	0.00	1	0278M	QPSK	25	0	10 mm	bottom	1:1	0.152	1.303	0.198	
793.00	23330	Mid	LTE Band 14	10	25.7	24.51	0.05	0	0278M	QPSK	1	0	10 mm	right	1:1	0.092	1.315	0.121	
793.00	23330	Mid	LTE Band 14	10	24.7	23.55	0.02	1	0278M	QPSK	25	0	10 mm	right	1:1	0.069	1.303	0.090	
793.00	23330	Mid	LTE Band 14	10	25.7	24.51	-0.07	0	0278M	QPSK	1	0	10 mm	left	1:1	0.065	1.315	0.085	
793.00	23330	Mid	LTE Band 14	10	24.7	23.55	0.01	1	0278M	QPSK	25	0	10 mm	left	1:1	0.052	1.303	0.068	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram			

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Table 11-34
LTE Band 26 (Cell) Hotspot SAR - Open

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	25.7	24.66	-0.01	0	0417M	QPSK	1	74	10 mm	back	1:1	0.285	1.271	0.362	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.7	23.76	-0.01	1	0417M	QPSK	36	18	10 mm	back	1:1	0.217	1.242	0.270	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.7	24.66	0.09	0	0417M	QPSK	1	74	10 mm	front	1:1	0.189	1.271	0.240	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.7	23.76	0.00	1	0417M	QPSK	36	18	10 mm	front	1:1	0.146	1.242	0.181	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.7	24.66	-0.01	0	0417M	QPSK	1	74	10 mm	bottom	1:1	0.199	1.271	0.253	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.7	23.76	0.04	1	0417M	QPSK	36	18	10 mm	bottom	1:1	0.141	1.242	0.175	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.7	24.66	0.03	0	0417M	QPSK	1	74	10 mm	right	1:1	0.183	1.271	0.233	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.7	23.76	-0.04	1	0417M	QPSK	36	18	10 mm	right	1:1	0.153	1.242	0.190	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.7	24.66	0.14	0	0417M	QPSK	1	74	10 mm	left	1:1	0.035	1.271	0.044	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.7	23.76	0.00	1	0417M	QPSK	36	18	10 mm	left	1:1	0.034	1.242	0.042	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram										

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

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)	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.42	-0.09	0	1637M	QPSK	1	25	10 mm	back	1:1	0.403	1.067	0.430	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.7	24.49	-0.04	1	1637M	QPSK	25	12	10 mm	back	1:1	0.330	1.050	0.347	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.42	0.06	0	1637M	QPSK	1	25	10 mm	front	1:1	0.349	1.067	0.372	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.7	24.49	0.01	1	1637M	QPSK	25	12	10 mm	front	1:1	0.279	1.050	0.293	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.42	-0.02	0	1637M	QPSK	1	25	10 mm	bottom	1:1	0.239	1.067	0.255	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.7	24.49	-0.01	1	1637M	QPSK	25	12	10 mm	bottom	1:1	0.194	1.050	0.204	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.42	-0.03	0	1637M	QPSK	1	25	10 mm	right	1:1	0.380	1.067	0.405	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.7	24.49	0.01	1	1637M	QPSK	25	12	10 mm	right	1:1	0.292	1.050	0.307	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.42	0.09	0	1637M	QPSK	1	25	10 mm	left	1:1	0.079	1.067	0.084	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.7	24.49	0.03	1	1637M	QPSK	25	12	10 mm	left	1:1	0.055	1.050	0.058	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram										

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Table 11-36
LTE Band 66 (AWS) Hotspot SAR - Open

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.2	21.12	-0.02	0	0289M	QPSK	1	50	10 mm	back	1:1	0.345	1.019	0.352	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.2	21.14	0.03	0	0289M	QPSK	50	25	10 mm	back	1:1	0.364	1.014	0.369	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.2	21.12	0.01	0	0289M	QPSK	1	50	10 mm	front	1:1	0.301	1.019	0.307	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.2	21.14	0.03	0	0289M	QPSK	50	25	10 mm	front	1:1	0.315	1.014	0.319	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.2	21.12	-0.01	0	0289M	QPSK	1	50	10 mm	bottom	1:1	0.607	1.019	0.619	
1720.00	132072	Low	LTE Band 66 (AWS)	20	21.2	21.06	0.02	0	0289M	QPSK	50	0	10 mm	bottom	1:1	0.527	1.033	0.544	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	21.2	21.10	-0.03	0	0289M	QPSK	50	0	10 mm	bottom	1:1	0.599	1.023	0.613	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.2	21.14	-0.02	0	0289M	QPSK	50	25	10 mm	bottom	1:1	0.647	1.014	0.656	A52
1770.00	132572	High	LTE Band 66 (AWS)	20	21.2	21.12	0.19	0	0289M	QPSK	1	50	10 mm	right	1:1	0.051	1.019	0.052	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.2	21.14	0.12	0	0289M	QPSK	50	25	10 mm	right	1:1	0.055	1.014	0.056	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.2	21.12	0.14	0	0289M	QPSK	1	50	10 mm	left	1:1	0.085	1.019	0.087	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.2	21.14	0.05	0	0289M	QPSK	50	25	10 mm	left	1:1	0.084	1.014	0.085	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram					

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

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)	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	21.06	-0.02	0	0278M	QPSK	1	50	10 mm	back	1:1	0.463	1.132	0.524	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	21.04	0.04	0	0278M	QPSK	50	25	10 mm	back	1:1	0.484	1.138	0.551	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	21.06	0.09	0	0278M	QPSK	1	50	10 mm	front	1:1	0.467	1.132	0.529	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	21.04	0.01	0	0278M	QPSK	50	25	10 mm	front	1:1	0.484	1.138	0.551	
1860.00	26140	Low	LTE Band 25 (PCS)	20	21.6	20.73	0.09	0	0278M	QPSK	1	0	10 mm	bottom	1:1	0.897	1.222	1.096	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	21.06	-0.01	0	0278M	QPSK	1	50	10 mm	bottom	1:1	0.946	1.132	1.071	
1905.00	26590	High	LTE Band 25 (PCS)	20	21.6	20.99	0.01	0	0278M	QPSK	1	0	10 mm	bottom	1:1	1.100	1.151	1.266	
1860.00	26140	Low	LTE Band 25 (PCS)	20	21.6	20.77	0.02	0	0278M	QPSK	50	25	10 mm	bottom	1:1	0.936	1.211	1.133	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	21.04	-0.03	0	0278M	QPSK	50	25	10 mm	bottom	1:1	1.000	1.138	1.138	
1905.00	26590	High	LTE Band 25 (PCS)	20	21.6	20.80	-0.02	0	0278M	QPSK	50	50	10 mm	bottom	1:1	1.160	1.202	**1.394**	A54
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	20.95	-0.06	0	0278M	QPSK	100	0	10 mm	bottom	1:1	0.972	1.161	1.128	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	21.06	0.03	0	0278M	QPSK	1	50	10 mm	right	1:1	0.069	1.132	0.078	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	21.04	0.04	0	0278M	QPSK	50	25	10 mm	right	1:1	0.075	1.138	0.085	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	21.06	-0.07	0	0278M	QPSK	1	50	10 mm	left	1:1	0.124	1.132	0.140	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	21.04	-0.07	0	0278M	QPSK	50	25	10 mm	left	1:1	0.126	1.138	0.143	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram					

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Table 11-38
LTE Band 30 Hotspot SAR - Open

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
2310.00	27710	Mid	LTE Band 30	10	22.9	22.26	0.17	0	1634M	QPSK	1	0	10 mm	back	1:1	0.236	1.159	0.274	
2310.00	27710	Mid	LTE Band 30	10	22.9	22.22	0.07	0	1634M	QPSK	25	12	10 mm	back	1:1	0.247	1.169	0.289	
2310.00	27710	Mid	LTE Band 30	10	22.9	22.26	-0.04	0	1634M	QPSK	1	0	10 mm	front	1:1	0.350	1.159	0.406	
2310.00	27710	Mid	LTE Band 30	10	22.9	22.22	0.03	0	1634M	QPSK	25	12	10 mm	front	1:1	0.435	1.169	0.509	
2310.00	27710	Mid	LTE Band 30	10	22.9	22.26	-0.20	0	1634M	QPSK	1	0	10 mm	bottom	1:1	0.417	1.159	0.483	
2310.00	27710	Mid	LTE Band 30	10	22.9	22.22	-0.15	0	1634M	QPSK	25	12	10 mm	bottom	1:1	0.451	1.169	0.527	A56
2310.00	27710	Mid	LTE Band 30	10	22.9	22.26	-0.09	0	1634M	QPSK	1	0	10 mm	left	1:1	0.171	1.159	0.198	
2310.00	27710	Mid	LTE Band 30	10	22.9	22.22	-0.04	0	1634M	QPSK	25	12	10 mm	left	1:1	0.176	1.169	0.206	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram					

Table 11-39
LTE Band 7 Hotspot SAR - Open

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
2560.00	21350	High	LTE Band 7	20	22.6	22.51	-0.14	0	1634M	QPSK	1	50	10 mm	back	1:1	0.271	1.021	0.277	
2560.00	21350	High	LTE Band 7	20	22.6	22.36	0.02	0	1634M	QPSK	50	25	10 mm	back	1:1	0.256	1.057	0.271	
2560.00	21350	High	LTE Band 7	20	22.6	22.51	-0.14	0	1634M	QPSK	1	50	10 mm	front	1:1	0.234	1.021	0.239	
2560.00	21350	High	LTE Band 7	20	22.6	22.36	0.08	0	1634M	QPSK	50	25	10 mm	front	1:1	0.243	1.057	0.257	
2560.00	21350	High	LTE Band 7	20	22.6	22.51	-0.06	0	1634M	QPSK	1	50	10 mm	bottom	1:1	0.542	1.021	0.553	
2510.00	20850	Low	LTE Band 7	20	22.6	22.03	-0.08	0	1634M	QPSK	50	25	10 mm	bottom	1:1	0.874	1.140	0.996	A58
2535.00	21100	Mid	LTE Band 7	20	22.6	22.14	-0.03	0	1634M	QPSK	50	50	10 mm	bottom	1:1	0.652	1.112	0.725	
2560.00	21350	High	LTE Band 7	20	22.6	22.36	-0.05	0	1634M	QPSK	50	25	10 mm	bottom	1:1	0.581	1.057	0.614	
2560.00	21350	High	LTE Band 7	20	22.6	22.30	-0.05	0	1634M	QPSK	100	0	10 mm	bottom	1:1	0.581	1.072	0.623	
2560.00	21350	High	LTE Band 7	20	22.6	22.51	0.07	0	1634M	QPSK	1	50	10 mm	left	1:1	0.070	1.021	0.071	
2560.00	21350	High	LTE Band 7	20	22.6	22.36	0.03	0	1634M	QPSK	50	25	10 mm	left	1:1	0.074	1.057	0.078	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram					

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Table 11-40
LTE Band 41 Hotspot SAR - Open

MEASUREMENT RESULTS																					
Power Class	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g) (W/kg)	Scaling Factor	Reported SAR (1g) (W/kg)	Plot #
	MHz	Ch.																		
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	22.7	22.18	-0.06	0	1637M	QPSK	1	50	10 mm	back	1:1.58	0.132	1.127	0.149	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	22.7	22.16	0.00	0	1637M	QPSK	50	25	10 mm	back	1:1.58	0.136	1.132	0.154	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	22.7	22.18	-0.13	0	1637M	QPSK	1	50	10 mm	front	1:1.58	0.121	1.127	0.136	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	22.7	22.16	-0.02	0	1637M	QPSK	50	25	10 mm	front	1:1.58	0.124	1.132	0.140	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	22.7	22.18	0.00	0	1637M	QPSK	1	50	10 mm	bottom	1:1.58	0.334	1.127	0.376	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	22.7	22.16	-0.07	0	1637M	QPSK	50	25	10 mm	bottom	1:1.58	0.348	1.132	0.394	
Power Class 2	2593.00	40620	Mid	LTE Band 41	20	24.7	24.25	-0.06	0	1637M	QPSK	50	25	10 mm	bottom	1:2.31	0.423	1.109	0.469	A60
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	22.7	22.18	0.13	0	1637M	QPSK	1	50	10 mm	left	1:1.58	0.045	1.127	0.051	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	22.7	22.16	-0.11	0	1637M	QPSK	50	25	10 mm	left	1:1.58	0.044	1.132	0.050	

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

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Table 11-41
WLAN Hotspot SAR - Open

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)	
2437	6	802.11b	DSSS	22	22.0	21.92	0.15	10 mm	1	1639M	1	back	99.1	0.534	0.349	1.019	1.009	0.359	
2437	6	802.11b	DSSS	22	22.0	21.92	0.19	10 mm	1	1639M	1	front	99.1	0.613	0.386	1.019	1.009	0.397	
2412	1	802.11b	DSSS	22	22.0	21.89	0.13	10 mm	1	1639M	1	top	99.1	1.278	0.625	1.026	1.009	0.647	
2437	6	802.11b	DSSS	22	22.0	21.92	0.19	10 mm	1	1639M	1	top	99.1	1.459	0.818	1.019	1.009	0.841	
2462	11	802.11b	DSSS	22	22.0	21.66	0.14	10 mm	1	1639M	1	top	99.1	1.854	0.952	1.081	1.009	**1.038**	A62
2437	6	802.11b	DSSS	22	22.0	21.92	0.20	10 mm	1	1639M	1	right	99.1	0.788	0.493	1.019	1.009	0.507	
2437	6	802.11b	DSSS	22	22.0	21.96	0.14	10 mm	2	1639M	1	back	99.0	0.115	0.066	1.009	1.010	0.067	
2437	6	802.11b	DSSS	22	22.0	21.96	0.17	10 mm	2	1639M	1	front	99.0	0.076	-	1.009	1.010	-	
2437	6	802.11b	DSSS	22	22.0	21.96	0.16	10 mm	2	1639M	1	top	99.0	0.066	-	1.009	1.010	-	
2437	6	802.11b	DSSS	22	22.0	21.96	0.10	10 mm	2	1639M	1	right	99.0	0.057	-	1.009	1.010	-	
2462	11	802.11b	DSSS	22	22.0	21.66	0.13	10 mm	1	1639M	1	top	99.1	1.737	0.943	1.081	1.009	1.029	
5785	157	802.11a	OFDM	20	18.0	17.98	0.03	10 mm	1	0605M	6	back	97.6	0.647	0.301	1.005	1.025	0.310	
5785	157	802.11a	OFDM	20	18.0	17.98	0.18	10 mm	1	0605M	6	front	97.6	0.550	0.235	1.005	1.025	0.242	
5785	157	802.11a	OFDM	20	18.0	17.98	0.13	10 mm	1	0605M	6	top	97.6	0.338	-	1.005	1.025	-	
5785	157	802.11a	OFDM	20	18.0	17.98	0.14	10 mm	1	0605M	6	right	97.6	1.065	0.449	1.005	1.025	**0.463**	A64
5785	157	802.11a	OFDM	20	18.0	17.83	-0.16	10 mm	2	0605M	6	back	97.5	0.520	0.213	1.040	1.026	0.227	
5785	157	802.11a	OFDM	20	18.0	17.83	0.19	10 mm	2	0605M	6	front	97.5	0.153	0.050	1.040	1.026	0.053	
5785	157	802.11a	OFDM	20	18.0	17.83	0.11	10 mm	2	0605M	6	top	97.5	0.084	-	1.040	1.026	-	
5785	157	802.11a	OFDM	20	18.0	17.83	-0.08	10 mm	2	0605M	6	right	97.5	0.102	-	1.040	1.026	-	
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 11-42
DSS Hotspot SAR - Open

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	18.0	17.89	0.06	10 mm	0289M	1	back	77.6	0.074	1.026	1.289	0.098	
2441	39	Bluetooth	FHSS	18.0	17.89	-0.07	10 mm	0289M	1	front	77.6	0.089	1.026	1.289	0.118	
2441	39	Bluetooth	FHSS	18.0	17.89	-0.01	10 mm	0289M	1	top	77.6	0.173	1.026	1.289	**0.229**	A66
2441	39	Bluetooth	FHSS	18.0	17.89	0.08	10 mm	0289M	1	right	77.6	0.120	1.026	1.289	0.159	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT **Spatial Peak** **Uncontrolled Exposure/General Population**												**Body** **1.6 W/kg (mW/g)** averaged over 1 gram				

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11.4 Standalone Open Phablet SAR Data

Table 11-43
GPRS/UMTS/CDMA Phablet SAR Data - Open

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	# of Time Slots	Duty Cycle	Side	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1880.00	661	GSM 1900	GPRS	27.5	26.28	-0.03	9 mm	0622M	3	1:2.76	back	0.254	1.324	0.336	
1880.00	661	GSM 1900	GPRS	27.5	26.28	0.03	7 mm	0622M	3	1:2.76	front	0.309	1.324	0.409	
1880.00	661	GSM 1900	GPRS	27.5	26.28	0.07	13 mm	0622M	3	1:2.76	bottom	0.271	1.324	0.359	
1880.00	661	GSM 1900	GPRS	27.5	26.28	-0.05	0 mm	0622M	3	1:2.76	right	0.134	1.324	0.177	
1880.00	661	GSM 1900	GPRS	27.5	26.28	-0.14	0 mm	0622M	3	1:2.76	left	0.181	1.324	0.240	
1880.00	661	GSM 1900	GPRS	25.0	24.66	-0.04	0 mm	0622M	3	1:2.76	back	1.280	1.081	1.384	
1880.00	661	GSM 1900	GPRS	25.0	24.66	-0.05	0 mm	0622M	3	1:2.76	front	1.300	1.081	1.405	
1850.20	512	GSM 1900	GPRS	25.0	24.26	-0.07	0 mm	0622M	3	1:2.76	bottom	2.490	1.186	2.953	
1880.00	661	GSM 1900	GPRS	25.0	24.66	0.12	0 mm	0622M	3	1:2.76	bottom	2.330	1.081	2.519	
1909.80	810	GSM 1900	GPRS	25.0	24.15	-0.09	0 mm	0622M	3	1:2.76	bottom	2.680	1.216	3.259	A67
1732.40	1412	UMTS 1750	RMC	24.0	23.29	0.00	9 mm	1639M	N/A	1:1	back	0.327	1.178	0.385	
1732.40	1412	UMTS 1750	RMC	24.0	23.29	0.02	7 mm	1639M	N/A	1:1	front	0.299	1.178	0.352	
1732.40	1412	UMTS 1750	RMC	24.0	23.29	0.02	13 mm	1639M	N/A	1:1	bottom	0.279	1.178	0.329	
1732.40	1412	UMTS 1750	RMC	24.0	23.29	0.05	0 mm	1639M	N/A	1:1	right	0.167	1.178	0.197	
1732.40	1412	UMTS 1750	RMC	24.0	23.29	-0.03	0 mm	1639M	N/A	1:1	left	0.148	1.178	0.174	
1732.40	1412	UMTS 1750	RMC	22.0	21.12	-0.03	0 mm	1639M	N/A	1:1	back	0.840	1.225	1.029	
1732.40	1412	UMTS 1750	RMC	22.0	21.12	-0.14	0 mm	1639M	N/A	1:1	front	0.833	1.225	1.020	
1712.40	1312	UMTS 1750	RMC	22.0	21.17	0.12	0 mm	1639M	N/A	1:1	bottom	0.738	1.211	0.894	
1732.40	1412	UMTS 1750	RMC	22.0	21.12	0.12	0 mm	1639M	N/A	1:1	bottom	1.480	1.225	1.813	A68
1752.60	1513	UMTS 1750	RMC	22.0	21.06	-0.05	0 mm	1639M	N/A	1:1	bottom	1.220	1.242	1.515	
1880.00	9400	UMTS 1900	RMC	25.0	24.15	-0.09	9 mm	0622M	N/A	1:1	back	0.552	1.216	0.671	
1880.00	9400	UMTS 1900	RMC	25.0	24.15	0.05	7 mm	0622M	N/A	1:1	front	0.649	1.216	0.789	
1880.00	9400	UMTS 1900	RMC	25.0	24.15	-0.14	13 mm	0622M	N/A	1:1	bottom	0.531	1.216	0.646	
1880.00	9400	UMTS 1900	RMC	25.0	24.15	0.13	0 mm	0622M	N/A	1:1	right	0.257	1.216	0.313	
1880.00	9400	UMTS 1900	RMC	25.0	24.15	-0.14	0 mm	0622M	N/A	1:1	left	0.348	1.216	0.423	
1880.00	9400	UMTS 1900	RMC	22.5	22.01	0.02	0 mm	0622M	N/A	1:1	back	1.420	1.119	1.589	
1880.00	9400	UMTS 1900	RMC	22.5	22.01	-0.01	0 mm	0622M	N/A	1:1	front	1.540	1.119	1.723	
1852.40	9262	UMTS 1900	RMC	22.5	21.64	-0.02	0 mm	0622M	N/A	1:1	bottom	2.380	1.219	2.901	
1880.00	9400	UMTS 1900	RMC	22.5	22.01	-0.02	0 mm	0622M	N/A	1:1	bottom	2.640	1.119	2.954	
1907.60	9538	UMTS 1900	RMC	22.5	21.90	-0.03	0 mm	0622M	N/A	1:1	bottom	2.850	1.148	**3.272**	A69
1880.00	600	PCS CDMA	EVDO Rev. 0	25.5	24.23	-0.04	9 mm	0622M	N/A	1:1	back	0.539	1.340	0.722	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.5	24.23	0.03	7 mm	0622M	N/A	1:1	front	0.610	1.340	0.817	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.5	24.23	-0.03	13 mm	0622M	N/A	1:1	bottom	0.557	1.340	0.746	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.5	24.23	-0.04	0 mm	0622M	N/A	1:1	right	0.263	1.340	0.352	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.5	24.23	-0.13	0 mm	0622M	N/A	1:1	left	0.350	1.340	0.469	
1880.00	600	PCS CDMA	EVDO Rev. 0	21.9	21.80	-0.06	0 mm	0622M	N/A	1:1	back	1.500	1.023	1.535	
1880.00	600	PCS CDMA	EVDO Rev. 0	21.9	21.80	-0.06	0 mm	0622M	N/A	1:1	front	1.670	1.023	1.708	
1851.25	25	PCS CDMA	EVDO Rev. 0	21.9	21.45	0.01	0 mm	0622M	N/A	1:1	bottom	2.610	1.109	2.894	
1880.00	600	PCS CDMA	EVDO Rev. 0	21.9	21.80	-0.01	0 mm	0622M	N/A	1:1	bottom	2.940	1.023	3.008	
1908.75	1175	PCS CDMA	EVDO Rev. 0	21.9	21.61	0.17	0 mm	0622M	N/A	1:1	bottom	3.050	1.069	3.260	A70
1908.75	1175	PCS CDMA	EVDO Rev. 0	21.9	21.61	-0.07	0 mm	0622M	N/A	1:1	bottom	3.010	1.069	3.218	
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.

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Table 11-44
LTE Band 66 Phablet SAR - Open

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	25.2	24.43	-0.04	0	1639M	QPSK	1	50	9 mm	back	1:1	0.660	1.194	0.788	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.2	23.58	-0.03	1	1639M	QPSK	50	0	9 mm	back	1:1	0.546	1.153	0.630	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.2	24.43	-0.03	0	1639M	QPSK	1	50	7 mm	front	1:1	0.758	1.194	0.905	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.2	23.58	-0.02	1	1639M	QPSK	50	0	7 mm	front	1:1	0.623	1.153	0.718	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.2	24.43	0.05	0	1639M	QPSK	1	50	13 mm	bottom	1:1	0.562	1.194	0.671	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.2	23.58	0.00	1	1639M	QPSK	50	0	13 mm	bottom	1:1	0.466	1.153	0.537	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.2	24.43	0.02	0	1639M	QPSK	1	50	0 mm	right	1:1	0.376	1.194	0.449	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.2	23.58	0.02	1	1639M	QPSK	50	0	0 mm	right	1:1	0.313	1.153	0.361	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.2	24.43	0.09	0	1639M	QPSK	1	50	0 mm	left	1:1	0.290	1.194	0.346	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.2	23.58	-0.03	1	1639M	QPSK	50	0	0 mm	left	1:1	0.233	1.153	0.269	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.2	21.12	-0.03	0	1639M	QPSK	1	50	0 mm	back	1:1	1.050	1.019	1.070	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.2	21.14	-0.05	0	1639M	QPSK	50	25	0 mm	back	1:1	1.150	1.014	1.166	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.2	21.12	-0.05	0	1639M	QPSK	1	50	0 mm	front	1:1	1.130	1.019	1.151	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.2	21.14	-0.02	0	1639M	QPSK	50	25	0 mm	front	1:1	1.210	1.014	1.227	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.2	21.12	-0.03	0	1639M	QPSK	1	50	0 mm	bottom	1:1	1.270	1.019	1.294	A71
1770.00	132572	High	LTE Band 66 (AWS)	20	21.2	21.14	0.00	0	1639M	QPSK	50	25	0 mm	bottom	1:1	1.170	1.014	1.186	
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 11-45
LTE Band 25 Phablet SAR - Open

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.1	24.29	-0.05	0	0417M	QPSK	1	99	9 mm	back	1:1	0.467	1.205	0.563	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.1	23.44	0.00	1	0417M	QPSK	50	25	9 mm	back	1:1	0.355	1.164	0.413	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.1	24.29	-0.03	0	0417M	QPSK	1	99	7 mm	front	1:1	0.431	1.205	0.519	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.1	23.44	0.02	1	0417M	QPSK	50	25	7 mm	front	1:1	0.331	1.164	0.385	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.1	24.29	-0.05	0	0417M	QPSK	1	99	13 mm	bottom	1:1	0.436	1.205	0.525	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.1	23.44	-0.01	1	0417M	QPSK	50	25	13 mm	bottom	1:1	0.333	1.164	0.388	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.1	24.29	-0.01	0	0417M	QPSK	1	99	0 mm	right	1:1	0.262	1.205	0.316	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.1	23.44	-0.01	1	0417M	QPSK	50	25	0 mm	right	1:1	0.193	1.164	0.225	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.1	24.29	0.02	0	0417M	QPSK	1	99	0 mm	left	1:1	0.286	1.205	0.345	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.1	23.44	0.08	1	0417M	QPSK	50	25	0 mm	left	1:1	0.223	1.164	0.260	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	21.06	-0.10	0	0417M	QPSK	1	50	0 mm	back	1:1	1.020	1.132	1.155	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	21.04	0.01	0	0417M	QPSK	50	25	0 mm	back	1:1	1.060	1.138	1.206	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	21.06	0.06	0	0417M	QPSK	1	50	0 mm	front	1:1	1.130	1.132	1.279	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	21.04	0.05	0	0417M	QPSK	50	25	0 mm	front	1:1	1.170	1.138	1.331	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	21.06	0.00	0	0417M	QPSK	1	50	0 mm	bottom	1:1	1.610	1.132	1.823	
1860.00	26140	Low	LTE Band 25 (PCS)	20	21.6	20.77	0.14	0	0417M	QPSK	50	25	0 mm	bottom	1:1	1.570	1.211	1.901	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	21.04	-0.12	0	0417M	QPSK	50	25	0 mm	bottom	1:1	1.740	1.138	1.980	
1905.00	26590	High	LTE Band 25 (PCS)	20	21.6	20.80	-0.13	0	0417M	QPSK	50	50	0 mm	bottom	1:1	1.740	1.202	2.091	A72
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	20.95	-0.13	0	0417M	QPSK	100	0	0 mm	bottom	1:1	1.710	1.161	1.985	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Phablet 4.0 W/kg (mW/g) averaged over 10 grams			

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Table 11-46
LTE Band 30 Phablet SAR - Open

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
2310.00	27710	Mid	LTE Band 30	10	25.7	24.79	-0.13	0	1634M	QPSK	1	49	9 mm	back	1:1	0.287	1.233	0.354	
2310.00	27710	Mid	LTE Band 30	10	24.7	23.94	-0.20	1	1634M	QPSK	25	25	9 mm	back	1:1	0.231	1.191	0.275	
2310.00	27710	Mid	LTE Band 30	10	25.7	24.79	-0.05	0	1634M	QPSK	1	49	7 mm	front	1:1	0.447	1.233	0.551	
2310.00	27710	Mid	LTE Band 30	10	24.7	23.94	-0.02	1	1634M	QPSK	25	25	7 mm	front	1:1	0.354	1.191	0.422	
2310.00	27710	Mid	LTE Band 30	10	25.7	24.79	-0.02	0	1634M	QPSK	1	49	13 mm	bottom	1:1	0.275	1.233	0.339	
2310.00	27710	Mid	LTE Band 30	10	24.7	23.94	-0.05	1	1634M	QPSK	25	25	13 mm	bottom	1:1	0.219	1.191	0.261	
2310.00	27710	Mid	LTE Band 30	10	25.7	24.79	0.14	0	1634M	QPSK	1	49	0 mm	left	1:1	0.669	1.233	0.825	
2310.00	27710	Mid	LTE Band 30	10	24.7	23.94	0.16	1	1634M	QPSK	25	25	0 mm	left	1:1	0.545	1.191	0.649	
2310.00	27710	Mid	LTE Band 30	10	22.9	22.26	0.02	0	1634M	QPSK	1	0	0 mm	back	1:1	1.670	1.159	1.936	
2310.00	27710	Mid	LTE Band 30	10	22.9	22.22	0.03	0	1634M	QPSK	25	12	0 mm	back	1:1	1.750	1.169	2.046	
2310.00	27710	Mid	LTE Band 30	10	22.9	22.20	-0.14	0	1634M	QPSK	50	0	0 mm	back	1:1	1.570	1.175	1.845	
2310.00	27710	Mid	LTE Band 30	10	22.9	22.26	-0.09	0	1634M	QPSK	1	0	0 mm	front	1:1	1.200	1.159	1.391	
2310.00	27710	Mid	LTE Band 30	10	22.9	22.22	-0.06	0	1634M	QPSK	25	12	0 mm	front	1:1	1.250	1.169	1.461	
2310.00	27710	Mid	LTE Band 30	10	22.9	22.26	-0.13	0	1634M	QPSK	1	0	0 mm	bottom	1:1	2.000	1.159	2.318	
2310.00	27710	Mid	LTE Band 30	10	22.9	22.22	-0.12	0	1634M	QPSK	25	12	0 mm	bottom	1:1	2.070	1.169	2.420	A73
2310.00	27710	Mid	LTE Band 30	10	22.9	22.20	0.13	0	1634M	QPSK	50	0	0 mm	bottom	1:1	1.880	1.175	2.209	
2310.00	27710	Mid	LTE Band 30	10	22.9	22.22	-0.02	0	1634M	QPSK	25	12	0 mm	bottom	1:1	2.040	1.169	2.385	
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 11-47
LTE Band 7 Phablet SAR - Open

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
2535.00	21100	Mid	LTE Band 7	20	25.4	24.43	0.00	0	1634M	QPSK	1	0	9 mm	back	1:1	0.316	1.250	0.395	
2535.00	21100	Mid	LTE Band 7	20	24.4	23.45	0.05	1	1634M	QPSK	50	0	9 mm	back	1:1	0.293	1.245	0.365	
2535.00	21100	Mid	LTE Band 7	20	25.4	24.43	-0.02	0	1634M	QPSK	1	0	7 mm	front	1:1	0.523	1.250	0.654	
2535.00	21100	Mid	LTE Band 7	20	24.4	23.45	-0.02	1	1634M	QPSK	50	0	7 mm	front	1:1	0.412	1.245	0.513	
2535.00	21100	Mid	LTE Band 7	20	25.4	24.43	-0.02	0	1634M	QPSK	1	0	13 mm	bottom	1:1	0.531	1.250	0.664	
2535.00	21100	Mid	LTE Band 7	20	24.4	23.45	0.00	1	1634M	QPSK	50	0	13 mm	bottom	1:1	0.419	1.245	0.522	
2535.00	21100	Mid	LTE Band 7	20	25.4	24.43	0.12	0	1634M	QPSK	1	0	0 mm	left	1:1	0.298	1.250	0.373	
2535.00	21100	Mid	LTE Band 7	20	24.4	23.45	0.12	1	1634M	QPSK	50	0	0 mm	left	1:1	0.252	1.245	0.314	
2560.00	21350	High	LTE Band 7	20	22.6	22.51	0.00	0	1634M	QPSK	1	50	0 mm	back	1:1	1.060	1.021	1.082	
2560.00	21350	High	LTE Band 7	20	22.6	22.36	-0.06	0	1634M	QPSK	50	25	0 mm	back	1:1	1.090	1.057	1.152	A74
2560.00	21350	High	LTE Band 7	20	22.6	22.51	0.12	0	1634M	QPSK	1	50	0 mm	front	1:1	0.771	1.021	0.787	
2560.00	21350	High	LTE Band 7	20	22.6	22.36	0.07	0	1634M	QPSK	50	25	0 mm	front	1:1	0.796	1.057	0.841	
2560.00	21350	High	LTE Band 7	20	22.6	22.51	-0.03	0	1634M	QPSK	1	50	0 mm	bottom	1:1	0.841	1.021	0.859	
2560.00	21350	High	LTE Band 7	20	22.6	22.36	0.16	0	1634M	QPSK	50	25	0 mm	bottom	1:1	0.860	1.057	0.909	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Phablet 4.0 W/kg (mW/g) averaged over 10 grams			

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Table 11-48
LTE Band 41 Phablet SAR - Open

MEASUREMENT RESULTS																					
Power Class	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)	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	25.5	24.53	-0.07	0	1637M	QPSK	1	50	9 mm	back	1:1.58	0.113	1.250	0.141	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.5	23.58	0.02	1	1637M	QPSK	50	25	9 mm	back	1:1.58	0.093	1.236	0.115	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	25.5	24.53	0.08	0	1637M	QPSK	1	50	7 mm	front	1:1.58	0.149	1.250	0.186	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.5	23.58	0.03	1	1637M	QPSK	50	25	7 mm	front	1:1.58	0.122	1.236	0.151	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	25.5	24.53	-0.08	0	1637M	QPSK	1	50	13 mm	bottom	1:1.58	0.159	1.250	0.199	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.5	23.58	0.03	1	1637M	QPSK	50	25	13 mm	bottom	1:1.58	0.131	1.236	0.162	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	25.5	24.53	0.09	0	1637M	QPSK	1	50	0 mm	left	1:1.58	0.114	1.250	0.143	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.5	23.58	0.16	1	1637M	QPSK	50	25	0 mm	left	1:1.58	0.095	1.236	0.117	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	22.7	22.18	0.08	0	1637M	QPSK	1	50	0 mm	back	1:1.58	0.620	1.127	0.699	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	22.7	22.16	0.09	0	1637M	QPSK	50	25	0 mm	back	1:1.58	0.643	1.132	0.728	
Power Class 2	2593.00	40620	Mid	LTE Band 41	20	24.7	24.25	0.11	0	1637M	QPSK	50	25	0 mm	back	1:2.31	0.698	1.109	0.774	A75
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	22.7	22.18	-0.14	0	1637M	QPSK	1	50	0 mm	front	1:1.58	0.482	1.127	0.543	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	22.7	22.16	-0.13	0	1637M	QPSK	50	25	0 mm	front	1:1.58	0.503	1.132	0.569	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	22.7	22.18	-0.18	0	1637M	QPSK	1	50	0 mm	bottom	1:1.58	0.554	1.127	0.624	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	22.7	22.16	0.11	0	1637M	QPSK	50	25	0 mm	bottom	1:1.58	0.572	1.132	0.648	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																	Phablet 4.0 W/kg (mW/g) averaged over 10 grams			

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Table 11-49
WLAN SISO Phablet SAR - Open

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)	
5300	60	802.11a	OFDM	20	18.0	17.97	0.13	0 mm	1	0605M	6	back	97.6	7.636	0.659	1.007	1.025	0.680	
5300	60	802.11a	OFDM	20	18.0	17.97	-0.13	0 mm	1	0605M	6	front	97.6	8.882	1.130	1.007	1.025	1.166	
5300	60	802.11a	OFDM	20	18.0	17.97	0.17	0 mm	1	0605M	6	top	97.6	9.848	0.391	1.007	1.025	0.404	
5300	60	802.11a	OFDM	20	18.0	17.97	0.14	0 mm	1	0605M	6	right	97.6	21.788	1.170	1.007	1.025	1.208	
5260	52	802.11a	OFDM	20	18.0	17.48	-0.15	0 mm	2	0605M	6	back	97.5	16.783	1.470	1.127	1.026	1.700	
5280	56	802.11a	OFDM	20	18.0	17.98	-0.19	0 mm	2	0605M	6	back	97.5	11.532	1.580	1.005	1.026	1.629	
5300	60	802.11a	OFDM	20	18.0	17.52	-0.12	0 mm	2	0605M	6	back	97.5	13.875	1.690	1.117	1.026	1.937	
5320	64	802.11a	OFDM	20	18.0	17.61	-0.16	0 mm	2	0605M	6	back	97.5	15.390	1.870	1.094	1.026	2.099	
5280	56	802.11a	OFDM	20	18.0	17.98	0.19	0 mm	2	0605M	6	front	97.5	0.146	0.017	1.005	1.026	0.018	
5280	56	802.11a	OFDM	20	18.0	17.98	0.16	0 mm	2	0605M	6	top	97.5	0.383	0.049	1.005	1.026	0.051	
5280	56	802.11a	OFDM	20	18.0	17.98	0.19	0 mm	2	0605M	6	right	97.5	0.710	0.080	1.005	1.026	0.082	
5500	100	802.11a	OFDM	20	18.0	17.99	0.09	0 mm	1	0605M	6	back	97.6	4.756	0.510	1.002	1.025	0.524	
5500	100	802.11a	OFDM	20	18.0	17.99	-0.15	0 mm	1	0605M	6	front	97.6	6.818	0.791	1.002	1.025	0.812	
5500	100	802.11a	OFDM	20	18.0	17.99	-0.01	0 mm	1	0605M	6	top	97.6	4.190	0.324	1.002	1.025	0.333	
5500	100	802.11a	OFDM	20	18.0	17.99	-0.12	0 mm	1	0605M	6	right	97.6	17.410	1.010	1.002	1.025	1.037	
5500	100	802.11a	OFDM	20	18.0	17.96	-0.17	0 mm	2	0605M	6	back	97.5	8.712	1.440	1.009	1.026	1.491	
5500	100	802.11a	OFDM	20	18.0	17.96	0.16	0 mm	2	0605M	6	front	97.5	0.177	0.020	1.009	1.026	0.021	
5500	100	802.11a	OFDM	20	18.0	17.96	0.09	0 mm	2	0605M	6	top	97.5	0.532	0.041	1.009	1.026	0.042	
5500	100	802.11a	OFDM	20	18.0	17.96	-0.12	0 mm	2	0605M	6	right	97.5	0.803	0.083	1.009	1.026	0.086	

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

Table 11-50
WLAN MIMO Phablet SAR - Open

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm] - Ant 1	Conducted Power [dBm] - Ant 1	Maximum Allowed Power [dBm] - Ant 2	Conducted Power [dBm] - Ant 2	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (10g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (10g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5260	52	802.11n	OFDM	20	18.0	17.78	18.0	17.98	0.05	0 mm	MIMO	0605M	13	back	95.5	32.746	1.980	1.052	1.047	2.181	
5300	60	802.11n	OFDM	20	18.0	17.76	18.0	17.93	-0.02	0 mm	MIMO	0605M	13	back	95.5	33.892	1.980	1.057	1.047	2.191	
5260	52	802.11n	OFDM	20	18.0	17.78	18.0	17.98	-0.16	0 mm	MIMO	0605M	13	front	95.5	5.853	0.891	1.052	1.047	0.981	
5260	52	802.11n	OFDM	20	18.0	17.78	18.0	17.98	0.13	0 mm	MIMO	0605M	13	top	95.5	6.708	0.478	1.052	1.047	0.526	
5260	52	802.11n	OFDM	20	18.0	17.78	18.0	17.98	-0.11	0 mm	MIMO	0605M	13	right	95.5	20.396	1.430	1.052	1.047	1.575	
5500	100	802.11n	OFDM	20	18.0	17.83	18.0	17.82	-0.02	0 mm	MIMO	0605M	13	back	95.5	23.739	2.280	1.040	1.047	2.487	A76
5600	120	802.11n	OFDM	20	18.0	17.86	18.0	17.71	-0.03	0 mm	MIMO	0605M	13	back	95.5	25.157	1.980	1.033	1.047	2.216	
5720	144	802.11n	OFDM	20	18.0	17.81	18.0	17.78	0.08	0 mm	MIMO	0605M	13	back	95.5	17.567	1.760	1.045	1.047	1.939	
5500	100	802.11n	OFDM	20	18.0	17.83	18.0	17.82	-0.14	0 mm	MIMO	0605M	13	front	95.5	8.356	0.902	1.040	1.047	0.984	
5500	100	802.11n	OFDM	20	18.0	17.83	18.0	17.82	0.12	0 mm	MIMO	0605M	13	top	95.5	4.149	0.333	1.040	1.047	0.363	
5500	100	802.11n	OFDM	20	18.0	17.83	18.0	17.82	0.12	0 mm	MIMO	0605M	13	right	95.5	17.308	1.170	1.040	1.047	1.276	
5500	100	802.11n	OFDM	20	18.0	17.83	18.0	17.82	-0.02	0 mm	MIMO	0605M	13	back	95.5	30.995	2.170	1.040	1.047	2.367	

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

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

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11.5 Standalone Closed Body-Worn SAR Data

Table 11-51
GSM/UMTS/CDMA Body-Worn SAR Data – Closed

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
836.60	190	GSM 850	GSM	34.0	33.44	-0.12	15 mm	0417M	1:1	back	0.171	1.138	0.195	A23
1880.00	661	GSM 1900	GSM	31.0	29.50	0.01	15 mm	0622M	1:1	back	0.129	1.413	0.182	
836.60	4183	UMTS 850	RMC	25.0	24.28	-0.13	15 mm	0278M	1:1	back	0.188	1.180	0.222	A27
1732.40	1412	UMTS 1750	RMC	24.0	23.29	0.04	15 mm	2040M	1:1	back	0.233	1.178	0.274	
1880.00	9400	UMTS 1900	RMC	25.0	24.15	-0.09	15 mm	0622M	1:1	back	0.292	1.216	0.355	
820.10	564	CDMA BC10 (§90S)	TDSO / SO32	25.8	24.68	0.03	15 mm	0417M	1:1	back	0.201	1.294	0.260	A33
836.52	384	CDMA BC0 (§22H)	TDSO / SO32	25.5	24.97	0.03	15 mm	0417M	1:1	back	0.278	1.130	0.314	A35
1880.00	600	PCS CDMA	TDSO / SO32	25.5	24.60	-0.05	15 mm	0622M	1:1	back	0.363	1.230	0.446	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram							

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Table 11-52
LTE Body-Worn SAR - Closed

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	24.19	0.04	0	0278M	QPSK	1	50	15 mm	back	1:1	0.046	1.352	0.062	
680.50	133297	Mid	LTE Band 71	20	24.5	23.34	0.02	1	0278M	QPSK	50	25	15 mm	back	1:1	0.037	1.306	0.048	
707.50	23095	Mid	LTE Band 12	10	25.7	24.88	0.01	0	0278M	QPSK	1	0	15 mm	back	1:1	0.075	1.208	0.091	
707.50	23095	Mid	LTE Band 12	10	24.7	24.08	0.02	1	0278M	QPSK	25	0	15 mm	back	1:1	0.066	1.153	0.076	
782.00	23230	Mid	LTE Band 13	10	25.7	24.83	0.01	0	0278M	QPSK	1	25	15 mm	back	1:1	0.114	1.222	0.139	
782.00	23230	Mid	LTE Band 13	10	24.7	24.01	0.01	1	0278M	QPSK	25	0	15 mm	back	1:1	0.097	1.172	0.114	
793.00	23330	Mid	LTE Band 14	10	25.7	24.51	-0.05	0	0278M	QPSK	1	0	15 mm	back	1:1	0.109	1.315	0.143	
793.00	23330	Mid	LTE Band 14	10	24.7	23.55	-0.06	1	0278M	QPSK	25	0	15 mm	back	1:1	0.084	1.303	0.109	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.7	24.66	-0.03	0	1637M	QPSK	1	74	15 mm	back	1:1	0.305	1.271	0.388	A47
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.7	23.76	0.01	1	1637M	QPSK	36	18	15 mm	back	1:1	0.256	1.242	0.318	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.42	-0.01	0	1637M	QPSK	1	25	15 mm	back	1:1	0.315	1.067	0.336	A49
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.7	24.49	-0.01	1	1637M	QPSK	25	12	15 mm	back	1:1	0.254	1.050	0.267	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.2	24.43	0.08	0	1639M	QPSK	1	50	15 mm	back	1:1	0.235	1.194	0.281	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.2	23.58	0.06	1	1639M	QPSK	50	0	15 mm	back	1:1	0.200	1.153	0.231	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.1	24.29	0.01	0	0278M	QPSK	1	99	15 mm	back	1:1	0.360	1.205	0.434	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	24.1	23.44	0.00	1	0278M	QPSK	50	25	15 mm	back	1:1	0.265	1.164	0.308	
2310.00	27710	Mid	LTE Band 30	10	25.7	24.79	-0.13	0	1634M	QPSK	1	49	15 mm	back	1:1	0.135	1.233	0.166	
2310.00	27710	Mid	LTE Band 30	10	24.7	23.94	0.12	1	1634M	QPSK	25	25	15 mm	back	1:1	0.126	1.191	0.150	
2535.00	21100	Mid	LTE Band 7	20	25.4	24.43	-0.13	0	1634M	QPSK	1	0	15 mm	back	1:1	0.187	1.250	0.234	
2535.00	21100	Mid	LTE Band 7	20	24.4	23.45	0.07	1	1634M	QPSK	50	0	15 mm	back	1:1	0.181	1.245	0.225	

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

Table 11-53
LTE Band 41 Body-Worn SAR - Closed

MEASUREMENT RESULTS																				
Power Class	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
	MHz	Ch.															(W/kg)		(W/kg)	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	25.5	24.53	0.05	0	1637M	QPSK	1	50	15 mm	back	1:1.58	0.156	1.250	0.195	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.5	23.58	0.08	1	1637M	QPSK	50	25	15 mm	back	1:1.58	0.128	1.236	0.158	

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

Table 11-54
DTS Body-Worn SAR - Closed

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)	
2437	6	802.11b	DSSS	22	22.0	21.92	0.14	15 mm	1	0622M	1	back	99.1	0.096	0.070	1.019	1.009	0.072	
2437	6	802.11b	DSSS	22	22.0	21.96	-0.16	15 mm	2	0622M	1	back	99.0	0.005	0.003	1.009	1.010	0.003	

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

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Table 11-55
NII Body-Worn SAR - Closed

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)	
5300	60	802.11a	OFDM	20	18.0	17.97	0.17	15 mm	1	0605M	6	back	97.6	0.093	0.037	1.007	1.025	0.038	
5280	56	802.11a	OFDM	20	18.0	17.98	0.12	15 mm	2	0605M	6	back	97.5	0.041	0.014	1.005	1.026	0.014	
5500	100	802.11a	OFDM	20	18.0	17.99	0.15	15 mm	1	0605M	6	back	97.6	0.084	0.027	1.002	1.025	0.028	
5500	100	802.11a	OFDM	20	18.0	17.96	0.10	15 mm	2	0605M	6	back	97.5	0.060	0.024	1.009	1.026	0.025	
5785	157	802.11a	OFDM	20	18.0	17.98	-0.03	15 mm	1	0605M	6	back	97.6	0.219	0.099	1.005	1.025	0.102	
5785	157	802.11a	OFDM	20	18.0	17.83	0.11	15 mm	2	0605M	6	back	97.5	0.020	0.004	1.040	1.026	0.004	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram											

Table 11-56
DSS Body-Worn SAR – Closed

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	18.0	17.89	-0.12	15 mm	0289M	1	back	77.6	0.010	1.026	1.289	0.013	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram								

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11.6 Standalone Closed Hotspot SAR Data

Table 11-57
GPRS/UMTS/CDMA Hotspot SAR Data - Closed

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	# of Time Slots	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
836.60	190	GSM 850	GPRS	33.5	32.65	0.00	10 mm	0417M	2	1:4.15	back	0.426	1.216	0.518	A24
836.60	190	GSM 850	GPRS	33.5	32.65	0.15	10 mm	0417M	2	1:4.15	front	0.066	1.216	0.080	
836.60	190	GSM 850	GPRS	33.5	32.65	-0.04	10 mm	0417M	2	1:4.15	bottom	0.145	1.216	0.176	
836.60	190	GSM 850	GPRS	33.5	32.65	0.14	10 mm	0417M	2	1:4.15	right	0.067	1.216	0.081	
836.60	190	GSM 850	GPRS	33.5	32.65	0.08	10 mm	0417M	2	1:4.15	left	0.069	1.216	0.084	
1880.00	661	GSM 1900	GPRS	25.0	24.66	-0.13	10 mm	0622M	3	1:2.76	back	0.255	1.081	0.276	
1880.00	661	GSM 1900	GPRS	25.0	24.66	0.09	10 mm	0622M	3	1:2.76	front	0.091	1.081	0.098	
1850.20	512	GSM 1900	GPRS	25.0	24.26	-0.13	10 mm	0622M	3	1:2.76	bottom	0.670	1.186	0.795	
1880.00	661	GSM 1900	GPRS	25.0	24.66	-0.09	10 mm	0622M	3	1:2.76	bottom	0.539	1.081	0.583	
1909.80	810	GSM 1900	GPRS	25.0	24.15	-0.18	10 mm	0622M	3	1:2.76	bottom	0.715	1.216	0.869	
1880.00	661	GSM 1900	GPRS	25.0	24.66	-0.17	10 mm	0622M	3	1:2.76	right	0.011	1.081	0.012	
1880.00	661	GSM 1900	GPRS	25.0	24.66	-0.01	10 mm	0622M	3	1:2.76	left	0.109	1.081	0.118	
836.60	4183	UMTS 850	RMC	25.0	24.28	-0.03	10 mm	0278M	N/A	1:1	back	0.351	1.180	0.414	A28
836.60	4183	UMTS 850	RMC	25.0	24.28	0.04	10 mm	0278M	N/A	1:1	front	0.050	1.180	0.059	
836.60	4183	UMTS 850	RMC	25.0	24.28	0.02	10 mm	0278M	N/A	1:1	bottom	0.107	1.180	0.126	
836.60	4183	UMTS 850	RMC	25.0	24.28	0.03	10 mm	0278M	N/A	1:1	right	0.050	1.180	0.059	
836.60	4183	UMTS 850	RMC	25.0	24.28	0.03	10 mm	0278M	N/A	1:1	left	0.051	1.180	0.060	
1732.40	1412	UMTS 1750	RMC	22.0	21.12	0.01	10 mm	2040M	N/A	1:1	back	0.315	1.225	0.386	
1732.40	1412	UMTS 1750	RMC	22.0	21.12	0.08	10 mm	2040M	N/A	1:1	front	0.079	1.225	0.097	
1712.40	1312	UMTS 1750	RMC	22.0	21.17	0.03	10 mm	2040M	N/A	1:1	bottom	0.671	1.211	0.813	
1732.40	1412	UMTS 1750	RMC	22.0	21.12	0.03	10 mm	2040M	N/A	1:1	bottom	0.617	1.225	0.756	
1752.60	1513	UMTS 1750	RMC	22.0	21.06	0.01	10 mm	2040M	N/A	1:1	bottom	0.660	1.242	0.820	
1732.40	1412	UMTS 1750	RMC	22.0	21.12	0.14	10 mm	2040M	N/A	1:1	right	0.032	1.225	0.039	
1732.40	1412	UMTS 1750	RMC	22.0	21.12	0.05	10 mm	2040M	N/A	1:1	left	0.206	1.225	0.252	
1880.00	9400	UMTS 1900	RMC	22.5	22.01	-0.11	10 mm	0622M	N/A	1:1	back	0.341	1.119	0.382	
1880.00	9400	UMTS 1900	RMC	22.5	22.01	-0.14	10 mm	0622M	N/A	1:1	front	0.099	1.119	0.111	
1852.40	9262	UMTS 1900	RMC	22.5	21.64	0.00	10 mm	0622M	N/A	1:1	bottom	0.693	1.219	0.845	
1880.00	9400	UMTS 1900	RMC	22.5	22.01	0.02	10 mm	0622M	N/A	1:1	bottom	0.645	1.119	0.722	
1907.60	9538	UMTS 1900	RMC	22.5	21.90	0.07	10 mm	0622M	N/A	1:1	bottom	0.753	1.148	0.864	
1880.00	9400	UMTS 1900	RMC	22.5	22.01	0.01	10 mm	0622M	N/A	1:1	right	0.018	1.119	0.020	
1880.00	9400	UMTS 1900	RMC	22.5	22.01	0.03	10 mm	0622M	N/A	1:1	left	0.140	1.119	0.157	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.8	24.22	-0.07	10 mm	0417M	N/A	1:1	back	0.316	1.439	0.455	A34
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.8	24.22	0.07	10 mm	0417M	N/A	1:1	front	0.087	1.439	0.125	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.8	24.22	0.07	10 mm	0417M	N/A	1:1	bottom	0.089	1.439	0.128	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.8	24.22	0.07	10 mm	0417M	N/A	1:1	right	0.041	1.439	0.059	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	25.8	24.22	0.12	10 mm	0417M	N/A	1:1	left	0.035	1.439	0.050	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.5	24.61	-0.09	10 mm	0417M	N/A	1:1	back	0.420	1.227	0.515	A36
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.5	24.61	0.02	10 mm	0417M	N/A	1:1	front	0.125	1.227	0.153	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.5	24.61	0.11	10 mm	0417M	N/A	1:1	bottom	0.120	1.227	0.147	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.5	24.61	0.06	10 mm	0417M	N/A	1:1	right	0.056	1.227	0.069	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	25.5	24.61	0.03	10 mm	0417M	N/A	1:1	left	0.048	1.227	0.059	
1880.00	600	PCS CDMA	EVDO Rev. 0	21.9	21.80	-0.07	10 mm	0622M	N/A	1:1	back	0.348	1.023	0.356	
1880.00	600	PCS CDMA	EVDO Rev. 0	21.9	21.80	0.05	10 mm	0622M	N/A	1:1	front	0.078	1.023	0.080	
1851.25	25	PCS CDMA	EVDO Rev. 0	21.9	21.45	-0.02	10 mm	0622M	N/A	1:1	bottom	0.720	1.109	0.798	
1880.00	600	PCS CDMA	EVDO Rev. 0	21.9	21.80	0.01	10 mm	0622M	N/A	1:1	bottom	0.689	1.023	0.705	
1908.75	1175	PCS CDMA	EVDO Rev. 0	21.9	21.61	-0.04	10 mm	0622M	N/A	1:1	bottom	0.842	1.069	0.900	
1880.00	600	PCS CDMA	EVDO Rev. 0	21.9	21.80	0.12	10 mm	0622M	N/A	1:1	right	0.023	1.023	0.024	
1880.00	600	PCS CDMA	EVDO Rev. 0	21.9	21.80	0.02	10 mm	0622M	N/A	1:1	left	0.127	1.023	0.130	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram								

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Table 11-58
LTE Band 71 Hotspot SAR - Closed

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	24.19	0.09	0	0278M	QPSK	1	50	10 mm	back	1:1	0.085	1.352	0.115	
680.50	133297	Mid	LTE Band 71	20	24.5	23.34	0.04	1	0278M	QPSK	50	25	10 mm	back	1:1	0.069	1.306	0.090	
680.50	133297	Mid	LTE Band 71	20	25.5	24.19	-0.07	0	0278M	QPSK	1	50	10 mm	front	1:1	0.010	1.352	0.014	
680.50	133297	Mid	LTE Band 71	20	24.5	23.34	0.15	1	0278M	QPSK	50	25	10 mm	front	1:1	0.007	1.306	0.009	
680.50	133297	Mid	LTE Band 71	20	25.5	24.19	0.06	0	0278M	QPSK	1	50	10 mm	bottom	1:1	0.034	1.352	0.046	
680.50	133297	Mid	LTE Band 71	20	24.5	23.34	-0.06	1	0278M	QPSK	50	25	10 mm	bottom	1:1	0.028	1.306	0.037	
680.50	133297	Mid	LTE Band 71	20	25.5	24.19	0.04	0	0278M	QPSK	1	50	10 mm	right	1:1	0.020	1.352	0.027	
680.50	133297	Mid	LTE Band 71	20	24.5	23.34	0.04	1	0278M	QPSK	50	25	10 mm	right	1:1	0.016	1.306	0.021	
680.50	133297	Mid	LTE Band 71	20	25.5	24.19	0.09	0	0278M	QPSK	1	50	10 mm	left	1:1	0.025	1.352	0.034	
680.50	133297	Mid	LTE Band 71	20	24.5	23.34	0.10	1	0278M	QPSK	50	25	10 mm	left	1:1	0.020	1.306	0.026	
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 11-59
LTE Band 12 Hotspot SAR - Closed

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	25.7	24.88	-0.11	0	0278M	QPSK	1	0	10 mm	back	1:1	0.133	1.208	0.161	
707.50	23095	Mid	LTE Band 12	10	24.7	24.08	0.01	1	0278M	QPSK	25	0	10 mm	back	1:1	0.116	1.153	0.134	
707.50	23095	Mid	LTE Band 12	10	25.7	24.88	0.12	0	0278M	QPSK	1	0	10 mm	front	1:1	0.055	1.208	0.066	
707.50	23095	Mid	LTE Band 12	10	24.7	24.08	0.03	1	0278M	QPSK	25	0	10 mm	front	1:1	0.044	1.153	0.051	
707.50	23095	Mid	LTE Band 12	10	25.7	24.88	0.10	0	0278M	QPSK	1	0	10 mm	bottom	1:1	0.038	1.208	0.046	
707.50	23095	Mid	LTE Band 12	10	24.7	24.08	0.04	1	0278M	QPSK	25	0	10 mm	bottom	1:1	0.031	1.153	0.036	
707.50	23095	Mid	LTE Band 12	10	25.7	24.88	-0.06	0	0278M	QPSK	1	0	10 mm	right	1:1	0.040	1.208	0.048	
707.50	23095	Mid	LTE Band 12	10	24.7	24.08	-0.02	1	0278M	QPSK	25	0	10 mm	right	1:1	0.032	1.153	0.037	
707.50	23095	Mid	LTE Band 12	10	25.7	24.88	0.09	0	0278M	QPSK	1	0	10 mm	left	1:1	0.042	1.208	0.051	
707.50	23095	Mid	LTE Band 12	10	24.7	24.08	-0.09	1	0278M	QPSK	25	0	10 mm	left	1:1	0.035	1.153	0.040	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram							

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Table 11-60
LTE Band 13 Hotspot SAR – Closed

MEASUREMENT RESULTS																		
FREQUENCY			Mode	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	25.7	24.83	-0.07	0	0278M	QPSK	1	25	10 mm	back	1:1	0.207	1.222	0.253	
782.00	23230	Mid	LTE Band 13	24.7	24.01	-0.02	1	0278M	QPSK	25	0	10 mm	back	1:1	0.178	1.172	0.209	
782.00	23230	Mid	LTE Band 13	25.7	24.83	0.03	0	0278M	QPSK	1	25	10 mm	front	1:1	0.064	1.222	0.078	
782.00	23230	Mid	LTE Band 13	24.7	24.01	0.07	1	0278M	QPSK	25	0	10 mm	front	1:1	0.053	1.172	0.062	
782.00	23230	Mid	LTE Band 13	25.7	24.83	0.14	0	0278M	QPSK	1	25	10 mm	bottom	1:1	0.065	1.222	0.079	
782.00	23230	Mid	LTE Band 13	24.7	24.01	-0.06	1	0278M	QPSK	25	0	10 mm	bottom	1:1	0.059	1.172	0.069	
782.00	23230	Mid	LTE Band 13	25.7	24.83	0.17	0	0278M	QPSK	1	25	10 mm	right	1:1	0.019	1.222	0.023	
782.00	23230	Mid	LTE Band 13	24.7	24.01	0.07	1	0278M	QPSK	25	0	10 mm	right	1:1	0.018	1.172	0.021	
782.00	23230	Mid	LTE Band 13	25.7	24.83	0.12	0	0278M	QPSK	1	25	10 mm	left	1:1	0.019	1.222	0.023	
782.00	23230	Mid	LTE Band 13	24.7	24.01	0.12	1	0278M	QPSK	25	0	10 mm	left	1:1	0.017	1.172	0.020	
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 11-61
LTE Band 14 Hotspot SAR - Closed

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	25.7	24.51	-0.08	0	0278M	QPSK	1	0	10 mm	back	1:1	0.192	1.315	0.252	
793.00	23330	Mid	LTE Band 14	10	24.7	23.55	-0.08	1	0278M	QPSK	25	0	10 mm	back	1:1	0.149	1.303	0.194	
793.00	23330	Mid	LTE Band 14	10	25.7	24.51	0.03	0	0278M	QPSK	1	0	10 mm	front	1:1	0.056	1.315	0.074	
793.00	23330	Mid	LTE Band 14	10	24.7	23.55	0.10	1	0278M	QPSK	25	0	10 mm	front	1:1	0.044	1.303	0.057	
793.00	23330	Mid	LTE Band 14	10	25.7	24.51	0.04	0	0278M	QPSK	1	0	10 mm	bottom	1:1	0.062	1.315	0.082	
793.00	23330	Mid	LTE Band 14	10	24.7	23.55	0.04	1	0278M	QPSK	25	0	10 mm	bottom	1:1	0.046	1.303	0.060	
793.00	23330	Mid	LTE Band 14	10	25.7	24.51	-0.01	0	0278M	QPSK	1	0	10 mm	right	1:1	0.019	1.315	0.025	
793.00	23330	Mid	LTE Band 14	10	24.7	23.55	-0.05	1	0278M	QPSK	25	0	10 mm	right	1:1	0.015	1.303	0.020	
793.00	23330	Mid	LTE Band 14	10	25.7	24.51	0.21	0	0278M	QPSK	1	0	10 mm	left	1:1	0.016	1.315	0.021	
793.00	23330	Mid	LTE Band 14	10	24.7	23.55	0.12	1	0278M	QPSK	25	0	10 mm	left	1:1	0.013	1.303	0.017	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Body 1.6 W/kg (mW/g) averaged over 1 gram										

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Table 11-62
LTE Band 26 (Cell) Hotspot SAR - Closed

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	25.7	24.66	0.00	0	1637M	QPSK	1	74	10 mm	back	1:1	0.502	1.271	0.638	A48
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.7	23.76	0.00	1	1637M	QPSK	36	18	10 mm	back	1:1	0.422	1.242	0.524	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.7	24.66	0.00	0	1637M	QPSK	1	74	10 mm	front	1:1	0.145	1.271	0.184	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.7	23.76	0.04	1	1637M	QPSK	36	18	10 mm	front	1:1	0.113	1.242	0.140	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.7	24.66	-0.02	0	1637M	QPSK	1	74	10 mm	bottom	1:1	0.143	1.271	0.182	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.7	23.76	0.01	1	1637M	QPSK	36	18	10 mm	bottom	1:1	0.110	1.242	0.137	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.7	24.66	0.03	0	1637M	QPSK	1	74	10 mm	right	1:1	0.079	1.271	0.100	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.7	23.76	0.07	1	1637M	QPSK	36	18	10 mm	right	1:1	0.064	1.242	0.079	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.7	24.66	0.03	0	1637M	QPSK	1	74	10 mm	left	1:1	0.061	1.271	0.078	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.7	23.76	0.12	1	1637M	QPSK	36	18	10 mm	left	1:1	0.052	1.242	0.065	
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 11-63
LTE Band 5 (Cell) Hotspot SAR - Closed

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)	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.42	-0.03	0	1637M	QPSK	1	25	10 mm	back	1:1	0.549	1.067	0.586	A50
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.7	24.49	-0.03	1	1637M	QPSK	25	12	10 mm	back	1:1	0.439	1.050	0.461	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.42	0.20	0	1637M	QPSK	1	25	10 mm	front	1:1	0.158	1.067	0.169	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.7	24.49	0.00	1	1637M	QPSK	25	12	10 mm	front	1:1	0.131	1.050	0.138	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.42	-0.13	0	1637M	QPSK	1	25	10 mm	bottom	1:1	0.156	1.067	0.166	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.7	24.49	0.11	1	1637M	QPSK	25	12	10 mm	bottom	1:1	0.131	1.050	0.138	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.42	-0.10	0	1637M	QPSK	1	25	10 mm	right	1:1	0.086	1.067	0.092	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.7	24.49	-0.02	1	1637M	QPSK	25	12	10 mm	right	1:1	0.068	1.050	0.071	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.7	25.42	0.03	0	1637M	QPSK	1	25	10 mm	left	1:1	0.069	1.067	0.074	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.7	24.49	0.19	1	1637M	QPSK	25	12	10 mm	left	1:1	0.055	1.050	0.058	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram										

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Table 11-64
LTE Band 66 (AWS) Hotspot SAR - Closed

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.2	21.12	0.05	0	1639M	QPSK	1	50	10 mm	back	1:1	0.248	1.019	0.253	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.2	21.14	0.09	0	1639M	QPSK	50	25	10 mm	back	1:1	0.268	1.014	0.272	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.2	21.12	0.08	0	1639M	QPSK	1	50	10 mm	front	1:1	0.052	1.019	0.053	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.2	21.14	0.19	0	1639M	QPSK	50	25	10 mm	front	1:1	0.057	1.014	0.058	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.2	21.12	-0.01	0	1639M	QPSK	1	50	10 mm	bottom	1:1	0.422	1.019	0.430	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.2	21.14	-0.04	0	1639M	QPSK	50	25	10 mm	bottom	1:1	0.464	1.014	0.470	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.2	21.12	-0.11	0	1639M	QPSK	1	50	10 mm	right	1:1	0.028	1.019	0.029	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.2	21.14	0.21	0	1639M	QPSK	50	25	10 mm	right	1:1	0.032	1.014	0.032	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.2	21.12	0.14	0	1639M	QPSK	1	50	10 mm	left	1:1	0.124	1.019	0.126	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.2	21.14	0.05	0	1639M	QPSK	50	25	10 mm	left	1:1	0.124	1.014	0.126	
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 11-65
LTE Band 25 (PCS) Hotspot SAR - Closed

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)	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	21.06	-0.06	0	0289M	QPSK	1	50	10 mm	back	1:1	0.333	1.132	0.377	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	21.04	-0.03	0	0289M	QPSK	50	25	10 mm	back	1:1	0.339	1.138	0.386	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	21.06	0.02	0	0289M	QPSK	1	50	10 mm	front	1:1	0.076	1.132	0.086	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	21.04	0.03	0	0289M	QPSK	50	25	10 mm	front	1:1	0.076	1.138	0.086	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	21.06	0.05	0	0289M	QPSK	1	50	10 mm	bottom	1:1	0.631	1.132	0.714	
1860.00	26140	Low	LTE Band 25 (PCS)	20	21.6	20.77	-0.02	0	0289M	QPSK	50	25	10 mm	bottom	1:1	0.682	1.211	0.826	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	21.04	0.02	0	0289M	QPSK	50	25	10 mm	bottom	1:1	0.660	1.138	0.751	
1905.00	26590	High	LTE Band 25 (PCS)	20	21.6	20.80	0.01	0	0289M	QPSK	50	50	10 mm	bottom	1:1	0.788	1.202	0.947	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	20.95	-0.03	0	0289M	QPSK	100	0	10 mm	bottom	1:1	0.672	1.161	0.780	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	21.06	0.16	0	0289M	QPSK	1	50	10 mm	right	1:1	0.022	1.132	0.025	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	21.04	0.01	0	0289M	QPSK	50	25	10 mm	right	1:1	0.022	1.138	0.025	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	21.06	-0.15	0	0289M	QPSK	1	50	10 mm	left	1:1	0.111	1.132	0.126	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.6	21.04	0.06	0	0289M	QPSK	50	25	10 mm	left	1:1	0.113	1.138	0.129	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram							

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Table 11-66
LTE Band 30 Hotspot SAR – Closed

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
2310.00	27710	Mid	LTE Band 30	10	22.9	22.26	0.02	0	1634M	QPSK	1	0	10 mm	back	1:1	0.236	1.159	0.274	
2310.00	27710	Mid	LTE Band 30	10	22.9	22.22	0.01	0	1634M	QPSK	25	12	10 mm	back	1:1	0.244	1.169	0.285	
2310.00	27710	Mid	LTE Band 30	10	22.9	22.26	0.12	0	1634M	QPSK	1	0	10 mm	front	1:1	0.040	1.159	0.046	
2310.00	27710	Mid	LTE Band 30	10	22.9	22.22	0.13	0	1634M	QPSK	25	12	10 mm	front	1:1	0.043	1.169	0.050	
2310.00	27710	Mid	LTE Band 30	10	22.9	22.26	0.01	0	1634M	QPSK	1	0	10 mm	bottom	1:1	0.332	1.159	0.385	
2310.00	27710	Mid	LTE Band 30	10	22.9	22.22	-0.05	0	1634M	QPSK	25	12	10 mm	bottom	1:1	0.349	1.169	0.408	
2310.00	27710	Mid	LTE Band 30	10	22.9	22.26	-0.03	0	1634M	QPSK	1	0	10 mm	left	1:1	0.088	1.159	0.102	
2310.00	27710	Mid	LTE Band 30	10	22.9	22.22	0.01	0	1634M	QPSK	25	12	10 mm	left	1:1	0.088	1.169	0.103	
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 11-67
LTE Band 7 Hotspot SAR - Closed

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
2560.00	21350	High	LTE Band 7	20	22.6	22.51	0.00	0	1634M	QPSK	1	50	10 mm	back	1:1	0.184	1.021	0.188	
2560.00	21350	High	LTE Band 7	20	22.6	22.36	0.06	0	1634M	QPSK	50	25	10 mm	back	1:1	0.189	1.057	0.200	
2560.00	21350	High	LTE Band 7	20	22.6	22.51	0.12	0	1634M	QPSK	1	50	10 mm	front	1:1	0.026	1.021	0.027	
2560.00	21350	High	LTE Band 7	20	22.6	22.36	0.14	0	1634M	QPSK	50	25	10 mm	front	1:1	0.027	1.057	0.029	
2560.00	21350	High	LTE Band 7	20	22.6	22.51	-0.09	0	1634M	QPSK	1	50	10 mm	bottom	1:1	0.383	1.021	0.391	
2560.00	21350	High	LTE Band 7	20	22.6	22.36	-0.03	0	1634M	QPSK	50	25	10 mm	bottom	1:1	0.396	1.057	0.419	
2560.00	21350	High	LTE Band 7	20	22.6	22.51	-0.07	0	1634M	QPSK	1	50	10 mm	left	1:1	0.083	1.021	0.085	
2560.00	21350	High	LTE Band 7	20	22.6	22.36	0.06	0	1634M	QPSK	50	25	10 mm	left	1:1	0.087	1.057	0.092	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Body 1.6 W/kg (mW/g) averaged over 1 gram											

Table 11-68
LTE Band 41 Hotspot SAR - Closed

MEASUREMENT RESULTS																					
Power Class	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
	MHz	Ch.															(W/kg)		(W/kg)	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	22.7	22.18	-0.04	0	1637M	QPSK	1	50	10 mm	back	1:1.58	0.149	1.127	0.168	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	22.7	22.16	-0.05	0	1637M	QPSK	50	25	10 mm	back	1:1.58	0.152	1.132	0.172	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	22.7	22.18	0.12	0	1637M	QPSK	1	50	10 mm	front	1:1.58	0.027	1.127	0.030	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	22.7	22.16	-0.01	0	1637M	QPSK	50	25	10 mm	front	1:1.58	0.027	1.132	0.031	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	22.7	22.18	-0.03	0	1637M	QPSK	1	50	10 mm	bottom	1:1.58	0.269	1.127	0.303	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	22.7	22.16	-0.05	0	1637M	QPSK	50	25	10 mm	bottom	1:1.58	0.281	1.132	0.318	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	22.7	22.18	-0.04	0	1637M	QPSK	1	50	10 mm	left	1:1.58	0.066	1.127	0.074	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	22.7	22.16	0.13	0	1637M	QPSK	50	25	10 mm	left	1:1.58	0.068	1.132	0.077	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram										

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Table 11-69
WLAN Hotspot SAR - Closed

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)	
2437	6	802.11b	DSSS	22	22.0	21.92	0.16	10 mm	1	0622M	1	back	99.1	0.133	-	1.019	1.009	-	
2437	6	802.11b	DSSS	22	22.0	21.92	0.00	10 mm	1	0622M	1	front	99.1	0.435	-	1.019	1.009	-	
2437	6	802.11b	DSSS	22	22.0	21.92	-0.10	10 mm	1	0622M	1	bottom	99.1	0.559	0.320	1.019	1.009	0.329	
2437	6	802.11b	DSSS	22	22.0	21.92	-0.09	10 mm	1	0622M	1	right	99.1	0.539	-	1.019	1.009	-	
2437	6	802.11b	DSSS	22	22.0	21.96	0.19	10 mm	2	0622M	1	back	99.0	0.005	-	1.009	1.010	-	
2437	6	802.11b	DSSS	22	22.0	21.96	0.17	10 mm	2	0622M	1	front	99.0	0.124	0.083	1.009	1.010	0.085	
2437	6	802.11b	DSSS	22	22.0	21.96	0.13	10 mm	2	0622M	1	top	99.0	0.001	-	1.009	1.010	-	
2437	6	802.11b	DSSS	22	22.0	21.96	0.13	10 mm	2	0622M	1	bottom	99.0	0.039	-	1.009	1.010	-	
2437	6	802.11b	DSSS	22	22.0	21.96	-0.02	10 mm	2	0622M	1	right	99.0	0.055	-	1.009	1.010	-	
5785	157	802.11a	OFDM	20	18.0	17.98	0.13	10 mm	1	0605M	6	back	97.6	0.423	-	1.005	1.025	-	
5785	157	802.11a	OFDM	20	18.0	17.98	0.15	10 mm	1	0605M	6	front	97.6	0.556	0.255	1.005	1.025	0.263	
5785	157	802.11a	OFDM	20	18.0	17.98	0.18	10 mm	1	0605M	6	bottom	97.6	0.476	-	1.005	1.025	-	
5785	157	802.11a	OFDM	20	18.0	17.98	0.13	10 mm	1	0605M	6	right	97.6	0.499	-	1.005	1.025	-	
5785	157	802.11a	OFDM	20	18.0	17.83	0.13	10 mm	2	0605M	6	back	97.5	0.028	-	1.040	1.026	-	
5785	157	802.11a	OFDM	20	18.0	17.83	-0.18	10 mm	2	0605M	6	front	97.5	0.431	0.181	1.040	1.026	0.193	
5785	157	802.11a	OFDM	20	18.0	17.83	0.18	10 mm	2	0605M	6	bottom	97.5	0.047	-	1.040	1.026	-	
5785	157	802.11a	OFDM	20	18.0	17.83	0.16	10 mm	2	0605M	6	right	97.5	0.121	-	1.040	1.026	-	
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 11-70
DSS Hotspot SAR – Closed

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	18.0	17.89	0.04	10 mm	0298M	1	back	77.6	0.019	1.026	1.289	0.025	
2441	39	Bluetooth	FHSS	18.0	17.89	0.20	10 mm	0298M	1	front	77.6	0.046	1.026	1.289	0.061	
2441	39	Bluetooth	FHSS	18.0	17.89	0.09	10 mm	0298M	1	bottom	77.6	0.087	1.026	1.289	0.115	
2441	39	Bluetooth	FHSS	18.0	17.89	0.13	10 mm	0298M	1	right	77.6	0.098	1.026	1.289	0.130	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Body 1.6 W/kg (mW/g) averaged over 1 gram				

11.7 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.

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5. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D01v06.
6. Device was tested using a fixed spacing for body-worn accessory testing. A separation distance of 15 mm was considered because the manufacturer has determined that there will be body-worn accessories available in the marketplace for users to support this separation distance.
7. Per FCC KDB Publication 648474 D04v01r03, body-worn SAR was evaluated without a headset connected to the device. Since the standalone reported body-worn SAR was ≤ 1.2 W/kg, no additional body-worn SAR evaluations using a headset cable were required.
8. Per FCC KDB 865664 D01v01r04, variability SAR tests were performed when the measured SAR results for a frequency band were greater than or equal to 0.8 W/kg. Repeated SAR measurements are highlighted in the tables above for clarity. Please see Section 13 for variability analysis.
9. During SAR Testing for the Wireless Router conditions per FCC KDB Publication 941225 D06v02r01, the actual Portable Hotspot operation (with actual simultaneous transmission of a transmitter with WIFI) was not activated (See Section 6.7 for more details).
10. Per FCC KDB Publication 648474 D04v01r03, this device is considered a "phablet" since the diagonal dimension is > 160 mm and < 200 mm. Therefore, phablet SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR > 1.2 W/kg.
11. This device 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. Unless otherwise noted, when 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds below.
13. Additional SAR tests for phablet SAR were evaluated per KDB 616217 Section 6 (See Section 6.9 for more information).
14. This device has an open and closed configuration. When closed, 1g SAR test are required on all surfaces and edges with an antenna <=25 mm from that surface or edge at a test separation distance of 15mm for body-worn and 10mm for hotspot.

GSM Test Notes:

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

CDMA Notes:

1. Head SAR for CDMA2000 mode was tested under RC3/SO55 per FCC KDB Publication 941225 D01v03r01.
2. Body-Worn SAR was tested with 1x RTT with TDSO / SO32 FCH Only. EVDO Rev0 and RevA and TDSO / SO32 FCH+SCH SAR tests were not required per the 3G SAR Test Reduction Procedure in FCC KDB Publication 941225 D01v03r01.
3. CDMA Wireless Router SAR is measured using Subtype 0/1 Physical Layer configurations for Rev. 0 according to KDB 941225 D01v03r01 procedures for data devices. Wireless Router SAR tests for Subtype 2 of Rev.A and 1x RTT configurations were not required per the 3G SAR Test Reduction Policy in KDB Publication 941225 D01v03r01.
4. Head SAR was additionally evaluated using EVDO Rev. A to determine compliance for VoIP operations.

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5. Per FCC KDB Publication 447498 D01v06, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg for 1g evaluations then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel was used.
6. CDMA 1X Advanced technology was not required for SAR since the maximum allowed output powers for 1X Advanced was not more than 0.25 dB higher than the maximum powers for 1X.

UMTS Notes:

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

LTE Notes:

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

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WLAN Notes:

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

Bluetooth Notes

1. Bluetooth SAR was measured with the device connected to a call box with hopping disabled with DH5 operation and Tx Tests test mode type. Per October 2016 TCB Workshop Notes, the reported SAR was scaled to the 100% transmission duty factor to determine compliance. See Section 9.6 for the time domain plot and calculation for the duty factor of the device.
2. Head and Hotspot Bluetooth SAR were evaluated for BT BR tethering applications.

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12 FCC MULTI-TX AND ANTENNA SAR CONSIDERATIONS

12.1 Introduction

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

12.2 Simultaneous Transmission Procedures

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

12.3 Head SAR Simultaneous Transmission Analysis

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Head SAR	GSM 850	0.226	0.324	0.100	0.550	0.326	0.650
	GSM 1900	0.040	0.324	0.100	0.364	0.140	0.464
	UMTS 850	0.225	0.324	0.100	0.549	0.325	0.649
	UMTS 1750	0.100	0.324	0.100	0.424	0.200	0.524
	UMTS 1900	0.077	0.324	0.100	0.401	0.177	0.501
	CDMA/EVDO BC10 (§90S)	0.261	0.324	0.100	0.585	0.361	**0.685**
	CDMA/EVDO BC0 (§22H)	0.240	0.324	0.100	0.564	0.340	0.664
	PCS CDMA/EVDO	0.088	0.324	0.100	0.412	0.188	0.512
	LTE Band 71	0.053	0.324	0.100	0.377	0.153	0.477
	LTE Band 12	0.083	0.324	0.100	0.407	0.183	0.507
	LTE Band 13	0.153	0.324	0.100	0.477	0.253	0.577
	LTE Band 14	0.180	0.324	0.100	0.504	0.280	0.604
	LTE Band 26 (Cell)	0.144	0.324	0.100	0.468	0.244	0.568
	LTE Band 5 (Cell)	0.253	0.324	0.100	0.577	0.353	0.677
	LTE Band 66 (AWS)	0.106	0.324	0.100	0.430	0.206	0.530
	LTE Band 25 (PCS)	0.100	0.324	0.100	0.424	0.200	0.524
	LTE Band 30	0.088	0.324	0.100	0.412	0.188	0.512
	LTE Band 7	0.144	0.324	0.100	0.468	0.244	0.568
	LTE Band 41	0.059	0.324	0.100	0.383	0.159	0.483

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Head SAR	GSM 850	0.226	0.542	0.008	0.768	0.234	0.776
	GSM 1900	0.040	0.542	0.008	0.582	0.048	0.590
	UMTS 850	0.225	0.542	0.008	0.767	0.233	0.775
	UMTS 1750	0.100	0.542	0.008	0.642	0.108	0.650
	UMTS 1900	0.077	0.542	0.008	0.619	0.085	0.627
	CDMA/EVDO BC10 (§90S)	0.261	0.542	0.008	0.803	0.269	**0.811**
	CDMA/EVDO BC0 (§22H)	0.240	0.542	0.008	0.782	0.248	0.790
	PCS CDMA/EVDO	0.088	0.542	0.008	0.630	0.096	0.638
	LTE Band 71	0.053	0.542	0.008	0.595	0.061	0.603
	LTE Band 12	0.083	0.542	0.008	0.625	0.091	0.633
	LTE Band 13	0.153	0.542	0.008	0.695	0.161	0.703
	LTE Band 14	0.180	0.542	0.008	0.722	0.188	0.730
	LTE Band 26 (Cell)	0.144	0.542	0.008	0.686	0.152	0.694
	LTE Band 5 (Cell)	0.253	0.542	0.008	0.795	0.261	0.803
	LTE Band 66 (AWS)	0.106	0.542	0.008	0.648	0.114	0.656
	LTE Band 25 (PCS)	0.100	0.542	0.008	0.642	0.108	0.650
	LTE Band 30	0.088	0.542	0.008	0.630	0.096	0.638
	LTE Band 7	0.144	0.542	0.008	0.686	0.152	0.694
	LTE Band 41	0.059	0.542	0.008	0.601	0.067	0.609

Table 12-3
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	GSM 850	0.226	0.541	0.767
	GSM 1900	0.040	0.541	0.581
	UMTS 850	0.225	0.541	0.766
	UMTS 1750	0.100	0.541	0.641
	UMTS 1900	0.077	0.541	0.618
	CDMA/EVDO BC10 (§90S)	0.261	0.541	**0.802**
	CDMA/EVDO BC0 (§22H)	0.240	0.541	0.781
	PCS CDMA/EVDO	0.088	0.541	0.629
	LTE Band 71	0.053	0.541	0.594
	LTE Band 12	0.083	0.541	0.624
	LTE Band 13	0.153	0.541	0.694
	LTE Band 14	0.180	0.541	0.721
	LTE Band 26 (Cell)	0.144	0.541	0.685
	LTE Band 5 (Cell)	0.253	0.541	0.794
	LTE Band 66 (AWS)	0.106	0.541	0.647
	LTE Band 25 (PCS)	0.100	0.541	0.641
	LTE Band 30	0.088	0.541	0.629
	LTE Band 7	0.144	0.541	0.685
	LTE Band 41	0.059	0.541	0.600

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Table 12-4
Simultaneous Transmission Scenario with 2.4 GHz 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	GSM 850	0.226	0.324	0.008	0.558
	GSM 1900	0.040	0.324	0.008	0.372
	UMTS 850	0.225	0.324	0.008	0.557
	UMTS 1750	0.100	0.324	0.008	0.432
	UMTS 1900	0.077	0.324	0.008	0.409
	CDMA/EVDO BC10 (§90S)	0.261	0.324	0.008	**0.593**
	CDMA/EVDO BC0 (§22H)	0.240	0.324	0.008	0.572
	PCS CDMA/EVDO	0.088	0.324	0.008	0.420
	LTE Band 71	0.053	0.324	0.008	0.385
	LTE Band 12	0.083	0.324	0.008	0.415
	LTE Band 13	0.153	0.324	0.008	0.485
	LTE Band 14	0.180	0.324	0.008	0.512
	LTE Band 26 (Cell)	0.144	0.324	0.008	0.476
	LTE Band 5 (Cell)	0.253	0.324	0.008	0.585
	LTE Band 66 (AWS)	0.106	0.324	0.008	0.438
	LTE Band 25 (PCS)	0.100	0.324	0.008	0.432
	LTE Band 30	0.088	0.324	0.008	0.420
	LTE Band 7	0.144	0.324	0.008	0.476
	LTE Band 41	0.059	0.324	0.008	0.391

Table 12-5
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	GSM 850	0.226	0.541	0.008	0.775
	GSM 1900	0.040	0.541	0.008	0.589
	UMTS 850	0.225	0.541	0.008	0.774
	UMTS 1750	0.100	0.541	0.008	0.649
	UMTS 1900	0.077	0.541	0.008	0.626
	CDMA/EVDO BC10 (§90S)	0.261	0.541	0.008	**0.810**
	CDMA/EVDO BC0 (§22H)	0.240	0.541	0.008	0.789
	PCS CDMA/EVDO	0.088	0.541	0.008	0.637
	LTE Band 71	0.053	0.541	0.008	0.602
	LTE Band 12	0.083	0.541	0.008	0.632
	LTE Band 13	0.153	0.541	0.008	0.702
	LTE Band 14	0.180	0.541	0.008	0.729
	LTE Band 26 (Cell)	0.144	0.541	0.008	0.693
	LTE Band 5 (Cell)	0.253	0.541	0.008	0.802
	LTE Band 66 (AWS)	0.106	0.541	0.008	0.655
	LTE Band 25 (PCS)	0.100	0.541	0.008	0.649
	LTE Band 30	0.088	0.541	0.008	0.637
	LTE Band 7	0.144	0.541	0.008	0.693
	LTE Band 41	0.059	0.541	0.008	0.608

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12.4 Open Body-Worn Simultaneous Transmission Analysis

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body-Worn	GSM 850	0.109	0.197	0.030	0.306	0.139	0.336
	GSM 1900	0.301	0.197	0.030	0.498	0.331	0.528
	UMTS 850	0.175	0.197	0.030	0.372	0.205	0.402
	UMTS 1750	0.432	0.197	0.030	0.629	0.462	0.659
	UMTS 1900	0.547	0.197	0.030	0.744	0.577	0.774
	CDMA BC10 (§90S)	0.208	0.197	0.030	0.405	0.238	0.435
	CDMA BC0 (§22H)	0.160	0.197	0.030	0.357	0.190	0.387
	PCS CDMA	0.959	0.197	0.030	1.156	0.989	**1.186**
	LTE Band 71	0.091	0.197	0.030	0.288	0.121	0.318
	LTE Band 12	0.128	0.197	0.030	0.325	0.158	0.355
	LTE Band 13	0.185	0.197	0.030	0.382	0.215	0.412
	LTE Band 14	0.230	0.197	0.030	0.427	0.260	0.457
	LTE Band 26 (Cell)	0.164	0.197	0.030	0.361	0.194	0.391
	LTE Band 5 (Cell)	0.196	0.197	0.030	0.393	0.226	0.423
	LTE Band 66 (AWS)	0.493	0.197	0.030	0.690	0.523	0.720
	LTE Band 25 (PCS)	0.487	0.197	0.030	0.684	0.517	0.714
	LTE Band 30	0.321	0.197	0.030	0.518	0.351	0.548
	LTE Band 7	0.421	0.197	0.030	0.618	0.451	0.648
	LTE Band 41	0.196	0.197	0.030	0.393	0.226	0.423

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body-Worn	GSM 850	0.109	0.243	0.218	0.352	0.327	0.570
	GSM 1900	0.301	0.243	0.218	0.544	0.519	0.762
	UMTS 850	0.175	0.243	0.218	0.418	0.393	0.636
	UMTS 1750	0.432	0.243	0.218	0.675	0.650	0.893
	UMTS 1900	0.547	0.243	0.218	0.790	0.765	1.008
	CDMA BC10 (§90S)	0.208	0.243	0.218	0.451	0.426	0.669
	CDMA BC0 (§22H)	0.160	0.243	0.218	0.403	0.378	0.621
	PCS CDMA	0.959	0.243	0.218	1.202	1.177	**1.420**
	LTE Band 71	0.091	0.243	0.218	0.334	0.309	0.552
	LTE Band 12	0.128	0.243	0.218	0.371	0.346	0.589
	LTE Band 13	0.185	0.243	0.218	0.428	0.403	0.646
	LTE Band 14	0.230	0.243	0.218	0.473	0.448	0.691
	LTE Band 26 (Cell)	0.164	0.243	0.218	0.407	0.382	0.625
	LTE Band 5 (Cell)	0.196	0.243	0.218	0.439	0.414	0.657
	LTE Band 66 (AWS)	0.493	0.243	0.218	0.736	0.711	0.954
	LTE Band 25 (PCS)	0.487	0.243	0.218	0.730	0.705	0.948
	LTE Band 30	0.321	0.243	0.218	0.564	0.539	0.782
	LTE Band 7	0.421	0.243	0.218	0.664	0.639	0.882
	LTE Band 41	0.196	0.243	0.218	0.439	0.414	0.657

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Table 12-8
Simultaneous Transmission Scenario with Bluetooth (Body-Worn at 1.5 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body-Worn	GSM 850	0.109	0.054	0.163
	GSM 1900	0.301	0.054	0.355
	UMTS 850	0.175	0.054	0.229
	UMTS 1750	0.432	0.054	0.486
	UMTS 1900	0.547	0.054	0.601
	CDMA BC10 (§90S)	0.208	0.054	0.262
	CDMA BC0 (§22H)	0.160	0.054	0.214
	PCS CDMA	0.959	0.054	**1.013**
	LTE Band 71	0.091	0.054	0.145
	LTE Band 12	0.128	0.054	0.182
	LTE Band 13	0.185	0.054	0.239
	LTE Band 14	0.230	0.054	0.284
	LTE Band 26 (Cell)	0.164	0.054	0.218
	LTE Band 5 (Cell)	0.196	0.054	0.250
	LTE Band 66 (AWS)	0.493	0.054	0.547
	LTE Band 25 (PCS)	0.487	0.054	0.541
	LTE Band 30	0.321	0.054	0.375
	LTE Band 7	0.421	0.054	0.475
	LTE Band 41	0.196	0.054	0.250

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Table 12-9
Simultaneous Transmission Scenario with 2.4 GHz WLAN Ant 1 and 5 GHz WLAN Ant 2 (Body-Worn at 1.5 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
Body-Worn	GSM 850	0.109	0.197	0.218	0.524
	GSM 1900	0.301	0.197	0.218	0.716
	UMTS 850	0.175	0.197	0.218	0.590
	UMTS 1750	0.432	0.197	0.218	0.847
	UMTS 1900	0.547	0.197	0.218	0.962
	CDMA BC10 (§90S)	0.208	0.197	0.218	0.623
	CDMA BC0 (§22H)	0.160	0.197	0.218	0.575
	PCS CDMA	0.959	0.197	0.218	**1.374**
	LTE Band 71	0.091	0.197	0.218	0.506
	LTE Band 12	0.128	0.197	0.218	0.543
	LTE Band 13	0.185	0.197	0.218	0.600
	LTE Band 14	0.230	0.197	0.218	0.645
	LTE Band 26 (Cell)	0.164	0.197	0.218	0.579
	LTE Band 5 (Cell)	0.196	0.197	0.218	0.611
	LTE Band 66 (AWS)	0.493	0.197	0.218	0.908
	LTE Band 25 (PCS)	0.487	0.197	0.218	0.902
	LTE Band 30	0.321	0.197	0.218	0.736
	LTE Band 7	0.421	0.197	0.218	0.836
	LTE Band 41	0.196	0.197	0.218	0.611

Table 12-10
Simultaneous Transmission Scenario with Bluetooth and 5 GHz WLAN Ant 2 (Body-Worn at 1.5 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
Body-Worn	GSM 850	0.109	0.054	0.218	0.381
	GSM 1900	0.301	0.054	0.218	0.573
	UMTS 850	0.175	0.054	0.218	0.447
	UMTS 1750	0.432	0.054	0.218	0.704
	UMTS 1900	0.547	0.054	0.218	0.819
	CDMA BC10 (§90S)	0.208	0.054	0.218	0.480
	CDMA BC0 (§22H)	0.160	0.054	0.218	0.432
	PCS CDMA	0.959	0.054	0.218	**1.231**
	LTE Band 71	0.091	0.054	0.218	0.363
	LTE Band 12	0.128	0.054	0.218	0.400
	LTE Band 13	0.185	0.054	0.218	0.457
	LTE Band 14	0.230	0.054	0.218	0.502
	LTE Band 26 (Cell)	0.164	0.054	0.218	0.436
	LTE Band 5 (Cell)	0.196	0.054	0.218	0.468
	LTE Band 66 (AWS)	0.493	0.054	0.218	0.765
	LTE Band 25 (PCS)	0.487	0.054	0.218	0.759
	LTE Band 30	0.321	0.054	0.218	0.593
	LTE Band 7	0.421	0.054	0.218	0.693
	LTE Band 41	0.196	0.054	0.218	0.468

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12.5 Open 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 12-11
Simultaneous Transmission Scenario with 2.4 GHz WLAN (Hotspot at 1.0 cm)

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	0.398	0.359	0.067	0.757	0.465	0.824
	Front	0.286	0.397	0.067*	0.683	0.353	0.750
	Top	-	1.038	0.067*	1.038	0.067	**1.105**
	Bottom	0.240	-	-	0.240	0.240	0.240
	Right	0.255	0.507	0.067*	0.762	0.322	0.829
	Left	0.102	-	-	0.102	0.102	0.102

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	0.473	0.359	0.067	0.832	0.540	0.899
	Front	0.421	0.397	0.067*	0.818	0.488	0.885
	Top	-	1.038	0.067*	1.038	0.067	1.105
	Bottom	1.325	-	-	**1.325**	**1.325**	**1.325**
	Right	0.074	0.507	0.067*	0.581	0.141	0.648
	Left	0.157	-	-	0.157	0.157	0.157

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	0.366	0.359	0.067	0.725	0.433	0.792
	Front	0.228	0.397	0.067*	0.625	0.295	0.692
	Top	-	1.038	0.067*	1.038	0.067	**1.105**
	Bottom	0.214	-	-	0.214	0.214	0.214
	Right	0.290	0.507	0.067*	0.797	0.357	0.864
	Left	0.103	-	-	0.103	0.103	0.103

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	0.606	0.359	0.067	0.965	0.673	1.032
	Front	0.440	0.397	0.067*	0.837	0.507	0.904
	Top	-	1.038	0.067*	1.038	0.067	**1.105**
	Bottom	0.948	-	-	0.948	0.948	0.948
	Right	0.080	0.507	0.067*	0.587	0.147	0.654
	Left	0.121	-	-	0.121	0.121	0.121

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	0.571	0.359	0.067	0.930	0.638	0.997
	Front	0.515	0.397	0.067*	0.912	0.582	0.979
	Top	-	1.038	0.067*	1.038	0.067	1.105
	Bottom	1.320	-	-	**1.320**	**1.320**	**1.320**
	Right	0.060	0.507	0.067*	0.567	0.127	0.634
	Left	0.161	-	-	0.161	0.161	0.161

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	0.363	0.359	0.067	0.722	0.430	0.789
	Front	0.240	0.397	0.067*	0.637	0.307	0.704
	Top	-	1.038	0.067*	1.038	0.067	**1.105**
	Bottom	0.197	-	-	0.197	0.197	0.197
	Right	0.265	0.507	0.067*	0.772	0.332	0.839
	Left	0.063	-	-	0.063	0.063	0.063

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	0.358	0.359	0.067	0.717	0.425	0.784
	Front	0.236	0.397	0.067*	0.633	0.303	0.700
	Top	-	1.038	0.067*	1.038	0.067	**1.105**
	Bottom	0.200	-	-	0.200	0.200	0.200
	Right	0.216	0.507	0.067*	0.723	0.283	0.790
	Left	0.044	-	-	0.044	0.044	0.044

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	0.534	0.359	0.067	0.893	0.601	0.960
	Front	0.500	0.397	0.067*	0.897	0.567	0.964
	Top	-	1.038	0.067*	1.038	0.067	1.105
	Bottom	1.379	-	-	**1.379**	**1.379**	**1.379**
	Right	0.057	0.507	0.067*	0.564	0.124	0.631
	Left	0.138	-	-	0.138	0.138	0.138

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	1+3	1+2+3
Hotspot SAR	Back	0.111	0.359	0.067	0.470	0.178	0.537
	Front	0.097	0.397	0.067*	0.494	0.164	0.561
	Top	-	1.038	0.067*	1.038	0.067	**1.105**
	Bottom	0.058	-	-	0.058	0.058	0.058
	Right	0.119	0.507	0.067*	0.626	0.186	0.693
	Left	0.077	-	-	0.077	0.077	0.077

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)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.168	0.359	0.067	0.527	0.235	0.594
	Front	0.114	0.397	0.067*	0.511	0.181	0.578
	Top	-	1.038	0.067*	1.038	0.067	**1.105**
	Bottom	0.092	-	-	0.092	0.092	0.092
	Right	0.193	0.507	0.067*	0.700	0.260	0.767
	Left	0.085	-	-	0.085	0.085	0.085

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	1+3	1+2+3
Hotspot SAR	Back	0.301	0.359	0.067	0.660	0.368	0.727
	Front	0.213	0.397	0.067*	0.610	0.280	0.677
	Top	-	1.038	0.067*	1.038	0.067	**1.105**
	Bottom	0.175	-	-	0.175	0.175	0.175
	Right	0.097	0.507	0.067*	0.604	0.164	0.671
	Left	0.076	-	-	0.076	0.076	0.076

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)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.285	0.359	0.067	0.644	0.352	0.711
	Front	0.274	0.397	0.067*	0.671	0.341	0.738
	Top	-	1.038	0.067*	1.038	0.067	**1.105**
	Bottom	0.241	-	-	0.241	0.241	0.241
	Right	0.121	0.507	0.067*	0.628	0.188	0.695
	Left	0.085	-	-	0.085	0.085	0.085

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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	0.362	0.359	0.067	0.721	0.429	0.788
	Front	0.240	0.397	0.067*	0.637	0.307	0.704
	Top	-	1.038	0.067*	1.038	0.067	**1.105**
	Bottom	0.253	-	-	0.253	0.253	0.253
	Right	0.233	0.507	0.067*	0.740	0.300	0.807
	Left	0.044	-	-	0.044	0.044	0.044

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	0.430	0.359	0.067	0.789	0.497	0.856
	Front	0.372	0.397	0.067*	0.769	0.439	0.836
	Top	-	1.038	0.067*	1.038	0.067	**1.105**
	Bottom	0.255	-	-	0.255	0.255	0.255
	Right	0.405	0.507	0.067*	0.912	0.472	0.979
	Left	0.084	-	-	0.084	0.084	0.084

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	0.369	0.359	0.067	0.728	0.436	0.795
	Front	0.319	0.397	0.067*	0.716	0.386	0.783
	Top	-	1.038	0.067*	1.038	0.067	**1.105**
	Bottom	0.656	-	-	0.656	0.656	0.656
	Right	0.056	0.507	0.067*	0.563	0.123	0.630
	Left	0.087	-	-	0.087	0.087	0.087

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	0.551	0.359	0.067	0.910	0.618	0.977
	Front	0.551	0.397	0.067*	0.948	0.618	1.015
	Top	-	1.038	0.067*	1.038	0.067	1.105
	Bottom	1.394	-	-	**1.394**	**1.394**	**1.394**
	Right	0.085	0.507	0.067*	0.592	0.152	0.659
	Left	0.143	-	-	0.143	0.143	0.143

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.289	0.359	0.067	0.648	0.356	0.715
	Front	0.509	0.397	0.067*	0.906	0.576	0.973
	Top	-	1.038	0.067*	1.038	0.067	**1.105**
	Bottom	0.527	-	-	0.527	0.527	0.527
	Right	-	0.507	0.067*	0.507	0.067	0.574
	Left	0.206	-	-	0.206	0.206	0.206

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	0.277	0.359	0.067	0.636	0.344	0.703
	Front	0.257	0.397	0.067*	0.654	0.324	0.721
	Top	-	1.038	0.067*	1.038	0.067	**1.105**
	Bottom	0.996	-	-	0.996	0.996	0.996
	Right	-	0.507	0.067*	0.507	0.067	0.574
	Left	0.078	-	-	0.078	0.078	0.078

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	1+3	1+2+3
Hotspot SAR	Back	0.154	0.359	0.067	0.513	0.221	0.580
	Front	0.140	0.397	0.067*	0.537	0.207	0.604
	Top	-	1.038	0.067*	1.038	0.067	**1.105**
	Bottom	0.469	-	-	0.469	0.469	0.469
	Right	-	0.507	0.067*	0.507	0.067	0.574
	Left	0.051	-	-	0.051	0.051	0.051

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

Simult Tx	Configuration	GPRS 850 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.398	0.310	0.227	0.708	0.625	0.935
	Front	0.286	0.242	0.053	0.528	0.339	0.581
	Top	-	0.463*	0.227*	0.463	0.227	0.690
	Bottom	0.240	-	-	0.240	0.240	0.240
	Right	0.255	0.463	0.227*	0.718	0.482	**0.945**
	Left	0.102	-	-	0.102	0.102	0.102

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	1+2+3
Hotspot SAR	Back	0.473	0.310	0.227	0.783	0.700	1.010
	Front	0.421	0.242	0.053	0.663	0.474	0.716
	Top	-	0.463*	0.227*	0.463	0.227	0.690
	Bottom	1.325	-	-	**1.325**	**1.325**	**1.325**
	Right	0.074	0.463	0.227*	0.537	0.301	0.764
	Left	0.157	-	-	0.157	0.157	0.157

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)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.366	0.310	0.227	0.676	0.593	0.903
	Front	0.228	0.242	0.053	0.470	0.281	0.523
	Top	-	0.463*	0.227*	0.463	0.227	0.690
	Bottom	0.214	-	-	0.214	0.214	0.214
	Right	0.290	0.463	0.227*	0.753	0.517	**0.980**
	Left	0.103	-	-	0.103	0.103	0.103

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.606	0.310	0.227	0.916	0.833	**1.143**
	Front	0.440	0.242	0.053	0.682	0.493	0.735
	Top	-	0.463*	0.227*	0.463	0.227	0.690
	Bottom	0.948	-	-	0.948	0.948	0.948
	Right	0.080	0.463	0.227*	0.543	0.307	0.770
	Left	0.121	-	-	0.121	0.121	0.121

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	1+2+3
Hotspot SAR	Back	0.571	0.310	0.227	0.881	0.798	1.108
	Front	0.515	0.242	0.053	0.757	0.568	0.810
	Top	-	0.463*	0.227*	0.463	0.227	0.690
	Bottom	1.320	-	-	**1.320**	**1.320**	**1.320**
	Right	0.060	0.463	0.227*	0.523	0.287	0.750
	Left	0.161	-	-	0.161	0.161	0.161

Simult Tx	Configuration	EVDO BC10 (§90S) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.363	0.310	0.227	0.673	0.590	0.900
	Front	0.240	0.242	0.053	0.482	0.293	0.535
	Top	-	0.463*	0.227*	0.463	0.227	0.690
	Bottom	0.197	-	-	0.197	0.197	0.197
	Right	0.265	0.463	0.227*	0.728	0.492	**0.955**
	Left	0.063	-	-	0.063	0.063	0.063

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Simult Tx	Configuration	EVDO BC0 (§22H) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.358	0.310	0.227	0.668	0.585	0.895
	Front	0.236	0.242	0.053	0.478	0.289	0.531
	Top	-	0.463*	0.227*	0.463	0.227	0.690
	Bottom	0.200	-	-	0.200	0.200	0.200
	Right	0.216	0.463	0.227*	0.679	0.443	**0.906**
	Left	0.044	-	-	0.044	0.044	0.044

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.534	0.310	0.227	0.844	0.761	1.071
	Front	0.500	0.242	0.053	0.742	0.553	0.795
	Top	-	0.463*	0.227*	0.463	0.227	0.690
	Bottom	1.379	-	-	**1.379**	**1.379**	**1.379**
	Right	0.057	0.463	0.227*	0.520	0.284	0.747
	Left	0.138	-	-	0.138	0.138	0.138

Simult Tx	Configuration	LTE Band 71 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.111	0.310	0.227	0.421	0.338	0.648
	Front	0.097	0.242	0.053	0.339	0.150	0.392
	Top	-	0.463*	0.227*	0.463	0.227	0.690
	Bottom	0.058	-	-	0.058	0.058	0.058
	Right	0.119	0.463	0.227*	0.582	0.346	**0.809**
	Left	0.077	-	-	0.077	0.077	0.077

Simult Tx	Configuration	LTE Band 12 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.168	0.310	0.227	0.478	0.395	0.705
	Front	0.114	0.242	0.053	0.356	0.167	0.409
	Top	-	0.463*	0.227*	0.463	0.227	0.690
	Bottom	0.092	-	-	0.092	0.092	0.092
	Right	0.193	0.463	0.227*	0.656	0.420	**0.883**
	Left	0.085	-	-	0.085	0.085	0.085

Simult Tx	Configuration	LTE Band 13 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.301	0.310	0.227	0.611	0.528	**0.838**
	Front	0.213	0.242	0.053	0.455	0.266	0.508
	Top	-	0.463*	0.227*	0.463	0.227	0.690
	Bottom	0.175	-	-	0.175	0.175	0.175
	Right	0.097	0.463	0.227*	0.560	0.324	0.787
	Left	0.076	-	-	0.076	0.076	0.076

Simult Tx	Configuration	LTE Band 14 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.285	0.310	0.227	0.595	0.512	**0.822**
	Front	0.274	0.242	0.053	0.516	0.327	0.569
	Top	-	0.463*	0.227*	0.463	0.227	0.690
	Bottom	0.241	-	-	0.241	0.241	0.241
	Right	0.121	0.463	0.227*	0.584	0.348	0.811
	Left	0.085	-	-	0.085	0.085	0.085

Simult Tx	Configuration	LTE Band 26 (Cell) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.362	0.310	0.227	0.672	0.589	0.899
	Front	0.240	0.242	0.053	0.482	0.293	0.535
	Top	-	0.463*	0.227*	0.463	0.227	0.690
	Bottom	0.253	-	-	0.253	0.253	0.253
	Right	0.233	0.463	0.227*	0.696	0.460	**0.923**
	Left	0.044	-	-	0.044	0.044	0.044

Simult Tx	Configuration	LTE Band 5 (Cell) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.430	0.310	0.227	0.740	0.657	0.967
	Front	0.372	0.242	0.053	0.614	0.425	0.667
	Top	-	0.463*	0.227*	0.463	0.227	0.690
	Bottom	0.255	-	-	0.255	0.255	0.255
	Right	0.405	0.463	0.227*	0.868	0.632	**1.095**
	Left	0.084	-	-	0.084	0.084	0.084

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.369	0.310	0.227	0.679	0.596	**0.906**
	Front	0.319	0.242	0.053	0.561	0.372	0.614
	Top	-	0.463*	0.227*	0.463	0.227	0.690
	Bottom	0.656	-	-	0.656	0.656	0.656
	Right	0.056	0.463	0.227*	0.519	0.283	0.746
	Left	0.087	-	-	0.087	0.087	0.087

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	1+2+3
Hotspot SAR	Back	0.551	0.310	0.227	0.861	0.778	1.088
	Front	0.551	0.242	0.053	0.793	0.604	0.846
	Top	-	0.463*	0.227*	0.463	0.227	0.690
	Bottom	1.394	-	-	**1.394**	**1.394**	**1.394**
	Right	0.085	0.463	0.227*	0.548	0.312	0.775
	Left	0.143	-	-	0.143	0.143	0.143

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.289	0.310	0.227	0.599	0.516	**0.826**
	Front	0.509	0.242	0.053	0.751	0.562	0.804
	Top	-	0.463*	0.227*	0.463	0.227	0.690
	Bottom	0.527	-	-	0.527	0.527	0.527
	Right	-	0.463	0.227*	0.463	0.227	0.690
	Left	0.206	-	-	0.206	0.206	0.206

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.277	0.310	0.227	0.587	0.504	0.814
	Front	0.257	0.242	0.053	0.499	0.310	0.552
	Top	-	0.463*	0.227*	0.463	0.227	0.690
	Bottom	0.996	-	-	**0.996**	**0.996**	**0.996**
	Right	-	0.463	0.227*	0.463	0.227	0.690
	Left	0.078	-	-	0.078	0.078	0.078

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	Back	0.154	0.310	0.227	0.464	0.381	**0.691**
	Front	0.140	0.242	0.053	0.382	0.193	0.435
	Top	-	0.463*	0.227*	0.463	0.227	0.690
	Bottom	0.469	-	-	0.469	0.469	0.469
	Right	-	0.463	0.227*	0.463	0.227	0.690
	Left	0.051	-	-	0.051	0.051	0.051

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Table 12-13
Simultaneous Transmission Scenario with Bluetooth (Hotspot at 1.0 cm)

Simult Tx	Configuration	GPRS 850 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.398	0.098	**0.496**
	Front	0.286	0.118	0.404
	Top	-	0.229	0.229
	Bottom	0.240	-	0.240
	Right	0.255	0.159	0.414
	Left	0.102	-	0.102

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.473	0.098	0.571
	Front	0.421	0.118	0.539
	Top	-	0.229	0.229
	Bottom	1.325	-	**1.325**
	Right	0.074	0.159	0.233
	Left	0.157	-	0.157

Simult Tx	Configuration	UMTS 850 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.366	0.098	**0.464**
	Front	0.228	0.118	0.346
	Top	-	0.229	0.229
	Bottom	0.214	-	0.214
	Right	0.290	0.159	0.449
	Left	0.103	-	0.103

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.606	0.098	0.704
	Front	0.440	0.118	0.558
	Top	-	0.229	0.229
	Bottom	0.948	-	**0.948**
	Right	0.080	0.159	0.239
	Left	0.121	-	0.121

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.571	0.098	0.669
	Front	0.515	0.118	0.633
	Top	-	0.229	0.229
	Bottom	1.320	-	**1.320**
	Right	0.060	0.159	0.219
	Left	0.161	-	0.161

Simult Tx	Configuration	EVDO BC10 (§90S) SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.363	0.098	**0.461**
	Front	0.240	0.118	0.358
	Top	-	0.229	0.229
	Bottom	0.197	-	0.197
	Right	0.265	0.159	0.424
	Left	0.063	-	0.063

Simult Tx	Configuration	EVDO BC0 (§22H) SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.358	0.098	**0.456**
	Front	0.236	0.118	0.354
	Top	-	0.229	0.229
	Bottom	0.200	-	0.200
	Right	0.216	0.159	0.375
	Left	0.044	-	0.044

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.534	0.098	0.632
	Front	0.500	0.118	0.618
	Top	-	0.229	0.229
	Bottom	1.379	-	**1.379**
	Right	0.057	0.159	0.216
	Left	0.138	-	0.138

Simult Tx	Configuration	LTE Band 71 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.111	0.098	0.209
	Front	0.097	0.118	0.215
	Top	-	0.229	0.229
	Bottom	0.058	-	0.058
	Right	0.119	0.159	**0.278**
	Left	0.077	-	0.077

Simult Tx	Configuration	LTE Band 12 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.168	0.098	0.266
	Front	0.114	0.118	0.232
	Top	-	0.229	0.229
	Bottom	0.092	-	0.092
	Right	0.193	0.159	**0.352**
	Left	0.085	-	0.085

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Simult Tx	Configuration	LTE Band 13 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.301	0.098	**0.399**
	Front	0.213	0.118	0.331
	Top	-	0.229	0.229
	Bottom	0.175	-	0.175
	Right	0.097	0.159	0.256
	Left	0.076	-	0.076

Simult Tx	Configuration	LTE Band 14 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.285	0.098	0.383
	Front	0.274	0.118	**0.392**
	Top	-	0.229	0.229
	Bottom	0.241	-	0.241
	Right	0.121	0.159	0.280
	Left	0.085	-	0.085

Simult Tx	Configuration	LTE Band 26 (Cell) SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.362	0.098	**0.460**
	Front	0.240	0.118	0.358
	Top	-	0.229	0.229
	Bottom	0.253	-	0.253
	Right	0.233	0.159	0.392
	Left	0.044	-	0.044

Simult Tx	Configuration	LTE Band 5 (Cell) SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.430	0.098	0.528
	Front	0.372	0.118	0.490
	Top	-	0.229	0.229
	Bottom	0.255	-	0.255
	Right	0.405	0.159	**0.564**
	Left	0.084	-	0.084

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.369	0.098	0.467
	Front	0.319	0.118	0.437
	Top	-	0.229	0.229
	Bottom	0.656	-	**0.656**
	Right	0.056	0.159	0.215
	Left	0.087	-	0.087

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.551	0.098	0.649
	Front	0.551	0.118	0.669
	Top	-	0.229	0.229
	Bottom	1.394	-	**1.394**
	Right	0.085	0.159	0.244
	Left	0.143	-	0.143

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.289	0.098	0.387
	Front	0.509	0.118	**0.627**
	Top	-	0.229	0.229
	Bottom	0.527	-	0.527
	Right	-	0.159	0.159
	Left	0.206	-	0.206

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.277	0.098	0.375
	Front	0.257	0.118	0.375
	Top	-	0.229	0.229
	Bottom	0.996	-	**0.996**
	Right	-	0.159	0.159
	Left	0.078	-	0.078

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.154	0.098	0.252
	Front	0.140	0.118	0.258
	Top	-	0.229	0.229
	Bottom	0.469	-	**0.469**
	Right	-	0.159	0.159
	Left	0.051	-	0.051

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Table 12-14
Simultaneous Transmission Scenario with 2.4 GHz WLAN Ant 1 and 5 GHz WLAN Ant 2 (Hotspot at 1.0 cm)

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)	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			1	2	3	1+2+3
Hotspot SAR	Back	0.398	0.359	0.227	0.984	Hotspot SAR	Back	0.473	0.359	0.227	1.059
	Front	0.286	0.397	0.053	0.736		Front	0.421	0.397	0.053	0.871
	Top	-	1.038	0.227*	**1.265**		Top	-	1.038	0.227*	1.265
	Bottom	0.240	-	-	0.240		Bottom	1.325	-	-	**1.325**
	Right	0.255	0.507	0.227*	0.989		Right	0.074	0.507	0.227*	0.808
	Left	0.102	-	-	0.102		Left	0.157	-	-	0.157

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)	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)
		1	2	3	1+2+3			1	2	3	1+2+3
Hotspot SAR	Back	0.366	0.359	0.227	0.952	Hotspot SAR	Back	0.606	0.359	0.227	1.192
	Front	0.228	0.397	0.053	0.678		Front	0.440	0.397	0.053	0.890
	Top	-	1.038	0.227*	**1.265**		Top	-	1.038	0.227*	**1.265**
	Bottom	0.214	-	-	0.214		Bottom	0.948	-	-	0.948
	Right	0.290	0.507	0.227*	1.024		Right	0.080	0.507	0.227*	0.814
	Left	0.103	-	-	0.103		Left	0.121	-	-	0.121

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)	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			1	2	3	1+2+3
Hotspot SAR	Back	0.571	0.359	0.227	1.157	Hotspot SAR	Back	0.363	0.359	0.227	0.949
	Front	0.515	0.397	0.053	0.965		Front	0.240	0.397	0.053	0.690
	Top	-	1.038	0.227*	1.265		Top	-	1.038	0.227*	**1.265**
	Bottom	1.320	-	-	**1.320**		Bottom	0.197	-	-	0.197
	Right	0.060	0.507	0.227*	0.794		Right	0.265	0.507	0.227*	0.999
	Left	0.161	-	-	0.161		Left	0.063	-	-	0.063

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)	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			1	2	3	1+2+3
Hotspot SAR	Back	0.358	0.359	0.227	0.944	Hotspot SAR	Back	0.534	0.359	0.227	1.120
	Front	0.236	0.397	0.053	0.686		Front	0.500	0.397	0.053	0.950
	Top	-	1.038	0.227*	**1.265**		Top	-	1.038	0.227*	1.265
	Bottom	0.200	-	-	0.200		Bottom	1.379	-	-	**1.379**
	Right	0.216	0.507	0.227*	0.950		Right	0.057	0.507	0.227*	0.791
	Left	0.044	-	-	0.044		Left	0.138	-	-	0.138

Simult Tx	Configuration	LTE Band 71 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 12 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	0.111	0.359	0.227	0.697	Hotspot SAR	Back	0.168	0.359	0.227	0.754
	Front	0.097	0.397	0.053	0.547		Front	0.114	0.397	0.053	0.564
	Top	-	1.038	0.227*	**1.265**		Top	-	1.038	0.227*	**1.265**
	Bottom	0.058	-	-	0.058		Bottom	0.092	-	-	0.092
	Right	0.119	0.507	0.227*	0.853		Right	0.193	0.507	0.227*	0.927
	Left	0.077	-	-	0.077		Left	0.085	-	-	0.085

Simult Tx	Configuration	LTE Band 13 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 14 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	0.301	0.359	0.227	0.887	Hotspot SAR	Back	0.285	0.359	0.227	0.871
	Front	0.213	0.397	0.053	0.663		Front	0.274	0.397	0.053	0.724
	Top	-	1.038	0.227*	**1.265**		Top	-	1.038	0.227*	**1.265**
	Bottom	0.175	-	-	0.175		Bottom	0.241	-	-	0.241
	Right	0.097	0.507	0.227*	0.831		Right	0.121	0.507	0.227*	0.855
	Left	0.076	-	-	0.076		Left	0.085	-	-	0.085

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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)
		1	2	3	1+2+3
Hotspot SAR	Back	0.362	0.359	0.227	0.948
	Front	0.240	0.397	0.053	0.690
	Top	-	1.038	0.227*	**1.265**
	Bottom	0.253	-	-	0.253
	Right	0.233	0.507	0.227*	0.967
	Left	0.044	-	-	0.044

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)
		1	2	3	1+2+3
Hotspot SAR	Back	0.430	0.359	0.227	1.016
	Front	0.372	0.397	0.053	0.822
	Top	-	1.038	0.227*	**1.265**
	Bottom	0.255	-	-	0.255
	Right	0.405	0.507	0.227*	1.139
	Left	0.084	-	-	0.084

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)
		1	2	3	1+2+3
Hotspot SAR	Back	0.369	0.359	0.227	0.955
	Front	0.319	0.397	0.053	0.769
	Top	-	1.038	0.227*	**1.265**
	Bottom	0.656	-	-	0.656
	Right	0.056	0.507	0.227*	0.790
	Left	0.087	-	-	0.087

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
Hotspot SAR	Back	0.551	0.359	0.227	1.137
	Front	0.551	0.397	0.053	1.001
	Top	-	1.038	0.227*	1.265
	Bottom	1.394	-	-	**1.394**
	Right	0.085	0.507	0.227*	0.819
	Left	0.143	-	-	0.143

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
Hotspot SAR	Back	0.289	0.359	0.227	0.875
	Front	0.509	0.397	0.053	0.959
	Top	-	1.038	0.227*	**1.265**
	Bottom	0.527	-	-	0.527
	Right	-	0.507	0.227*	0.734
	Left	0.206	-	-	0.206

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	0.277	0.359	0.227	0.863
	Front	0.257	0.397	0.053	0.707
	Top	-	1.038	0.227*	**1.265**
	Bottom	0.996	-	-	0.996
	Right	-	0.507	0.227*	0.734
	Left	0.078	-	-	0.078

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
Hotspot SAR	Back	0.154	0.359	0.227	0.740
	Front	0.140	0.397	0.053	0.590
	Top	-	1.038	0.227*	**1.265**
	Bottom	0.469	-	-	0.469
	Right	-	0.507	0.227*	0.734
	Left	0.051	-	-	0.051

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

Simult Tx	Configuration	GPRS 850 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.398	0.098	0.227	**0.723**
	Front	0.286	0.118	0.053	0.457
	Top	-	0.229	0.227*	0.456
	Bottom	0.240	-	-	0.240
	Right	0.255	0.159	0.227*	0.641
	Left	0.102	-	-	0.102

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.473	0.098	0.227	0.798
	Front	0.421	0.118	0.053	0.592
	Top	-	0.229	0.227*	0.456
	Bottom	1.325	-	-	**1.325**
	Right	0.074	0.159	0.227*	0.460
	Left	0.157	-	-	0.157

Simult Tx	Configuration	UMTS 850 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.366	0.098	0.227	**0.691**
	Front	0.228	0.118	0.053	0.399
	Top	-	0.229	0.227*	0.456
	Bottom	0.214	-	-	0.214
	Right	0.290	0.159	0.227*	0.676
	Left	0.103	-	-	0.103

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.606	0.098	0.227	0.931
	Front	0.440	0.118	0.053	0.611
	Top	-	0.229	0.227*	0.456
	Bottom	0.948	-	-	**0.948**
	Right	0.080	0.159	0.227*	0.466
	Left	0.121	-	-	0.121

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Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.571	0.098	0.227	0.896
	Front	0.515	0.118	0.053	0.686
	Top	-	0.229	0.227*	0.456
	Bottom	1.320	-	-	**1.320**
	Right	0.060	0.159	0.227*	0.446
	Left	0.161	-	-	0.161

Simult Tx	Configuration	EVDO BC10 (§90S) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.363	0.098	0.227	**0.688**
	Front	0.240	0.118	0.053	0.411
	Top	-	0.229	0.227*	0.456
	Bottom	0.197	-	-	0.197
	Right	0.265	0.159	0.227*	0.651
	Left	0.063	-	-	0.063

Simult Tx	Configuration	EVDO BC0 (§22H) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.358	0.098	0.227	**0.683**
	Front	0.236	0.118	0.053	0.407
	Top	-	0.229	0.227*	0.456
	Bottom	0.200	-	-	0.200
	Right	0.216	0.159	0.227*	0.602
	Left	0.044	-	-	0.044

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
Hotspot SAR	Back	0.534	0.098	0.227	0.859
	Front	0.500	0.118	0.053	0.671
	Top	-	0.229	0.227*	0.456
	Bottom	1.379	-	-	**1.379**
	Right	0.057	0.159	0.227*	0.443
	Left	0.138	-	-	0.138

Simult Tx	Configuration	LTE Band 71 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.111	0.098	0.227	0.436
	Front	0.097	0.118	0.053	0.268
	Top	-	0.229	0.227*	0.456
	Bottom	0.058	-	-	0.058
	Right	0.119	0.159	0.227*	**0.505**
	Left	0.077	-	-	0.077

Simult Tx	Configuration	LTE Band 12 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.168	0.098	0.227	0.493
	Front	0.114	0.118	0.053	0.285
	Top	-	0.229	0.227*	0.456
	Bottom	0.092	-	-	0.092
	Right	0.193	0.159	0.227*	**0.579**
	Left	0.085	-	-	0.085

Simult Tx	Configuration	LTE Band 13 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.301	0.098	0.227	**0.626**
	Front	0.213	0.118	0.053	0.384
	Top	-	0.229	0.227*	0.456
	Bottom	0.175	-	-	0.175
	Right	0.097	0.159	0.227*	0.483
	Left	0.076	-	-	0.076

Simult Tx	Configuration	LTE Band 14 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.285	0.098	0.227	**0.610**
	Front	0.274	0.118	0.053	0.445
	Top	-	0.229	0.227*	0.456
	Bottom	0.241	-	-	0.241
	Right	0.121	0.159	0.227*	0.507
	Left	0.085	-	-	0.085

Simult Tx	Configuration	LTE Band 26 (Cell) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.362	0.098	0.227	**0.687**
	Front	0.240	0.118	0.053	0.411
	Top	-	0.229	0.227*	0.456
	Bottom	0.253	-	-	0.253
	Right	0.233	0.159	0.227*	0.619
	Left	0.044	-	-	0.044

Simult Tx	Configuration	LTE Band 5 (Cell) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.430	0.098	0.227	0.755
	Front	0.372	0.118	0.053	0.543
	Top	-	0.229	0.227*	0.456
	Bottom	0.255	-	-	0.255
	Right	0.405	0.159	0.227*	**0.791**
	Left	0.084	-	-	0.084

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.369	0.098	0.227	**0.694**
	Front	0.319	0.118	0.053	0.490
	Top	-	0.229	0.227*	0.456
	Bottom	0.656	-	-	0.656
	Right	0.056	0.159	0.227*	0.442
	Left	0.087	-	-	0.087

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.551	0.098	0.227	0.876
	Front	0.551	0.118	0.053	0.722
	Top	-	0.229	0.227*	0.456
	Bottom	1.394	-	-	**1.394**
	Right	0.085	0.159	0.227*	0.471
	Left	0.143	-	-	0.143

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Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.289	0.098	0.227	0.614
	Front	0.509	0.118	0.053	**0.680**
	Top	-	0.229	0.227*	0.456
	Bottom	0.527	-	-	0.527
	Right	-	0.159	0.227*	0.386
	Left	0.206	-	-	0.206

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.277	0.098	0.227	0.602
	Front	0.257	0.118	0.053	0.428
	Top	-	0.229	0.227*	0.456
	Bottom	0.996	-	-	**0.996**
	Right	-	0.159	0.227*	0.386
	Left	0.078	-	-	0.078

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.154	0.098	0.227	**0.479**
	Front	0.140	0.118	0.053	0.311
	Top	-	0.229	0.227*	0.456
	Bottom	0.469	-	-	0.469
	Right	-	0.159	0.227*	0.386
	Left	0.051	-	-	0.051

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12.6 Phablet Simultaneous Transmission Analysis

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

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

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

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

Table 12-16
Simultaneous Transmission Scenario with 5 GHz WLAN Antenna 1 and Antenna 2 (Phablet)

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Phablet SAR	Back	1.384	0.680	2.099	2.064	**3.483**
	Front	1.405	1.166	0.021	2.571	1.426
	Top	-	0.404	0.051	0.404	0.051
	Bottom	3.259	-	-	3.259	3.259
	Right	0.177	1.208	0.086	1.385	0.263
	Left	0.240	-	-	0.240	0.240

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	1.589	0.680	2.099	2.269	**3.688**
	Front	1.723	1.166	0.021	2.889	1.744
	Top	-	0.404	0.051	0.404	0.051
	Bottom	3.272	-	-	3.272	3.272
	Right	0.313	1.208	0.086	1.521	0.399
	Left	0.423	-	-	0.423	0.423

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	1.029	0.680	2.099	1.709	**3.128**
	Front	1.020	1.166	0.021	2.186	1.041
	Top	-	0.404	0.051	0.404	0.051
	Bottom	1.813	-	-	1.813	1.813
	Right	0.197	1.208	0.086	1.405	0.283
	Left	0.174	-	-	0.174	0.174

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	1.535	0.680	2.099	2.215	**3.634**
	Front	1.708	1.166	0.021	2.874	1.729
	Top	-	0.404	0.051	0.404	0.051
	Bottom	3.260	-	-	3.260	3.260
	Right	0.352	1.208	0.086	1.560	0.438
	Left	0.469	-	-	0.469	0.469

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	1.166	0.680	2.099	1.846	**3.265**
	Front	1.227	1.166	0.021	2.393	1.248
	Top	-	0.404	0.051	0.404	0.051
	Bottom	1.294	-	-	1.294	1.294
	Right	0.449	1.208	0.086	1.657	0.535
	Left	0.346	-	-	0.346	0.346

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	1.206	0.680	2.099	1.886	**3.305**
	Front	1.331	1.166	0.021	2.497	1.352
	Top	-	0.404	0.051	0.404	0.051
	Bottom	2.091	-	-	2.091	2.091
	Right	0.316	1.208	0.086	1.524	0.402
	Left	0.345	-	-	0.345	0.345

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Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		SPLSR
		1	2	3	1+2	1+3	1+2
Phablet SAR	Back	2.046	0.680	2.099	**2.726**	See Note 1	0.06
	Front	1.461	1.166	0.021	2.627	1.482	N/A
	Top	-	0.404	0.051	0.404	0.051	N/A
	Bottom	2.420	-	-	2.420	2.420	N/A
	Right	-	1.208	0.086	1.208	0.086	N/A
	Left	0.825	-	-	0.825	0.825	N/A

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Phablet SAR	Back	1.152	0.680	2.099	1.832	**3.251**
	Front	0.841	1.166	0.021	2.007	0.862
	Top	-	0.404	0.051	0.404	0.051
	Bottom	0.909	-	-	0.909	0.909
	Right	-	1.208	0.086	1.208	0.086
	Left	0.373	-	-	0.373	0.373

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Phablet SAR	Back	0.774	0.680	2.099	1.454	**2.873**
	Front	0.569	1.166	0.021	1.735	0.590
	Top	-	0.404	0.051	0.404	0.051
	Bottom	0.648	-	-	0.648	0.648
	Right	-	1.208	0.086	1.208	0.086
	Left	0.143	-	-	0.143	0.143

Notes:

1. No evaluation was performed to determine the aggregate 10g SAR for these configurations as the SPLS ratio between the antenna pairs was not greater than 0.10 per FCC KDB 447498 D01v06. See Section 12.9 for detailed SPLS ratio analysis.

Table 12-17
Simultaneous Transmission Scenario with 5 GHz WLAN Antenna MIMO (Phablet)

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	1.384	2.487	**3.871**
	Front	1.405	0.984	2.389
	Top	-	0.526	0.526
	Bottom	3.259	-	3.259
	Right	0.177	1.575	1.752
	Left	0.240	-	0.240

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	1.029	2.487	**3.516**
	Front	1.020	0.984	2.004
	Top	-	0.526	0.526
	Bottom	1.813	-	1.813
	Right	0.197	1.575	1.772
	Left	0.174	-	0.174

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	1.589	2.487	See Note 1	0.06
	Front	1.723	0.984	2.707	N/A
	Top	-	0.526	0.526	N/A
	Bottom	3.272	-	**3.272**	N/A
	Right	0.313	1.575	1.888	N/A
	Left	0.423	-	0.423	N/A

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	1.535	2.487	See Note 1	0.05
	Front	1.708	0.984	2.692	N/A
	Top	-	0.526	0.526	N/A
	Bottom	3.260	-	**3.260**	N/A
	Right	0.352	1.575	1.927	N/A
	Left	0.469	-	0.469	N/A

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	1.166	2.487	**3.653**
	Front	1.227	0.984	2.211
	Top	-	0.526	0.526
	Bottom	1.294	-	1.294
	Right	0.449	1.575	2.024
	Left	0.346	-	0.346

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
Phablet SAR	Back	1.206	2.487	**3.693**
	Front	1.331	0.984	2.315
	Top	-	0.526	0.526
	Bottom	2.091	-	2.091
	Right	0.316	1.575	1.891
	Left	0.345	-	0.345

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Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	2.046	2.487	See Note 1	0.07
	Front	1.461	0.984	**2.445**	N/A
	Top	-	0.526	0.526	N/A
	Bottom	2.420	-	2.420	N/A
	Right	-	1.575	1.575	N/A
	Left	0.825	-	0.825	N/A

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	1.152	2.487	**3.639**
	Front	0.841	0.984	1.825
	Top	-	0.526	0.526
	Bottom	0.909	-	0.909
	Right	-	1.575	1.575
	Left	0.373	-	0.373

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	0.774	2.487	**3.261**
	Front	0.569	0.984	1.553
	Top	-	0.526	0.526
	Bottom	0.648	-	0.648
	Right	-	1.575	1.575
	Left	0.143	-	0.143

Notes:

1. No evaluation was performed to determine the aggregate 10g SAR for these configurations as the SPLS ratio between the antenna pairs was not greater than 0.10 per FCC KDB 447498 D01v06. See Section 12.9 for detailed SPLS ratio analysis.

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12.7 Closed Body-Worn Simultaneous Transmission Analysis

Table 12-18
Simultaneous Transmission Scenario with 2.4 GHz WLAN (Body-Worn at 1.5 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body-Worn	GSM 850	0.195	0.072	0.003	0.267	0.198	0.270
	GSM 1900	0.182	0.072	0.003	0.254	0.185	0.257
	UMTS 850	0.222	0.072	0.003	0.294	0.225	0.297
	UMTS 1750	0.274	0.072	0.003	0.346	0.277	0.349
	UMTS 1900	0.355	0.072	0.003	0.427	0.358	0.430
	CDMA BC10 (§90S)	0.260	0.072	0.003	0.332	0.263	0.335
	CDMA BC0 (§22H)	0.314	0.072	0.003	0.386	0.317	0.389
	PCS CDMA	0.446	0.072	0.003	0.518	0.449	**0.521**
	LTE Band 71	0.062	0.072	0.003	0.134	0.065	0.137
	LTE Band 12	0.091	0.072	0.003	0.163	0.094	0.166
	LTE Band 13	0.139	0.072	0.003	0.211	0.142	0.214
	LTE Band 14	0.143	0.072	0.003	0.215	0.146	0.218
	LTE Band 26 (Cell)	0.388	0.072	0.003	0.460	0.391	0.463
	LTE Band 5 (Cell)	0.336	0.072	0.003	0.408	0.339	0.411
	LTE Band 66 (AWS)	0.281	0.072	0.003	0.353	0.284	0.356
	LTE Band 25 (PCS)	0.434	0.072	0.003	0.506	0.437	0.509
	LTE Band 30	0.166	0.072	0.003	0.238	0.169	0.241
	LTE Band 7	0.234	0.072	0.003	0.306	0.237	0.309
	LTE Band 41	0.195	0.072	0.003	0.267	0.198	0.270

Table 12-19
Simultaneous Transmission Scenario with 5 GHz WLAN (Body-Worn at 1.5 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body-Worn	GSM 850	0.195	0.102	0.025	0.297	0.220	0.322
	GSM 1900	0.182	0.102	0.025	0.284	0.207	0.309
	UMTS 850	0.222	0.102	0.025	0.324	0.247	0.349
	UMTS 1750	0.274	0.102	0.025	0.376	0.299	0.401
	UMTS 1900	0.355	0.102	0.025	0.457	0.380	0.482
	CDMA BC10 (§90S)	0.260	0.102	0.025	0.362	0.285	0.387
	CDMA BC0 (§22H)	0.314	0.102	0.025	0.416	0.339	0.441
	PCS CDMA	0.446	0.102	0.025	0.548	0.471	**0.573**
	LTE Band 71	0.062	0.102	0.025	0.164	0.087	0.189
	LTE Band 12	0.091	0.102	0.025	0.193	0.116	0.218
	LTE Band 13	0.139	0.102	0.025	0.241	0.164	0.266
	LTE Band 14	0.143	0.102	0.025	0.245	0.168	0.270
	LTE Band 26 (Cell)	0.388	0.102	0.025	0.490	0.413	0.515
	LTE Band 5 (Cell)	0.336	0.102	0.025	0.438	0.361	0.463
	LTE Band 66 (AWS)	0.281	0.102	0.025	0.383	0.306	0.408
	LTE Band 25 (PCS)	0.434	0.102	0.025	0.536	0.459	0.561
	LTE Band 30	0.166	0.102	0.025	0.268	0.191	0.293
	LTE Band 7	0.234	0.102	0.025	0.336	0.259	0.361
	LTE Band 41	0.195	0.102	0.025	0.297	0.220	0.322

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Table 12-20
Simultaneous Transmission Scenario with Bluetooth (Body-Worn at 1.5 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body-Worn	GSM 850	0.195	0.013	0.208
	GSM 1900	0.182	0.013	0.195
	UMTS 850	0.222	0.013	0.235
	UMTS 1750	0.274	0.013	0.287
	UMTS 1900	0.355	0.013	0.368
	CDMA BC10 (§90S)	0.260	0.013	0.273
	CDMA BC0 (§22H)	0.314	0.013	0.327
	PCS CDMA	0.446	0.013	**0.459**
	LTE Band 71	0.062	0.013	0.075
	LTE Band 12	0.091	0.013	0.104
	LTE Band 13	0.139	0.013	0.152
	LTE Band 14	0.143	0.013	0.156
	LTE Band 26 (Cell)	0.388	0.013	0.401
	LTE Band 5 (Cell)	0.336	0.013	0.349
	LTE Band 66 (AWS)	0.281	0.013	0.294
	LTE Band 25 (PCS)	0.434	0.013	0.447
	LTE Band 30	0.166	0.013	0.179
	LTE Band 7	0.234	0.013	0.247
	LTE Band 41	0.195	0.013	0.208

Table 12-21
Simultaneous Transmission Scenario with 2.4 GHz WLAN Ant 1 and 5 GHz WLAN Ant 2 (Body-Worn at 1.5 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
Body-Worn	GSM 850	0.195	0.072	0.025	0.292
	GSM 1900	0.182	0.072	0.025	0.279
	UMTS 850	0.222	0.072	0.025	0.319
	UMTS 1750	0.274	0.072	0.025	0.371
	UMTS 1900	0.355	0.072	0.025	0.452
	CDMA BC10 (§90S)	0.260	0.072	0.025	0.357
	CDMA BC0 (§22H)	0.314	0.072	0.025	0.411
	PCS CDMA	0.446	0.072	0.025	**0.543**
	LTE Band 71	0.062	0.072	0.025	0.159
	LTE Band 12	0.091	0.072	0.025	0.188
	LTE Band 13	0.139	0.072	0.025	0.236
	LTE Band 14	0.143	0.072	0.025	0.240
	LTE Band 26 (Cell)	0.388	0.072	0.025	0.485
	LTE Band 5 (Cell)	0.336	0.072	0.025	0.433
	LTE Band 66 (AWS)	0.281	0.072	0.025	0.378
	LTE Band 25 (PCS)	0.434	0.072	0.025	0.531
	LTE Band 30	0.166	0.072	0.025	0.263
	LTE Band 7	0.234	0.072	0.025	0.331
	LTE Band 41	0.195	0.072	0.025	0.292

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Table 12-22
Simultaneous Transmission Scenario with Bluetooth and 5 GHz WLAN Ant 2 (Body-Worn at 1.5 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
Body-Worn	GSM 850	0.195	0.013	0.025	0.233
	GSM 1900	0.182	0.013	0.025	0.220
	UMTS 850	0.222	0.013	0.025	0.260
	UMTS 1750	0.274	0.013	0.025	0.312
	UMTS 1900	0.355	0.013	0.025	0.393
	CDMA BC10 (§90S)	0.260	0.013	0.025	0.298
	CDMA BC0 (§22H)	0.314	0.013	0.025	0.352
	PCS CDMA	0.446	0.013	0.025	**0.484**
	LTE Band 71	0.062	0.013	0.025	0.100
	LTE Band 12	0.091	0.013	0.025	0.129
	LTE Band 13	0.139	0.013	0.025	0.177
	LTE Band 14	0.143	0.013	0.025	0.181
	LTE Band 26 (Cell)	0.388	0.013	0.025	0.426
	LTE Band 5 (Cell)	0.336	0.013	0.025	0.374
	LTE Band 66 (AWS)	0.281	0.013	0.025	0.319
	LTE Band 25 (PCS)	0.434	0.013	0.025	0.472
	LTE Band 30	0.166	0.013	0.025	0.204
	LTE Band 7	0.234	0.013	0.025	0.272
	LTE Band 41	0.195	0.013	0.025	0.233

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12.8 Closed Hotspot SAR Simultaneous Transmission Analysis

Table 12-23
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	GPRS 850	0.518	0.329	0.085	0.847	0.603	0.932
	GPRS 1900	0.869	0.329	0.085	1.198	0.954	1.283
	UMTS 850	0.414	0.329	0.085	0.743	0.499	0.828
	UMTS 1750	0.820	0.329	0.085	1.149	0.905	1.234
	UMTS 1900	0.864	0.329	0.085	1.193	0.949	1.278
	EVDO BC10 (§90S)	0.455	0.329	0.085	0.784	0.540	0.869
	EVDO BC0 (§22H)	0.515	0.329	0.085	0.844	0.600	0.929
	PCS EVDO	0.900	0.329	0.085	1.229	0.985	1.314
	LTE Band 71	0.115	0.329	0.085	0.444	0.200	0.529
	LTE Band 12	0.161	0.329	0.085	0.490	0.246	0.575
	LTE Band 13	0.253	0.329	0.085	0.582	0.338	0.667
	LTE Band 14	0.252	0.329	0.085	0.581	0.337	0.666
	LTE Band 26 (Cell)	0.638	0.329	0.085	0.967	0.723	1.052
	LTE Band 5 (Cell)	0.586	0.329	0.085	0.915	0.671	1.000
	LTE Band 66 (AWS)	0.470	0.329	0.085	0.799	0.555	0.884
	LTE Band 25 (PCS)	0.947	0.329	0.085	1.276	1.032	**1.361**
	LTE Band 30	0.408	0.329	0.085	0.737	0.493	0.822
	LTE Band 7	0.419	0.329	0.085	0.748	0.504	0.833
	LTE Band 41	0.318	0.329	0.085	0.647	0.403	0.732

Table 12-24
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	1+2+3
Hotspot SAR	GPRS 850	0.518	0.263	0.193	0.781	0.711	0.974
	GPRS 1900	0.869	0.263	0.193	1.132	1.062	1.325
	UMTS 850	0.414	0.263	0.193	0.677	0.607	0.870
	UMTS 1750	0.820	0.263	0.193	1.083	1.013	1.276
	UMTS 1900	0.864	0.263	0.193	1.127	1.057	1.320
	EVDO BC10 (§90S)	0.455	0.263	0.193	0.718	0.648	0.911
	EVDO BC0 (§22H)	0.515	0.263	0.193	0.778	0.708	0.971
	PCS EVDO	0.900	0.263	0.193	1.163	1.093	1.356
	LTE Band 71	0.115	0.263	0.193	0.378	0.308	0.571
	LTE Band 12	0.161	0.263	0.193	0.424	0.354	0.617
	LTE Band 13	0.253	0.263	0.193	0.516	0.446	0.709
	LTE Band 14	0.252	0.263	0.193	0.515	0.445	0.708
	LTE Band 26 (Cell)	0.638	0.263	0.193	0.901	0.831	1.094
	LTE Band 5 (Cell)	0.586	0.263	0.193	0.849	0.779	1.042
	LTE Band 66 (AWS)	0.470	0.263	0.193	0.733	0.663	0.926
	LTE Band 25 (PCS)	0.947	0.263	0.193	1.210	1.140	**1.403**
	LTE Band 30	0.408	0.263	0.193	0.671	0.601	0.864
	LTE Band 7	0.419	0.263	0.193	0.682	0.612	0.875
	LTE Band 41	0.318	0.263	0.193	0.581	0.511	0.774

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Table 12-25
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	GPRS 850	0.518	0.130	0.648
	GPRS 1900	0.869	0.130	0.999
	UMTS 850	0.414	0.130	0.544
	UMTS 1750	0.820	0.130	0.950
	UMTS 1900	0.864	0.130	0.994
	EVDO BC10 (§90S)	0.455	0.130	0.585
	EVDO BC0 (§22H)	0.515	0.130	0.645
	PCS EVDO	0.900	0.130	1.030
	LTE Band 71	0.115	0.130	0.245
	LTE Band 12	0.161	0.130	0.291
	LTE Band 13	0.253	0.130	0.383
	LTE Band 14	0.252	0.130	0.382
	LTE Band 26 (Cell)	0.638	0.130	0.768
	LTE Band 5 (Cell)	0.586	0.130	0.716
	LTE Band 66 (AWS)	0.470	0.130	0.600
	LTE Band 25 (PCS)	0.947	0.130	**1.077**
	LTE Band 30	0.408	0.130	0.538
	LTE Band 7	0.419	0.130	0.549
	LTE Band 41	0.318	0.130	0.448

Table 12-26
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	GPRS 850	0.518	0.329	0.193	1.040
	GPRS 1900	0.869	0.329	0.193	1.391
	UMTS 850	0.414	0.329	0.193	0.936
	UMTS 1750	0.820	0.329	0.193	1.342
	UMTS 1900	0.864	0.329	0.193	1.386
	EVDO BC10 (§90S)	0.455	0.329	0.193	0.977
	EVDO BC0 (§22H)	0.515	0.329	0.193	1.037
	PCS EVDO	0.900	0.329	0.193	1.422
	LTE Band 71	0.115	0.329	0.193	0.637
	LTE Band 12	0.161	0.329	0.193	0.683
	LTE Band 13	0.253	0.329	0.193	0.775
	LTE Band 14	0.252	0.329	0.193	0.774
	LTE Band 26 (Cell)	0.638	0.329	0.193	1.160
	LTE Band 5 (Cell)	0.586	0.329	0.193	1.108
	LTE Band 66 (AWS)	0.470	0.329	0.193	0.992
	LTE Band 25 (PCS)	0.947	0.329	0.193	**1.469**
	LTE Band 30	0.408	0.329	0.193	0.930
	LTE Band 7	0.419	0.329	0.193	0.941
	LTE Band 41	0.318	0.329	0.193	0.840

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Table 12-27
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	GPRS 850	0.518	0.130	0.193	0.841
	GPRS 1900	0.869	0.130	0.193	1.192
	UMTS 850	0.414	0.130	0.193	0.737
	UMTS 1750	0.820	0.130	0.193	1.143
	UMTS 1900	0.864	0.130	0.193	1.187
	EVDO BC10 (§90S)	0.455	0.130	0.193	0.778
	EVDO BC0 (§22H)	0.515	0.130	0.193	0.838
	PCS EVDO	0.900	0.130	0.193	1.223
	LTE Band 71	0.115	0.130	0.193	0.438
	LTE Band 12	0.161	0.130	0.193	0.484
	LTE Band 13	0.253	0.130	0.193	0.576
	LTE Band 14	0.252	0.130	0.193	0.575
	LTE Band 26 (Cell)	0.638	0.130	0.193	0.961
	LTE Band 5 (Cell)	0.586	0.130	0.193	0.909
	LTE Band 66 (AWS)	0.470	0.130	0.193	0.793
	LTE Band 25 (PCS)	0.947	0.130	0.193	**1.270**
	LTE Band 30	0.408	0.130	0.193	0.731
	LTE Band 7	0.419	0.130	0.193	0.742
	LTE Band 41	0.318	0.130	0.193	0.641

12.9 SPLSR Evaluation and Analysis

Per FCC KDB Publication 447498 D01v06, when the sum of the standalone transmitters is more than 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 ≤0.10 for 10g, simultaneous SAR evaluation is not required. The distance between the transmitters was calculated using the following formula.

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

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

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12.9.1 Back Side SPLSR Evaluation and Analysis

Table 12-28
Peak SAR Locations for Phablet Back Side

Mode/Band	x (mm)	y (mm)
5 GHz WLAN Ant 2	-49.90	59.90
5 GHz WLAN MIMO	-49.90	59.00
PCS EVDO	-15.50	-84.00
LTE Band 30	2.80	-68.20
UMTS 1900	-15.50	-84.00

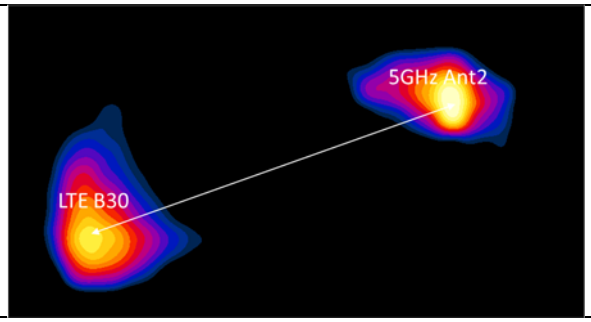
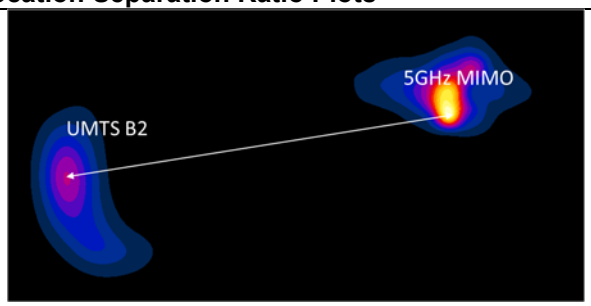
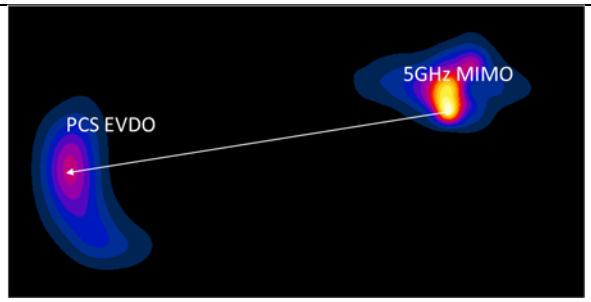
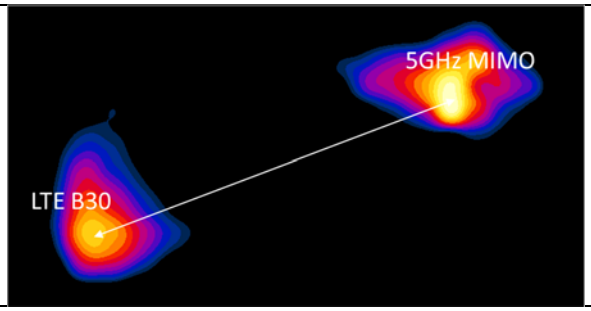
Table 12-29
Back Side SAR to Peak Location Separation Ratio Calculations

Antenna Pair		Standalone SAR (W/kg)		Standalone SAR Sum (W/kg)	Peak SAR Separation Distance (mm)	SPLS Ratio	Plot Number
Ant "a"	Ant "b"	a	b	a+b	D_{a-b}	$(a+b)^{1.5}/D_{a-b}$	
LTE Band 30	5 GHz WLAN Ant 2	2.046	2.099	4.145	138.52	0.06	1
UMTS 1900	5 GHz WLAN MIMO	1.589	2.487	4.076	147.08	0.06	2
PCS EVDO	5 GHz WLAN MIMO	1.535	2.487	4.022	147.08	0.05	3
LTE Band 30	5 GHz WLAN MIMO	2.046	2.487	4.533	137.68	0.07	4

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

	
1	2
	
3	4

12.10 Simultaneous Transmission Conclusion

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

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13 SAR MEASUREMENT VARIABILITY

13.1 Measurement Variability

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

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

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

Table 13-1
Body SAR Measurement Variability Results

BODY VARIABILITY RESULTS															
Band	FREQUENCY		Mode	Service	Data Rate (Mbps)	Side	Spacing	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	Ratio	3rd Repeated SAR (1g)	Ratio
	MHz	Ch.						(W/kg)	(W/kg)		(W/kg)		(W/kg)	
1900	1908.75	1175	PCS CDMA	EVDO Rev. 0	N/A	bottom	10 mm	1.290	1.240	1.04	N/A	N/A	N/A	N/A
2450	2462.00	11	802.11b, 22 MHz Bandwidth	DSSS , ANT 1	1	top	10 mm	0.952	0.943	1.01	N/A	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 13-2
Phablet SAR Measurement Variability Results

PHABLET VARIABILITY RESULTS														
Band	FREQUENCY		Mode	Service	Data Rate (Mbps)	Side	Spacing	Measured SAR (10g)	1st Repeated SAR (10g)	Ratio	2nd Repeated SAR (10g)	Ratio	3rd Repeated SAR (10g)	Ratio
	MHz	Ch.						(W/kg)	(W/kg)		(W/kg)		(W/kg)	
1900	1908.75	1175	PCS CDMA	EVDO Rev. 0	N/A	bottom	0 mm	3.050	3.010	1.01	N/A	N/A	N/A	N/A
2300	2310.00	27710	LTE Band 30, 10 MHz Bandwidth	QPSK, 25 RB, 12 RB Offset	N/A	bottom	0 mm	2.070	2.040	1.01	N/A	N/A	N/A	N/A
5600	5500.00	100	802.11n, 20 MHz Bandwidth	OFDM , MIMO	13	back	0 mm	2.280	2.170	1.05	N/A	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Phablet 4.0 W/kg (mW/g) averaged over 10 grams						

13.2 Measurement Uncertainty

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

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14 ADDITIONAL TESTING PER FCC GUIDANCE

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

This device supports Power Class 2 and Power Class 3 operations for LTE Band 41. The highest available duty cycle for Power Class 2 operations is 43.3 % using UL-DL configuration 1. Per May 2017 TCB Workshop Notes based on the device behavior, all SAR tests were performed using Power Class 3. SAR with Power Class 2 at the highest power and available duty factor was additionally performed for the Power Class 3 configuration with the highest SAR for each exposure condition. The linearity between the Power Class 2 and Power Class 3 SAR results and the respective frame averaged powers was calculated to determine that the results were linear. 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.

LTE Band 41 SAR testing 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.

Table 14-1
LTE Band 41 Head Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	25.5	27
Measured Output Power (dBm)	24.53	25.98
Measured SAR (W/kg)	0.047	0.041
Measured Power (mW)	283.79	396.28
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	179.64	171.59
% deviation from expected linearity		-8.67%

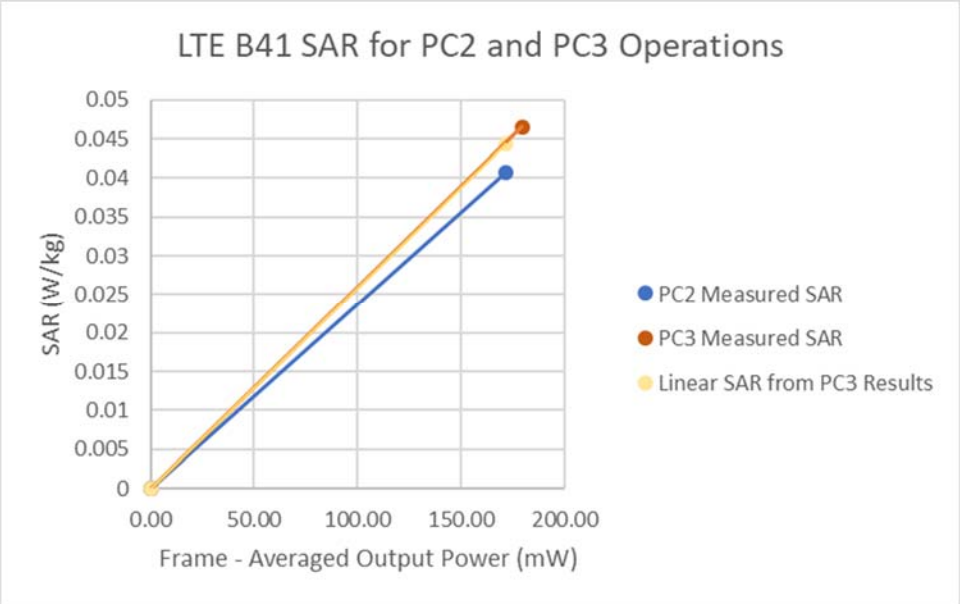


Figure 14-1
LTE Band 41 Head Linearity

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Table 14-2
LTE Band 41 Body-Worn Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	25.5	27
Measured Output Power (dBm)	24.53	25.98
Measured SAR (W/kg)	0.157	0.155
Measured Power (mW)	283.79	396.28
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	179.64	171.59
% deviation from expected linearity		3.36%

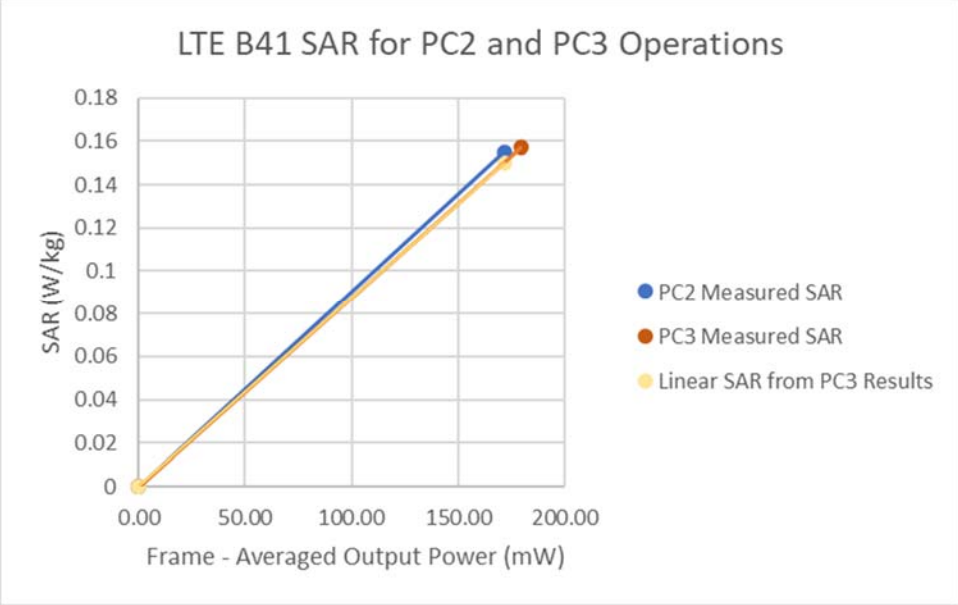


Figure 14-2
LTE Band 41 Body-Worn Linearity

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Table 14-3
LTE Band 41 Hotspot Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	22.7	24.7
Measured Output Power (dBm)	22.16	24.25
Measured SAR (W/kg)	0.348	0.423
Measured Power (mW)	164.44	266.07
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	104.09	115.21
% deviation from expected linearity		9.82%

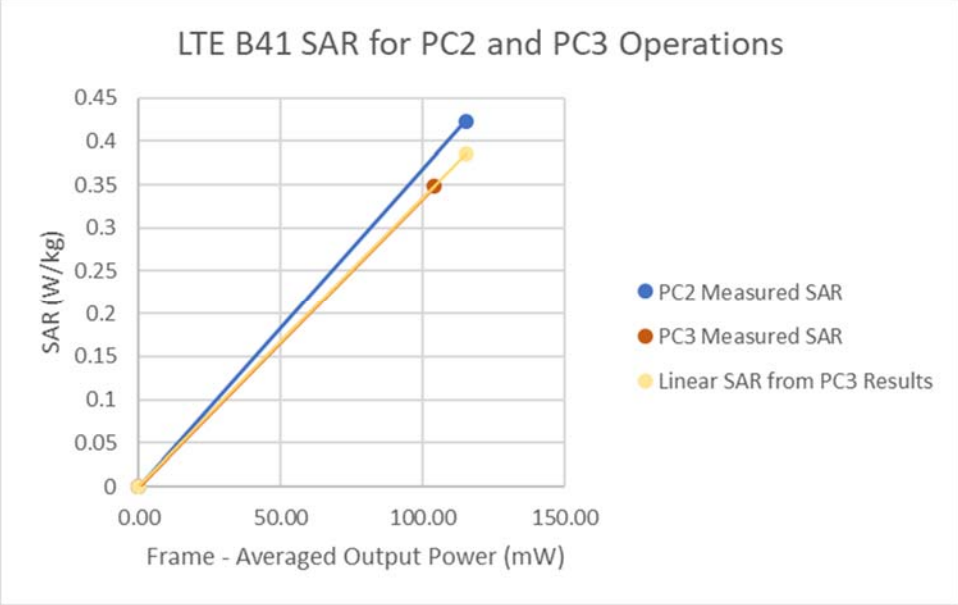


Figure 14-3
LTE Band 41 Hotspot Linearity

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Table 14-4
LTE Band 41 Phablet Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	22.7	24.7
Measured Output Power (dBm)	22.16	24.25
Measured SAR (W/kg)	0.643	0.698
Measured Power (mW)	164.44	266.07
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	104.09	115.21
% deviation from expected linearity		-1.92%

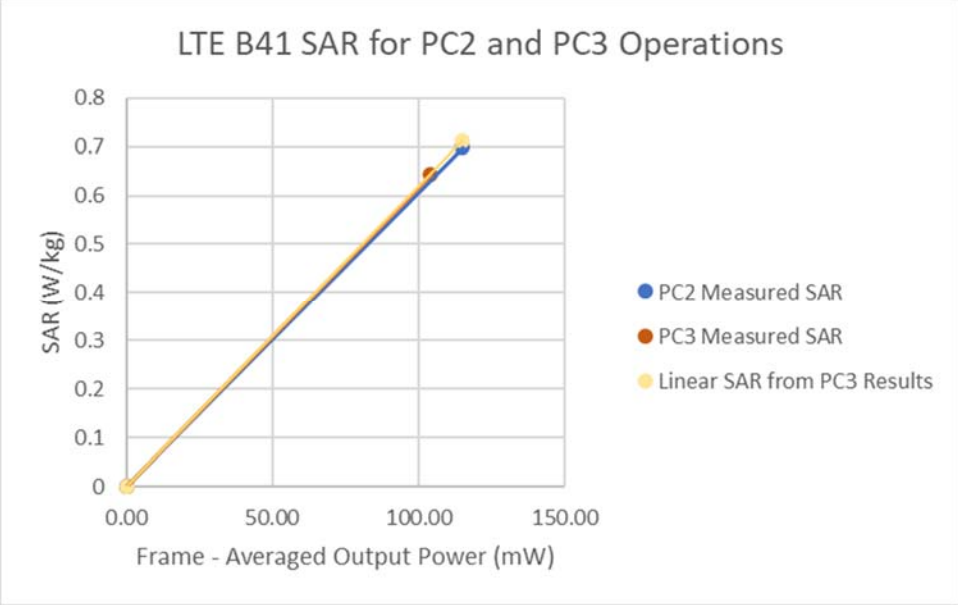


Figure 14-4
LTE Band 41 Phablet Linearity

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15 EQUIPMENT LIST

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	8594A	(9kHz-2.9GHz) Spectrum Analyzer	N/A	N/A	N/A	3051A00187
Agilent	E4432B	ESG-D Series Signal Generator	7/14/2019	Annual	7/14/2020	US40053896
Agilent	N9020A	MXA Signal Analyzer	4/20/2019	Annual	4/20/2020	US46470561
Agilent	N4010A	Wireless Connectivity Test Set	N/A	N/A	N/A	GB46170464
Agilent	N4010A	Wireless Connectivity Test Set	N/A	N/A	N/A	GB44450273
Agilent	E5515C	Wireless Communications Test Set	2/7/2018	Triennial	2/7/2021	GB43304447
Agilent	E5515C	Wireless Communications Test Set	6/26/2019	Annual	6/26/2020	MY50267125
Agilent	8753ES	S-Parameter Network Analyzer	3/11/2019	Annual	3/11/2020	US39170122
Agilent	N5182A	MXG Vector Signal Generator	7/10/2019	Annual	7/10/2020	MY47420800
Agilent	E4438C	ESG Vector Signal Generator	3/8/2019	Biennial	3/8/2021	MY42082385
Agilent	E4438C	ESG Vector Signal Generator	5/23/2019	Annual	5/23/2020	MY47270002
Agilent	E4438C	ESG Vector Signal Generator	5/22/2019	Annual	5/22/2020	MY45091346
Agilent	8753ES	S-Parameter Vector Network Analyzer	9/19/2019	Annual	9/19/2020	MY40003841
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433972
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433974
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433976
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433978
Anritsu	MA24106A	USB Power Sensor	5/6/2019	Annual	5/6/2020	1231538
Anritsu	MA24106A	USB Power Sensor	5/22/2019	Annual	5/22/2020	1231535
Anritsu	MA24106A	USB Power Sensor	1/31/2019	Annual	1/31/2020	1244524
Anritsu	MA2411B	Pulse Power Sensor	6/11/2019	Annual	6/11/2020	1207364
Anritsu	MT8820C	Radio Communication Analyzer	7/25/2019	Annual	7/25/2020	6201240328
Anritsu	MT8820C	Radio Communication Analyzer	3/29/2019	Annual	3/29/2020	6201300731
Anritsu	MT8821C	Radio Communication Analyzer	8/16/2019	Annual	8/16/2020	6201144418
Anritsu	ML2496A	Power Meter	11/6/2019	Annual	11/6/2020	1405003
Anritsu	MT8821C	Radio Communication Analyzer	10/2/2019	Annual	10/2/2020	6201664756
Anritsu	MT8821C	Radio Communication Analyzer	3/6/2019	Annual	3/6/2020	6201381794
Anritsu	MT8862A	Wireless Connectivity Test Set	8/8/2019	Annual	8/8/2020	6261782395
Anritsu	MT8821C	Radio Communication Analyzer	1/25/2019	Annual	1/25/2020	6261895213
Anritsu	MT8821C	Radio Communication Analyzer	5/13/2019	Annual	5/13/2020	6201524637
COMTECH	AR85729-5/5759B	Solid State Amplifier	CBT	N/A	CBT	M3W1A00-1002
COMTech	AR85729-5	Solid State Amplifier	CBT	N/A	CBT	M1S5A00-009
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	4040	Therm./ Clock/ Humidity Monitor	10/9/2018	Biennial	10/9/2020	181647812
Control Company	4352	Ultra Long Stem Thermometer	11/29/2018	Biennial	11/29/2020	181766816
Control Company	4352	Ultra Long Stem Thermometer	11/29/2018	Biennial	11/29/2020	181766817
Control Company	4352	Ultra Long Stem Thermometer	11/29/2018	Biennial	11/29/2020	181766801
Control Company	4352	Ultra Long Stem Thermometer	11/29/2018	Biennial	11/29/2020	181766777
Keysight	772D	Dual Directional Coupler	CBT	N/A	CBT	MY52180215
Keysight Technologies	N6705B	DC Power Analyzer	4/27/2019	Biennial	4/27/2021	MY53004059
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+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	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	BW-N20W5	Power Attenuator	CBT	N/A	CBT	1226
Mitutoyo	CD-6"CSX	Digital Caliper	4/18/2018	Biennial	4/18/2020	13264165
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Narda	BW-S3W2	Attenuator (3dB)	CBT	N/A	CBT	120
Narda	4014C-6	4 - 8 GHz SMA 6 dB Directional Coupler	CBT	N/A	CBT	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	CMU200	Base Station Simulator	6/3/2019	Annual	6/3/2020	109892
Rohde & Schwarz	CMW500	Radio Communication Tester	8/26/2019	Annual	8/26/2020	100976
Rohde & Schwarz	CMW500	Radio Communication Tester	6/26/2019	Annual	6/26/2020	112347
Rohde & Schwarz	CMW500	Radio Communication Tester	10/15/2019	Annual	10/15/2020	109366
Rohde & Schwarz	CMW500	Radio Communication Tester	8/27/2019	Annual	8/27/2020	116743
Rohde & Schwarz	ZNLE6	Vector Network Analyzer	10/11/2019	Annual	10/11/2020	101307
Seekonk	NC-100	Torque Wrench (8" lb)	5/10/2018	Biennial	5/10/2020	21053
SPEAG	DAK-3.5	Dielectric Assessment Kit	10/22/2019	Annual	10/22/2020	1091
SPEAG	D750V3	750 MHz SAR Dipole	1/15/2018	Biennial	1/15/2020	1003
SPEAG	D835V2	835 MHz SAR Dipole	3/13/2019	Annual	3/13/2020	4d047
SPEAG	D835V2	835 MHz SAR Dipole	10/19/2018	Biennial	10/19/2020	4d133
SPEAG	D1750V2	1750 MHz SAR Dipole	5/15/2019	Annual	5/15/2020	1148
SPEAG	D1900V2	1900 MHz SAR Dipole	2/21/2019	Annual	2/21/2020	5d148
SPEAG	D2300V2	2300 MHz SAR Dipole	8/13/2018	Biennial	8/13/2020	1073
SPEAG	D2450V2	2450 MHz SAR Dipole	8/14/2019	Annual	8/14/2020	719
SPEAG	D2600V2	2600 MHz SAR Dipole	6/14/2019	Annual	6/14/2020	1064
SPEAG	D5GHzV2	5 GHz SAR Dipole	9/17/2019	Annual	9/17/2020	1191
SPEAG	D1750V2	1750 MHz SAR Dipole	10/22/2018	Biennial	10/22/2020	1150
SPEAG	D1765V2	1765 MHz SAR Dipole	5/23/2018	Biennial	5/23/2020	1008
SPEAG	D1900V2	1900 MHz SAR Dipole	10/23/2018	Biennial	10/23/2020	5d080
SPEAG	D1900V2	1900 MHz SAR Dipole	10/23/2018	Biennial	10/23/2020	5d149
SPEAG	D2450V2	2450 MHz SAR Dipole	9/11/2017	Triennial	9/11/2020	797
SPEAG	D2450V2	2450 MHz SAR Dipole	8/16/2018	Biennial	8/16/2020	981
SPEAG	D2600V2	2600 MHz SAR Dipole	4/11/2018	Biennial	4/11/2020	1004
SPEAG	EX3DV4	SAR Probe	2/19/2019	Annual	2/19/2020	7417
SPEAG	EX3DV4	SAR Probe	8/16/2019	Annual	8/16/2020	7308
SPEAG	EX3DV4	SAR Probe	5/16/2019	Annual	5/16/2020	7406
SPEAG	EX3DV4	SAR Probe	7/16/2019	Annual	7/16/2020	7410
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	9/19/2019	Annual	9/19/2020	7551
SPEAG	EX3DV4	SAR Probe	12/11/2019	Annual	12/11/2020	7571
SPEAG	EX3DV4	SAR Probe	7/15/2019	Annual	7/15/2020	7547
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/13/2019	Annual	2/13/2020	665
SPEAG	DAE4	Dasy Data Acquisition Electronics	8/14/2019	Annual	8/14/2020	1450
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/8/2019	Annual	5/8/2020	728
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/11/2019	Annual	7/11/2020	1322
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	9/17/2019	Annual	9/17/2020	1333
SPEAG	DAE4	Dasy Data Acquisition Electronics	12/5/2019	Annual	12/5/2020	1533
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/11/2019	Annual	7/11/2020	1323

Note:

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

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16 MEASUREMENT UNCERTAINTIES

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

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17 CONCLUSION

17.1 Measurement Conclusion

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

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

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APPENDIX A: SAR TEST DATA

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DUT: A3LSMF700U; Type: Portable Handset; Serial: 0417M

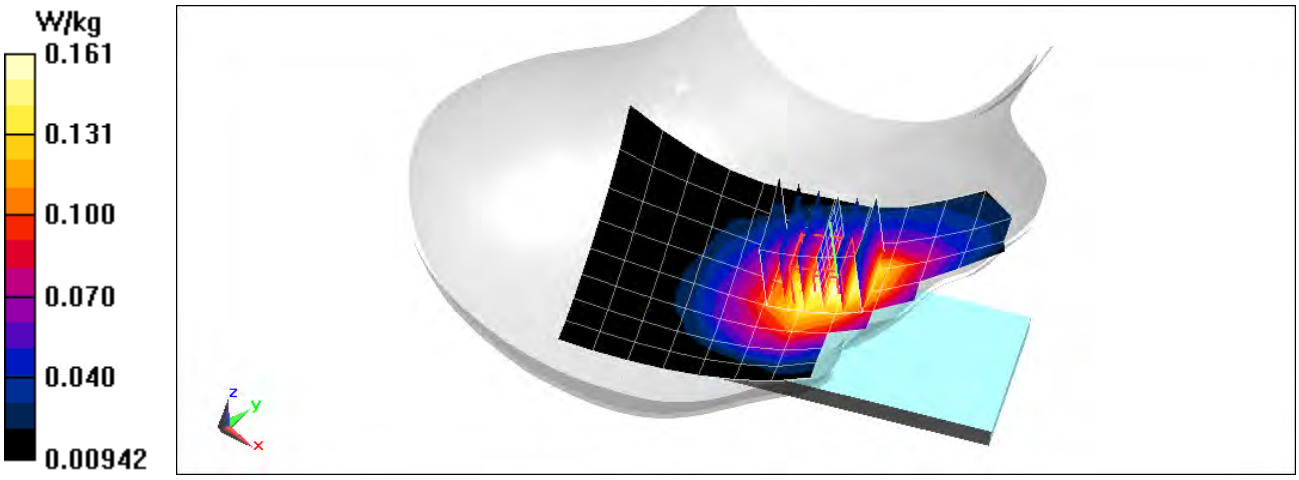
Communication System: UID 0, GSM; Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: 835 Head; Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.914 S/m; ε_r = 40.137; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 01/13/2020; Ambient Temp: 21.9°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN7308; ConvF(9.87, 9.87, 9.87) @ 836.6 MHz; Calibrated: 8/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/14/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: GSM 850, Right Head, Cheek, 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 = 15.08 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.268 W/kg
SAR(1 g) = 0.199 W/kg



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DUT: A3LSMF700U; Type: Portable Handset; Serial: 0798M

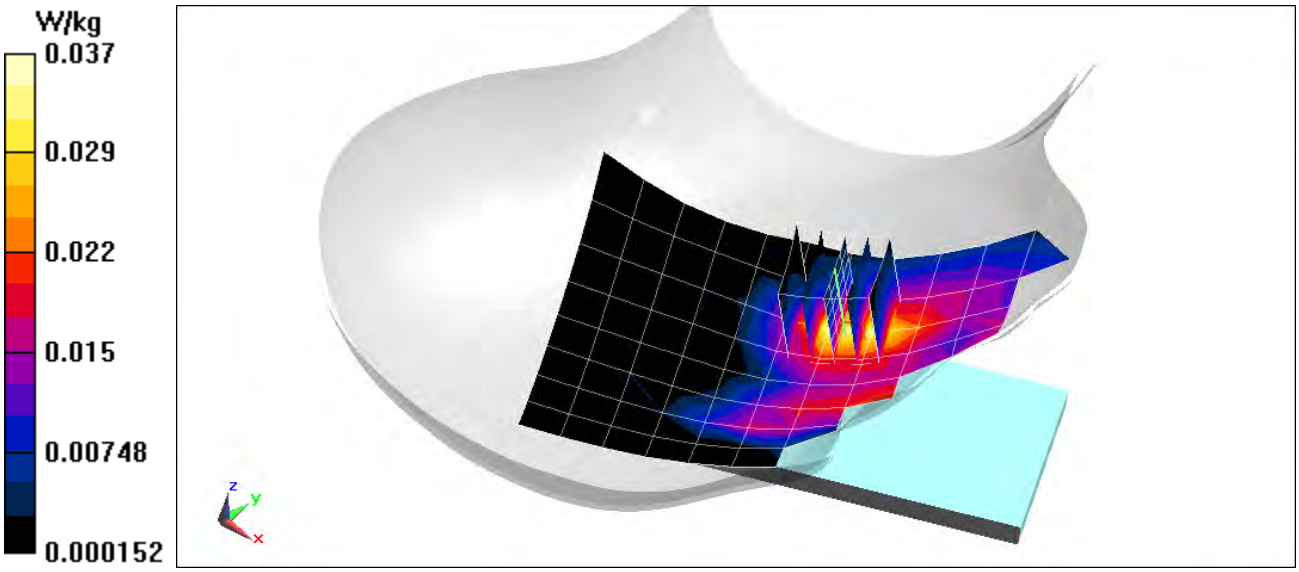
Communication System: UID 0, GSM; Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: 1900 Head; Medium parameters used:
f = 1880 MHz; σ = 1.444 S/m; ε_r = 40.488; ρ = 1000 kg/m^3
Phantom section: Right Section

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

Probe: EX3DV4 - SN7410; ConvF(8.11, 8.11, 8.11) @ 1880 MHz; Calibrated: 7/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1966
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: GSM 1900, Right Head, Cheek, Mid.ch

Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.436 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 0.0430 W/kg
SAR(1 g) = 0.028 W/kg



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DUT: A3LSMF700U; Type: Portable Handset; Serial: 0289M

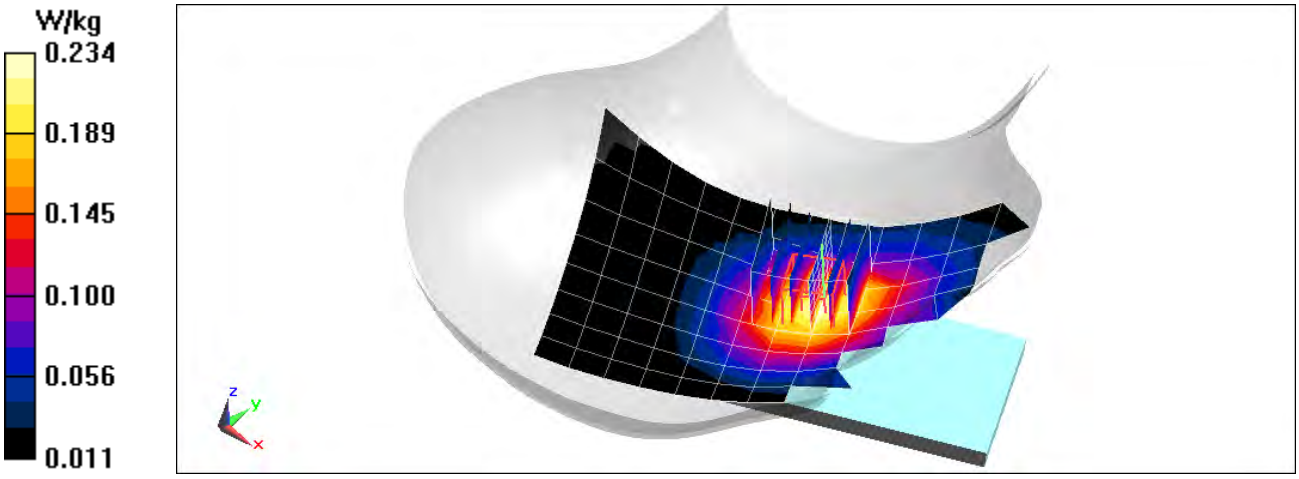
Communication System: UID 0, UMTS; Frequency: 836.6 MHz; Duty Cycle: 1:1
Medium: 835 Head; Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.914 S/m; ε_r = 40.137; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 01/13/2020; Ambient Temp: 21.9°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN7308; ConvF(9.87, 9.87, 9.87) @ 836.6 MHz; Calibrated: 8/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/14/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: UMTS 850, Right Head, Cheek, 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 = 14.78 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.260 W/kg
SAR(1 g) = 0.191 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0278M

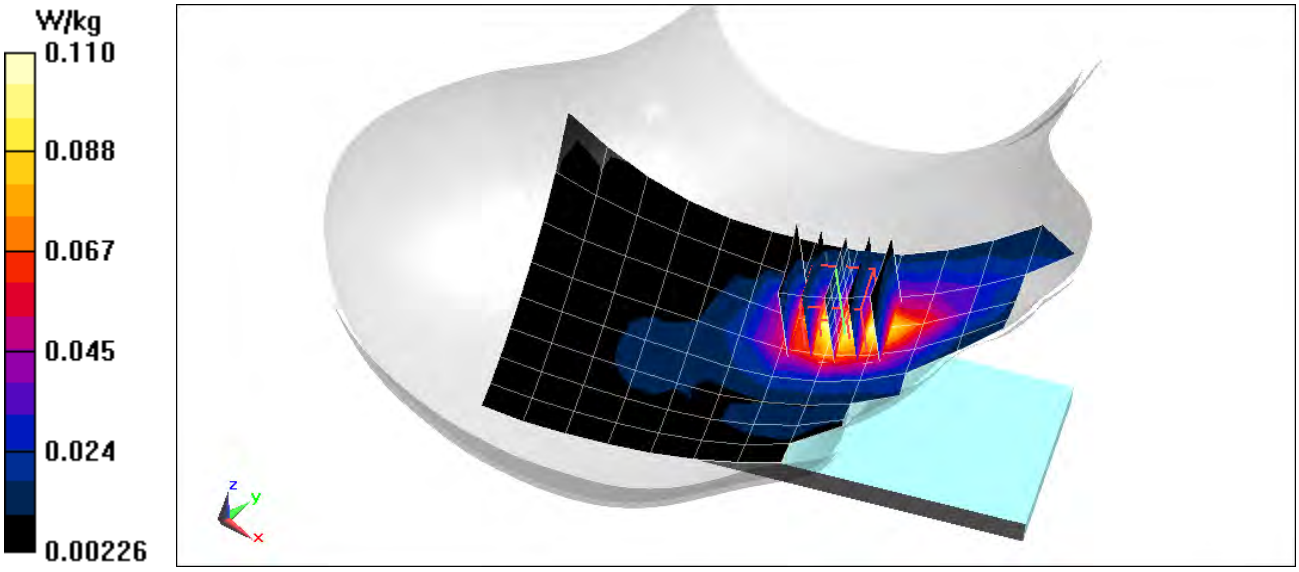
Communication System: UID 0, UMTS; Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium: 1750 Head; Medium parameters used (interpolated):
f = 1732.4 MHz; σ = 1.332 S/m; ε_r = 39.553; ρ = 1000 kg/m^3
Phantom section: Right Section

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

Probe: EX3DV4 - SN7406; ConvF(8.57, 8.57, 8.57) @ 1732.4 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: UMTS 1750, Right 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 = 8.189 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 0.137 W/kg
SAR(1 g) = 0.085 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0798M

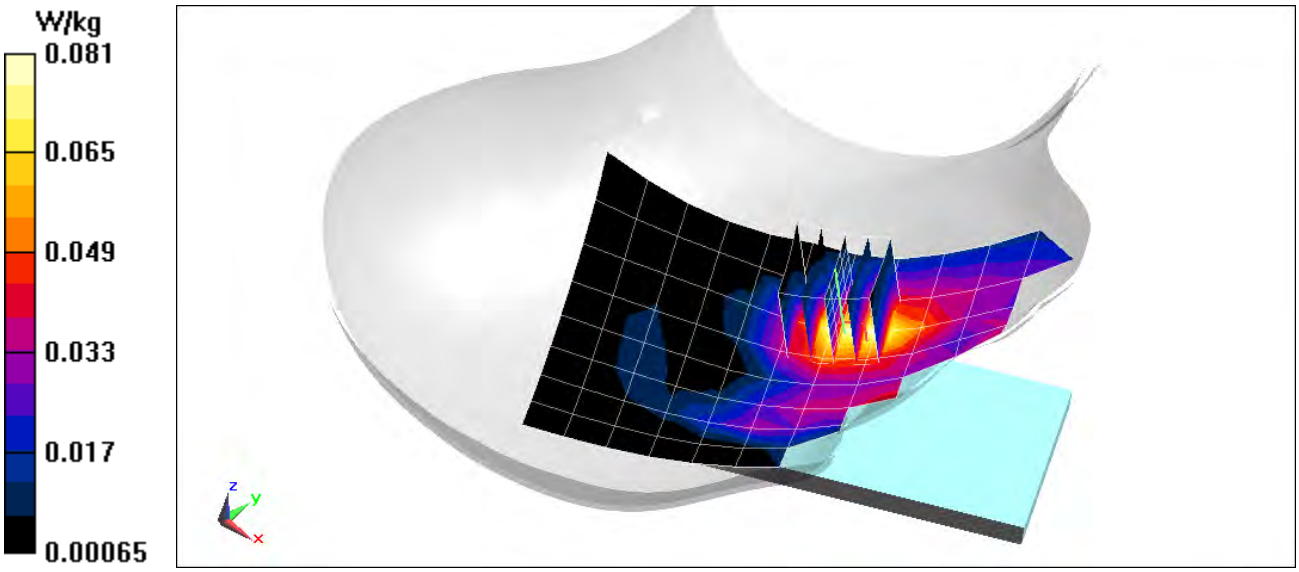
Communication System: UID 0, UMTS; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: 1900 Head; Medium parameters used:
f = 1880 MHz; σ = 1.444 S/m; ε_r = 40.488; ρ = 1000 kg/m^3
Phantom section: Right Section

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

Probe: EX3DV4 - SN7410; ConvF(8.11, 8.11, 8.11) @ 1880 MHz; Calibrated: 7/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1966
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

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

Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.168 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 0.0970 W/kg
SAR(1 g) = 0.063 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0622M

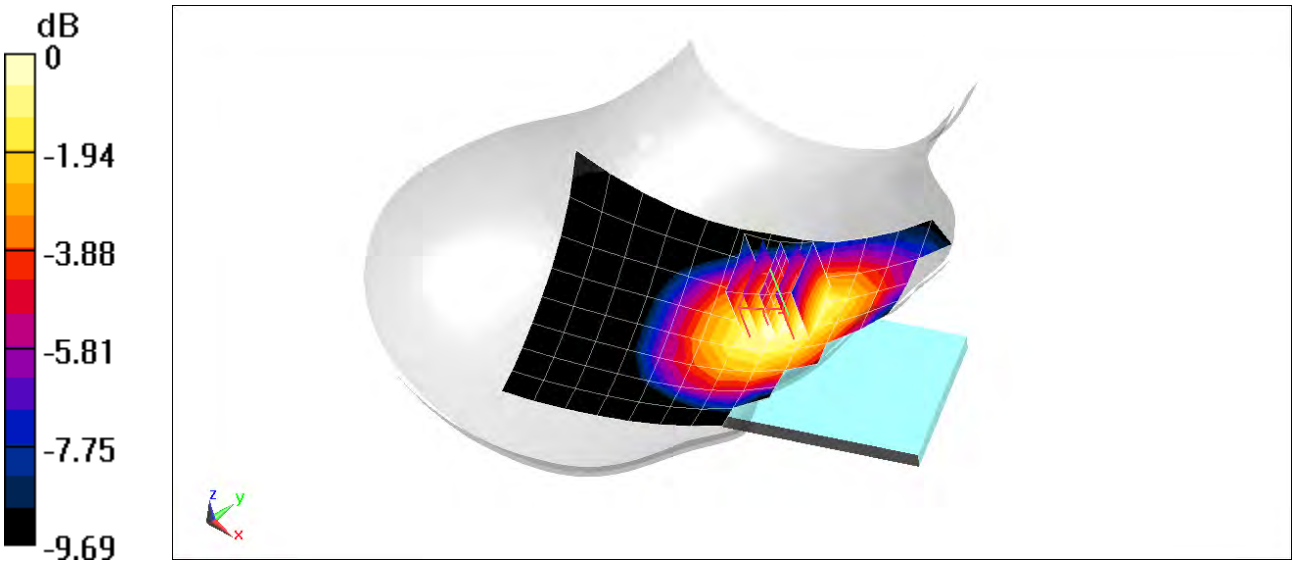
Communication System: UID 0, Cellular CDMA; Frequency: 820.1 MHz; Duty Cycle: 1:1
Medium: 835 Head; Medium parameters used (interpolated):
f = 820.1 MHz; σ = 0.904 S/m; ε_r = 39.829; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 01/20/2020; Ambient Temp: 20.7°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7417; ConvF(10.07, 10.07, 10.07) @ 820.1 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/13/2019
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: Cell. CDMA, BC 10 (§90S), Right 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 = 15.33 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.259 W/kg
SAR(1 g) = 0.201 W/kg



0 dB = 0.238 W/kg = -6.23 dBW/kg

DUT: A3LSMF700U; Type: Portable Handset; Serial: 0622M

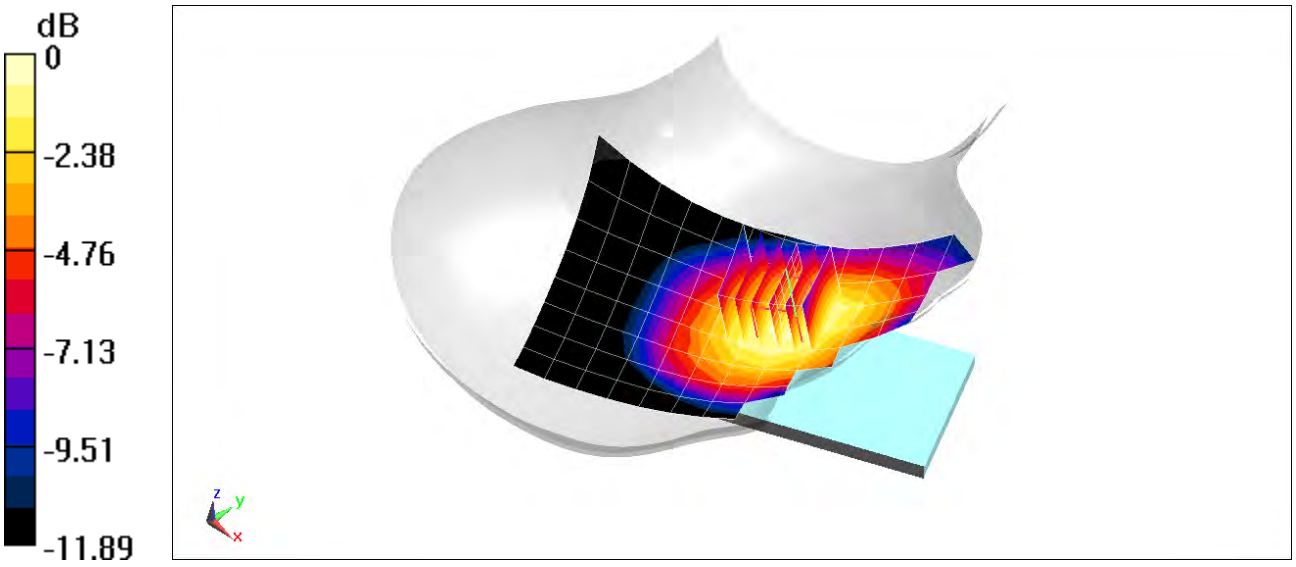
Communication System: UID 0, CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1
Medium: 835 Head; Medium parameters used (interpolated):
f = 836.52 MHz; σ = 0.91 S/m; ε_r = 39.763; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 01/20/2020; Ambient Temp: 20.7°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7417; ConvF(10.07, 10.07, 10.07) @ 836.52 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/13/2019
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: Cell. CDMA, BC 0 (§22H), Right Head, Cheek, 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 = 15.72 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.274 W/kg
SAR(1 g) = 0.210 W/kg



0 dB = 0.254 W/kg = -5.95 dBW/kg

DUT: A3LSMF700U; Type: Portable Handset; Serial: 0798M

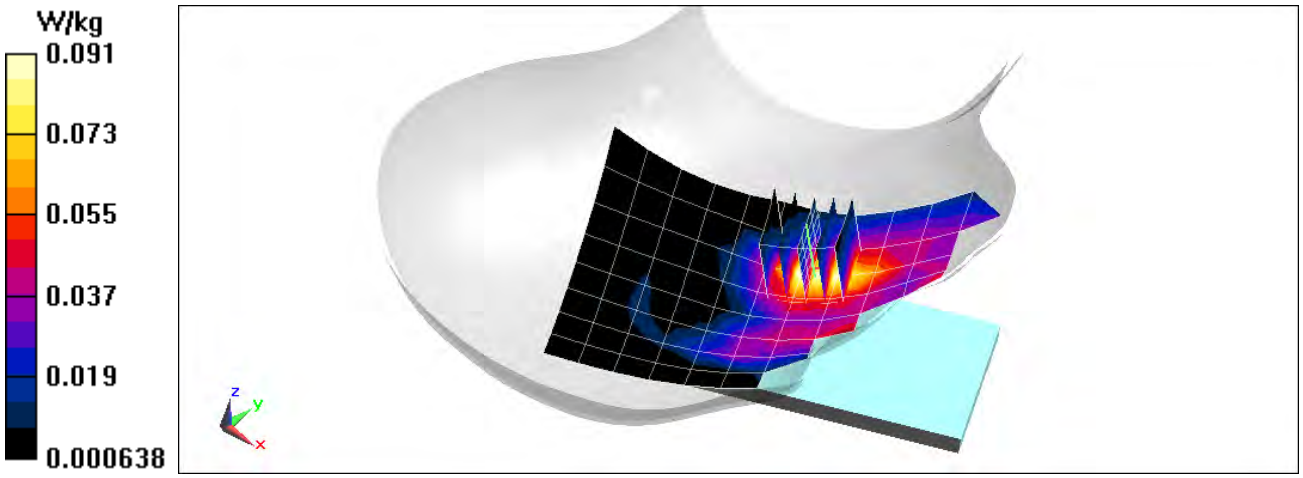
Communication System: UID 0, CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: 1900 Head; Medium parameters used:
f = 1880 MHz; σ = 1.444 S/m; ε_r = 40.488; ρ = 1000 kg/m^3
Phantom section: Right Section

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

Probe: EX3DV4 - SN7410; ConvF(8.11, 8.11, 8.11) @ 1880 MHz; Calibrated: 7/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1966
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: PCS CDMA, Right Head, Cheek, Mid.ch

Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.559 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.107 W/kg
SAR(1 g) = 0.071 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0278M

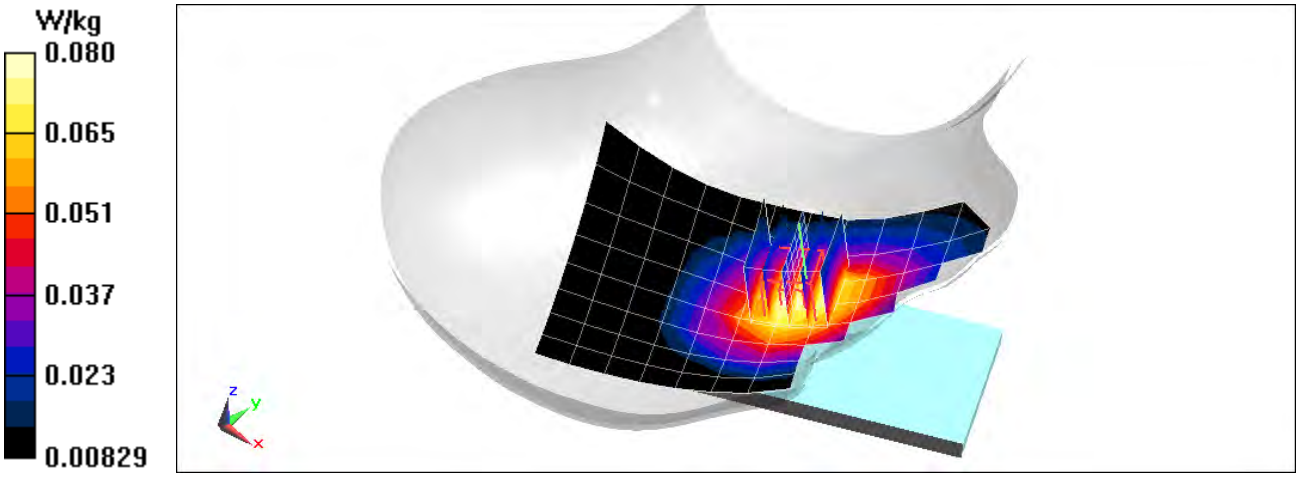
Communication System: UID 0, LTE Band 71; Frequency: 680.5 MHz; Duty Cycle: 1:1
Medium: 750 Head; Medium parameters used (interpolated):
f = 680.5 MHz; σ = 0.867 S/m; ε_r = 40.506; ρ = 1000 kg/m^3
Phantom section: Right Section

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

Probe: EX3DV4 - SN7417; ConvF(10.36, 10.36, 10.36) @ 680.5 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/13/2019
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 71, Right Head, Cheek, Mid.ch,
20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.177 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 0.0500 W/kg
SAR(1 g) = 0.039 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0278M

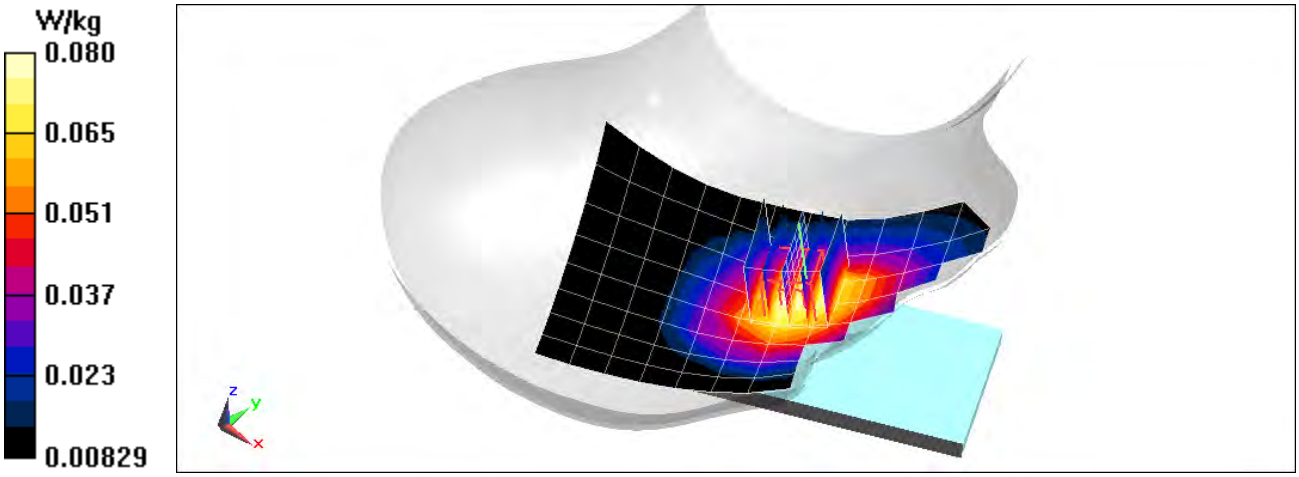
Communication System: UID 0, LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: 750 Head; Medium parameters used (interpolated):
f = 707.5 MHz; σ = 0.877 S/m; ε_r = 40.424; ρ = 1000 kg/m^3
Phantom section: Right Section

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

Probe: EX3DV4 - SN7417; ConvF(10.36, 10.36, 10.36) @ 707.5 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/13/2019
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 12, Right Head, Cheek, Mid.ch,
10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.418 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.0890 W/kg
SAR(1 g) = 0.069 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0278M

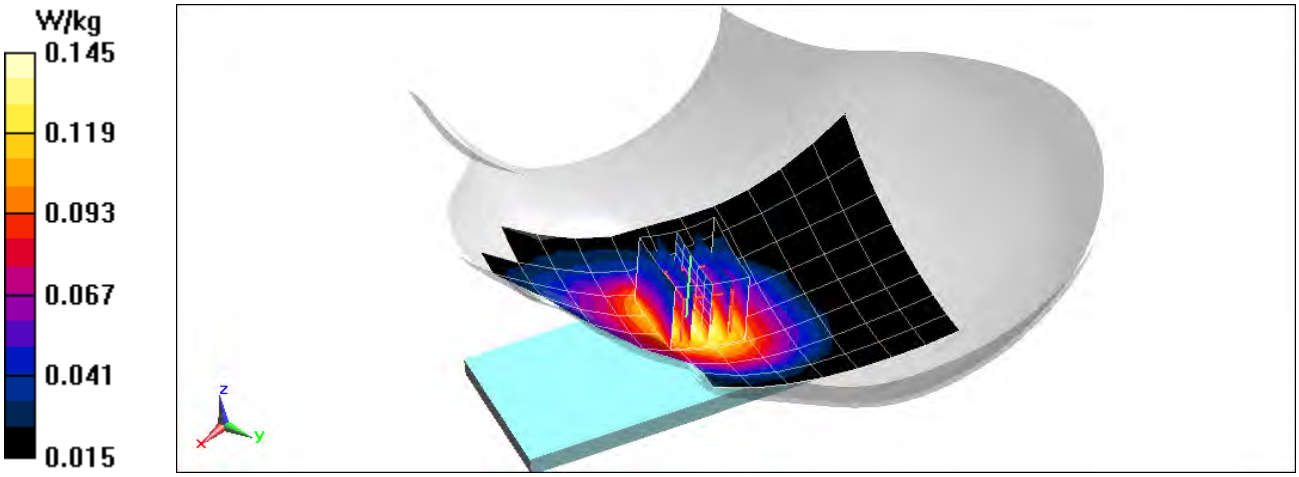
Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1
Medium: 750 Head; Medium parameters used (interpolated):
f = 782 MHz; σ = 0.904 S/m; ε_r = 40.191; ρ = 1000 kg/m^3
Phantom section: Left Section

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

Probe: EX3DV4 - SN7417; ConvF(10.36, 10.36, 10.36) @ 782 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/13/2019
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 13, Left Head, Cheek, Mid.ch, QPSK,
10 MHz Bandwidth, 1 RB, 25 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 = 12.43 V/m; Power Drift = 0.20 dB
Peak SAR (extrapolated) = 0.153 W/kg
SAR(1 g) = 0.125 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0278M

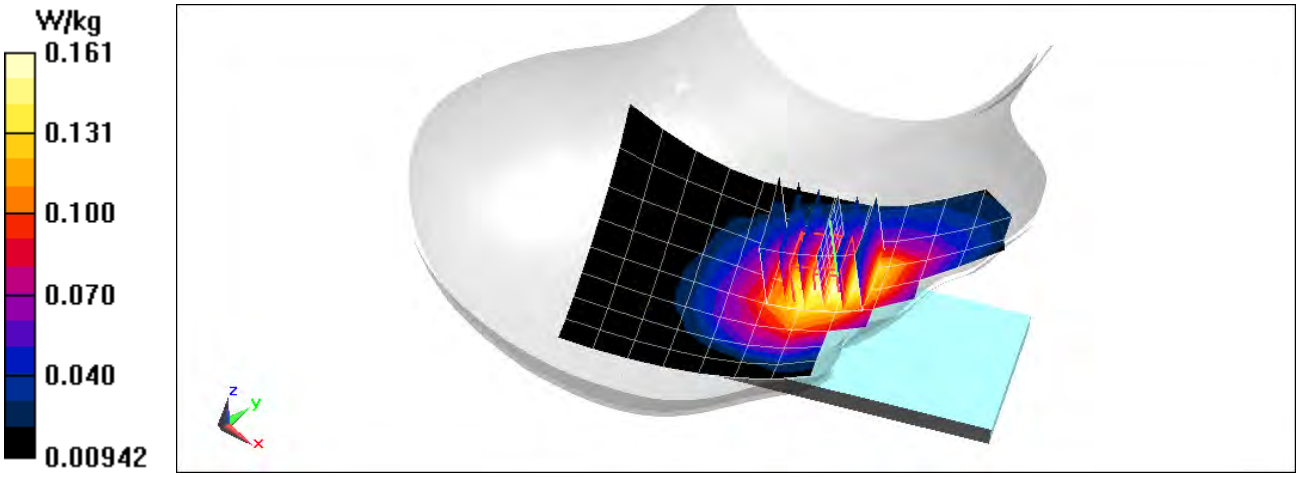
Communication System: UID 0, LTE Band 14; Frequency: 793 MHz; Duty Cycle: 1:1
Medium: 750 Head; Medium parameters used (interpolated):
f = 793 MHz; σ = 0.908 S/m; ε_r = 40.163; ρ = 1000 kg/m^3
Phantom section: Right Section

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

Probe: EX3DV4 - SN7417; ConvF(10.36, 10.36, 10.36) @ 793 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/13/2019
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 14, Right Head, Cheek, Mid.ch,
10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.11 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.171 W/kg
SAR(1 g) = 0.137 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0278M

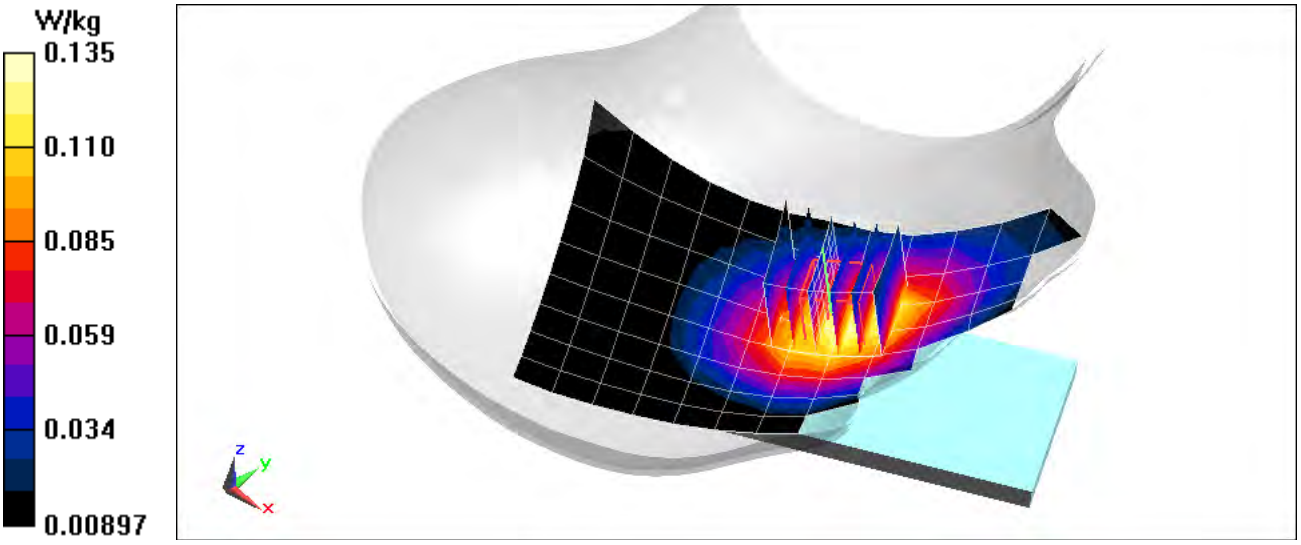
Communication System: UID 0, LTE Band 26; Frequency: 831.5 MHz; Duty Cycle: 1:1
Medium: 835 Head; Medium parameters used (interpolated):
f = 831.5 MHz; σ = 0.912 S/m; ε_r = 40.736; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 01/18/2020; Ambient Temp: 23.1°C; Tissue Temp: 20.5°C

Probe: EX3DV4 - SN7417; ConvF(10.07, 10.07, 10.07) @ 831.5 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/13/2019
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.83 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.149 W/kg
SAR(1 g) = 0.113 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0289M

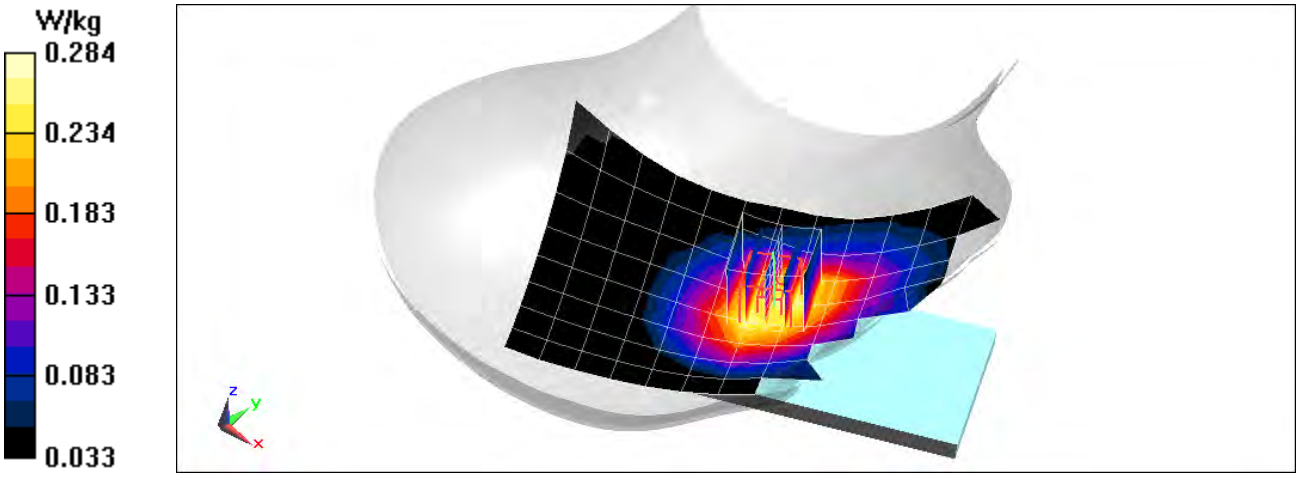
Communication System: UID 0, LTE Band 5 (Cell.); Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: 835 Head; Medium parameters used (interpolated):
f = 836.5 MHz; σ = 0.914 S/m; ε_r = 40.137; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 01/13/2020; Ambient Temp: 21.9°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN7308; ConvF(9.87, 9.87, 9.87) @ 836.5 MHz; Calibrated: 8/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/14/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 5 (Cell.), Right Head, Cheek, Mid.ch,
10 MHz Bandwidth, QPSK, 1 RB, 25 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 = 16.84 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 0.308 W/kg
SAR(1 g) = 0.237 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0278M

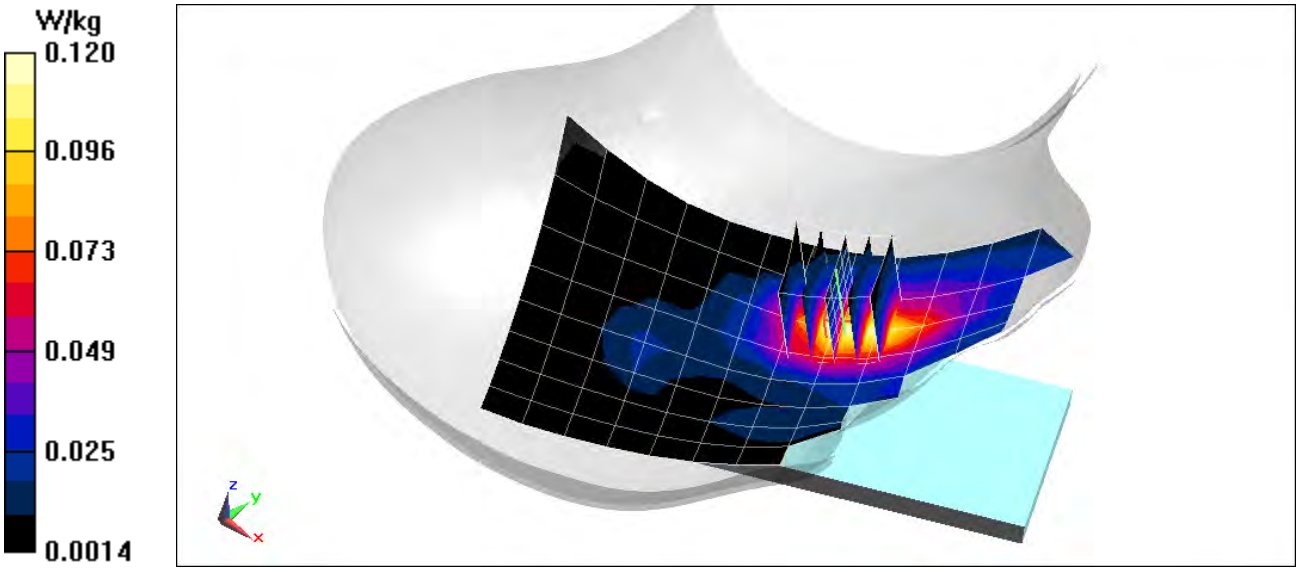
Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1770 MHz; Duty Cycle: 1:1
Medium: 1750 Head; Medium parameters used:
f = 1770 MHz; σ = 1.357 S/m; ε_r = 39.492; ρ = 1000 kg/m^3
Phantom section: Right Section

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

Probe: EX3DV4 - SN7406; ConvF(8.57, 8.57, 8.57) @ 1770 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.750 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.143 W/kg
SAR(1 g) = 0.089 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0798M

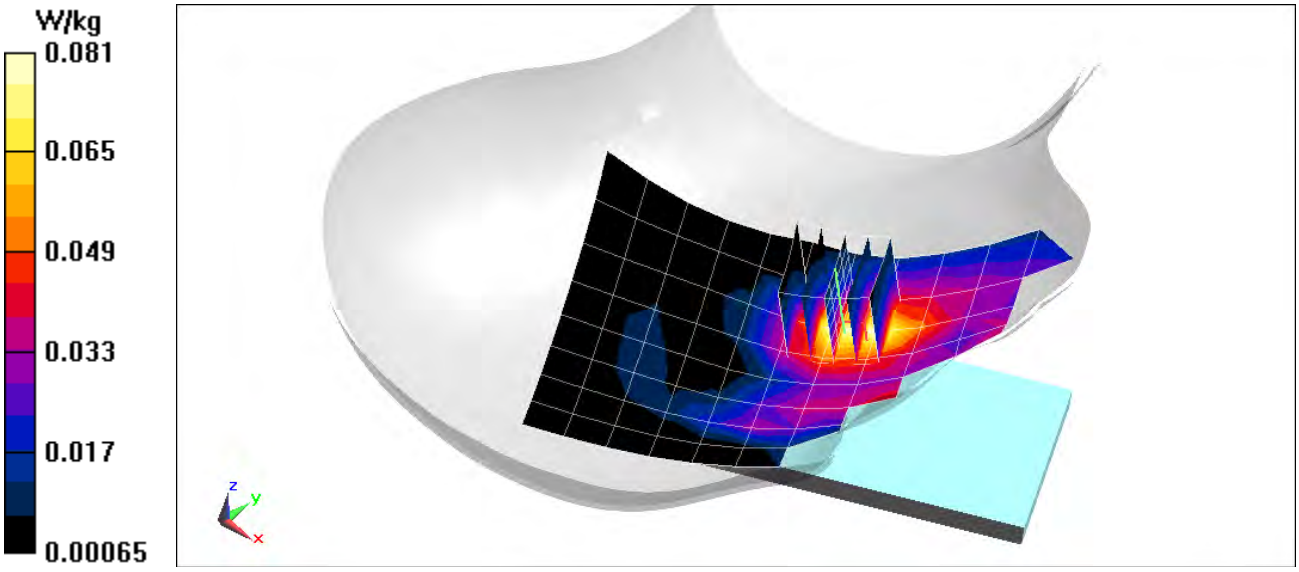
Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1882.5 MHz; Duty Cycle: 1:1
Medium: 1900 Head; Medium parameters used (interpolated):
f = 1882.5 MHz; σ = 1.445 S/m; ε_r = 40.487; ρ = 1000 kg/m^3
Phantom section: Right Section

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

Probe: EX3DV4 - SN7410; ConvF(8.11, 8.11, 8.11) @ 1882.5 MHz; Calibrated: 7/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1966
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 25 (PCS), Right Head, Cheek, Mid.ch,
20 MHz Bandwidth, QPSK, 1 RB, 99 RB Offset

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.378 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 0.124 W/kg
SAR(1 g) = 0.083 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0417M

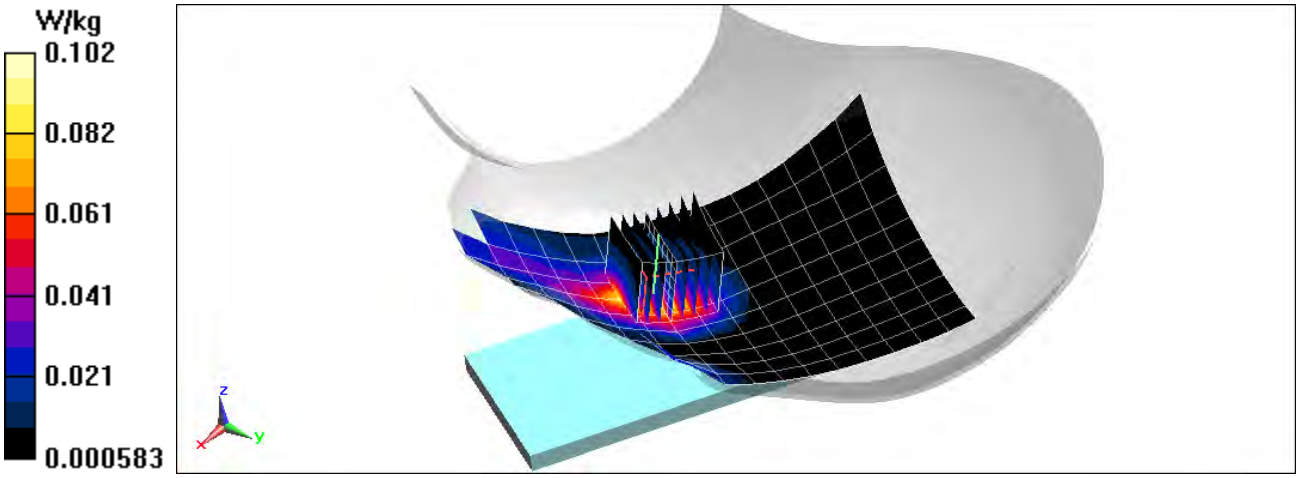
Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1
Medium: 2450 Head; Medium parameters used:
f = 2310 MHz; σ = 1.738 S/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 01/01/2020; Ambient Temp: 24.0°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7417; ConvF(7.73, 7.73, 7.73) @ 2310 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/13/2019
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 30, Left Head, Cheek, Mid.ch,
10 MHz Bandwidth, QPSK, 1 RB, 49 RB Offset

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.052 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 0.126 W/kg
SAR(1 g) = 0.071 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0798M

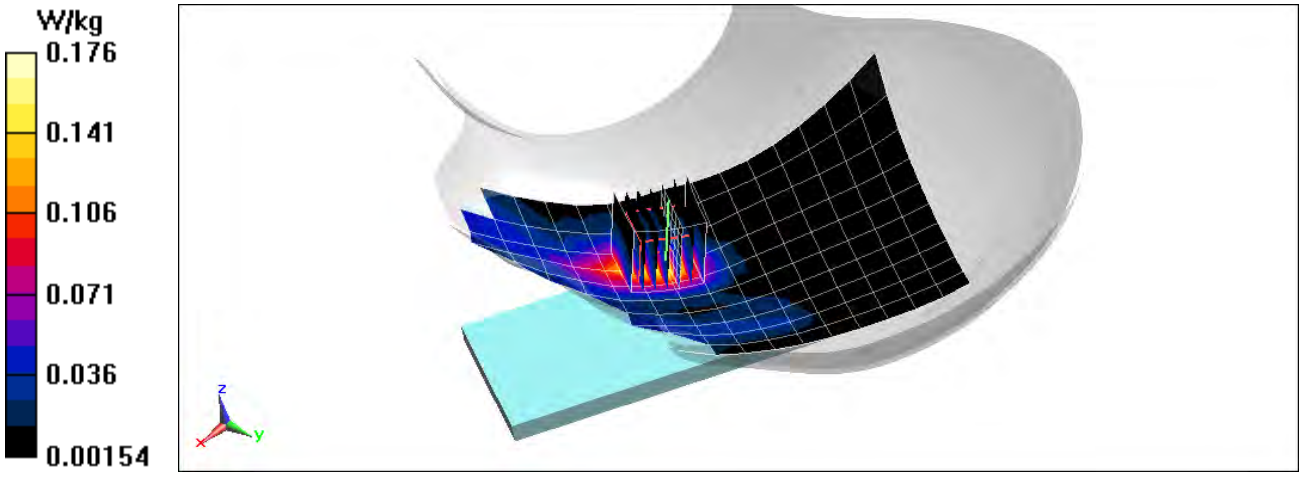
Communication System: UID 0, LTE Band 7; Frequency: 2535 MHz; Duty Cycle: 1:1
Medium: 2450 Head; Medium parameters used:
f = 2535 MHz; σ = 1.918 S/m; ε_r = 38.636; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 01/03/2020; Ambient Temp: 24.3°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7417; ConvF(7.17, 7.17, 7.17) @ 2535 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/13/2019
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 7, Left Head, Cheek, Mid.ch, QPSK,
20 MHz Bandwidth, 1 RB, 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 = 8.194 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 0.218 W/kg
SAR(1 g) = 0.115 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0798M

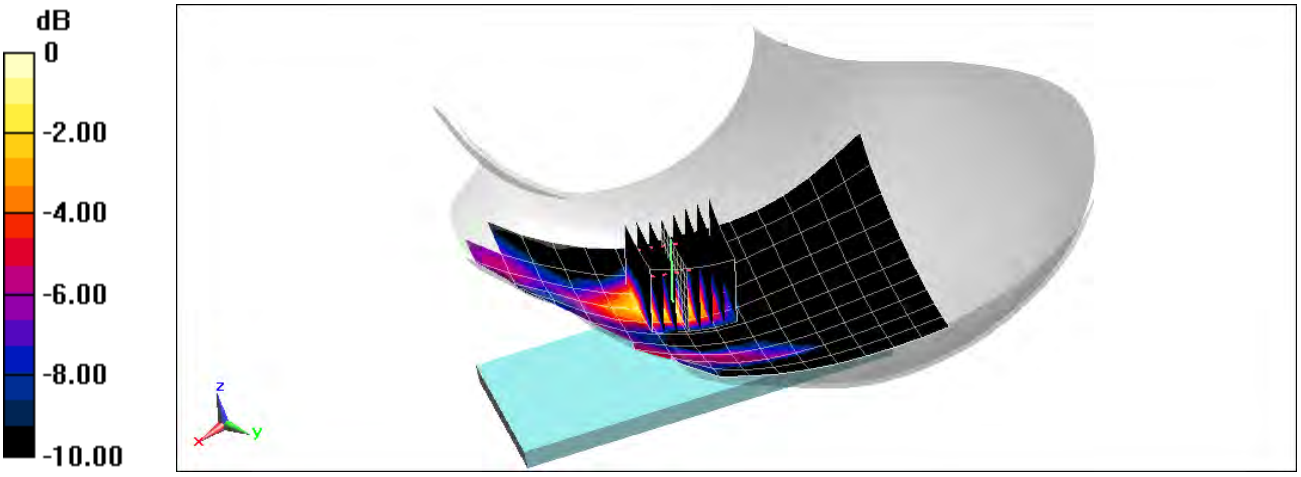
Communication System: UID 0, LTE Band 41 (Class 3); Frequency: 2593 MHz; Duty Cycle: 1:1.58
Medium: 2450 Head; Medium parameters used (interpolated):
f = 2593 MHz; σ = 1.925 S/m; ε_r = 37.282; ρ = 1000 kg/m^3
Phantom section: Left Section

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

Probe: EX3DV4 - SN7417; ConvF(7.17, 7.17, 7.17) @ 2593 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/13/2019
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 41 PC3, Left Head, Cheek, Mid.ch, QPSK,
20 MHz Bandwidth, 1 RB, 50 RB Offset

Area Scan (11x17x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (9x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.716 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 0.0890 W/kg
SAR(1 g) = 0.047 W/kg



0 dB = 0.0726 W/kg = -11.39 dBW/kg

DUT: A3LSMF700U; Type: Portable Handset; Serial: 0417M

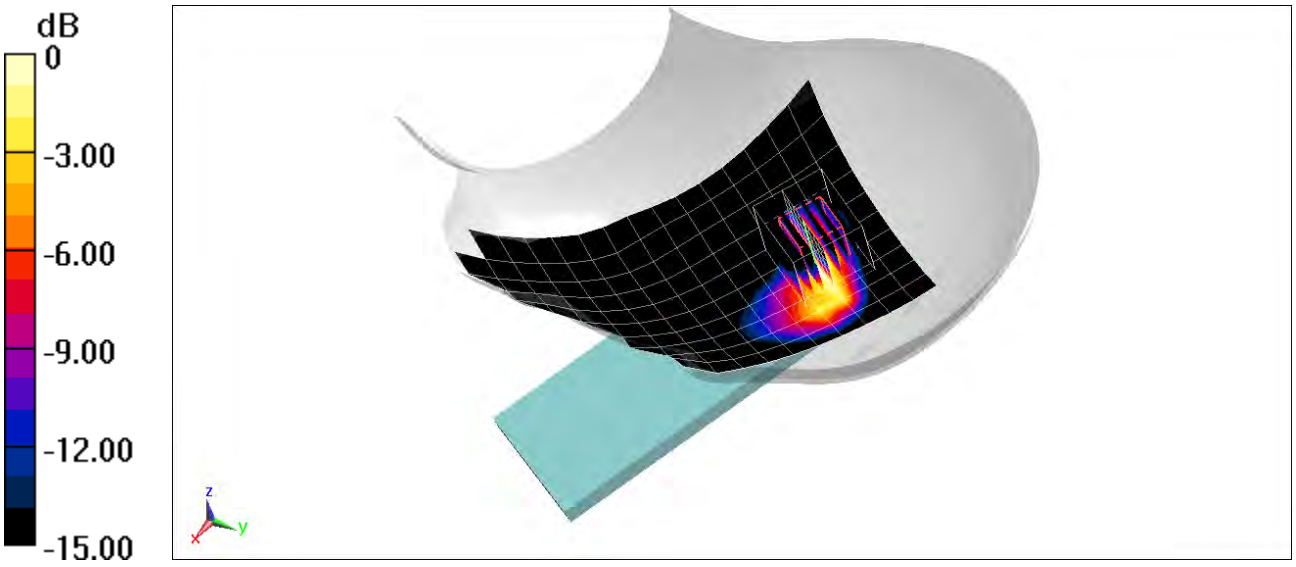
Communication System: UID 0, 802.11b; Frequency: 2437 MHz; Duty Cycle: 1:1
Medium: 2450 Head; Medium parameters used (interpolated):
f = 2437 MHz; σ = 1.832 S/m; ε_r = 38.213; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 01/01/2020; Ambient Temp: 24.0°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7417; ConvF(7.46, 7.46, 7.46) @ 2437 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/13/2019
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: IEEE 802.11b, 22 MHz Bandwidth Antenna 1, Left Head, Tilt, Ch 6, 1 Mbps

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (9x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.63 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.804 W/kg
SAR(1 g) = 0.297 W/kg



0 dB = 0.512 W/kg = -2.91 dBW/kg

DUT: A3LSMF700U; Type: Portable Handset; Serial: 0605M

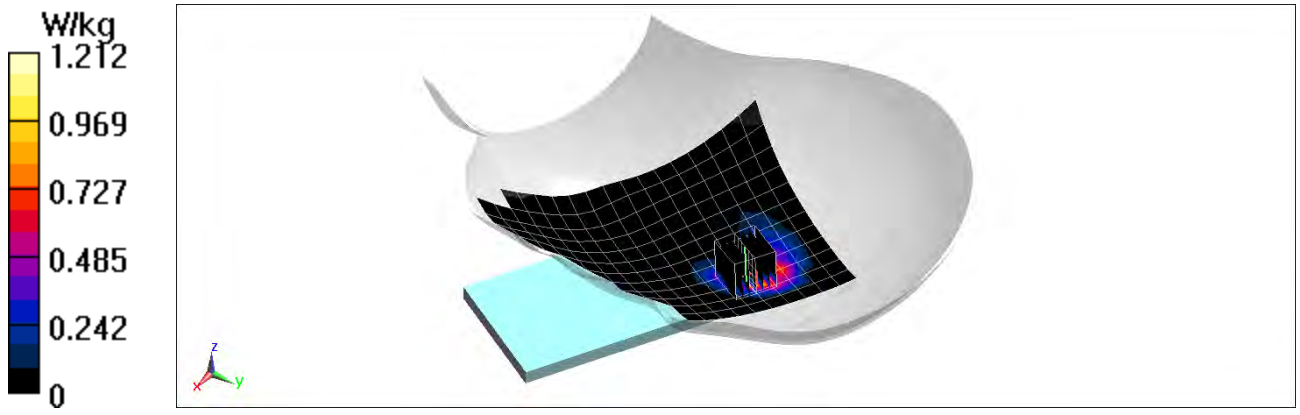
Communication System: UID 0, 802.11ac 5.2-5.8 GHz Band; Frequency: 5775 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Head; Medium parameters used:
f = 5775 MHz; σ = 5.303 S/m; ε_r = 34.719; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 01/13/2020; Ambient Temp: 23.0°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7406; ConvF(5.23, 5.23, 5.23) @ 5775 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Twin-SAM V5.0 Left 20; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: IEEE 802.11ac Antenna 1, U-NII-3, 80 MHz Bandwidth,
Left Head, Cheek, Ch 155, 29.3 Mbps

Area Scan (13x22x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 4.230 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 2.29 W/kg
SAR(1 g) = 0.458 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0289M

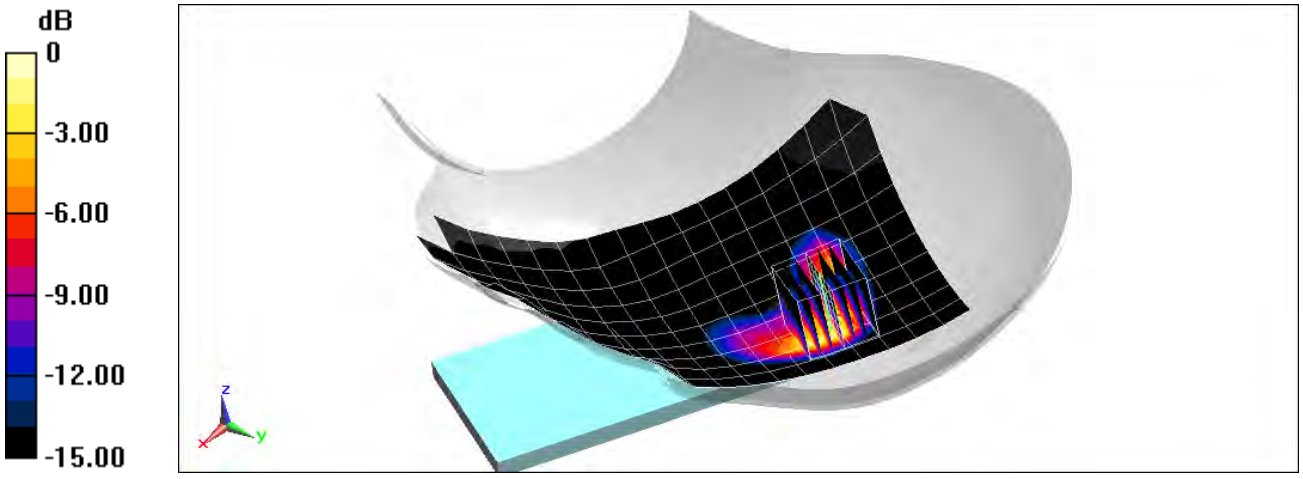
Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.289
Medium: 2450 Head; Medium parameters used (interpolated):
f = 2441 MHz; σ = 1.766 S/m; ε_r = 39.6; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 01/10/2020; Ambient Temp: 23.7°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN7409; ConvF(7.3, 7.3, 7.3) @ 2441 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: 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 = 16.19 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.972 W/kg
SAR(1 g) = 0.409 W/kg



0 dB = 0.754 W/kg = -1.23 dBW/kg

DUT: A3LSMF700U; Type: Portable Handset; Serial: 0417M

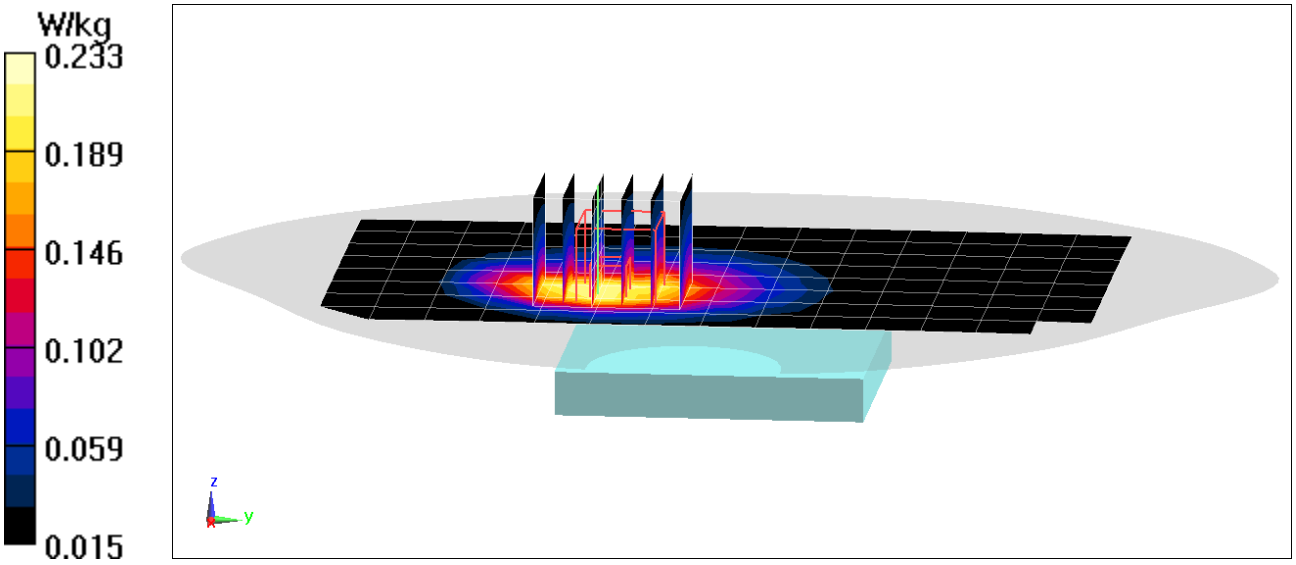
Communication System: UID 0, GSM; Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: 835 Body; Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.975 S/m; ε_r = 53.124; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/18/2020; Ambient Temp: 19.8°C; Tissue Temp: 20.5°C

Probe: EX3DV4 - SN7308; ConvF(10.43, 10.43, 10.43) @ 836.6 MHz; Calibrated: 8/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/14/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.75 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.269 W/kg
SAR(1 g) = 0.171 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0417M

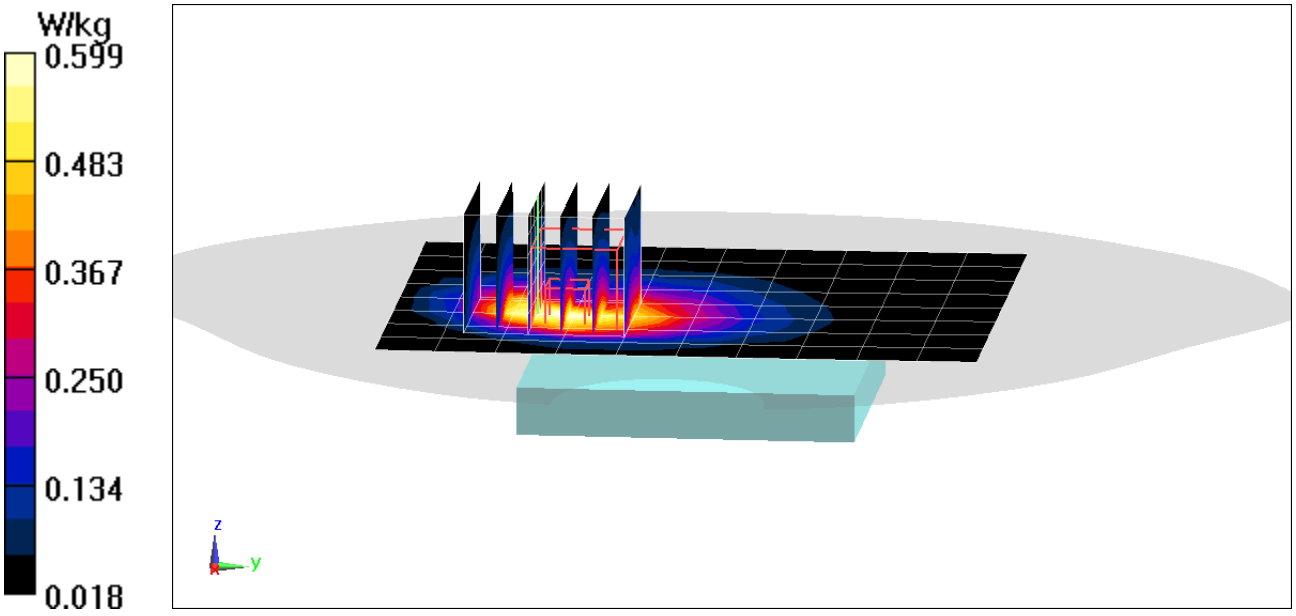
Communication System: UID 0, GSM GPRS; 2 Tx slots; Frequency: 836.6 MHz; Duty Cycle: 1:4.15
Medium: 835 Body; Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.975 S/m; ε_r = 53.124; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/18/2020; Ambient Temp: 19.8°C; Tissue Temp: 20.5°C

Probe: EX3DV4 - SN7308; ConvF(10.43, 10.43, 10.43) @ 836.6 MHz; Calibrated: 8/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/14/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: GPRS 850 Closed Configuration, Body SAR, Back side, Mid.ch, 2 Tx Slots

Area Scan (9x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.80 V/m; Power Drift = 0.00
Peak SAR (extrapolated) = 0.720 W/kg
SAR(1 g) = 0.426 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0622M

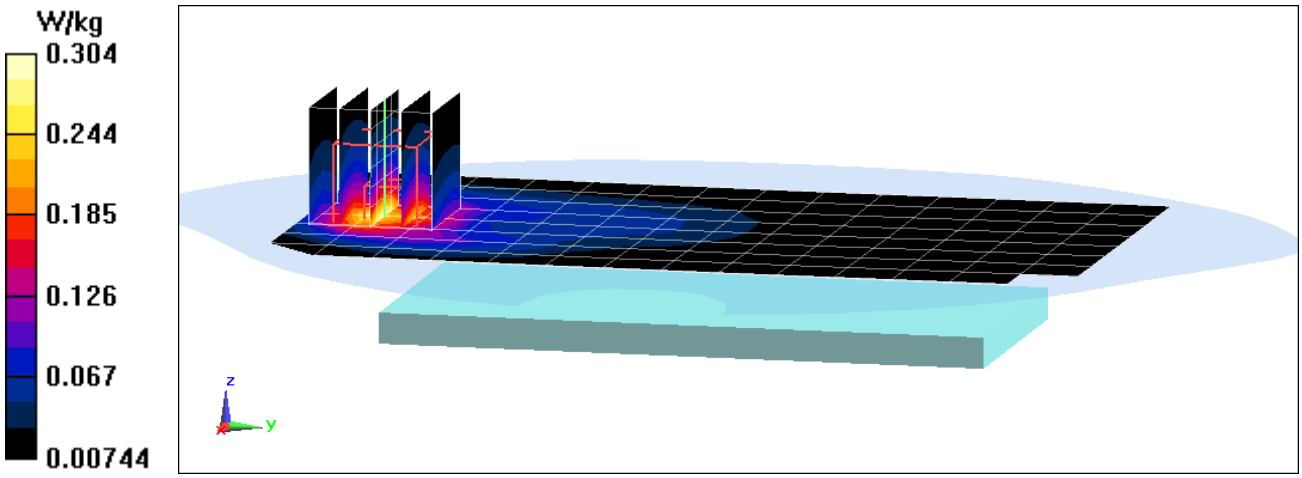
Communication System: UID 0, GSM; Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: 1900 Body; Medium parameters used:
f = 1880 MHz; σ = 1.526 S/m; ε_r = 52.202; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/09/2020; Ambient Temp: 24.5°C; Tissue Temp: 24.2°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1880 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: GSM 1900 Open Configuration, 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 = 12.48 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.349 W/kg
SAR(1 g) = 0.213 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0622M

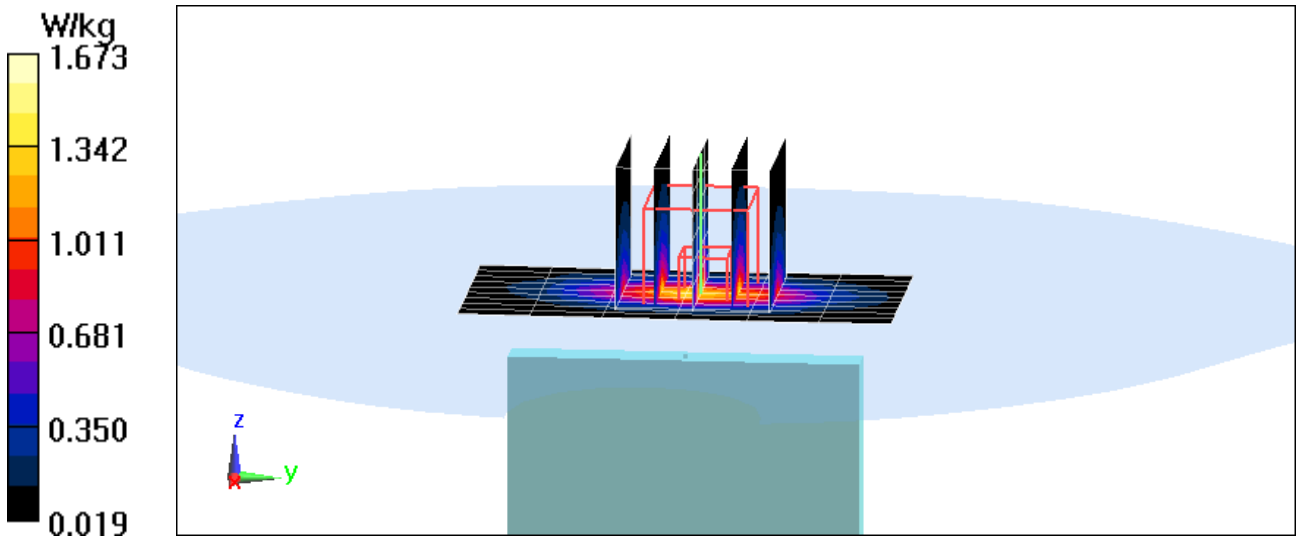
Communication System: UID 0, GSM GPRS; 3 Tx slots; Frequency: 1909.8 MHz; Duty Cycle: 1:2.76
Medium: 1900 Body; Medium parameters used:
f = 1910 MHz; σ = 1.57 S/m; ε_r = 51.742; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/22/2020; Ambient Temp: 23.3°C; Tissue Temp: 22.4°C

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

Mode: GPRS 1900 Open Configuration, Body SAR, Bottom Edge, High.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 = 28.20 V/m; Power Drift = 0.20 dB
Peak SAR (extrapolated) = 1.98 W/kg
SAR(1 g) = 1.09 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0278M

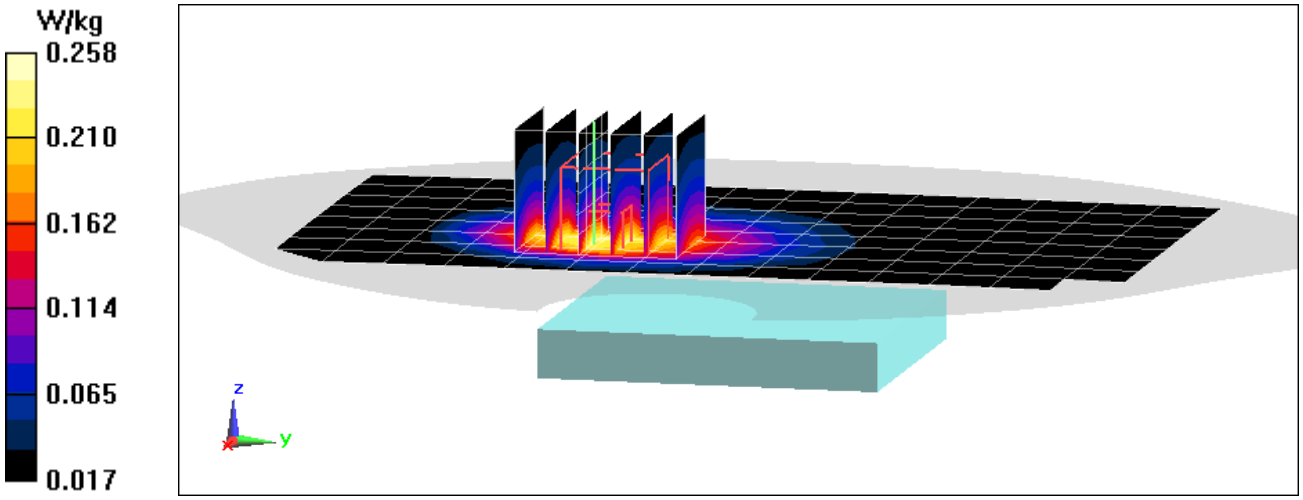
Communication System: UID 0, UMTS; Frequency: 836.6 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.975 S/m; ε_r = 53.124; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/18/2020; Ambient Temp: 19.8°C; Tissue Temp: 20.5°C

Probe: EX3DV4 - SN7308; ConvF(10.43, 10.43, 10.43) @ 836.6 MHz; Calibrated: 8/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/14/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: UMTS 850 Closed Configuration, Body SAR, Back side, Mid.ch

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.83 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 0.298 W/kg
SAR(1 g) = 0.188 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0278M

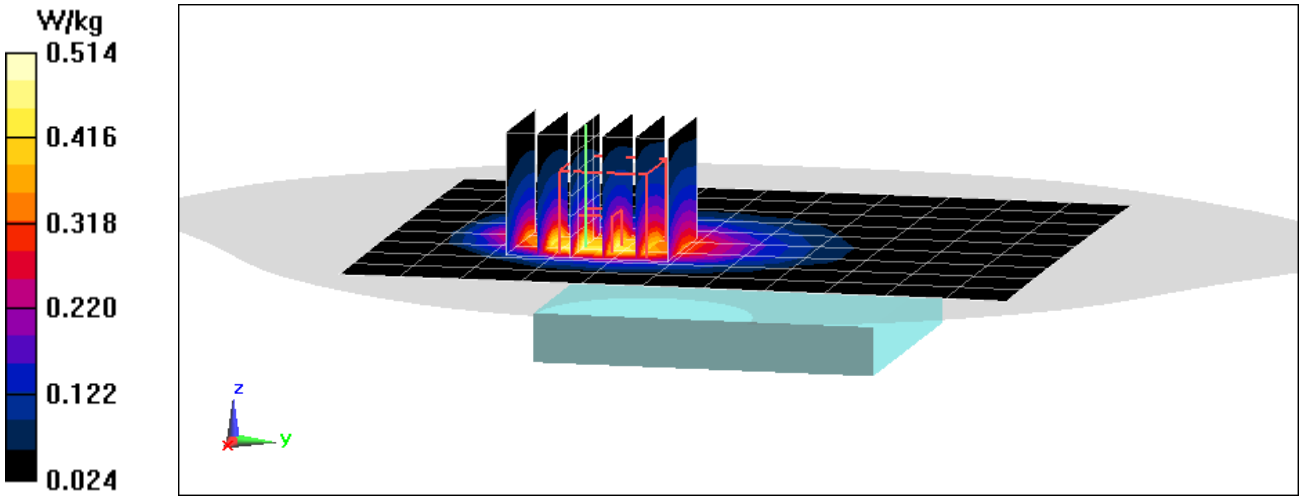
Communication System: UID 0, UMTS; Frequency: 836.6 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.975 S/m; ε_r = 53.124; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/18/2020; Ambient Temp: 19.8°C; Tissue Temp: 20.5°C

Probe: EX3DV4 - SN7308; ConvF(10.43, 10.43, 10.43) @ 836.6 MHz; Calibrated: 8/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/14/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: UMTS 850 Closed Configuration, Body SAR, Back side, Mid.ch

Area Scan (10x12x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.65 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.605 W/kg
SAR(1 g) = 0.351 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 2040M

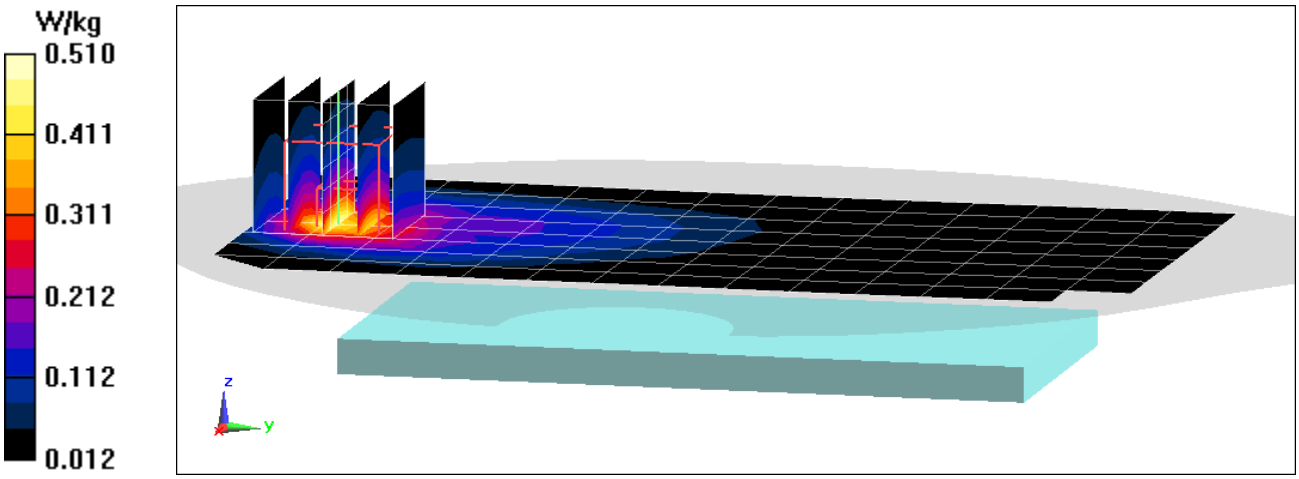
Communication System: UID 0, UMTS; Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used (interpolated):
f = 1732.4 MHz; σ = 1.44 S/m; ε_r = 53.718; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/13/2020; Ambient Temp: 21.2°C; Tissue Temp: 20.8°C

Probe: EX3DV4 - SN7357; ConvF(8.26, 8.26, 8.26) @ 1732.4 MHz; Calibrated: 4/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/18/2019
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: UMTS 1750 Open Configuration, Body SAR, Back side, Mid.ch

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.70 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.591 W/kg
SAR(1 g) = 0.367 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 2040M

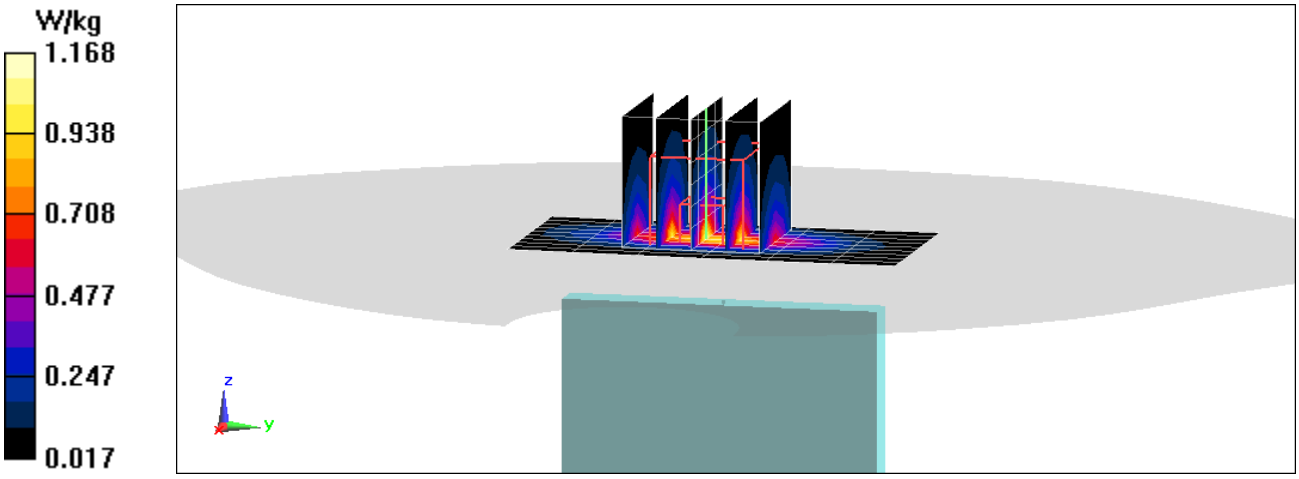
Communication System: UID 0, UMTS; Frequency: 1712.4 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used (interpolated):
f = 1712.4 MHz; σ = 1.418 S/m; ε_r = 53.788; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/13/2020; Ambient Temp: 21.2°C; Tissue Temp: 20.8°C

Probe: EX3DV4 - SN7357; ConvF(8.26, 8.26, 8.26) @ 1712.4 MHz; Calibrated: 4/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/18/2019
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: UMTS 1750 Open Configuration, Body SAR, Bottom Edge, Low.ch

Area Scan (10x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.78 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 1.36 W/kg
SAR(1 g) = 0.770 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0622M

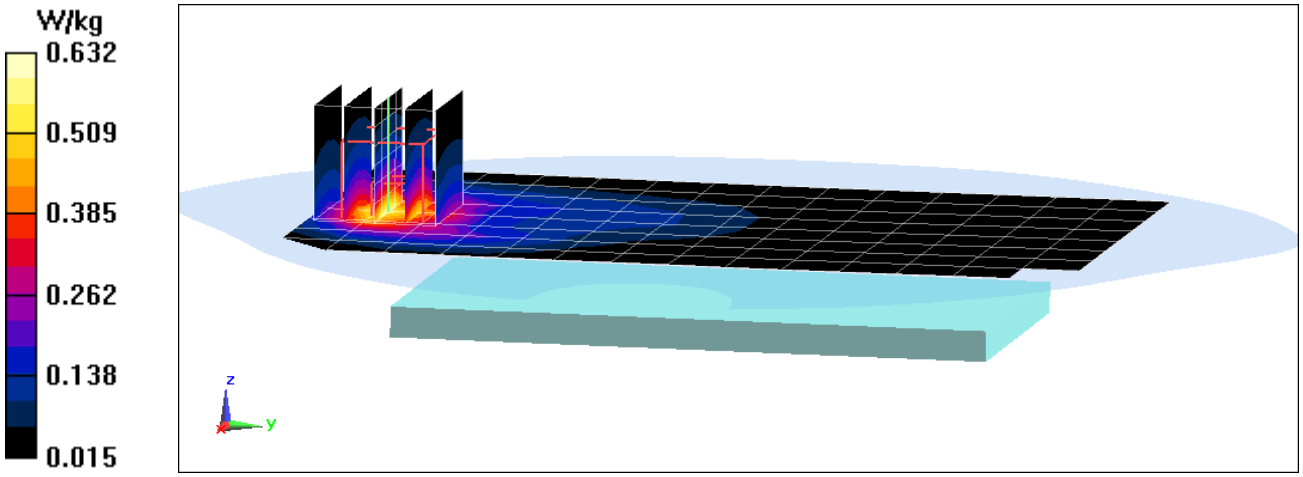
Communication System: UID 0, UMTS; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used:
f = 1880 MHz; σ = 1.539 S/m; ε_r = 52.07; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/12/2020; Ambient Temp: 24.1°C; Tissue Temp: 23.5°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1880 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: UMTS 1900 Open Configuration, 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 = 17.96 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.734 W/kg
SAR(1 g) = 0.450 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0622M

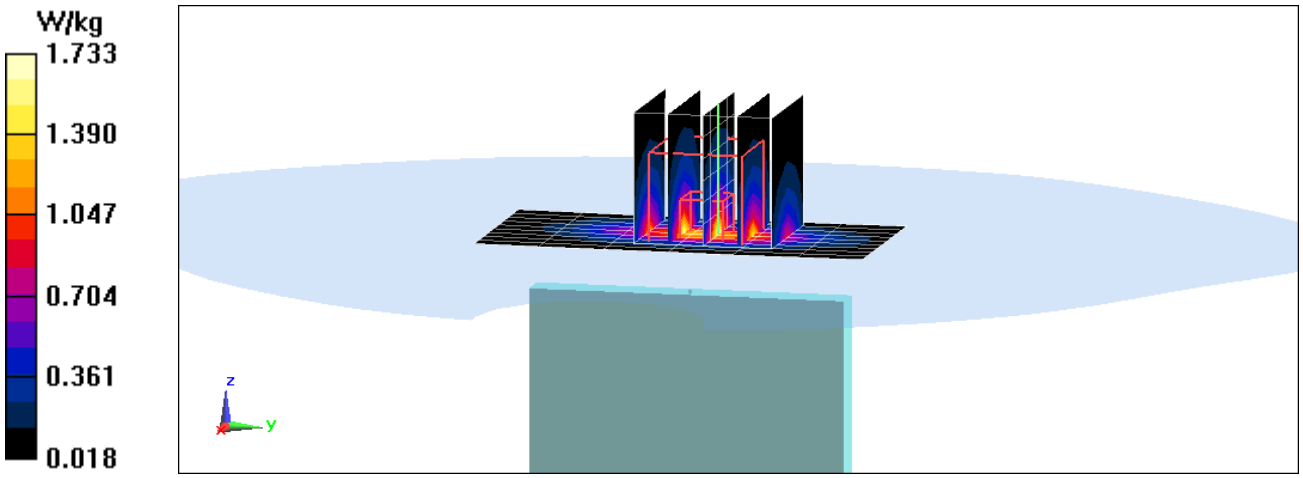
Communication System: UID 0, UMTS; Frequency: 1907.6 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used (interpolated):
f = 1907.6 MHz; σ = 1.568 S/m; ε_r = 51.982; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/12/2020; Ambient Temp: 24.1°C; Tissue Temp: 23.5°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1907.6 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: UMTS 1900 Open Configuration, 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 = 28.86 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 2.04 W/kg
SAR(1 g) = 1.15 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0417M

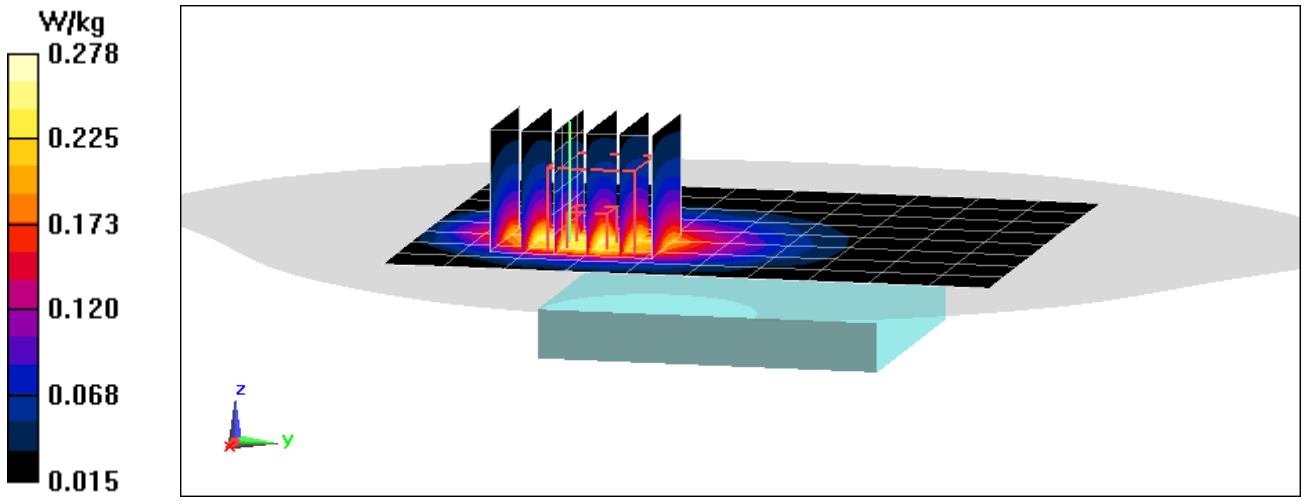
Communication System: UID 0, CDMA; Frequency: 820.1 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
f = 820.1 MHz; σ = 0.988 S/m; ε_r = 53.493; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/15/2020; Ambient Temp: 22.1°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7308; ConvF(10.43, 10.43, 10.43) @ 820.1 MHz; Calibrated: 8/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/14/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: Cell. CDMA BC 10 (§90S) Closed Configuration, Body SAR, Back side, Mid.ch

Area Scan (9x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.65 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.324 W/kg
SAR(1 g) = 0.201 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0417M

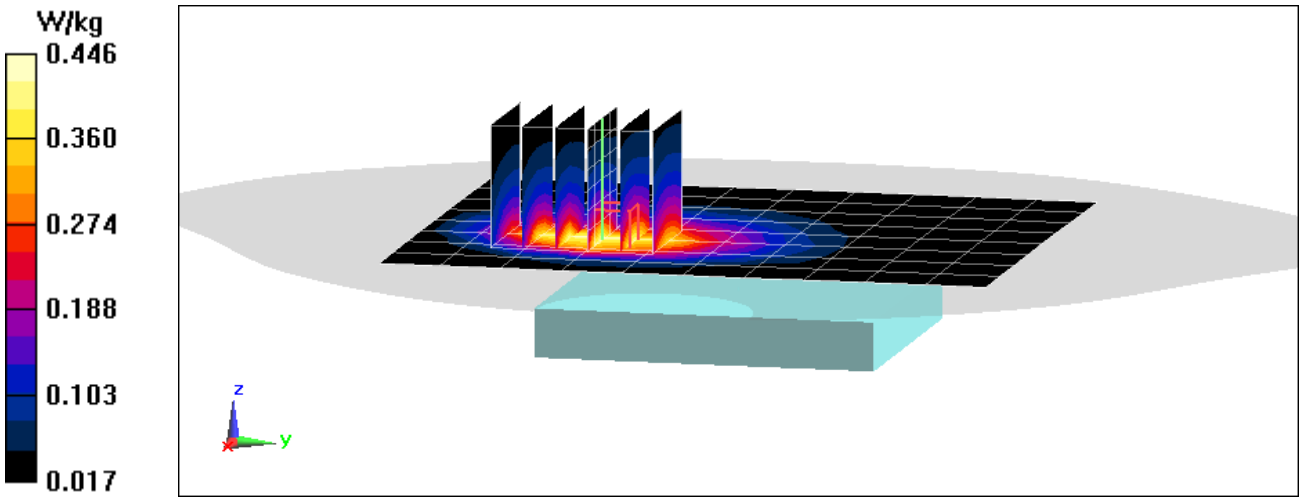
Communication System: UID 0, CDMA; Frequency: 820.1 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
f = 820.1 MHz; σ = 0.988 S/m; ε_r = 53.493; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/15/2020; Ambient Temp: 22.1°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7308; ConvF(10.43, 10.43, 10.43) @ 820.1 MHz; Calibrated: 8/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/14/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: Cell. EVDO Rev.0 BC 10 (§90S) Closed Configuration, Body SAR, Back side, Mid.ch

Area Scan (9x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.81 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.530 W/kg
SAR(1 g) = 0.316 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0417M

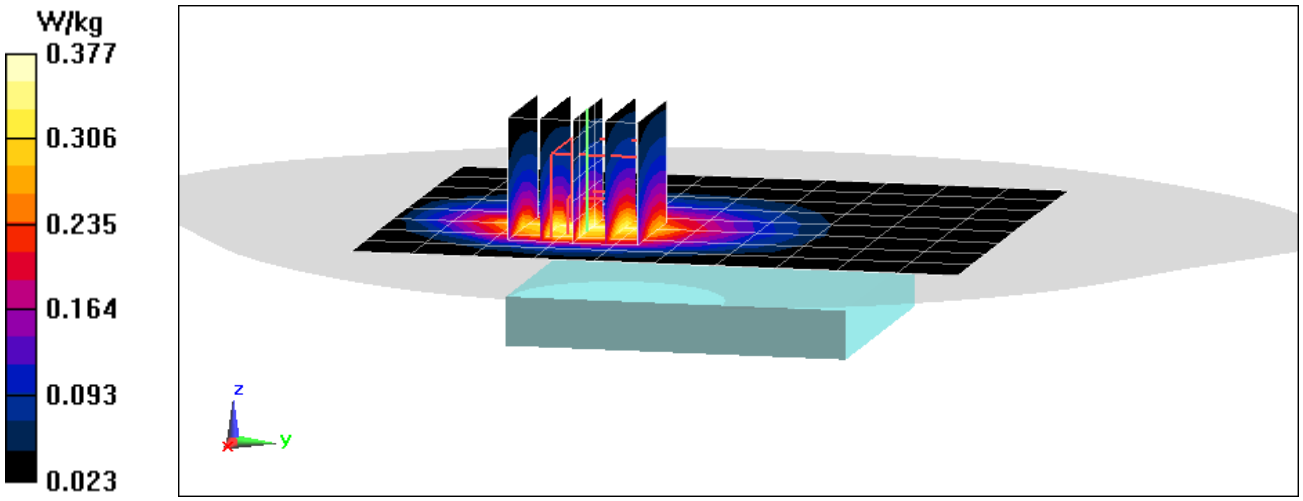
Communication System: UID 0, CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
f = 836.52 MHz; σ = 0.995 S/m; ε_r = 53.454; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/15/2020; Ambient Temp: 22.1°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7308; ConvF(10.43, 10.43, 10.43) @ 836.52 MHz; Calibrated: 8/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/14/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: Cell. CDMA, BC 0 (§22H) Closed Configuration, Body SAR, Back side, Mid.ch

Area Scan (9x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.22 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.437 W/kg
SAR(1 g) = 0.278 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0417M

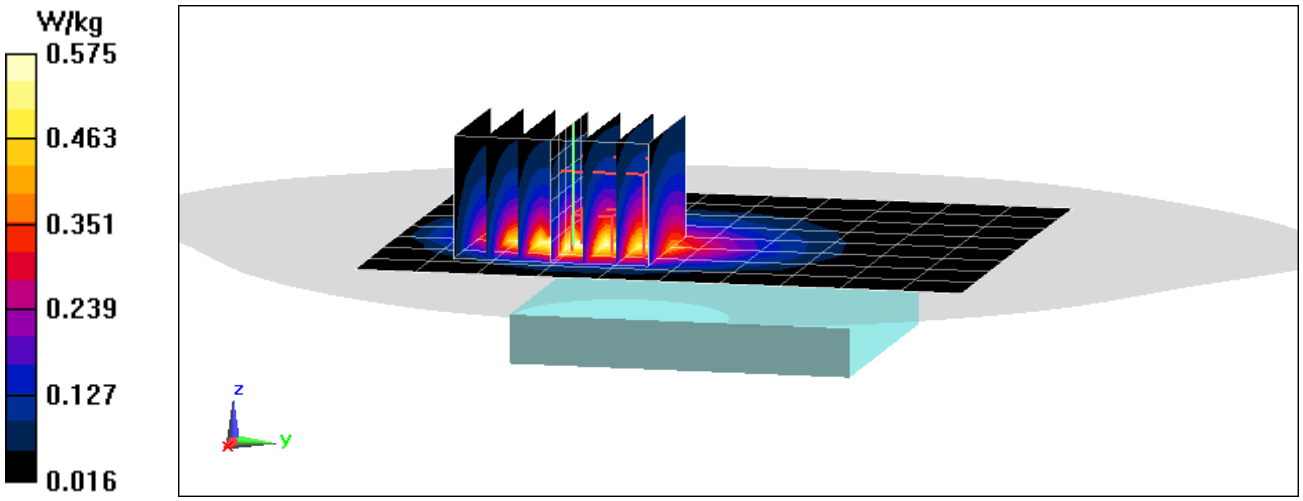
Communication System: UID 0, CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
f = 836.52 MHz; σ = 0.995 S/m; ε_r = 53.454; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/15/2020; Ambient Temp: 22.1°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7308; ConvF(10.43, 10.43, 10.43) @ 836.52 MHz; Calibrated: 8/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/14/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: Cell. EVDO Rev.0, BC 0 (§22H) Closed Configuration, Body SAR, Back side, Mid.ch

Area Scan (9x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.91 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 0.692 W/kg
SAR(1 g) = 0.420 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0622M

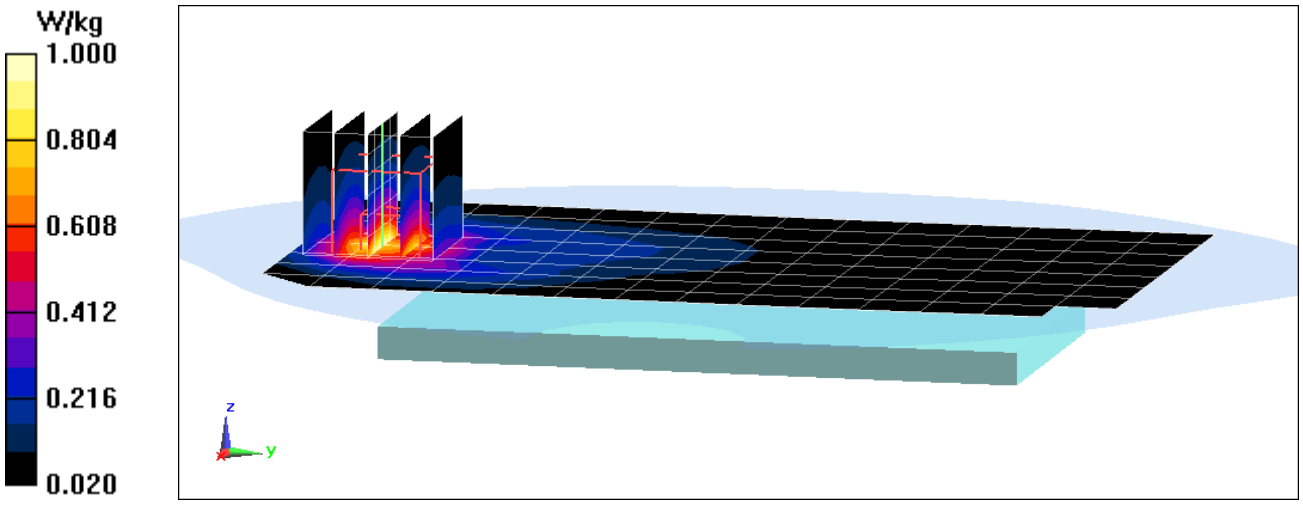
Communication System: UID 0, CDMA; Frequency: 1851.25 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used (interpolated):
f = 1851.25 MHz; σ = 1.508 S/m; ε_r = 52.155; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/12/2020; Ambient Temp: 24.1°C; Tissue Temp: 23.5°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1851.25 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: PCS CDMA Open Configuration, Body SAR, Back side, Low.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 = 23.17 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 1.16 W/kg
SAR(1 g) = 0.719 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0622M

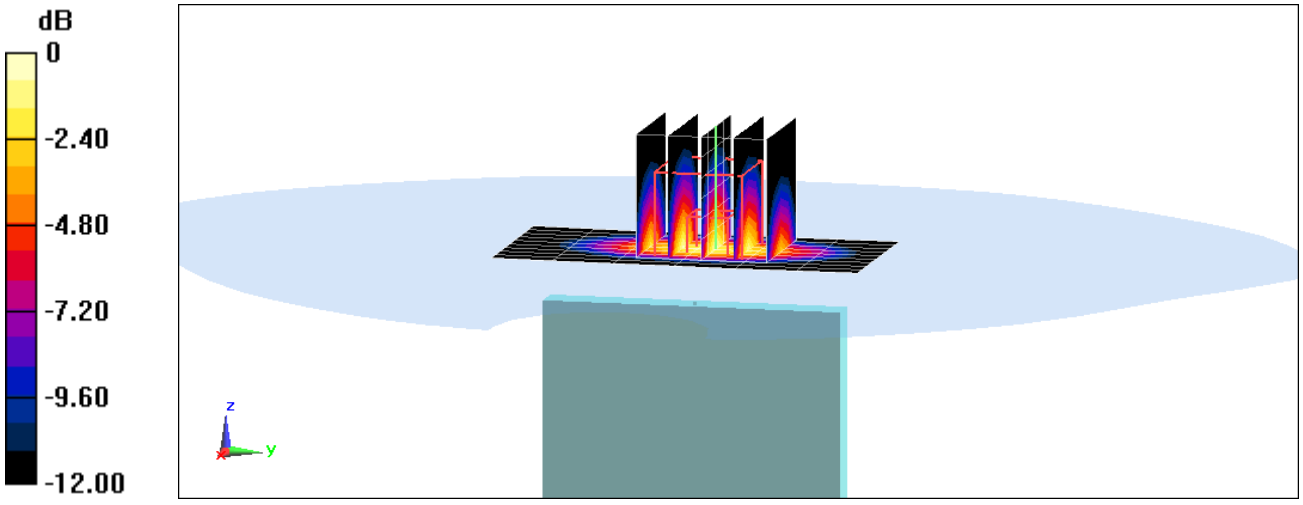
Communication System: UID 0, CDMA; Frequency: 1908.75 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used (interpolated):
f = 1908.75 MHz; σ = 1.57 S/m; ε_r = 51.978; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/12/2020; Ambient Temp: 24.1°C; Tissue Temp: 23.5°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1908.75 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: PCS EVDO Rev.0 Open Configuration, 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 = 30.68 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 2.30 W/kg
SAR(1 g) = 1.29 W/kg



0 dB = 1.96 W/kg = 2.92 dBW/kg

DUT: A3LSMF700U; Type: Portable Handset; Serial: 0278M

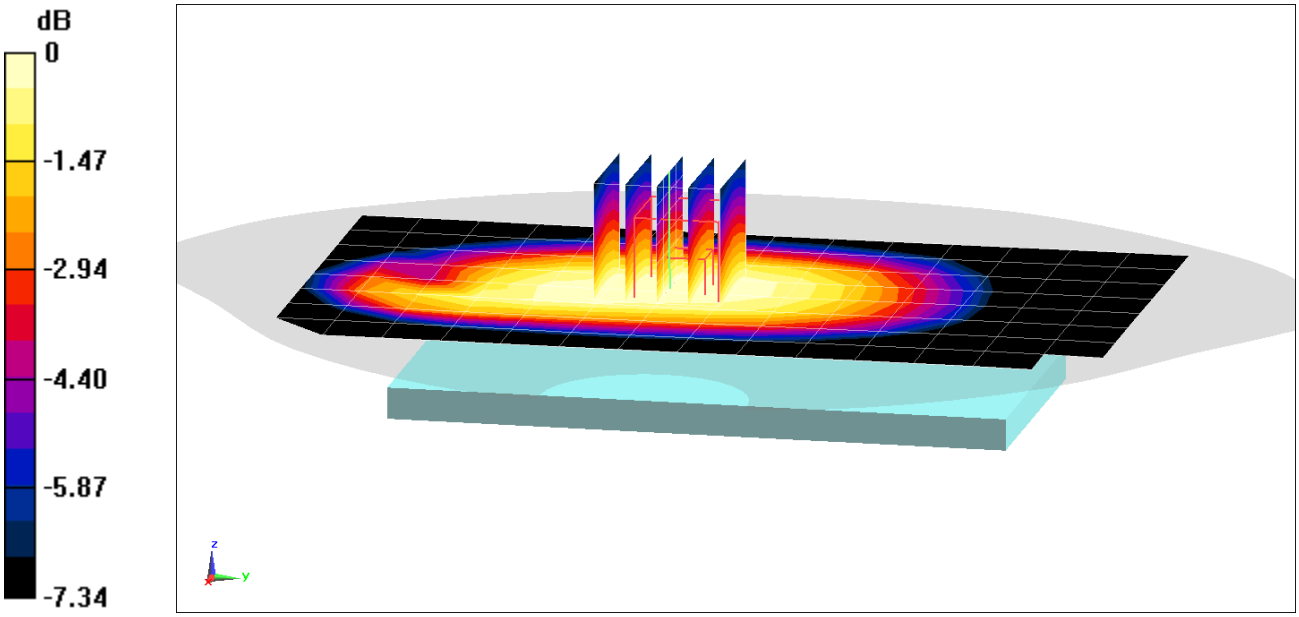
Communication System: UID 0, LTE Band 71; Frequency: 680.5 MHz; Duty Cycle: 1:1
Medium: 750 Body; Medium parameters used (interpolated):
f = 680.5 MHz; σ = 0.919 S/m; ε_r = 54.558; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/06/2020; Ambient Temp: 21.4°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7406; ConvF(10.05, 10.05, 10.05) @ 680.5 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 71 Open Configuration, Body SAR, Back side, Mid.ch, 20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.604 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.0900 W/kg
SAR(1 g) = 0.067 W/kg



0 dB = 0.0813 W/kg = -10.90 dBW/kg

DUT: A3LSMF700U; Type: Portable Handset; Serial: 0278M

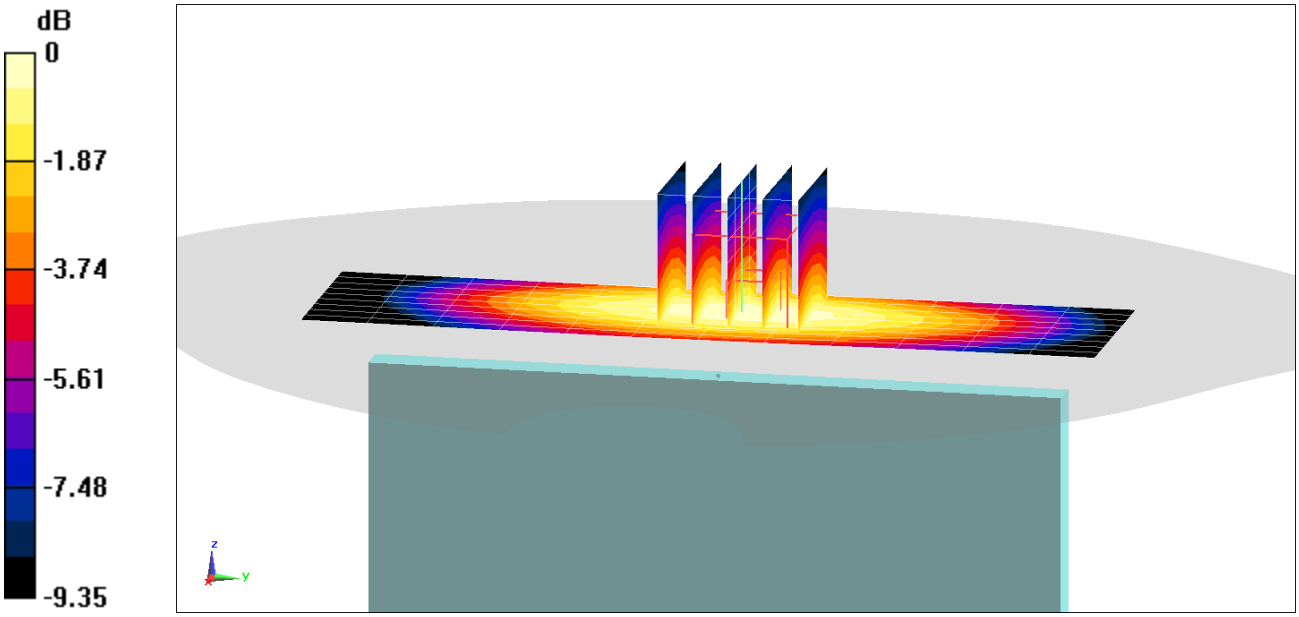
Communication System: UID 0, LTE Band 71; Frequency: 680.5 MHz; Duty Cycle: 1:1
Medium: 750 Body; Medium parameters used (interpolated):
f = 680.5 MHz; σ = 0.919 S/m; ε_r = 54.558; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/06/2020; Ambient Temp: 21.4°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7406; ConvF(10.05, 10.05, 10.05) @ 680.5 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 71 Open Configuration, Body SAR, Right Edge, Mid.ch, 20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset

Area Scan (10x13x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.956 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.133 W/kg
SAR(1 g) = 0.088 W/kg



0 dB = 0.117 W/kg = -9.32 dBW/kg

DUT: A3LSMF700U; Type: Portable Handset; Serial: 0278M

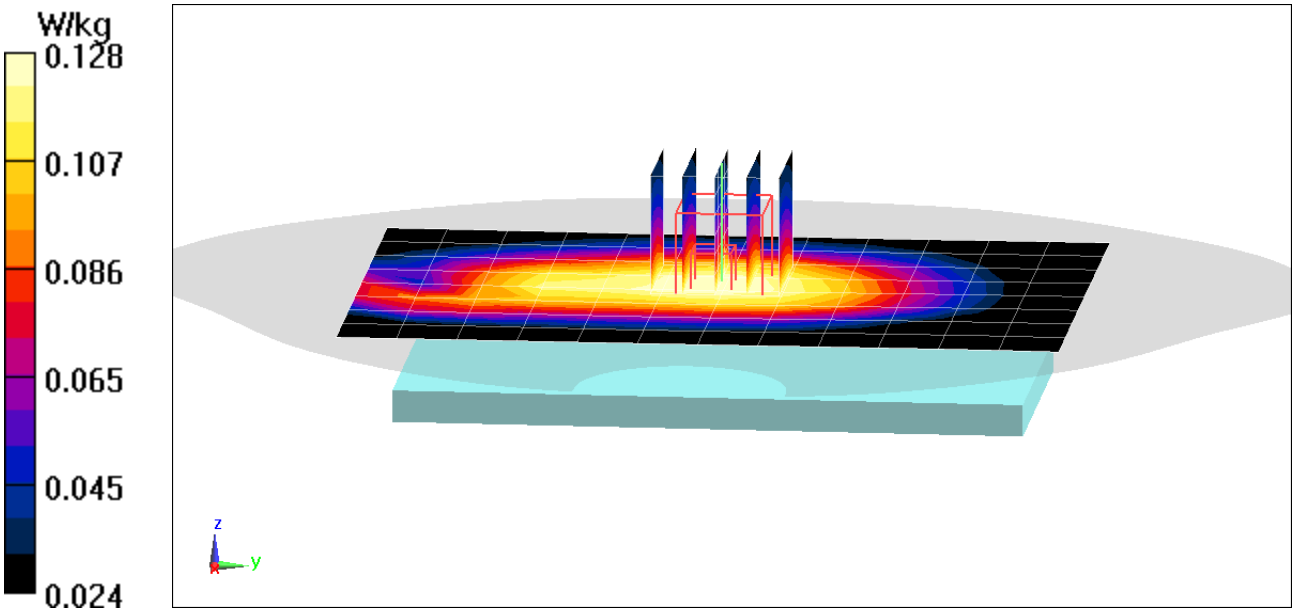
Communication System: UID 0, LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: 750 Body; Medium parameters used (interpolated):
f = 707.5 MHz; σ = 0.928 S/m; ε_r = 54.493; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/06/2020; Ambient Temp: 21.4°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7406; ConvF(10.05, 10.05, 10.05) @ 707.5 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 12 Open Configuration, 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 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.77 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.141 W/kg
SAR(1 g) = 0.106 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0278M

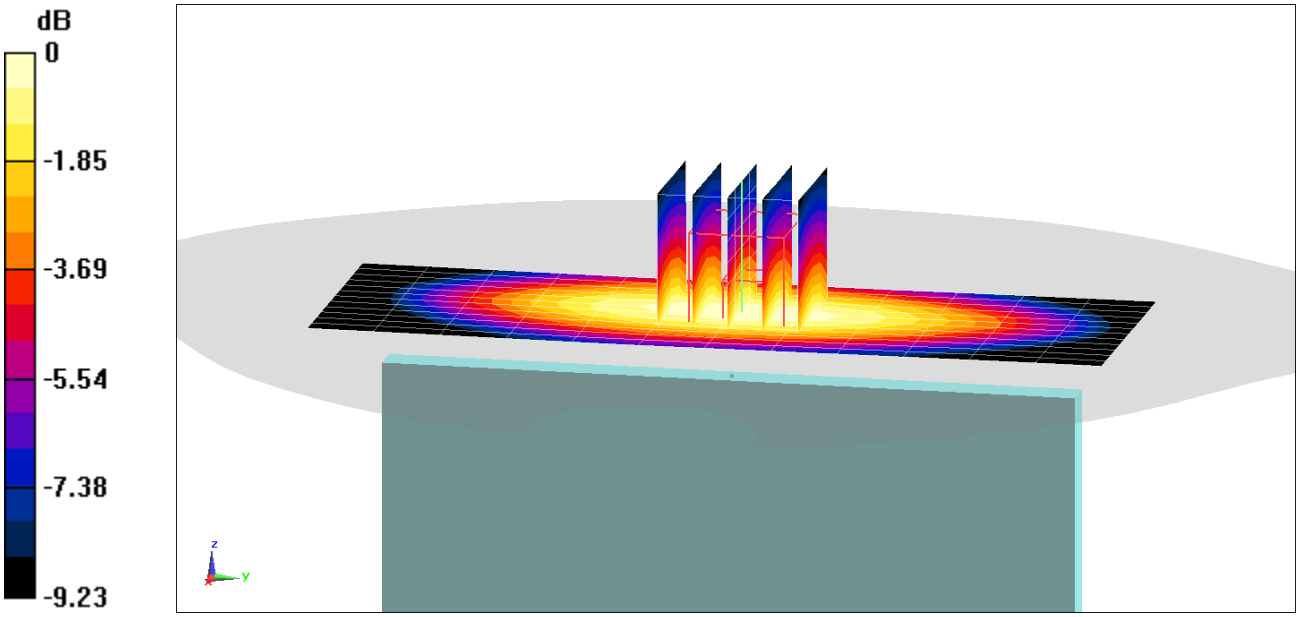
Communication System: UID 0, LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: 750 Body; Medium parameters used (interpolated):
f = 707.5 MHz; σ = 0.928 S/m; ε_r = 54.493; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/06/2020; Ambient Temp: 21.4°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7406; ConvF(10.05, 10.05, 10.05) @ 707.5 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 12 Open Configuration, Body SAR, Right Edge, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (13x13x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.45 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.242 W/kg
SAR(1 g) = 0.160 W/kg



0 dB = 0.212 W/kg = -6.74 dBW/kg

DUT: A3LSMF700U; Type: Portable Handset; Serial: 0278M

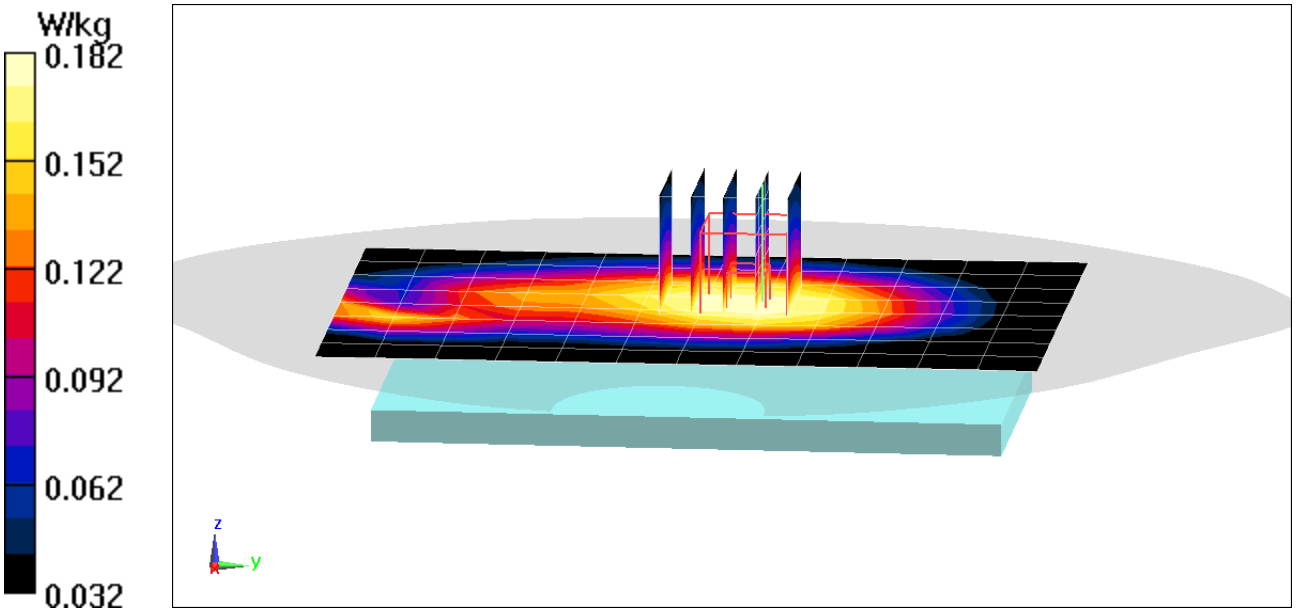
Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1
Medium: 750 Body; Medium parameters used (interpolated):
f = 782 MHz; σ = 0.957 S/m; ε_r = 54.302; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/06/2020; Ambient Temp: 21.4°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7406; ConvF(10.05, 10.05, 10.05) @ 782 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 13 Open Configuration, Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 25 RB Offset

Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.65 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.200 W/kg
SAR(1 g) = 0.151 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0278M

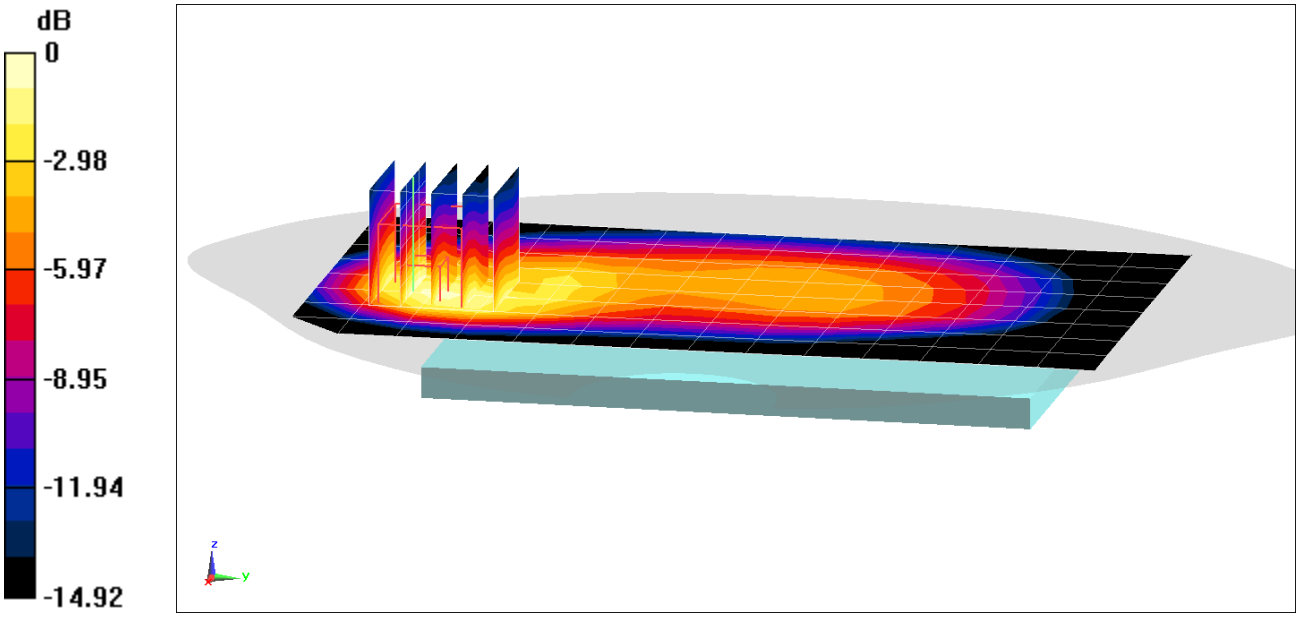
Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1
Medium: 750 Body; Medium parameters used (interpolated):
f = 782 MHz; σ = 0.957 S/m; ε_r = 54.302; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/06/2020; Ambient Temp: 21.4°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7406; ConvF(10.05, 10.05, 10.05) @ 782 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 13 Open Configuration, Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 25 RB Offset

Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.48 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 0.452 W/kg
SAR(1 g) = 0.246 W/kg



0 dB = 0.348 W/kg = -4.58 dBW/kg

DUT: A3LSMF700U; Type: Portable Handset; Serial: 0278M

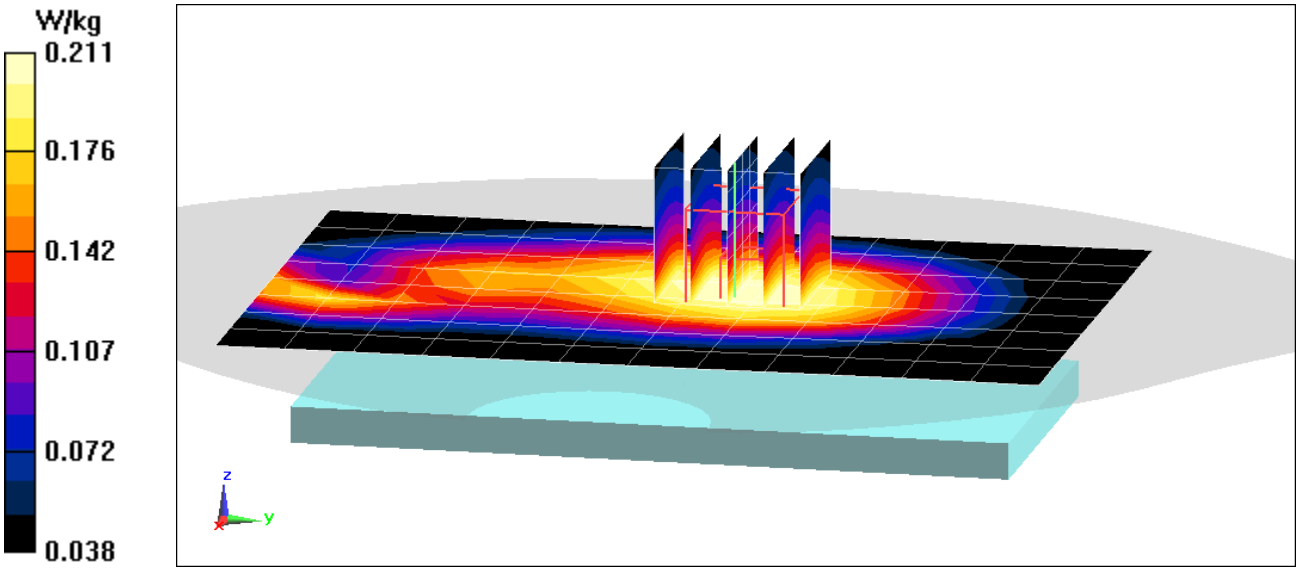
Communication System: UID 0, LTE Band 14; Frequency: 793 MHz; Duty Cycle: 1:1
Medium: 750 Body; Medium parameters used (interpolated):
f = 793 MHz; σ = 0.961 S/m; ε_r = 54.276; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/06/2020; Ambient Temp: 21.4°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7406; ConvF(10.05, 10.05, 10.05) @ 793 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 14 Open Configuration, 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 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.65 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.234 W/kg
SAR(1 g) = 0.175 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0278M

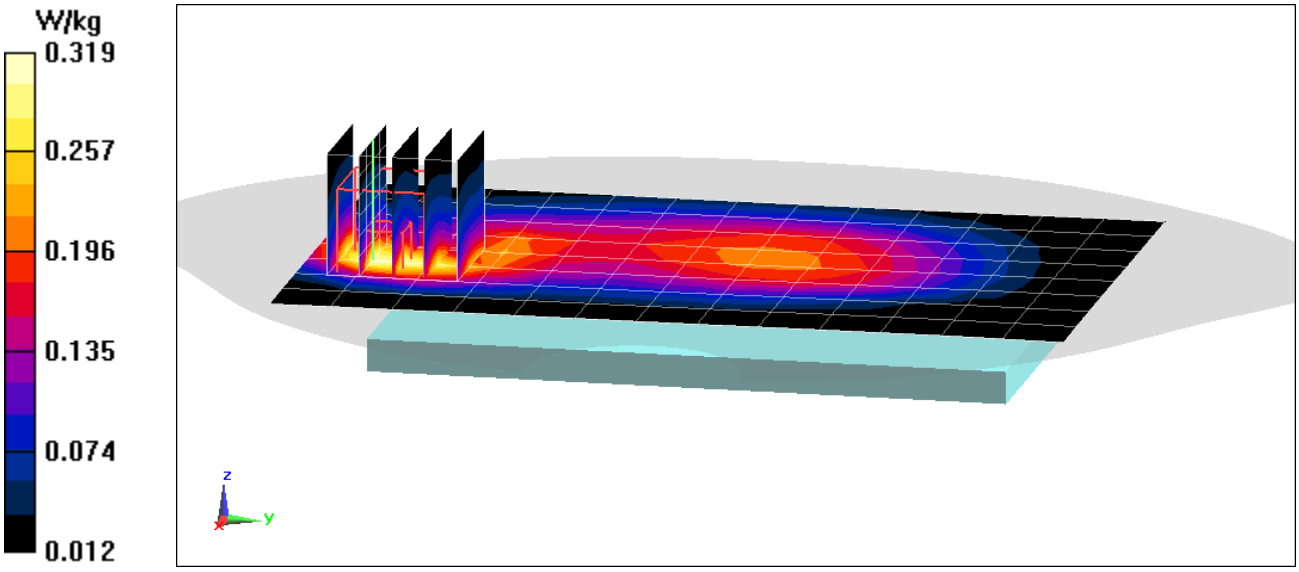
Communication System: UID 0, LTE Band 14; Frequency: 793 MHz; Duty Cycle: 1:1
Medium: 750 Body; Medium parameters used (interpolated):
f = 793 MHz; σ = 0.961 S/m; ε_r = 54.276; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/06/2020; Ambient Temp: 21.4°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7406; ConvF(10.05, 10.05, 10.05) @ 793 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 14 Open Configuration, Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.20 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.392 W/kg
SAR(1 g) = 0.217 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 1637M

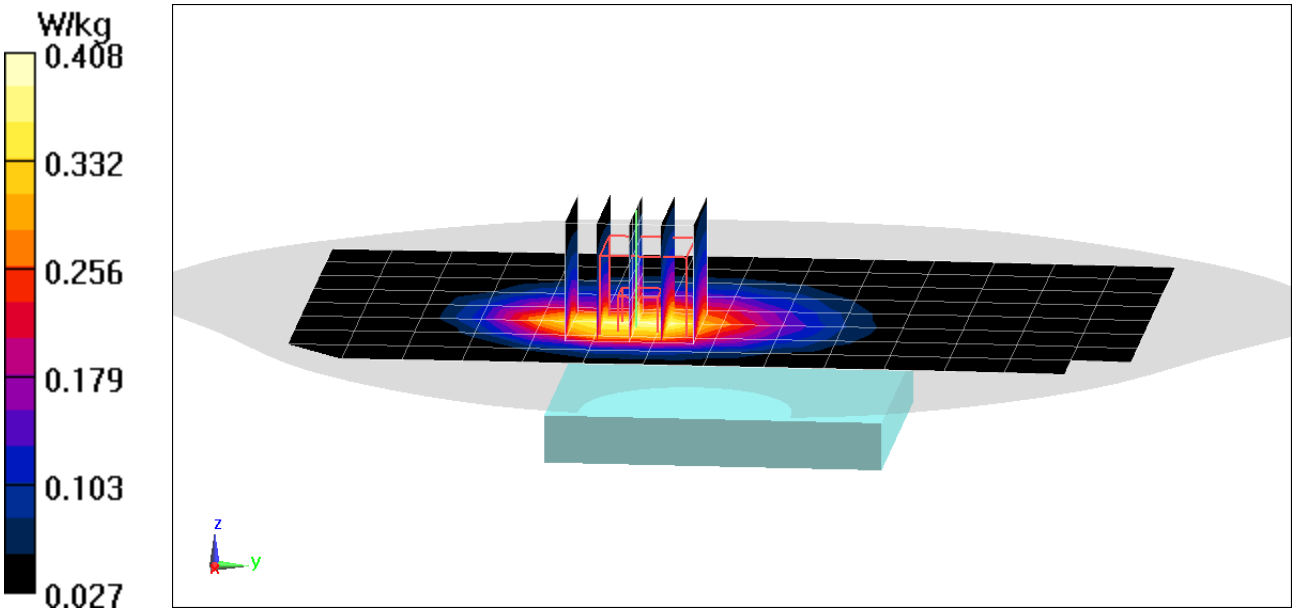
Communication System: UID 0, LTE Band 26; Frequency: 831.5 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
f = 831.5 MHz; σ = 0.993 S/m; ε_r = 53.466; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/15/2020; Ambient Temp: 22.1°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7308; ConvF(10.43, 10.43, 10.43) @ 831.5 MHz; Calibrated: 8/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/14/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 26 (Cell.) Closed Configuration, 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 = 18.16 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.472 W/kg
SAR(1 g) = 0.305 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 1637M

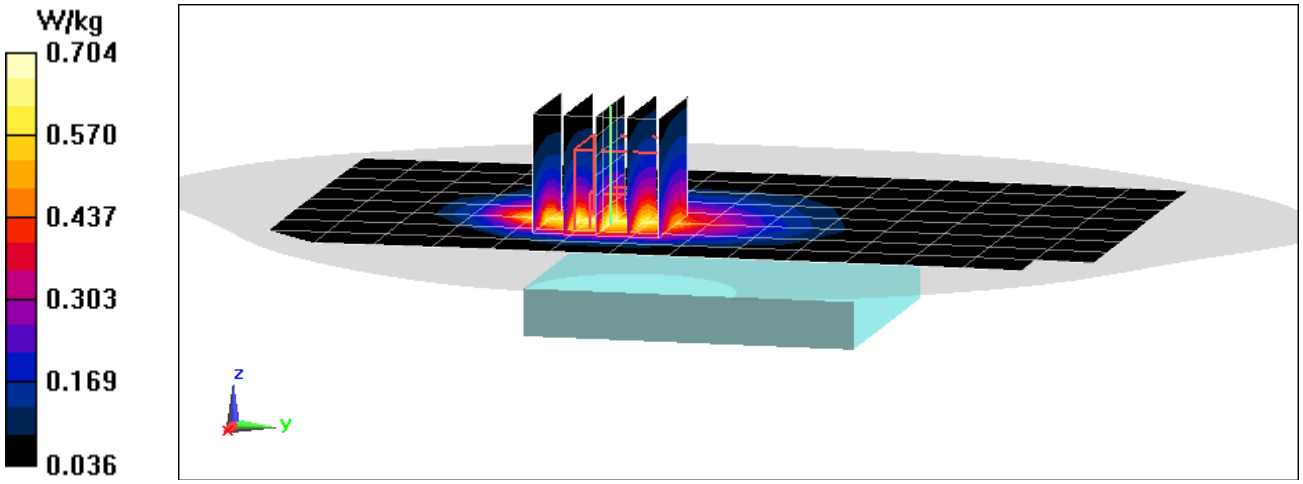
Communication System: UID 0, LTE Band 26; Frequency: 831.5 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
f = 831.5 MHz; σ = 0.993 S/m; ε_r = 53.466; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/15/2020; Ambient Temp: 22.1°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7308; ConvF(10.43, 10.43, 10.43) @ 831.5 MHz; Calibrated: 8/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/14/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 26 (Cell.) Closed Configuration, 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 = 23.33 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.828 W/kg
SAR(1 g) = 0.502 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 1637M

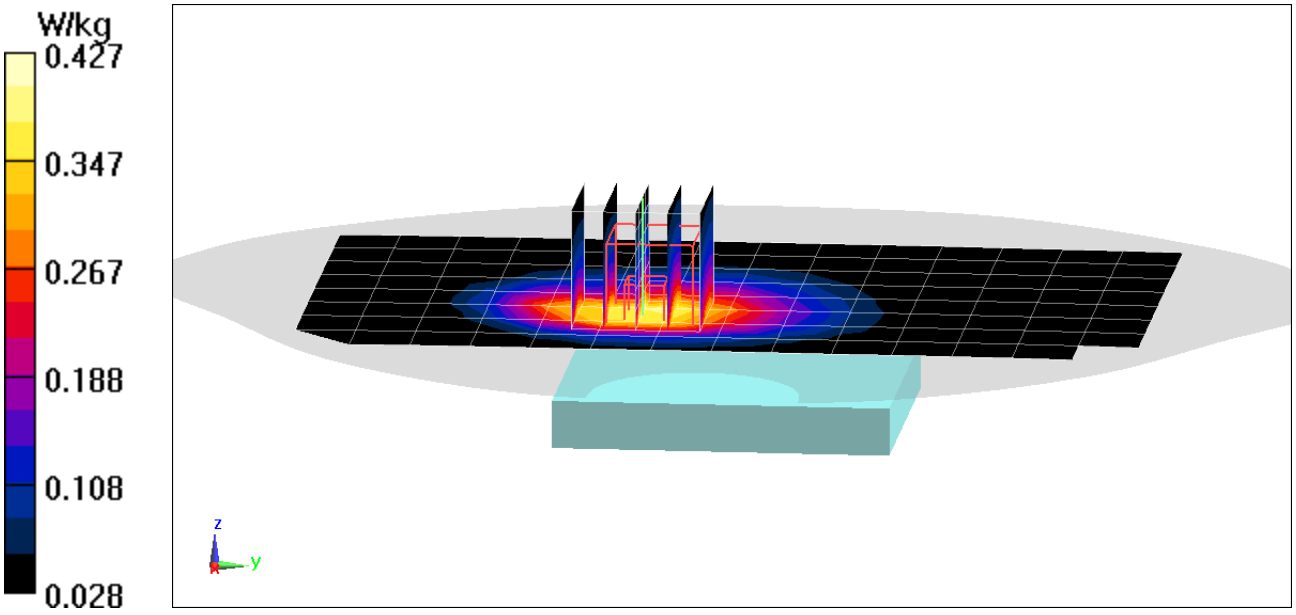
Communication System: UID 0, LTE Band 5; Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
f = 836.5 MHz; σ = 0.995 S/m; ε_r = 53.454; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/15/2020; Ambient Temp: 22.1°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7308; ConvF(10.43, 10.43, 10.43) @ 836.5 MHz; Calibrated: 8/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/14/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 5 (Cell.) Closed Configuration, Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 25 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 = 18.46 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.492 W/kg
SAR(1 g) = 0.315 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 1637M

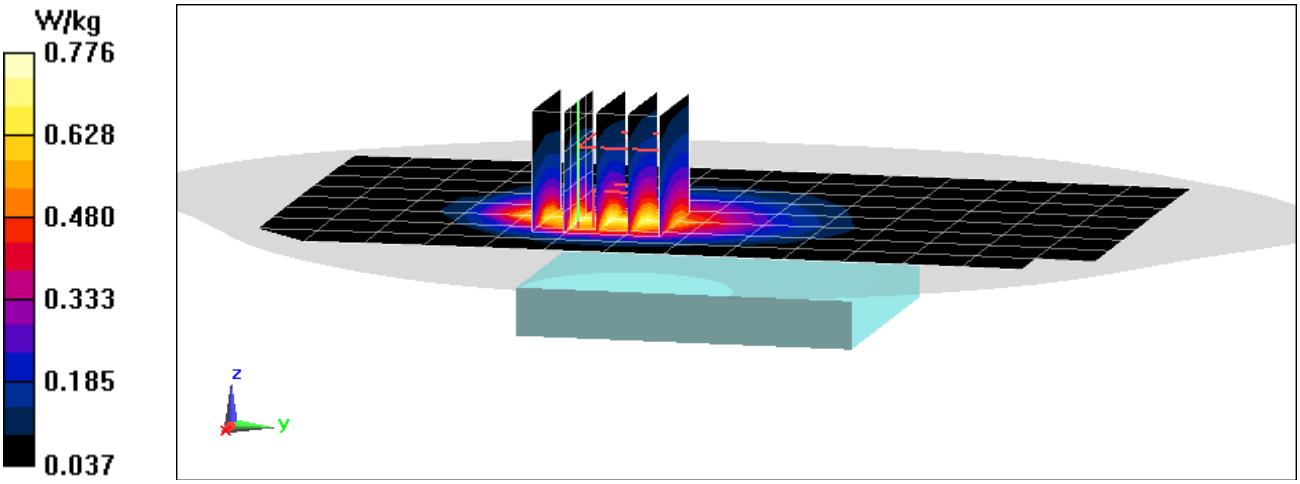
Communication System: UID 0, LTE Band 5; Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
f = 836.5 MHz; σ = 0.995 S/m; ε_r = 53.454; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/15/2020; Ambient Temp: 22.1°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7308; ConvF(10.43, 10.43, 10.43) @ 836.5 MHz; Calibrated: 8/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/14/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 5 (Cell.) Closed Configuration, Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 25 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 = 24.29 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.927 W/kg
SAR(1 g) = 0.549 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0289M

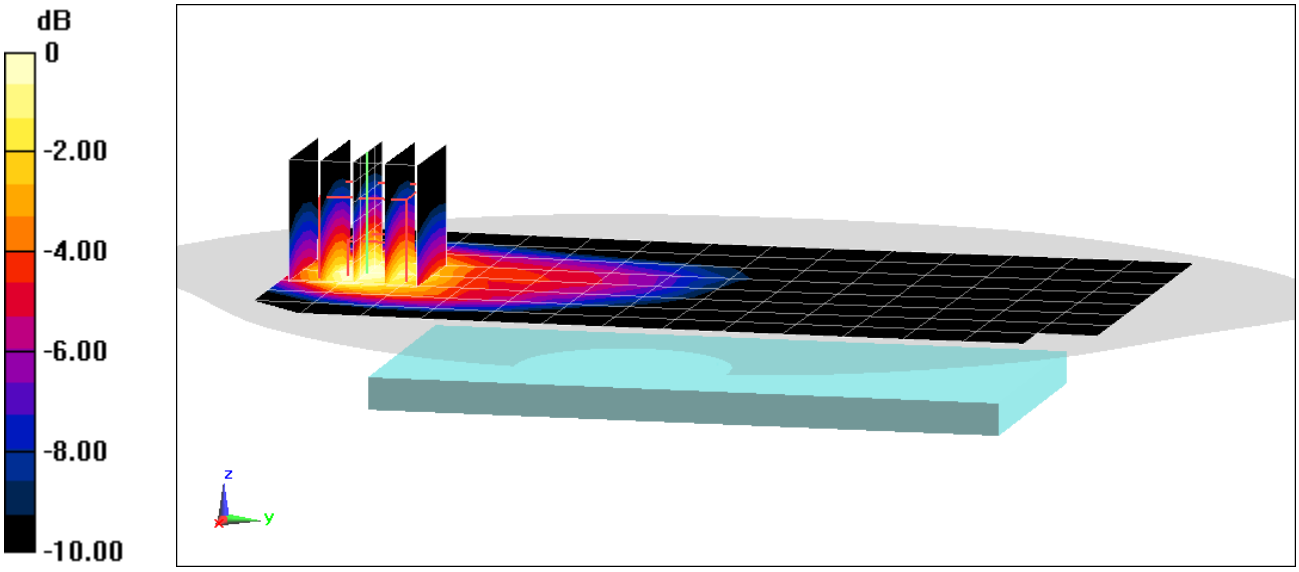
Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1770 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used:
f = 1770 MHz; σ = 1.562 S/m; ε_r = 52.907; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/03/2020; Ambient Temp: 21.4°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN7357; ConvF(8.26, 8.26, 8.26) @ 1770 MHz; Calibrated: 4/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/18/2019
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 66 (AWS) Open Configuration, Body SAR, Back side, High.ch, 20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.01 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 0.672 W/kg
SAR(1 g) = 0.413 W/kg



0 dB = 0.582 W/kg = -2.35 dBW/kg

DUT: A3LSMF700U; Type: Portable Handset; Serial: 0289M

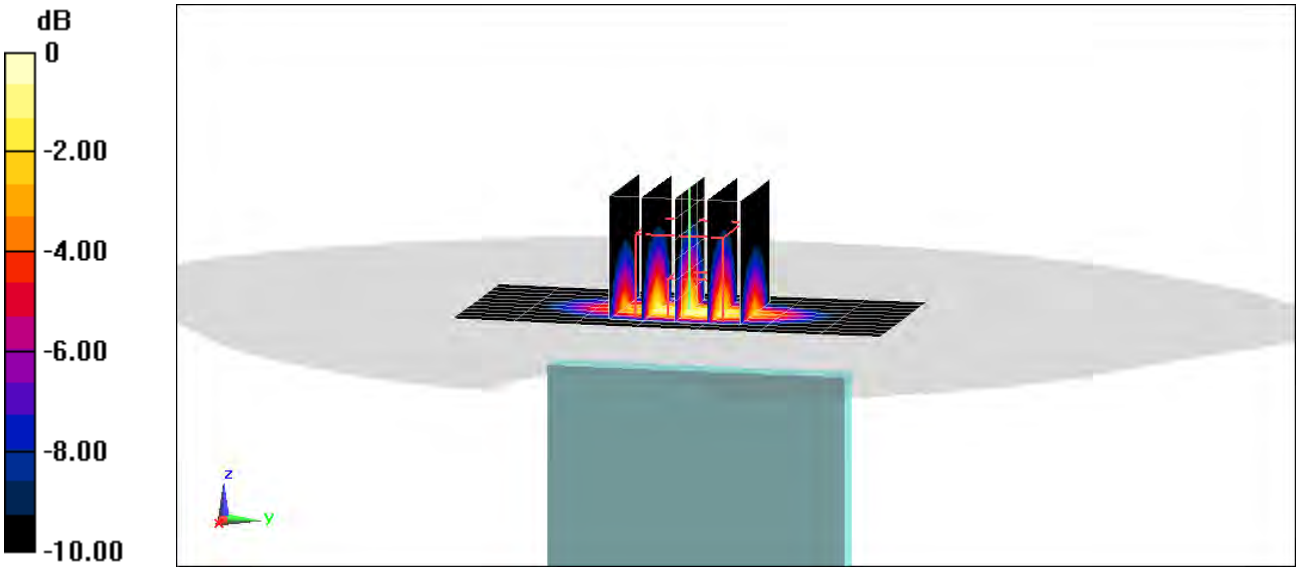
Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1770 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used:
f = 1770 MHz; σ = 1.562 S/m; ε_r = 52.907; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/03/2020; Ambient Temp: 21.4°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN7357; ConvF(8.26, 8.26, 8.26) @ 1770 MHz; Calibrated: 4/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/18/2019
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 66 (AWS) Open Configuration, Body SAR, Bottom Edge, High.ch, 20 MHz Bandwidth, QPSK, 50 RB, 25 RB Offset

Area Scan (11x8x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.56 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 1.15 W/kg
SAR(1 g) = 0.647 W/kg



0 dB = 0.979 W/kg = -0.09 dBW/kg

DUT: A3LSMF700U; Type: Portable Handset; Serial: 0289M

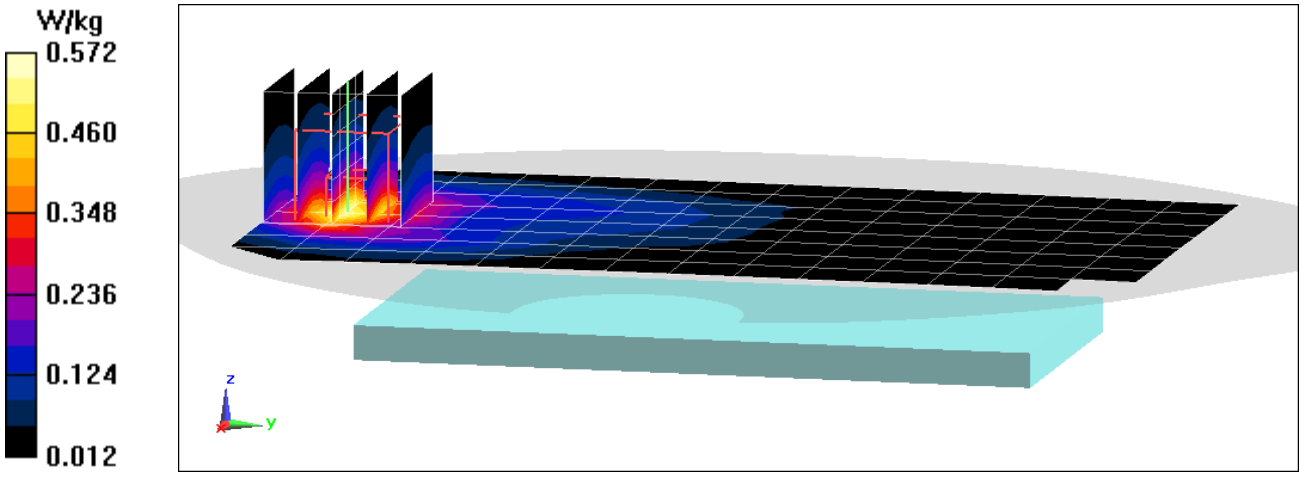
Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1882.5 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used (interpolated):
f = 1882.5 MHz; σ = 1.563 S/m; ε_r = 50.813; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/01/020; Ambient Temp: 23.1°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN7551; ConvF(7.69, 7.69, 7.69) @ 1882.5 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 25 (PCS) Open Configuration, 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 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.81 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.666 W/kg
SAR(1 g) = 0.404 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0278M

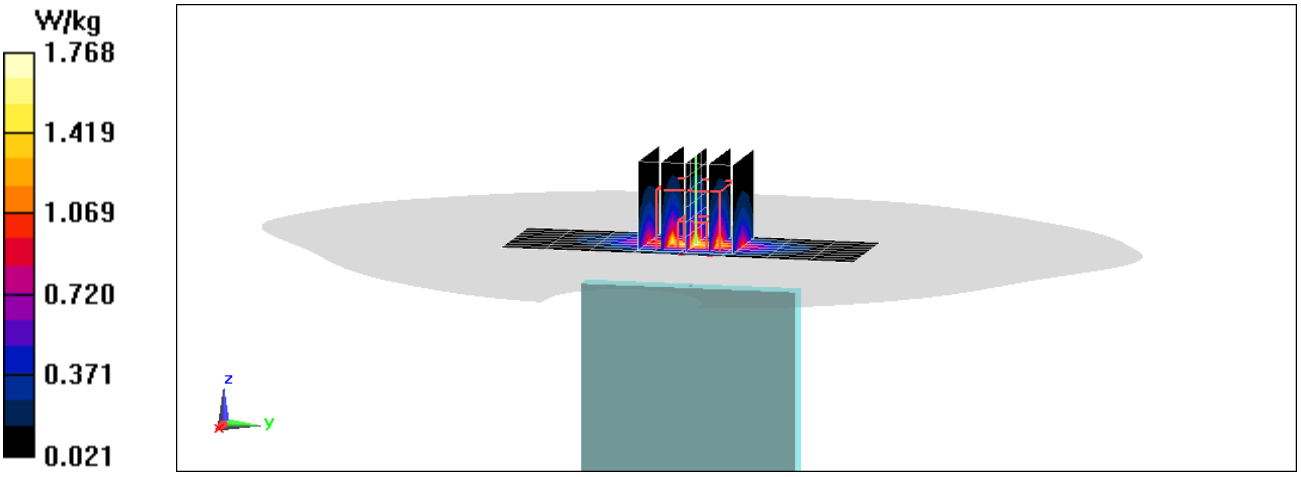
Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1905 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used:
f = 1905 MHz; σ = 1.584 S/m; ε_r = 51.12; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/13/2020; Ambient Temp: 22.7°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7551; ConvF(7.69, 7.69, 7.69) @ 1905 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 25 (PCS) Open Configuration, Body SAR, Bottom Edge, High.ch, 20 MHz Bandwidth, QPSK, 50 RB, 50 RB Offset

Area Scan (9x9x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.70 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 2.10 W/kg
SAR(1 g) = 1.16 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 1634M

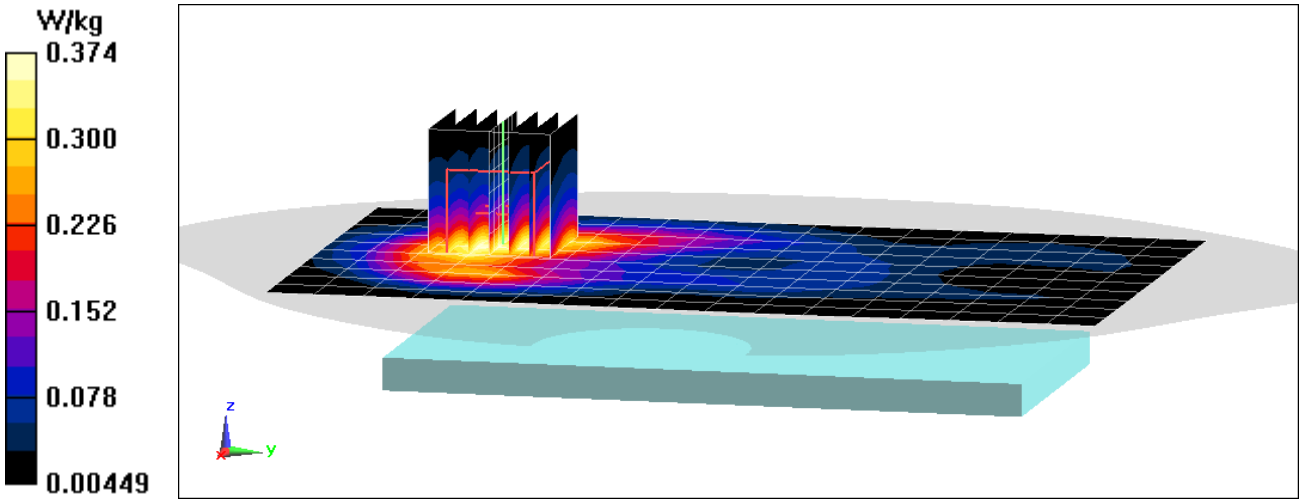
Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2310 MHz; σ = 1.849 S/m; ε_r = 50.961; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/13/2020; Ambient Temp: 22.9°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN7547; ConvF(7.47, 7.47, 7.47) @ 2310 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 30 Open Configuration, Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 49 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 = 12.41 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 0.444 W/kg
SAR(1 g) = 0.260 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 1634M

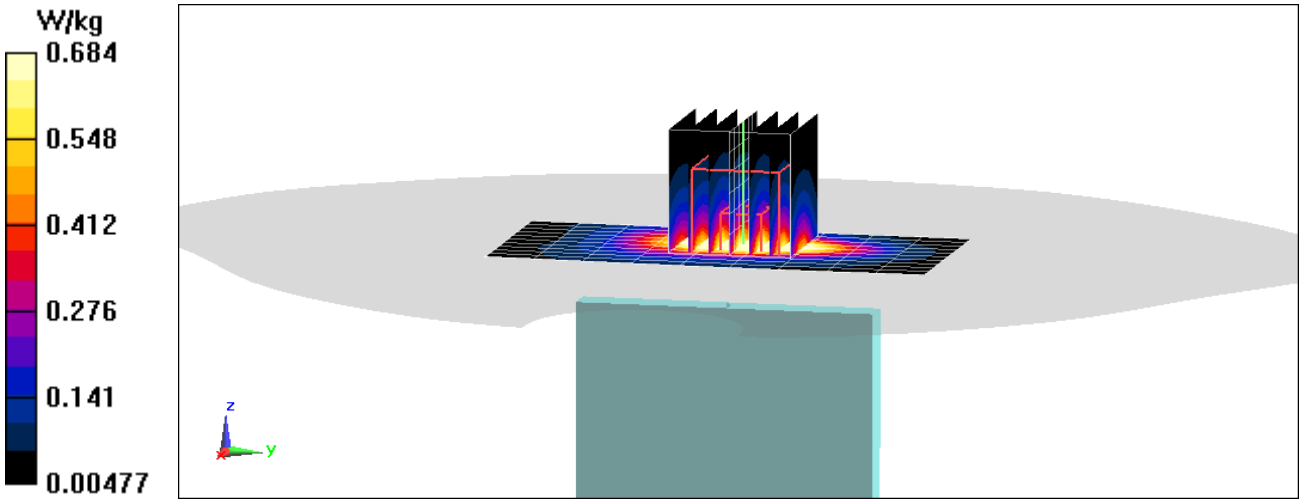
Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2310 MHz; σ = 1.849 S/m; ε_r = 50.961; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/13/2020; Ambient Temp: 22.9°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN7547; ConvF(7.47, 7.47, 7.47) @ 2310 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 30 Open Configuration, Body SAR, Bottom Edge, Mid.ch, 10 MHz Bandwidth, QPSK, 25 RB, 12 RB Offset

Area Scan (11x10x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.48 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 0.849 W/kg
SAR(1 g) = 0.451 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 1634M

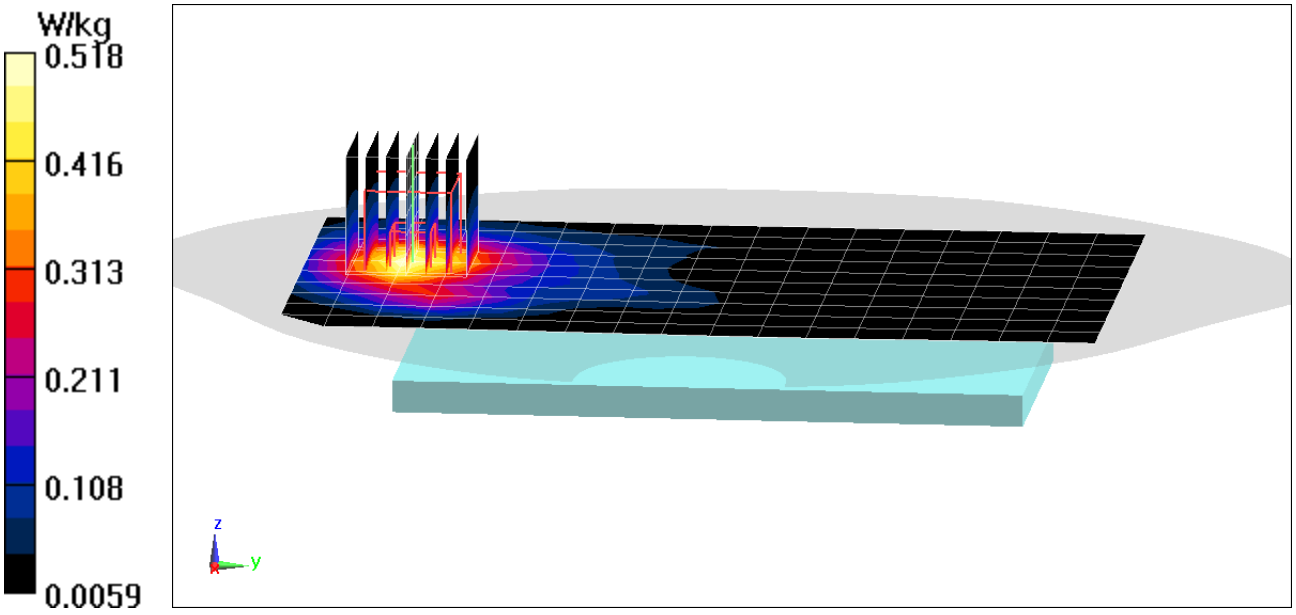
Communication System: UID 0, LTE Band 7; Frequency: 2535 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2535 MHz; σ = 2.14 S/m; ε_r = 50.96; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/17/2020; Ambient Temp: 23.7°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7547; ConvF(7.18, 7.18, 7.18) @ 2535 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 7 Open Configuration, Body SAR, Back side, Mid.ch, 20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.11 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.633 W/kg
SAR(1 g) = 0.337 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 1634M

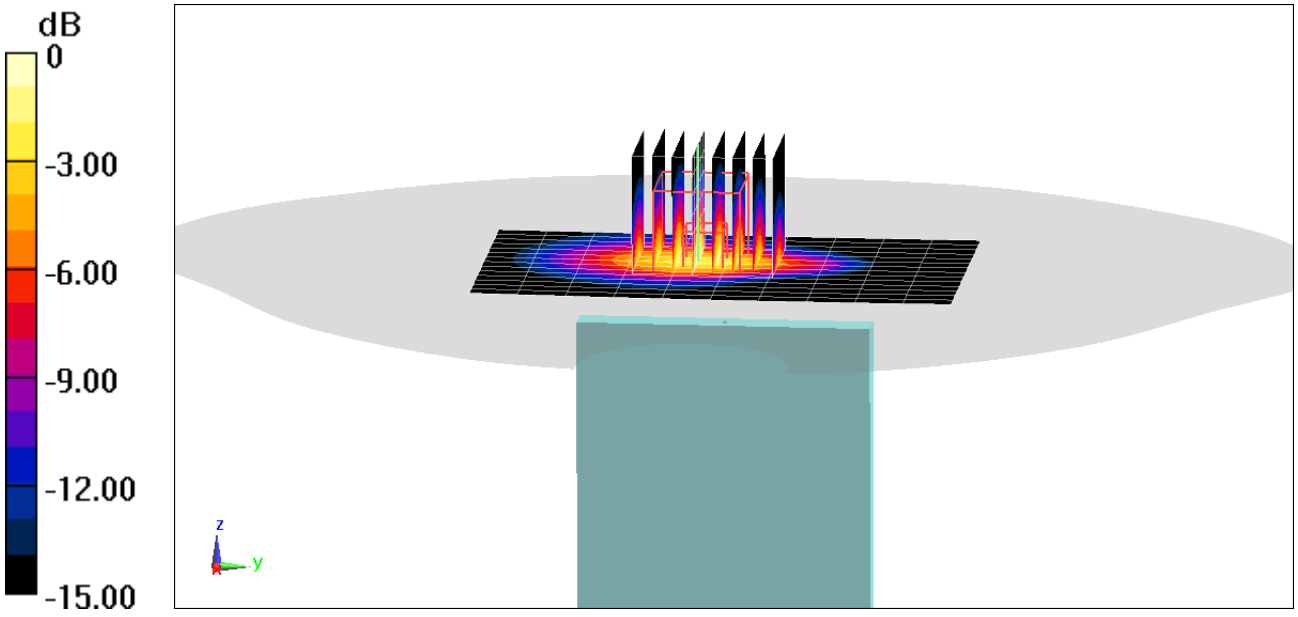
Communication System: UID 0, LTE Band 7; Frequency: 2510 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2510 MHz; σ = 2.111 S/m; ε_r = 51.039; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/17/2020; Ambient Temp: 23.7°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7547; ConvF(7.3, 7.3, 7.3) @ 2510 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 7 Open Configuration, Body SAR, Bottom Edge, Low.ch, 20 MHz Bandwidth, QPSK, 50 RB, 25 RB Offset

Area Scan (15x11x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.61 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 1.77 W/kg
SAR(1 g) = 0.874 W/kg



0 dB = 1.42 W/kg = 1.52 dBW/kg

DUT: A3LSMF700U; Type: Portable Handset; Serial: 1637M

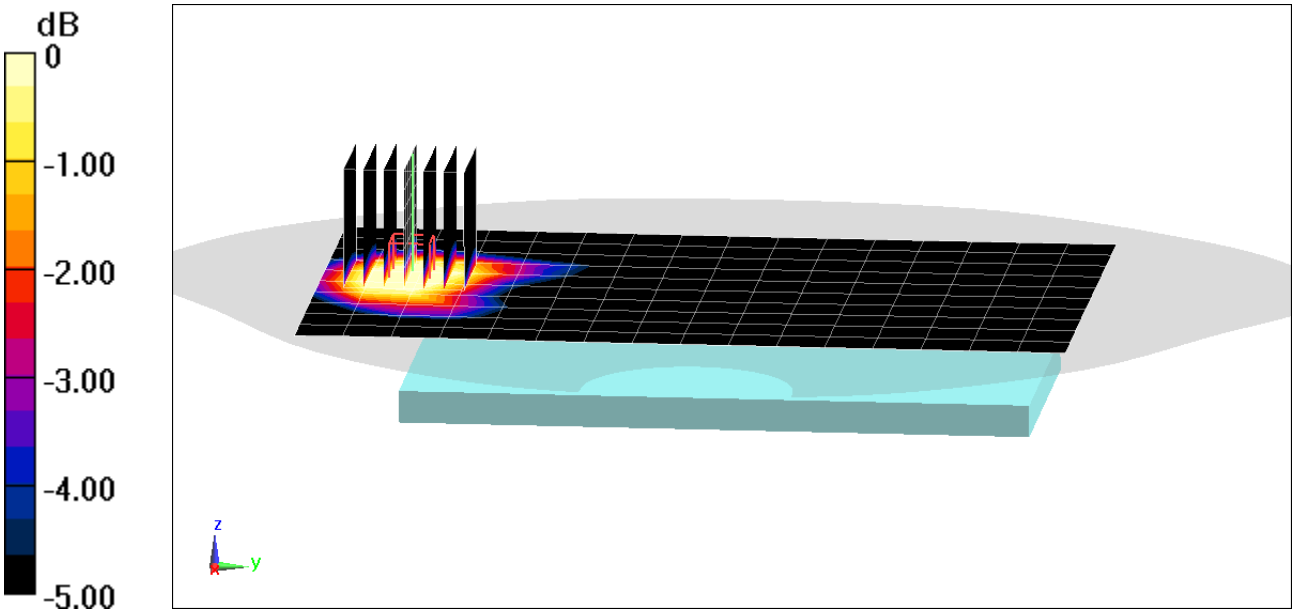
Communication System: UID 0, _LTE Band 41 (Class 3); Frequency: 2593 MHz; Duty Cycle: 1:1.58
Medium: 2450 Body; Medium parameters used (interpolated):
f = 2593 MHz; σ = 2.168 S/m; ε_r = 50.426; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/20/2020; Ambient Temp: 20.9°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7410; ConvF(7.43, 7.43, 7.43) @ 2593 MHz; Calibrated: 7/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 41 PC3 Open Configuration, Body SAR, Back side, Mid.ch, 20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset

Area Scan (11x17x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.973 V/m; Power Drift = -0.20 dB
Peak SAR (extrapolated) = 0.306 W/kg
SAR(1 g) = 0.157 W/kg



0 dB = 0.247 W/kg = -6.07 dBW/kg

PCTEST

DUT: A3LSMF700U; Type: Portable Handset; Serial: 1637M

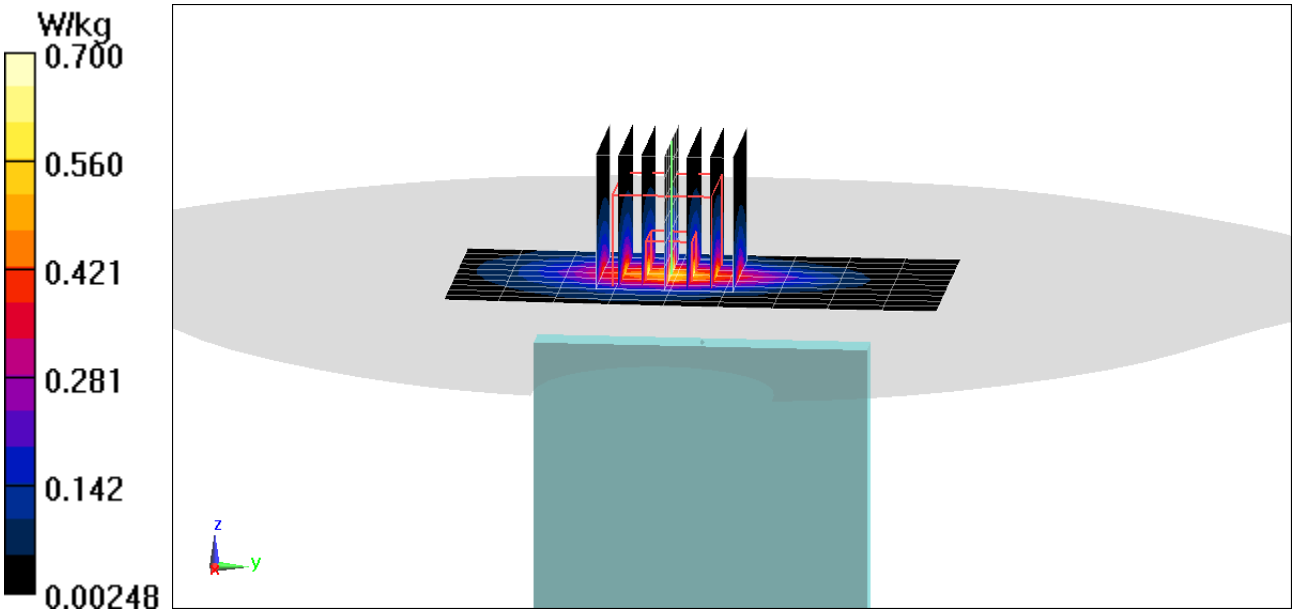
Communication System: UID 0, _LTE Band 41 (Class 2); Frequency: 2593 MHz; Duty Cycle: 1:2.31
Medium: 2450 Body; Medium parameters used (interpolated):
f = 2593 MHz; σ = 2.21 S/m; ε_r = 50.797; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/17/2020; Ambient Temp: 23.7°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7547; ConvF(7.18, 7.18, 7.18) @ 2593 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 41 PC2 Open Configuration, Body SAR, Bottom Edge, Mid.ch, 20 MHz Bandwidth, QPSK, 50 RB, 25 RB Offset

Area Scan (11x10x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.65 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.878 W/kg
SAR(1 g) = 0.423 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0622M

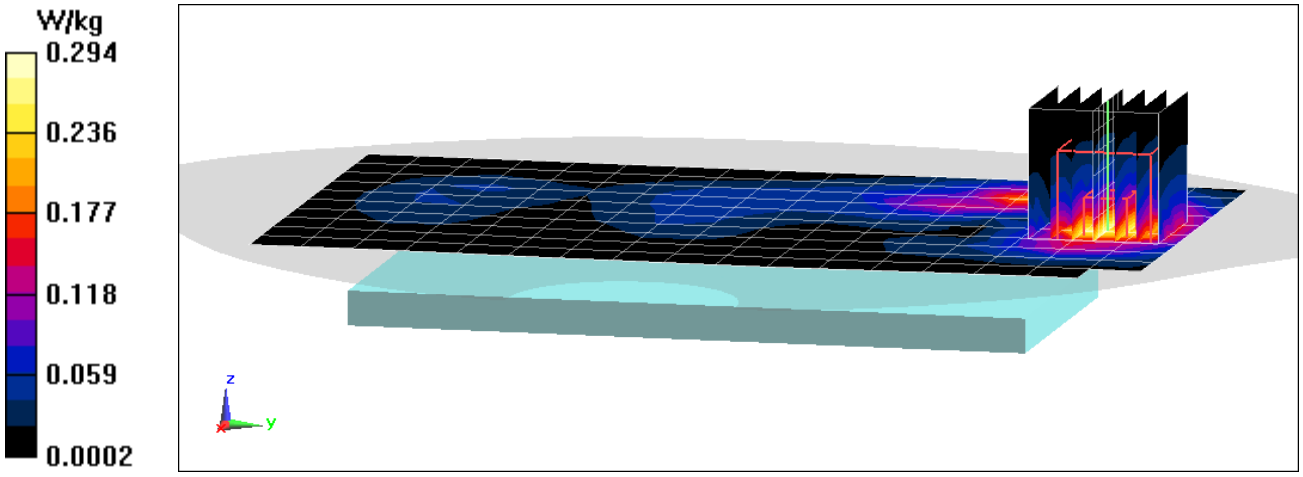
Communication System: UID 0, IEEE 802.11b; Frequency: 2437 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used (interpolated):
f = 2437 MHz; σ = 2.025 S/m; ε_r = 51.108; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 12/30/2019; Ambient Temp: 23.0°C; Tissue Temp: 23.6°C

Probe: EX3DV4 - SN7547; ConvF(7.3, 7.3, 7.3) @ 2437 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: IEEE 802.11b, Antenna 1 Open Configuration, 22 MHz Bandwidth, Body SAR, Ch 6, 1 Mbps, Back Side

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.30 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.350 W/kg
SAR(1 g) = 0.192 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 1639M

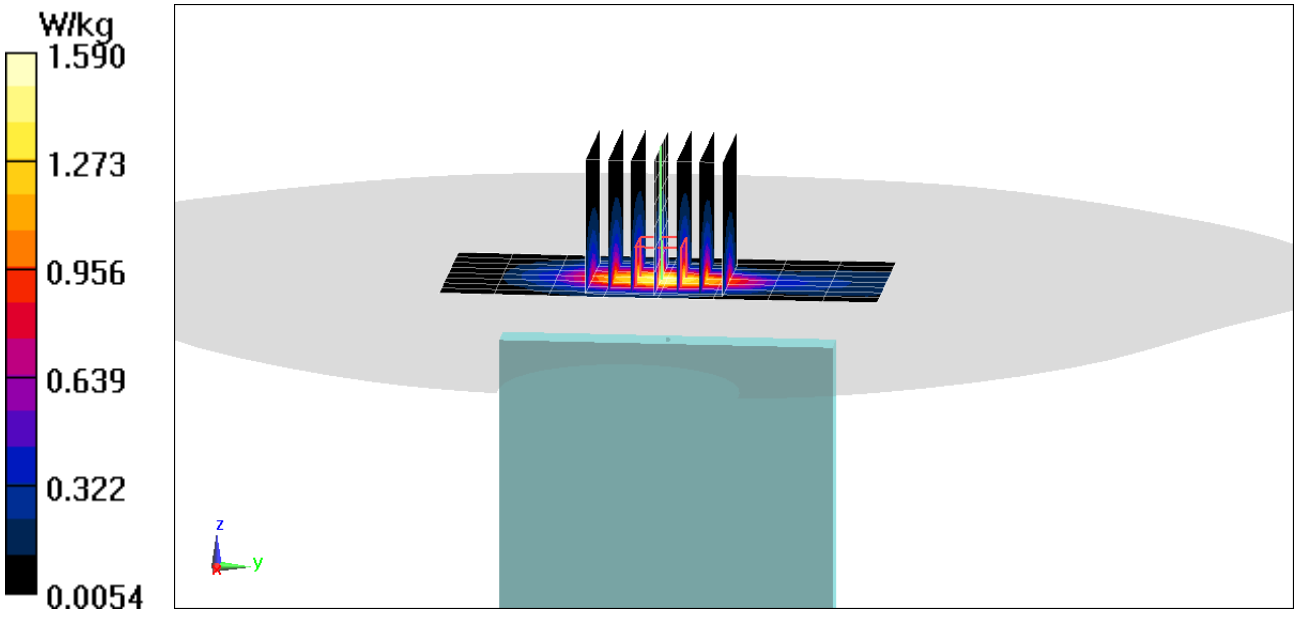
Communication System: UID 0, 802.11b; Frequency: 2462 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used (interpolated):
f = 2462 MHz; σ = 2.026 S/m; ε_r = 51.275; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/22/2020; Ambient Temp: 23.5°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7410; ConvF(7.44, 7.44, 7.44) @ 2462 MHz; Calibrated: 7/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: IEEE 802.11b Antenna 1 Open Configuration, 22 MHz Bandwidth, Body SAR, Ch 11, 1 Mbps, Top Edge

Area Scan (9x9x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.32 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 1.98 W/kg
SAR(1 g) = 0.952 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0605M

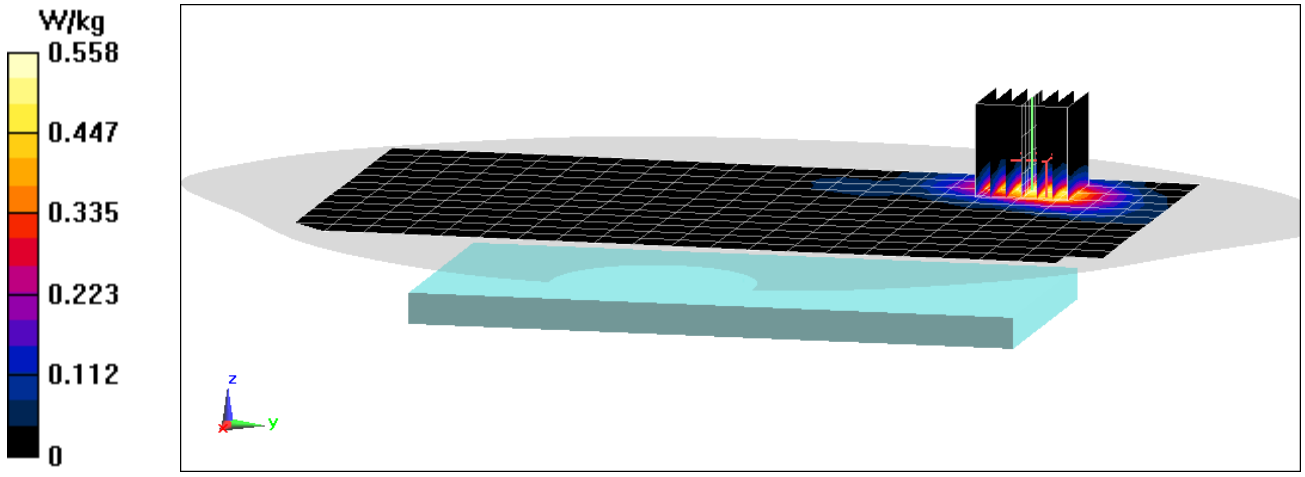
Communication System: UID 0, 802.11a 5.2-5.8 GHz Band; Frequency: 5785 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Body; Medium parameters used:
f = 5785 MHz; σ = 6.213 S/m; ε_r = 46.063; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 12/29/2019; Ambient Temp: 23.9°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7409; ConvF(4.23, 4.23, 4.23) @ 5785 MHz; Calibrated: 6/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 6/20/2019
Phantom: Front; Type: QD 000 P40 CD; Serial: 1686
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: IEEE 802.11a, Antenna 1 Open Configuration, U-NII-3, 20 MHz Bandwidth, Body SAR, Ch 157, 6 Mbps, Back Side

Area Scan (13x22x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 6.179 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 0.954 W/kg
SAR(1 g) = 0.236 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0605M

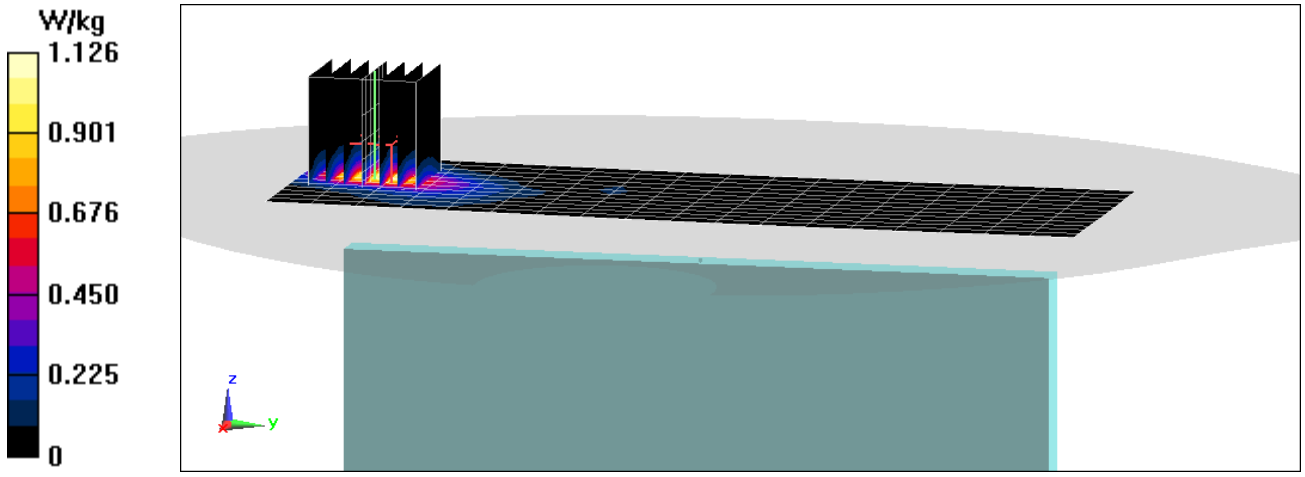
Communication System: UID 0, 802.11a 5.2-5.8 GHz Band; Frequency: 5785 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Body; Medium parameters used:
f = 5785 MHz; σ = 6.213 S/m; ε_r = 46.063; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12/29/2019; Ambient Temp: 23.9°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7409; ConvF(4.23, 4.23, 4.23) @ 5785 MHz; Calibrated: 6/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 6/20/2019
Phantom: Front; Type: QD 000 P40 CD; Serial: 1686
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: IEEE 802.11a, Antenna 1 Open Configuration, U-NII-3, 20 MHz Bandwidth, Body SAR, Ch 157, 6 Mbps, Right Edge

Area Scan (13x19x1): Measurement grid: dx=5mm, dy=10mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 1.934 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 1.95 W/kg
SAR(1 g) = 0.449 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0289M

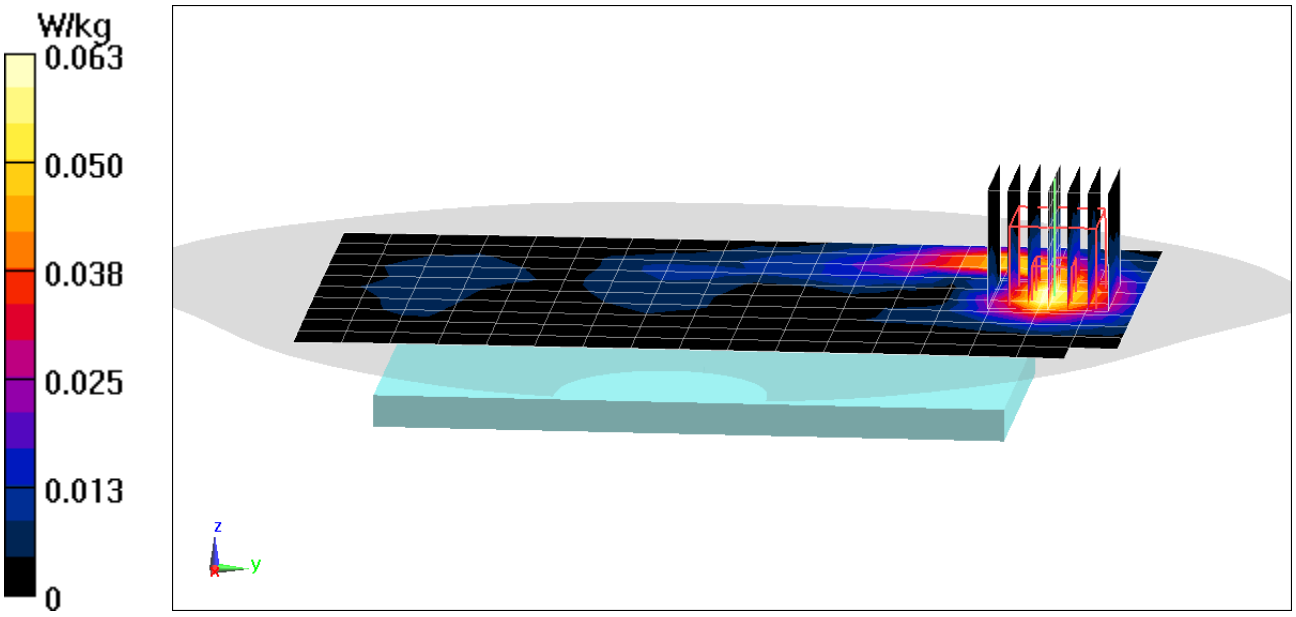
Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1: 1.289
Medium: 2450 Body; Medium parameters used (interpolated):
f = 2441 MHz; σ = 1.972 S/m; ε_r = 51.336; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/22/2020; Ambient Temp: 22.0°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN7308; ConvF(7.46, 7.46, 7.46) @ 2441 MHz; Calibrated: 8/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/14/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: Bluetooth Open Configuration, Body SAR, Ch 39, 1 Mbps, Back Side

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.796 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.0770 W/kg
SAR(1 g) = 0.041 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0289M

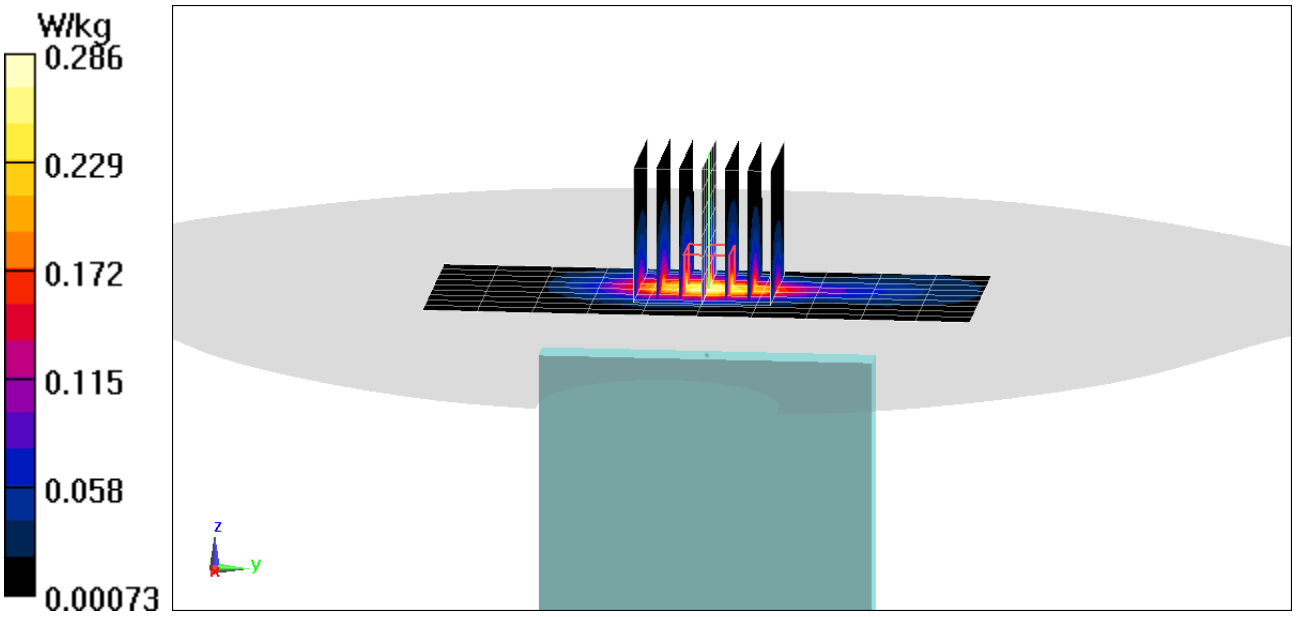
Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.289
Medium: 2450 Body; Medium parameters used (interpolated):
f = 2441 MHz; σ = 1.972 S/m; ε_r = 51.336; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/22/2020; Ambient Temp: 22.0°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN7308; ConvF(7.46, 7.46, 7.46) @ 2441 MHz; Calibrated: 8/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/14/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: Bluetooth Open Configuration, Body SAR, Ch 39, 1 Mbps, Top Edge

Area Scan (10x11x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.06 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.355 W/kg
SAR(1 g) = 0.173 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0622M

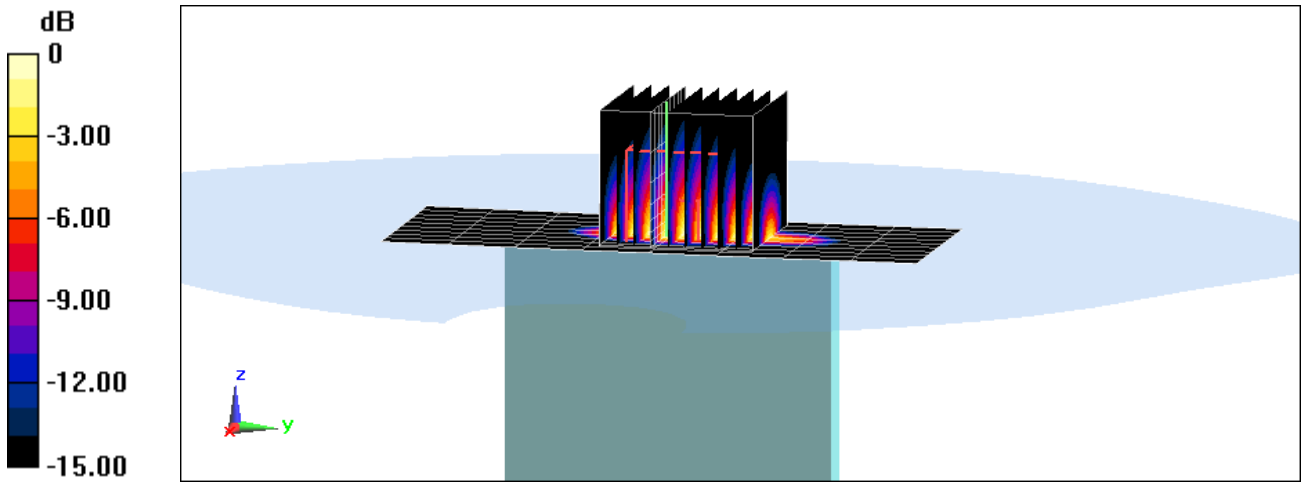
Communication System: UID 0, GSM GPRS; 3 Tx slots; Frequency: 1909.8 MHz; Duty Cycle: 1:2.76
Medium: 1900 Body; Medium parameters used:
f = 1910 MHz; σ = 1.553 S/m; ε_r = 52.109; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01/15/2020; Ambient Temp: 22.7°C; Tissue Temp: 23.3°C

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

Mode: GPRS 1900, Phablet SAR, Bottom Edge, High.ch, 3 Tx Slots

Area Scan (10x9x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (10x10x8)/Cube 0: Measurement grid: dx=3.8mm, dy=3.8mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 69.78 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 18.6 W/kg
SAR(10 g) = 2.68 W/kg



0 dB = 11.5 W/kg = 10.61 dBW/kg

DUT: A3LSMF700U; Type: Portable Handset; Serial: 1639M

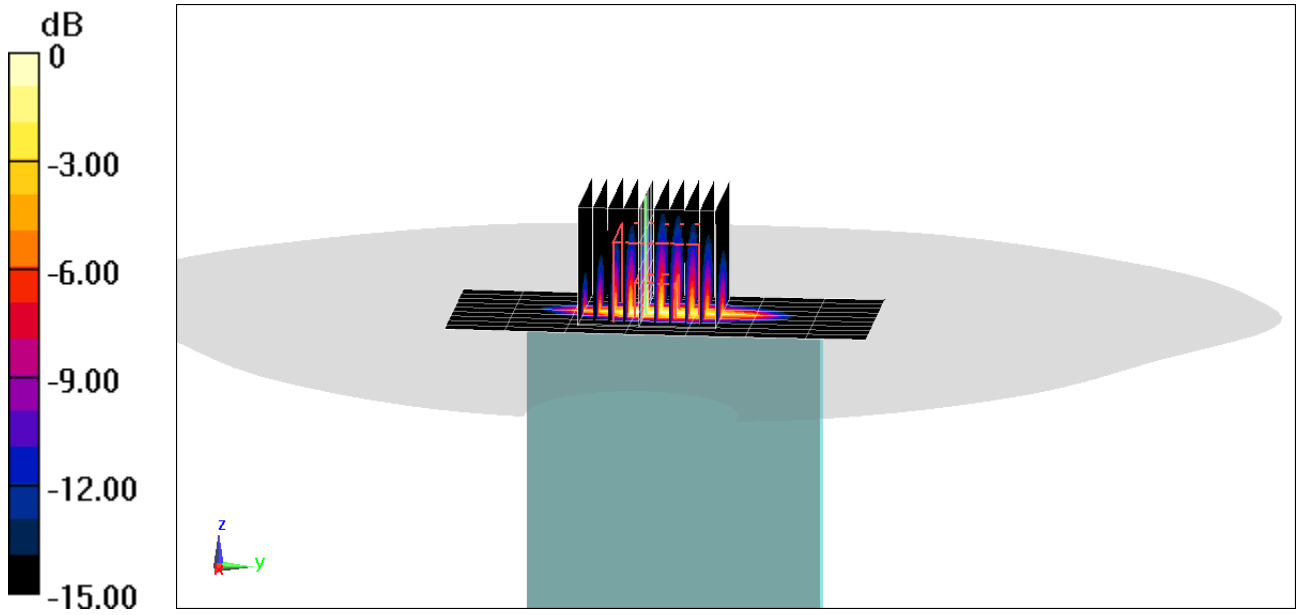
Communication System: UID 0, UMTS; Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used (interpolated):
f = 1732.4 MHz; σ = 1.486 S/m; ε_r = 53.629; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01/17/2020; Ambient Temp: 22.9°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7357; ConvF(8.26, 8.26, 8.26) @ 1732.4 MHz; Calibrated: 4/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/18/2019
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: UMTS 1750, Phablet SAR, Bottom Edge, Mid.ch

Area Scan (10x8x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (10x10x8)/Cube 0: Measurement grid: dx=3.8mm, dy=3.8mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 56.32 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 11.8 W/kg
SAR(10 g) = 1.48 W/kg



0 dB = 7.85 W/kg = 8.95 dBW/kg

DUT: A3LSMF700U; Type: Portable Handset; Serial: 0622M

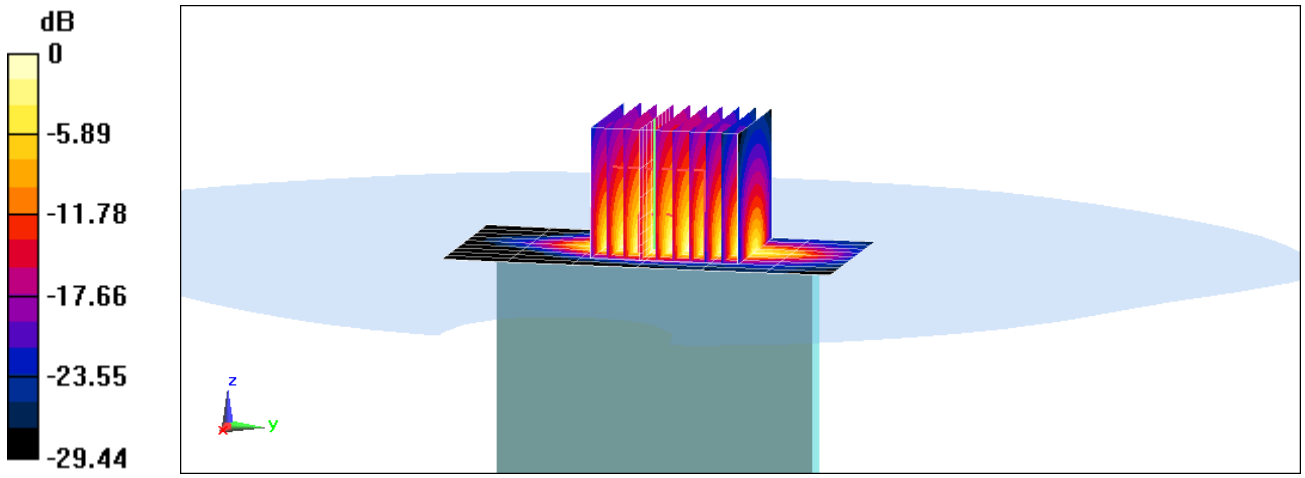
Communication System: UID 0, UMTS; Frequency: 1907.6 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used (interpolated):
f = 1907.6 MHz; σ = 1.568 S/m; ε_r = 51.982; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01/12/2020; Ambient Temp: 24.1°C; Tissue Temp: 23.5°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1907.6 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: UMTS 1900, Phablet SAR, Bottom Edge, High.ch

Area Scan (10x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (10x10x8)/Cube 0: Measurement grid: dx=3.8mm, dy=3.8mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 71.82 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 20.4 W/kg
SAR(10 g) = 2.85 W/kg



0 dB = 13.3 W/kg = 11.24 dBW/kg

DUT: A3LSMF700U; Type: Portable Handset; Serial: 0622M

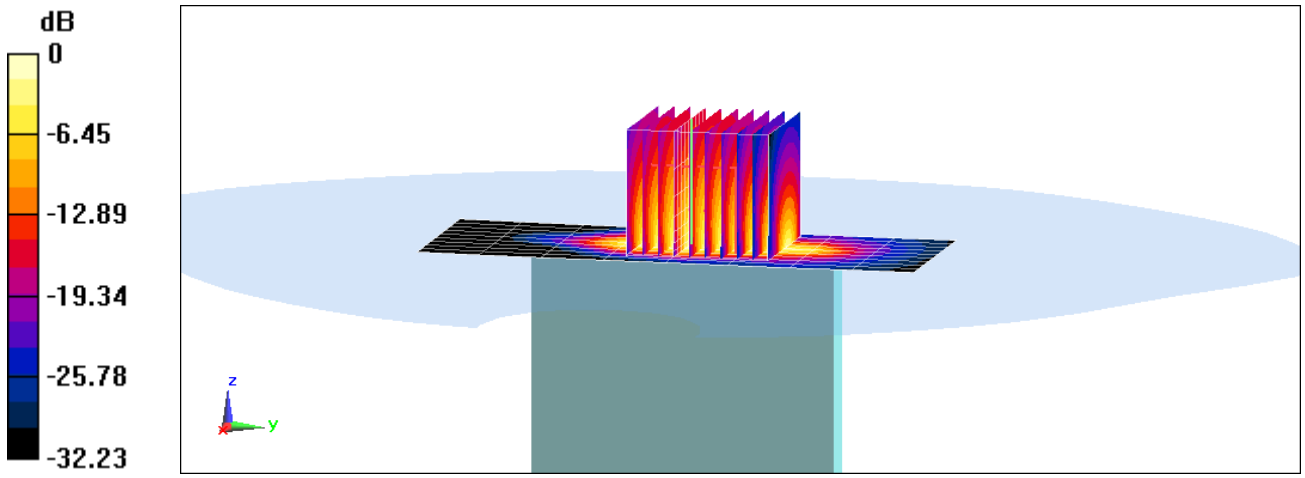
Communication System: UID 0, CDMA; Frequency: 1908.75 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used (interpolated):
f = 1908.75 MHz; σ = 1.57 S/m; ε_r = 51.978; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01/12/2020; Ambient Temp: 24.1°C; Tissue Temp: 23.5°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1908.75 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: PCS EVDO, Phablet SAR, Bottom Edge, High.ch

Area Scan (10x9x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (10x10x8)/Cube 0: Measurement grid: dx=3.8mm, dy=3.8mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 64.09 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 23.8 W/kg
SAR(10 g) = 3.05 W/kg



0 dB = 13.7 W/kg = 11.37 dBW/kg

DUT: A3LSMF700U; Type: Portable Handset; Serial: 1639M

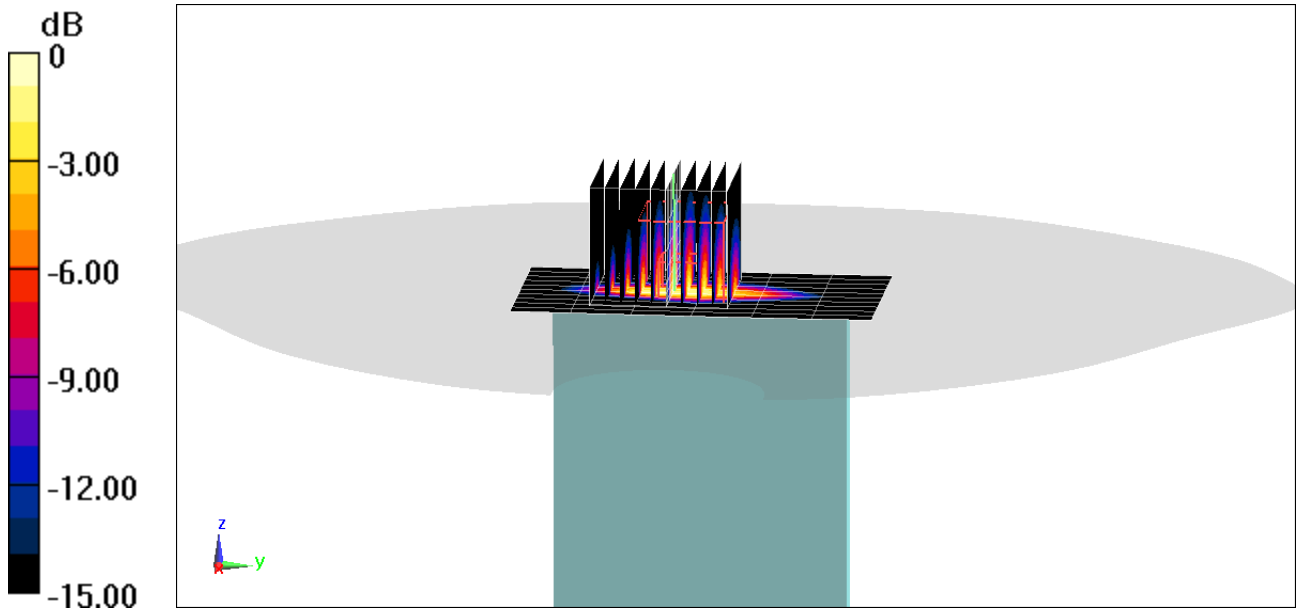
Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1770 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used:
f = 1770 MHz; σ = 1.525 S/m; ε_r = 53.466; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01/17/2020; Ambient Temp: 22.9°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7357; ConvF(8.26, 8.26, 8.26) @ 1770 MHz; Calibrated: 4/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/18/2019
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 66 (AWS), Phablet SAR, Bottom Edge, High.ch, 20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset

Area Scan (11x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (10x10x8)/Cube 0: Measurement grid: dx=3.8mm, dy=3.8mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 50.44 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 10.2 W/kg
SAR(10 g) = 1.27 W/kg



0 dB = 6.40 W/kg = 8.06 dBW/kg

DUT: A3LSMF700U; Type: Portable Handset; Serial: 0417M

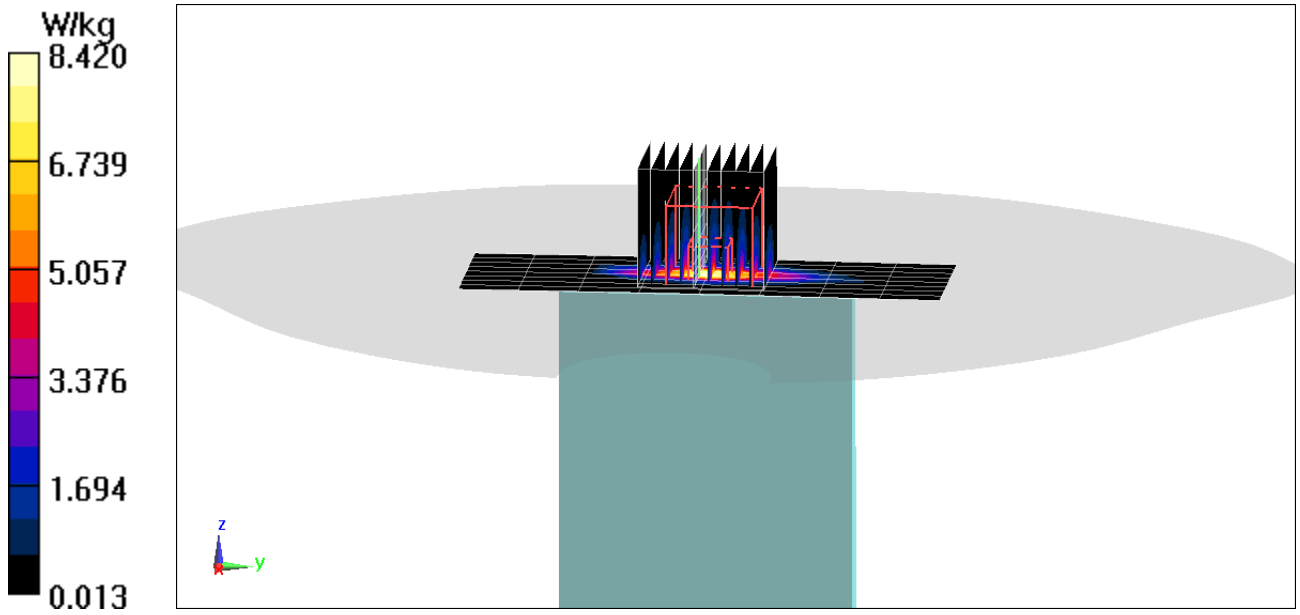
Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1905 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used:
f = 1905 MHz; σ = 1.584 S/m; ε_r = 50.904; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01/15/2020; Ambient Temp: 22.5°C; Tissue Temp: 22.2°C

Probe: EX3DV4 - SN7551; ConvF(7.69, 7.69, 7.69) @ 1905 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 25 (PCS), Phablet SAR, Bottom Edge, High.ch, 20 MHz Bandwidth, QPSK, 50 RB, 50 RB Offset

Area Scan (9x9x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (10x10x8)/Cube 0: Measurement grid: dx=3.5mm, dy=3.5mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 54.41 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 12.3 W/kg
SAR(10 g) = 1.74 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 1634M

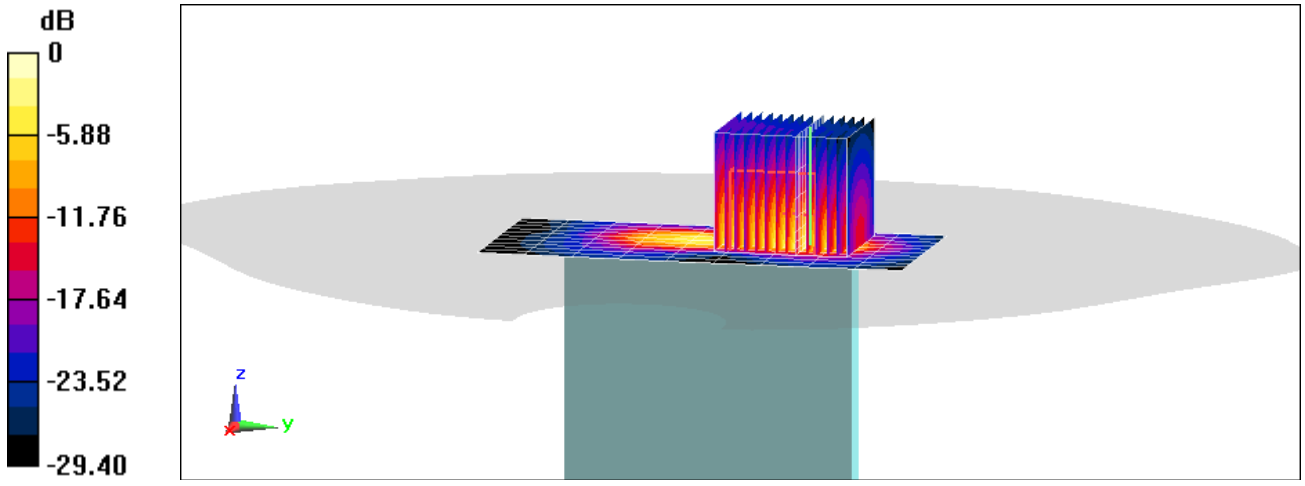
Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2310 MHz; σ = 1.849 S/m; ε_r = 50.961; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01/13/2020; Ambient Temp: 22.9°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN7547; ConvF(7.47, 7.47, 7.47) @ 2310 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 30, Phablet SAR, Bottom Edge, Mid.ch,
10 MHz Bandwidth, QPSK, 25 RB, 12 RB Offset

Area Scan (11x10x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (13x14x8)/Cube 0: Measurement grid: dx=2.6mm, dy=2.6mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 55.66 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 31.6 W/kg
SAR(10 g) = 2.07 W/kg



0 dB = 14.4 W/kg = 11.58 dBW/kg

DUT: A3LSMF700U; Type: Portable Handset; Serial: 1634M

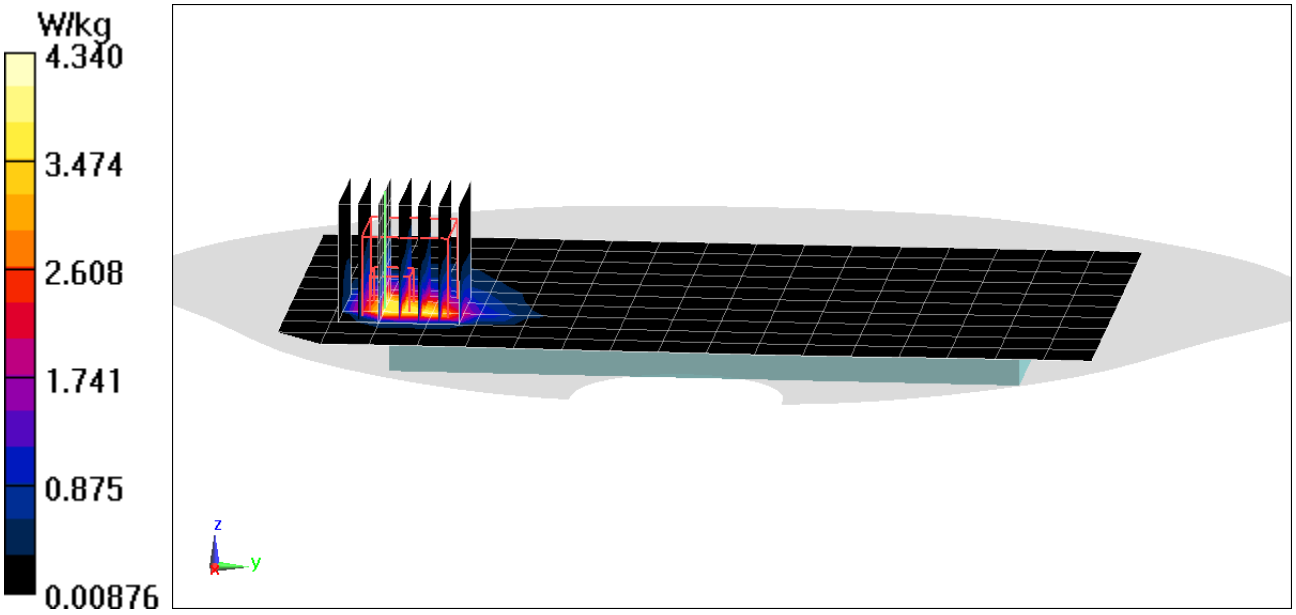
Communication System: UID 0, LTE Band 7; Frequency: 2560 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2560 MHz; σ = 2.165 S/m; ε_r = 50.617; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01/20/2020; Ambient Temp: 23.9°C; Tissue Temp: 24.1°C

Probe: EX3DV4 - SN7547; ConvF(7.18, 7.18, 7.18) @ 2560 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 7, Phablet SAR, Back side, High.ch,
20 MHz Bandwidth, QPSK, 50 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 = 30.85 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 5.90 W/kg
SAR(10 g) = 1.09 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 1637M

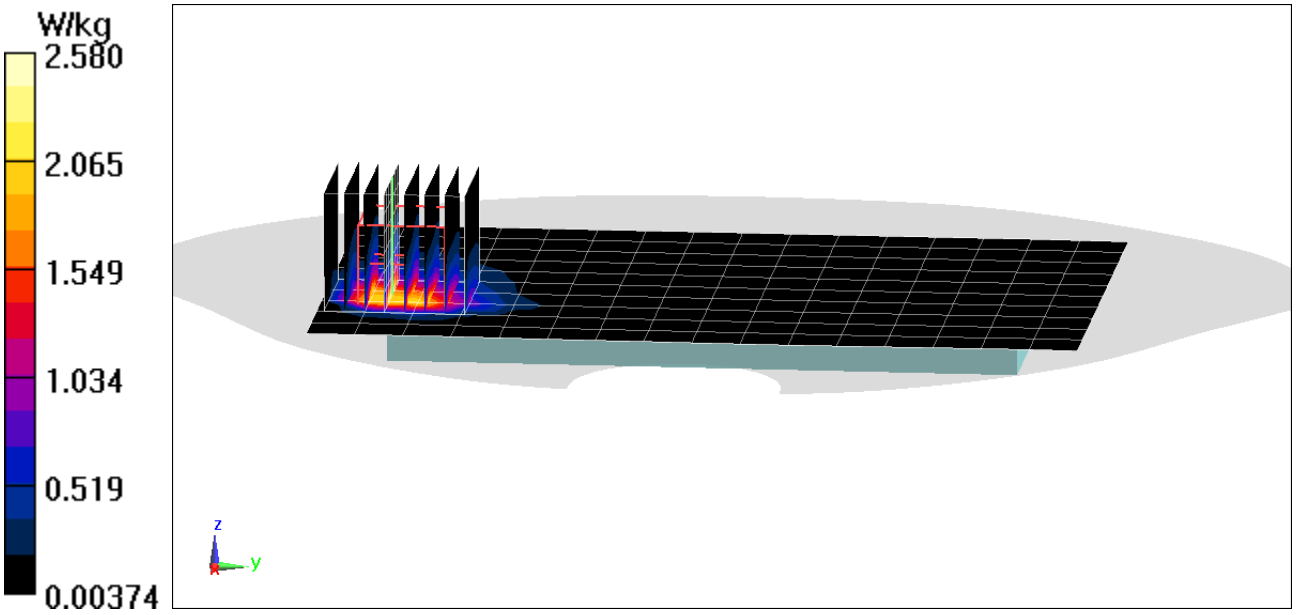
Communication System: UID 0, LTE Band 41 (Class 2); Frequency: 2593 MHz; Duty Cycle: 1:2.31
Medium: 2450 Body; Medium parameters used (interpolated):
f = 2593 MHz; σ = 2.21 S/m; ε_r = 50.797; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01/17/2020; Ambient Temp: 23.7°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7547; ConvF(7.18, 7.18, 7.18) @ 2593 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: LTE Band 41 PC2, Phablet SAR, Back side, Mid.ch,
20 MHz Bandwidth, QPSK, 50 RB, 25 RB Offset

Area Scan (11x17x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.69 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 3.41 W/kg
SAR(10 g) = 0.698 W/kg



DUT: A3LSMF700U; Type: Portable Handset; Serial: 0605M

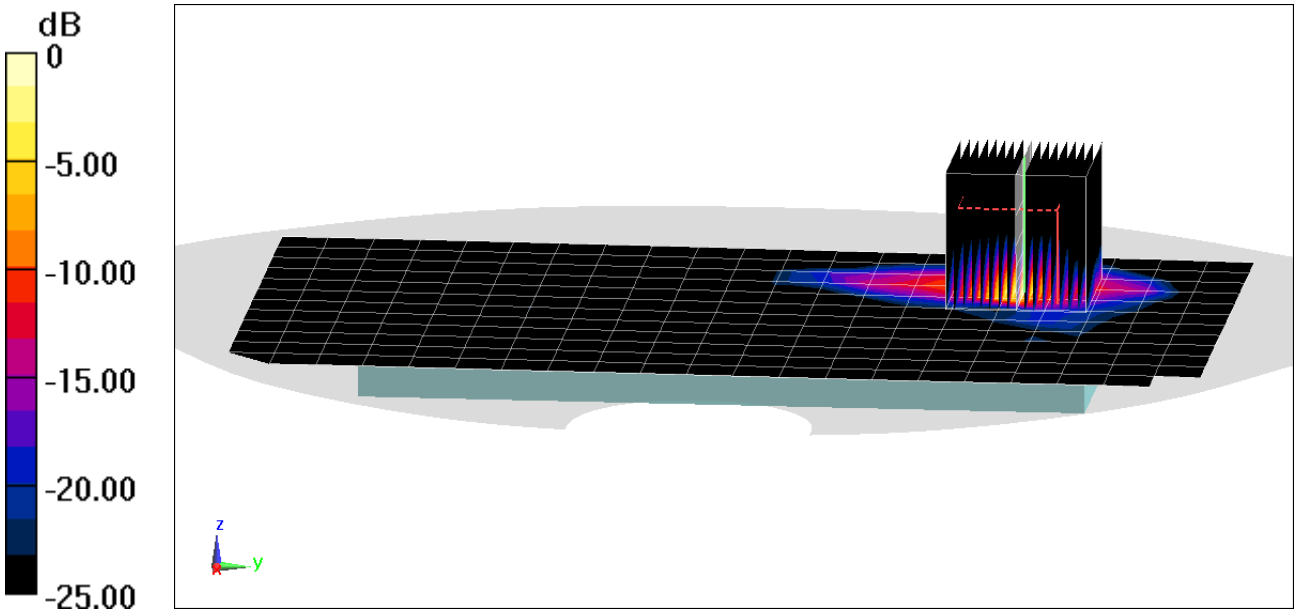
Communication System: UID 0, 802.11n 5.2-5.8 GHz Band; Frequency: 5500 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Body; Medium parameters used:
f = 5500 MHz; σ = 5.781 S/m; ε_r = 47.928; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01/19/2020; Ambient Temp: 23.9°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7409; ConvF(4.22, 4.22, 4.22) @ 5500 MHz; Calibrated: 6/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 6/20/2019
Phantom: Front; Type: QD 000 P40 CD; Serial: 1686
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

Mode: IEEE 802.11n, U-NII-2C MIMO, 20 MHz Bandwidth,
Phablet SAR, Ch 100, 13.0 Mbps, Back Side

Area Scan (13x22x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (18x17x8)/Cube 0: Measurement grid: dx=1.9mm, dy=1.9mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 46.57 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 99.3 W/kg
SAR(10 g) = 2.28 W/kg



0 dB = 41.3 W/kg = 16.16 dBW/kg

APPENDIX B: SYSTEM VERIFICATION

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APPENDIX B: SYSTEM VERIFICATION

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DUT: Dipole 750 MHz; Type: D750V3; Serial: 1003

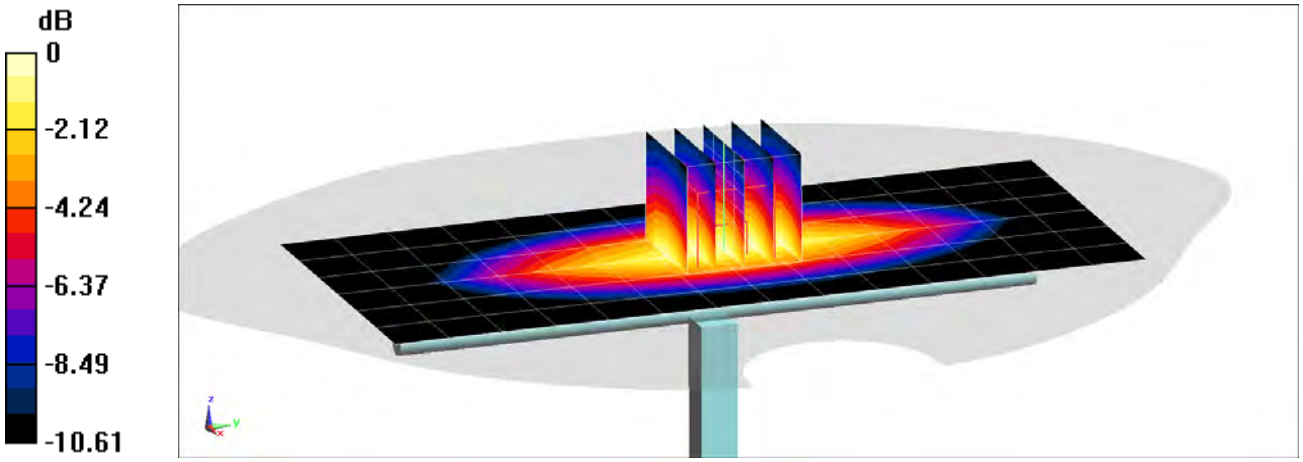
Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1
Medium: 750 Head Medium parameters used:
f = 750 MHz; σ = 0.892 S/m; ε_r = 40.283; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

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

Probe: EX3DV4 - SN7417; ConvF(10.36, 10.36, 10.36) @ 750 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/13/2019
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

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) = 2.23 W/kg
SAR(1 g) = 1.53 W/kg
Deviation(1 g) = -7.61%



0 dB = 2.02 W/kg = 3.05 dBW/kg

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DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d047

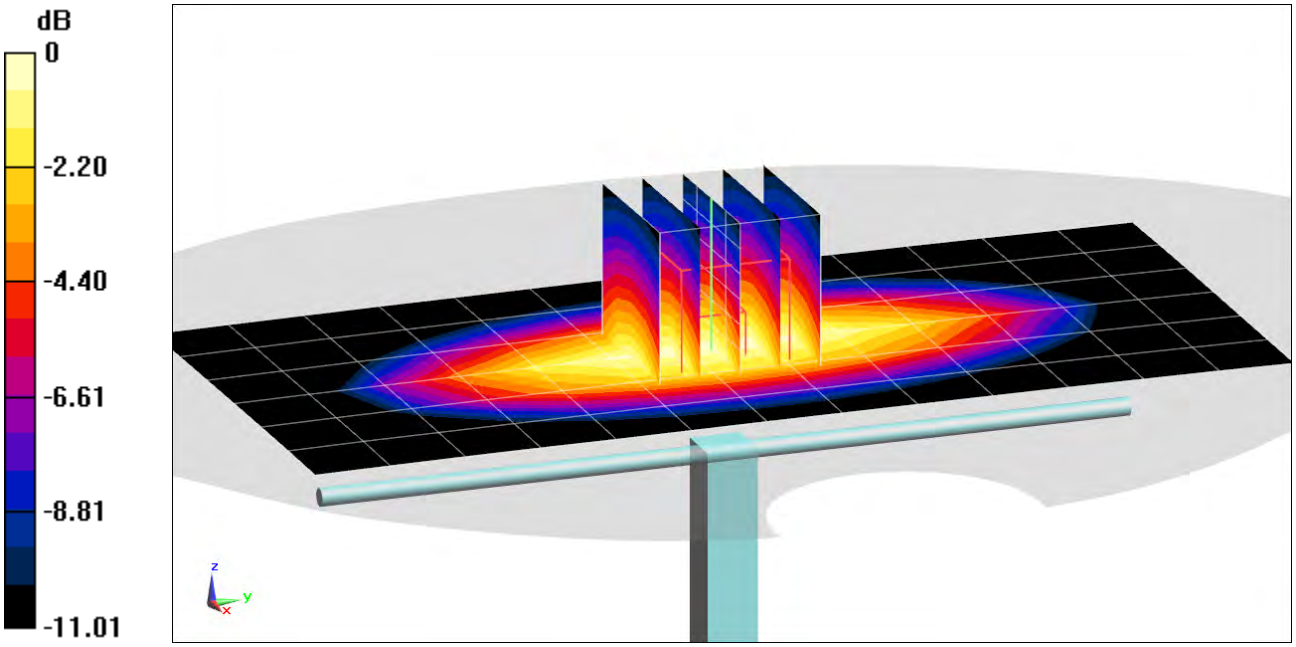
Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: 835 Head Medium parameters used:
f = 835 MHz; σ = 0.913 S/m; ε_r = 40.142; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/13/2020; Ambient Temp: 21.9°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN7308; ConvF(9.87, 9.87, 9.87) @ 835 MHz; Calibrated: 8/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/14/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

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) = 3.10 W/kg
SAR(1 g) = 2.03 W/kg
Deviation(1 g) = 7.75%



0 dB = 2.74 W/kg = 4.38 dBW/kg

PCTEST

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d133

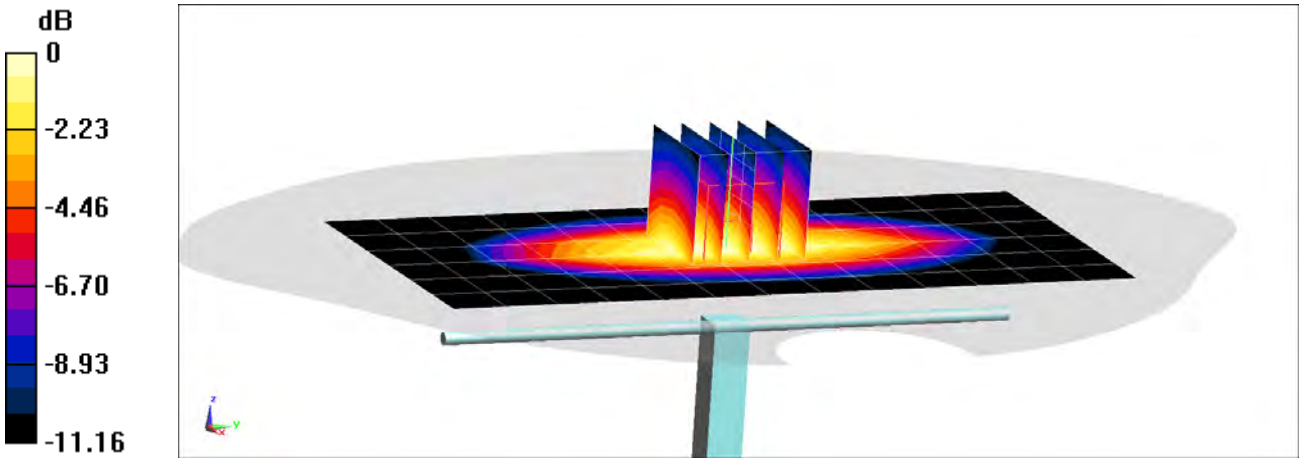
Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: 835 Head Medium parameters used:
f = 835 MHz; σ = 0.914 S/m; ε_r = 40.726; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/18/2020; Ambient Temp: 23.1°C; Tissue Temp: 20.5°C

Probe: EX3DV4 - SN7417; ConvF(10.07, 10.07, 10.07) @ 835 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/13/2019
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

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) = 3.17 W/kg
SAR(1 g) = 2.02 W/kg
Deviation(1 g) = 7.10%



0 dB = 2.77 W/kg = 4.42 dBW/kg

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d047

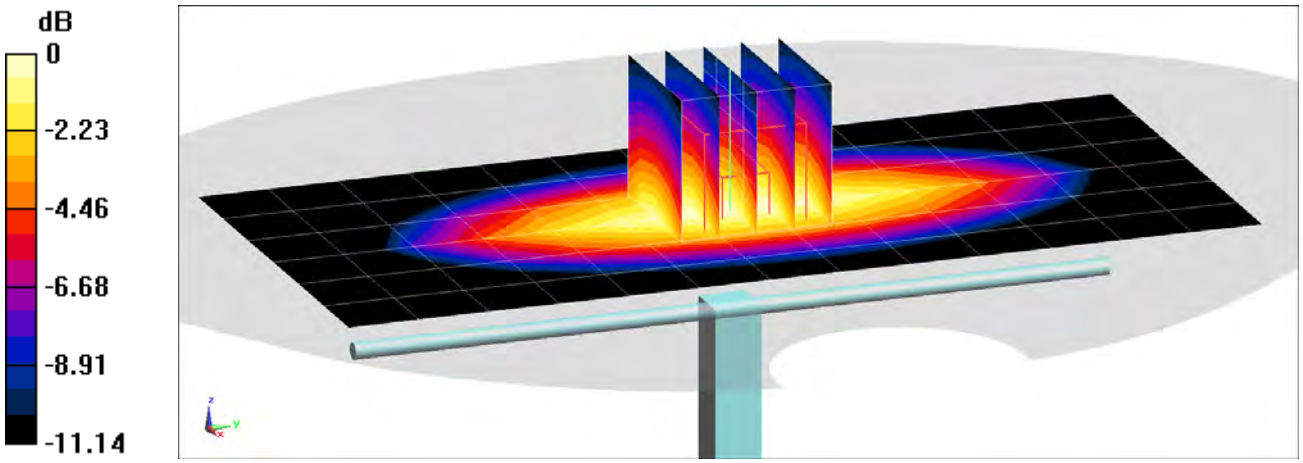
Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: 835 Head Medium parameters used:
f = 835 MHz; σ = 0.909 S/m; ε_r = 39.769; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/20/2020; Ambient Temp: 20.7°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7417; ConvF(10.07, 10.07, 10.07) @ 835 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/13/2019
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

835 MHz System Verification at 23.0 dBm (200 mW)

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 2.71 W/kg
SAR(1 g) = 1.78 W/kg
Deviation(1 g) = -5.52%



0 dB = 2.39 W/kg = 3.78 dBW/kg

PCTEST

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1148

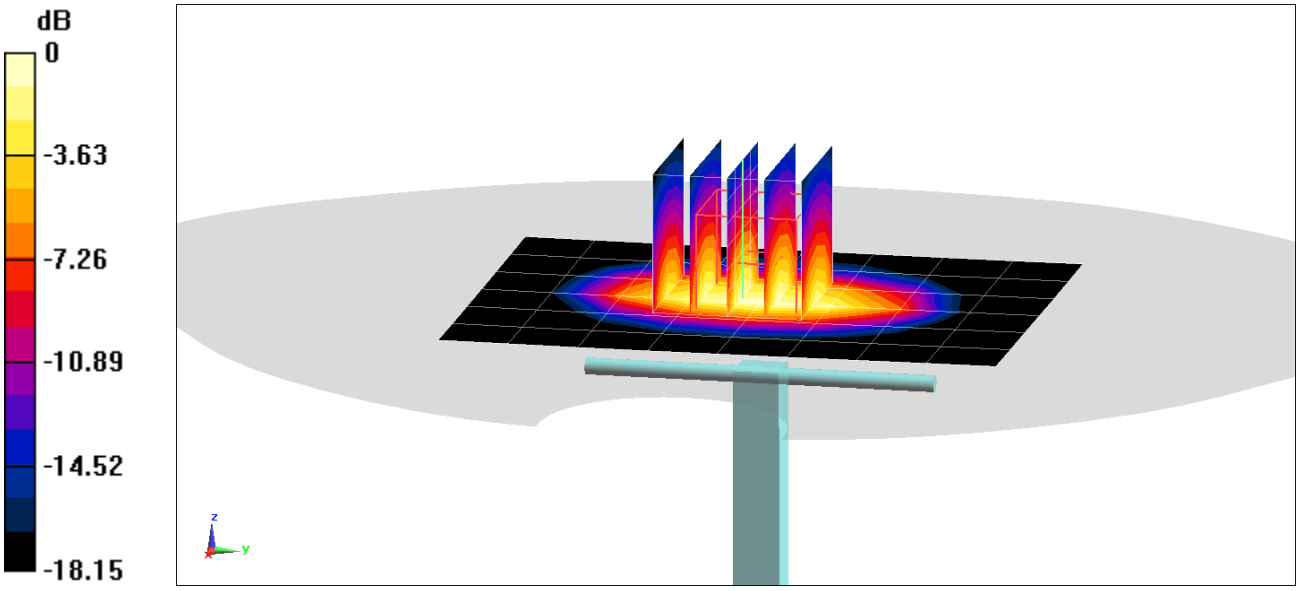
Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Head; Medium parameters used:
f = 1750 MHz; σ = 1.345 S/m; ε_r = 39.526; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

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

Probe: EX3DV4 - SN7406; ConvF(8.57, 8.57, 8.57) @ 1750 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

1750 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 6.47 W/kg
SAR(1 g) = 3.44 W/kg
Deviation(1 g) = -7.03%



0 dB = 5.33 W/kg = 7.27 dBW/kg

PCTEST

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d148

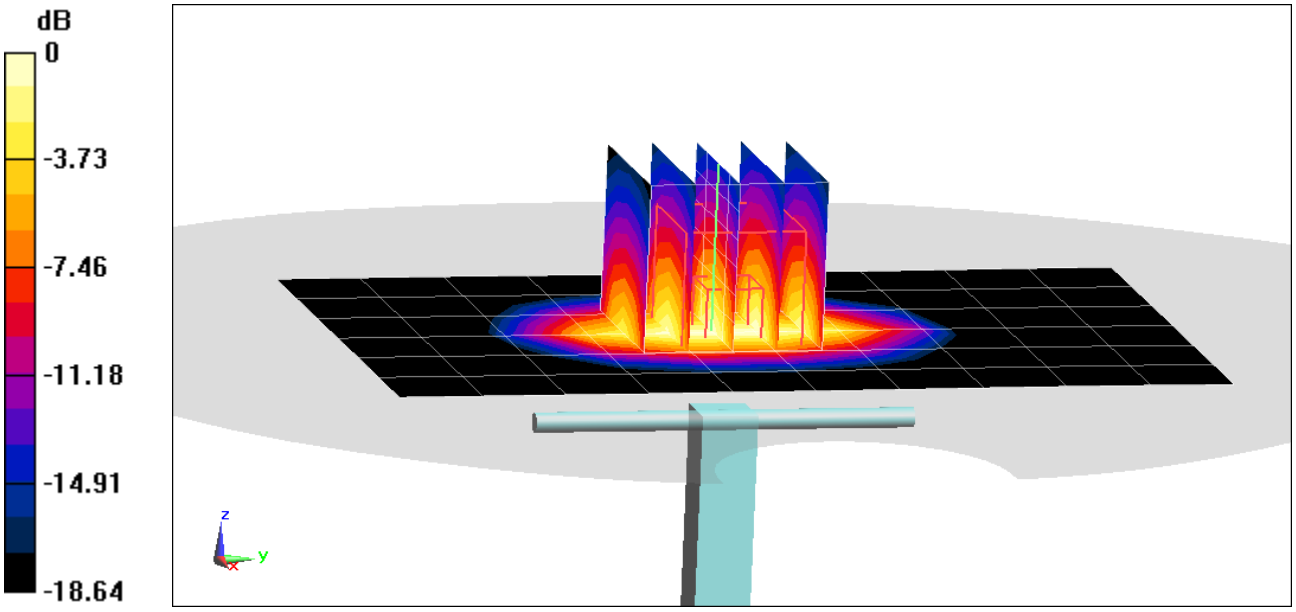
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Head; Medium parameters used:
f = 1900 MHz; σ = 1.457 S/m; ε_r = 40.475; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

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

Probe: EX3DV4 - SN7410; ConvF(8.11, 8.11, 8.11) @ 1900 MHz; Calibrated: 7/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1966
Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

1900 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.77 W/kg
SAR(1 g) = 4.18 W/kg
Deviation(1 g) = 6.91%



0 dB = 6.49 W/kg = 8.12 dBW/kg

PCTEST

DUT: Dipole 2300 MHz; Type: D2300V2; Serial: 1073

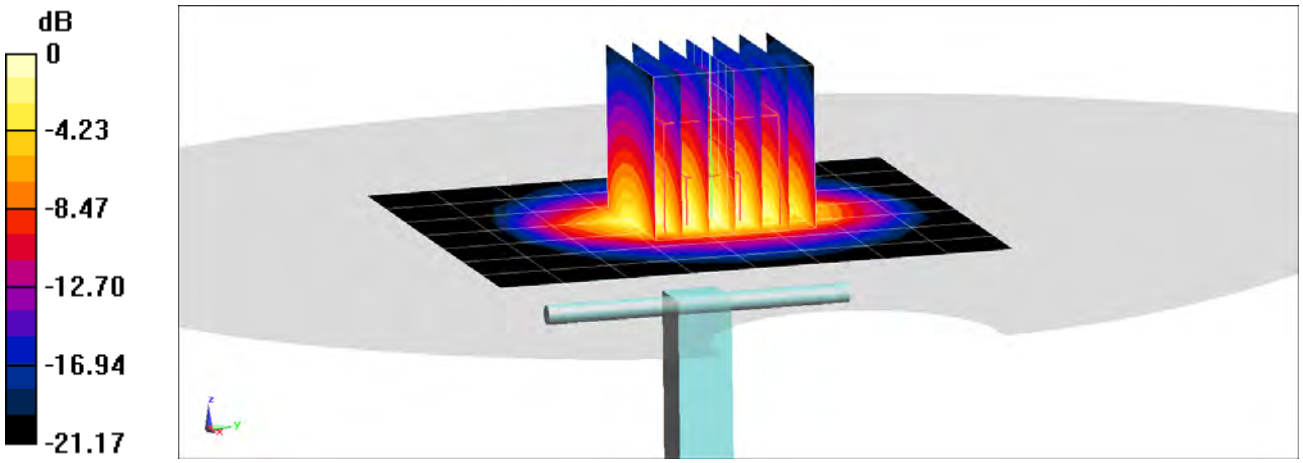
Communication System: UID 0, CW; Frequency: 2300 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2300 MHz; σ = 1.73 S/m; ε_r = 38.416; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/01/2020; Ambient Temp: 24.0°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7417; ConvF(7.73, 7.73, 7.73) @ 2300 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/13/2019
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

2300 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 10.1 W/kg
SAR(1 g) = 4.92 W/kg
Deviation(1 g) = 0.00%



0 dB = 8.17 W/kg = 9.12 dBW/kg

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 719

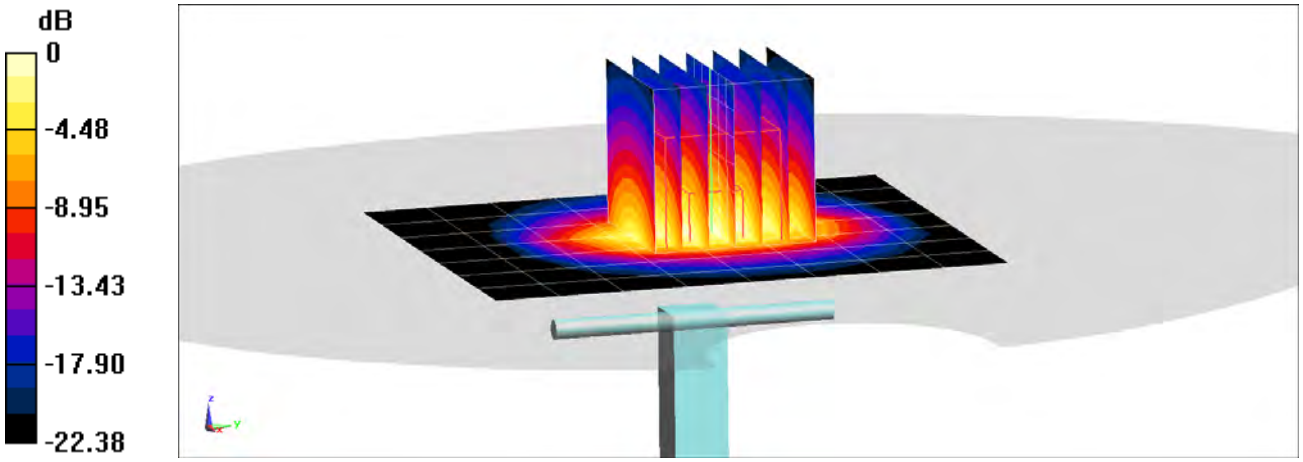
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2450 MHz; σ = 1.842 S/m; ε_r = 38.193; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/01/2020; Ambient Temp: 24.0°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7417; ConvF(7.46, 7.46, 7.46) @ 2450 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/13/2019
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

2450 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 11.4 W/kg
SAR(1 g) = 5.34 W/kg
Deviation(1 g) = 0.56%



0 dB = 9.11 W/kg = 9.60 dBW/kg

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 719

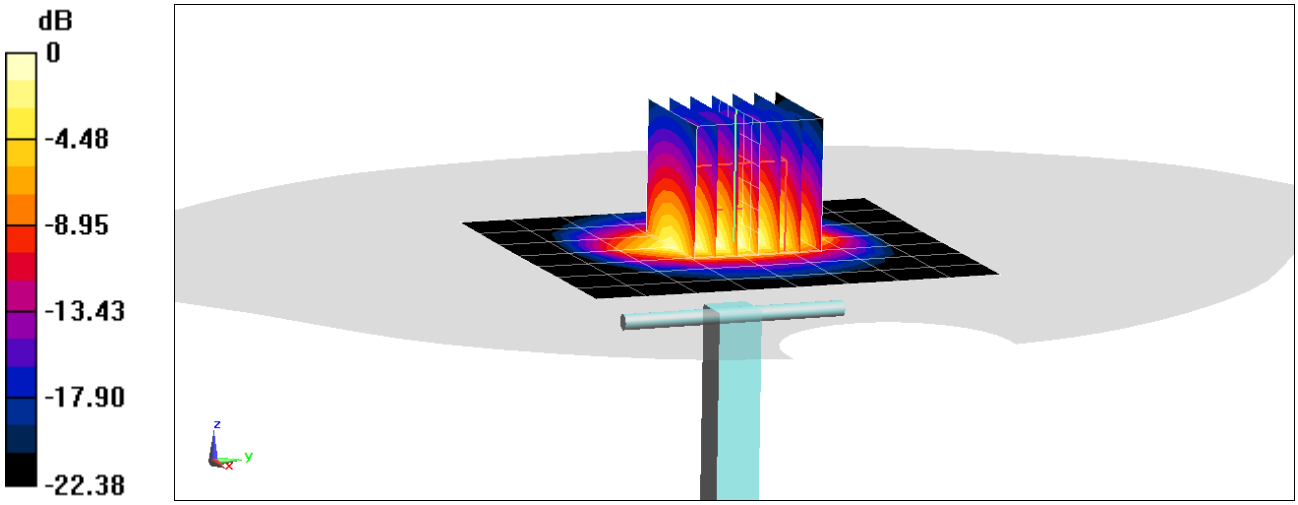
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2450 MHz; σ = 1.773 S/m; ε_r = 39.585; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/10/2020; Ambient Temp: 23.7°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN7409; ConvF(7.3, 7.3, 7.3) @ 2450 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)

2450 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 11.3 W/kg
SAR(1 g) = 5.49 W/kg
Deviation(1 g) = 3.39%



0 dB = 9.05 W/kg = 9.57 dBW/kg

PCTEST

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1064

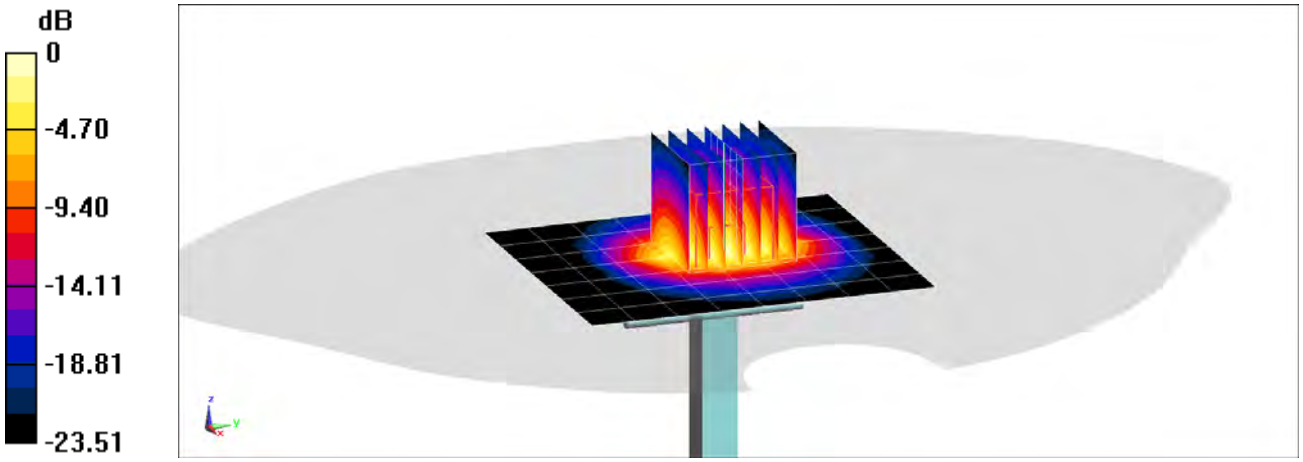
Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2600 MHz; σ = 1.967 S/m; ε_r = 38.548; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/03/2020; Ambient Temp: 24.3°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7417; ConvF(7.17, 7.17, 7.17) @ 2600 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/13/2019
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

2600 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 13.3 W/kg
SAR(1 g) = 6.14 W/kg
Deviation(1 g) = 5.68%



0 dB = 10.6 W/kg = 10.25 dBW/kg

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1064

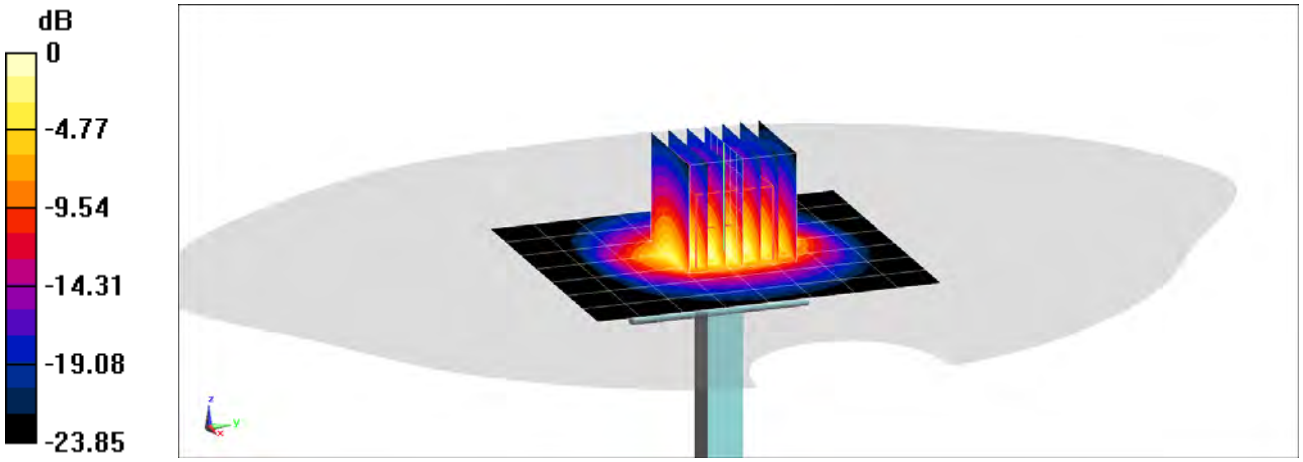
Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2600 MHz; σ = 1.93 S/m; ε_r = 37.273; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

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

Probe: EX3DV4 - SN7417; ConvF(7.17, 7.17, 7.17) @ 2600 MHz; Calibrated: 2/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/13/2019
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

2600 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 13.2 W/kg
SAR(1 g) = 6.07 W/kg
Deviation(1 g) = 4.48%



0 dB = 10.5 W/kg = 10.21 dBW/kg

PCTEST

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1191

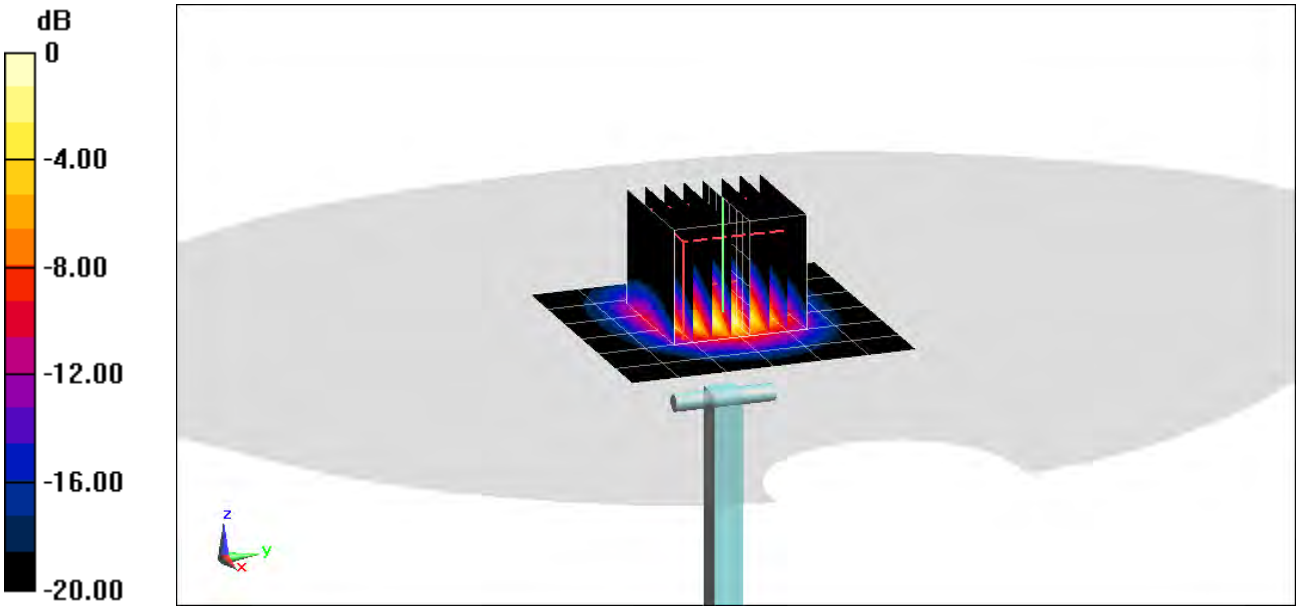
Communication System: UID 0, CW; Frequency: 5250 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Head; Medium parameters used:
f = 5250 MHz; σ = 4.685 S/m; ε_r = 35.654; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/13/2020; Ambient Temp: 23.0°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7406; ConvF(5.54, 5.54, 5.54) @ 5250 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Twin-SAM V5.0 Left 20; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

5250 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 15.2 W/kg
SAR(1 g) = 3.74 W/kg
Deviation(1 g) = -7.43%



0 dB = 8.74 W/kg = 9.42 dBW/kg

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1191

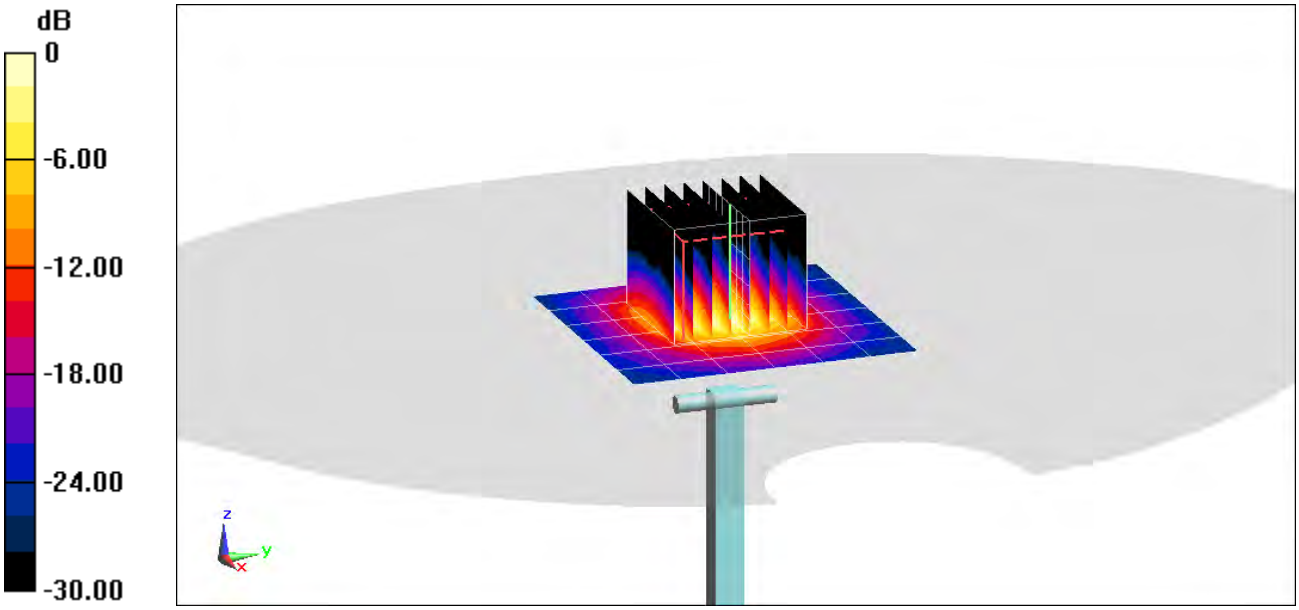
Communication System: UID 0, CW; Frequency: 5600 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Head; Medium parameters used:
f = 5600 MHz; σ = 5.094 S/m; ε_r = 35.009; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/13/2020; Ambient Temp: 23.0°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7406; ConvF(4.94, 4.94, 4.94) @ 5600 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Twin-SAM V5.0 Left 20; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

5600 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 16.7 W/kg
SAR(1 g) = 3.78 W/kg
Deviation(1 g) = -8.59%



0 dB = 9.02 W/kg = 9.55 dBW/kg

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1191

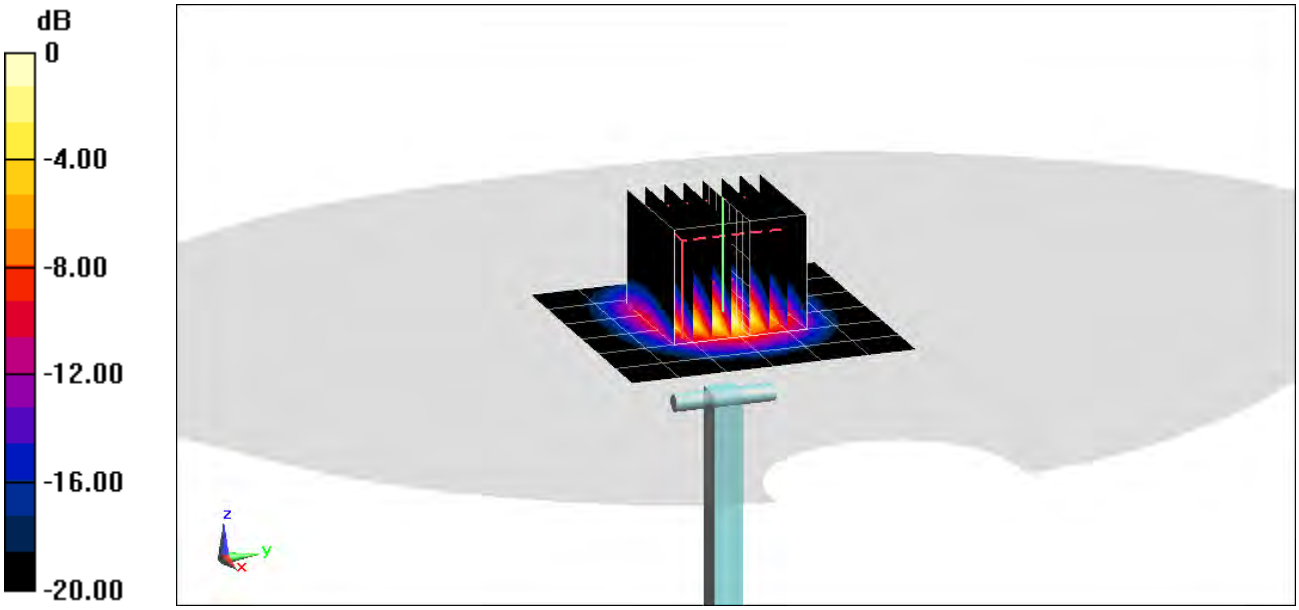
Communication System: UID 0, CW; Frequency: 5750 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Head; Medium parameters used:
f = 5750 MHz; σ = 5.278 S/m; ε_r = 34.766; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/13/2020; Ambient Temp: 23.0°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7406; ConvF(5.23, 5.23, 5.23) @ 5750 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Twin-SAM V5.0 Left 20; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

5750 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 17.0 W/kg
SAR(1 g) = 3.71 W/kg
Deviation(1 g) = -7.48%



0 dB = 9.08 W/kg = 9.58 dBW/kg

PCTEST

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1003

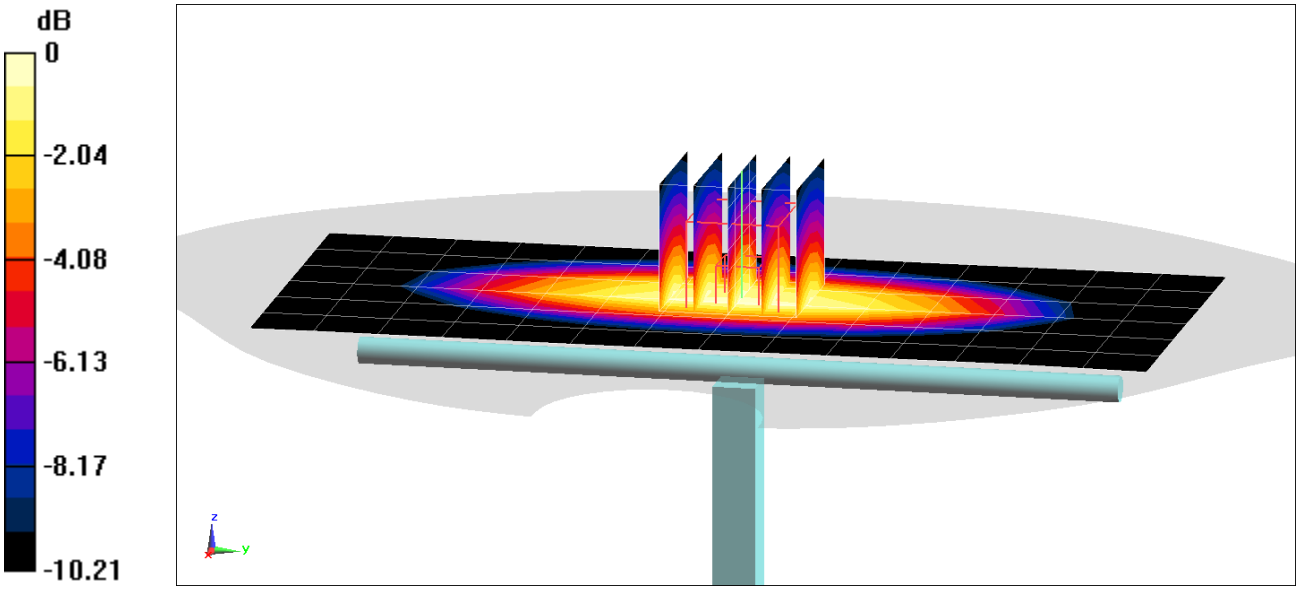
Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1
Medium: 700 Body; Medium parameters used:
f = 750 MHz; σ = 0.945 S/m; ε_r = 54.38; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/06/2020; Ambient Temp: 21.4°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7406; ConvF(10.05, 10.05, 10.05) @ 750 MHz; Calibrated: 5/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 5/8/2019
Phantom: Twin-SAM V5.0 Left 30; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

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) = 2.44 W/kg
SAR(1 g) = 1.61 W/kg
Deviation(1 g) = -6.18%



0 dB = 2.16 W/kg = 3.34 dBW/kg

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d047

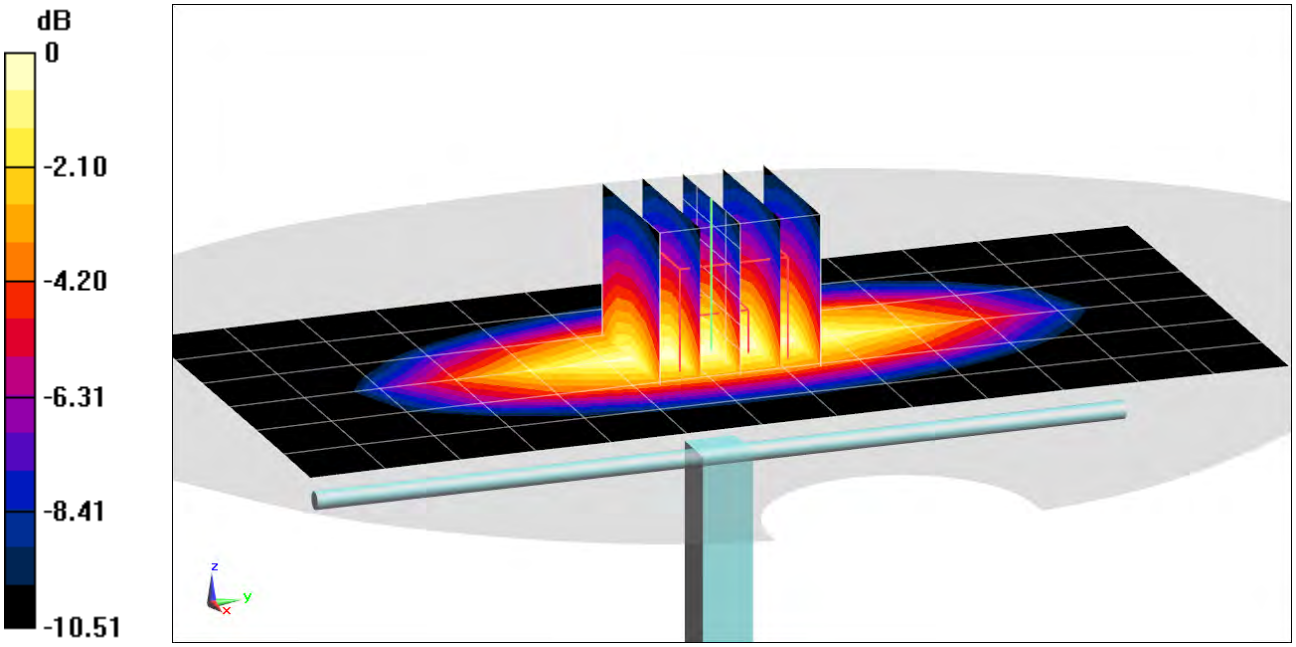
Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used:
f = 835 MHz; σ = 0.995 S/m; ε_r = 53.458; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/15/2020; Ambient Temp: 22.1°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7308; ConvF(10.43, 10.43, 10.43) @ 835 MHz; Calibrated: 8/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/14/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

835 MHz System Verification at 23.0 dBm (200 mW)

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 2.97 W/kg
SAR(1 g) = 1.99 W/kg
Deviation(1 g) = 5.07%



0 dB = 2.64 W/kg = 4.22 dBW/kg

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d133

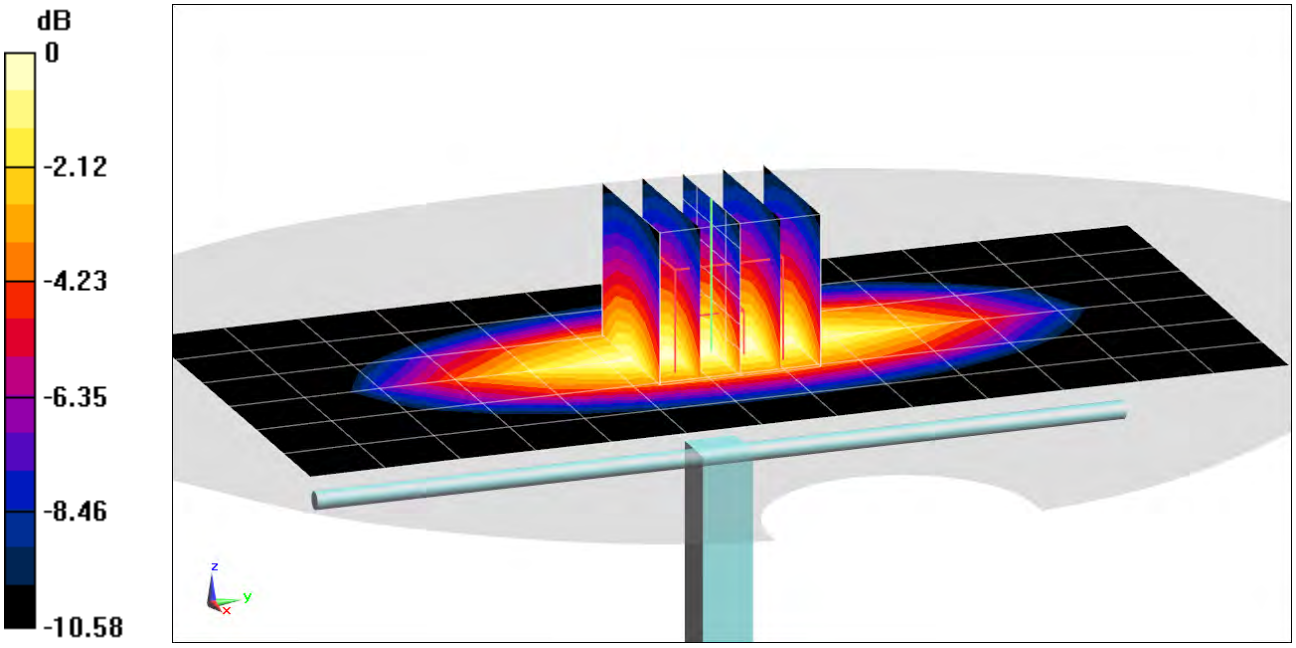
Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used:
f = 835 MHz; σ = 0.974 S/m; ε_r = 53.129; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01/18/2020; Ambient Temp: 19.8°C; Tissue Temp: 20.5°C

Probe: EX3DV4 - SN7308; ConvF(10.43, 10.43, 10.43) @ 835 MHz; Calibrated: 8/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/14/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

835 MHz System Verification at 23.0 dBm (200 mW)

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 2.95 W/kg
SAR(1 g) = 1.98 W/kg
Deviation(1 g) = 1.54%



0 dB = 2.63 W/kg = 4.20 dBW/kg

PCTEST

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1150

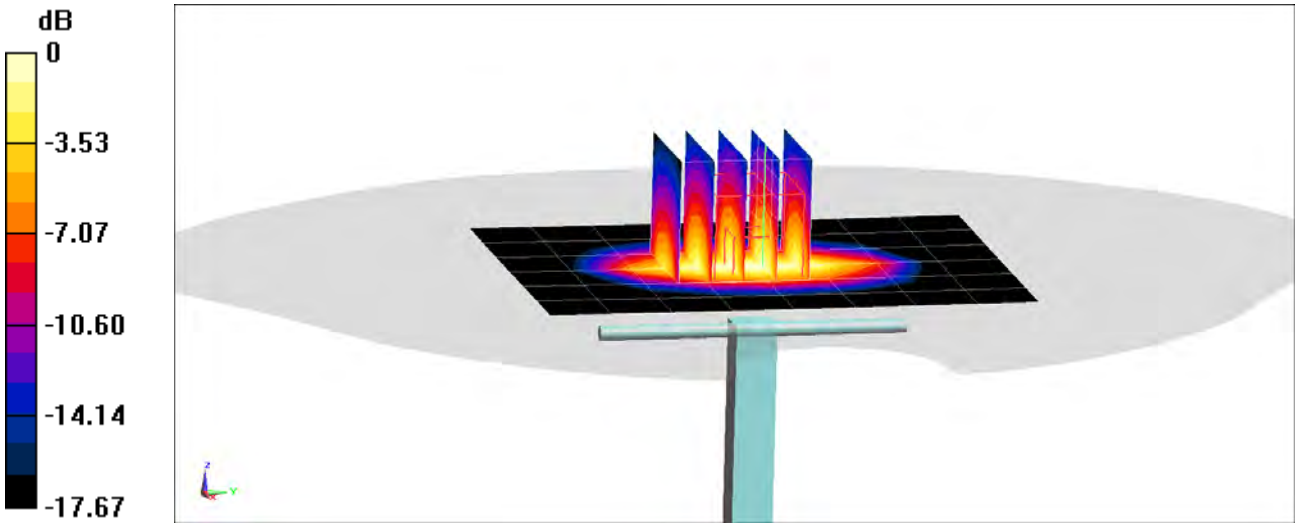
Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used:
f = 1750 MHz; σ = 1.54 S/m; ε_r = 53; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/03/2020; Ambient Temp: 21.4°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN7357; ConvF(8.26, 8.26, 8.26) @ 1750 MHz; Calibrated: 4/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/18/2019
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

1750 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.07 W/kg
SAR(1 g) = 3.86 W/kg
Deviation(1 g) = 5.46%



0 dB = 5.85 W/kg = 7.67 dBW/kg

DUT: Dipole 1750 MHz; Type: D1765V2; Serial: 1008

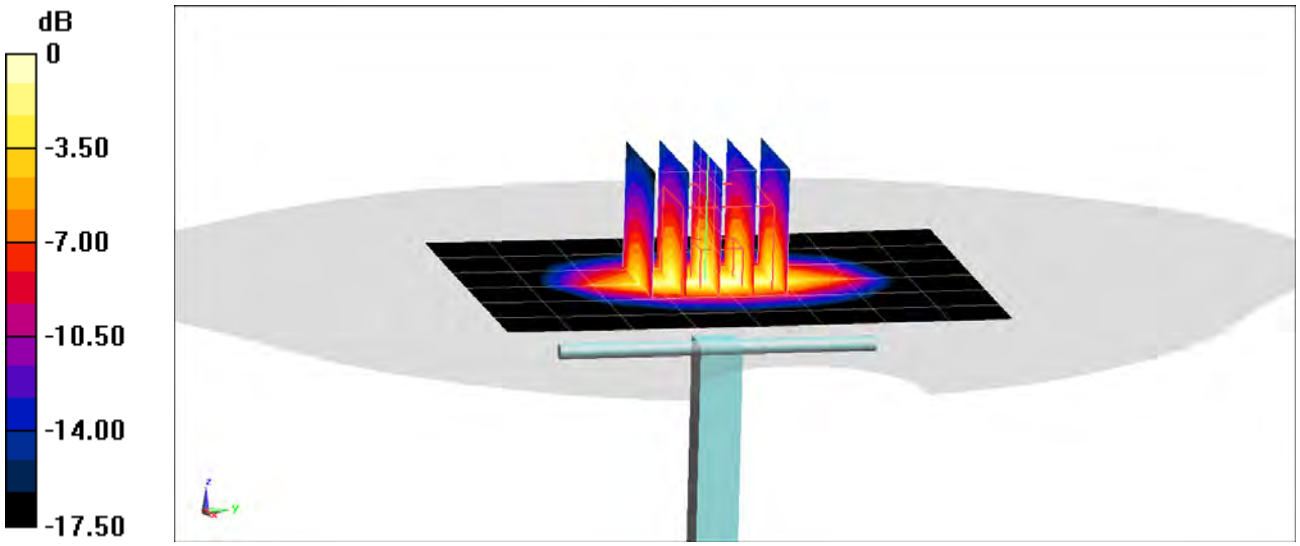
Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used:
f = 1750 MHz; σ = 1.459 S/m; ε_r = 53.654; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/13/2020; Ambient Temp: 21.2°C; Tissue Temp: 20.8°C

Probe: EX3DV4 - SN7357; ConvF(8.26, 8.26, 8.26) @ 1750 MHz; Calibrated: 4/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/18/2019
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

1750 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.01 W/kg
SAR(1 g) = 3.79 W/kg
Deviation(1 g) = 1.34%



0 dB = 5.79 W/kg = 7.63 dBW/kg

DUT: Dipole 1750 MHz; Type: D1765V2; Serial: 1008

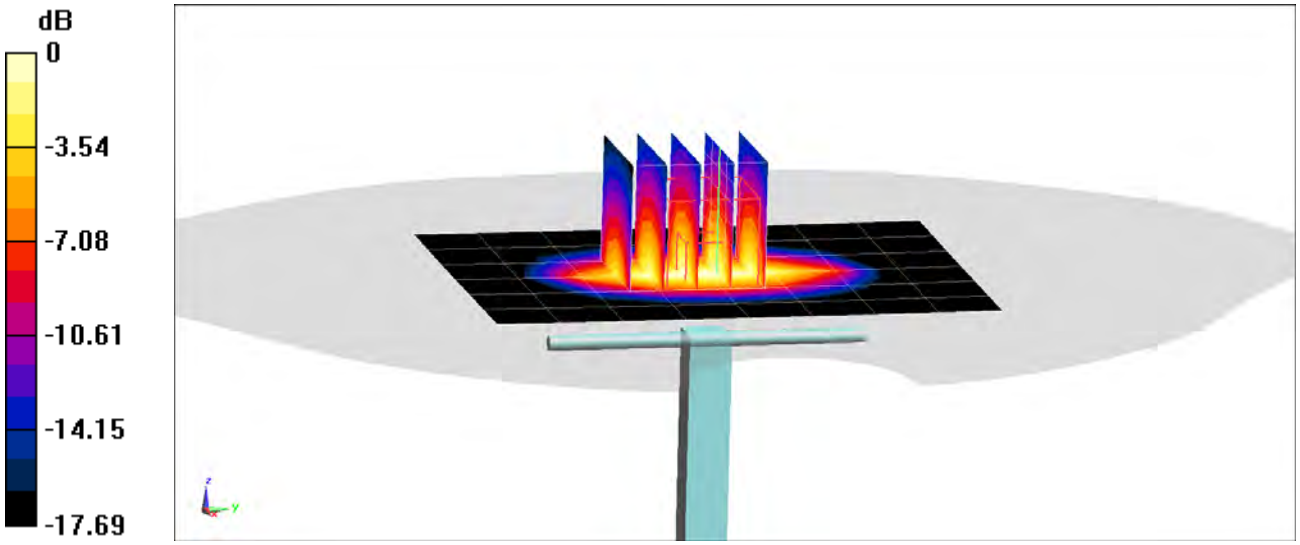
Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used:
f = 1750 MHz; σ = 1.505 S/m; ε_r = 53.556; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/17/2020; Ambient Temp: 22.9°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7357; ConvF(8.26, 8.26, 8.26) @ 1750 MHz; Calibrated: 4/24/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/18/2019
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

1750 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.32 W/kg
SAR(10 g) = 2.08 W/kg
Deviation(10 g) = 4.52%



0 dB = 6.01 W/kg = 7.79 dBW/kg

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d148

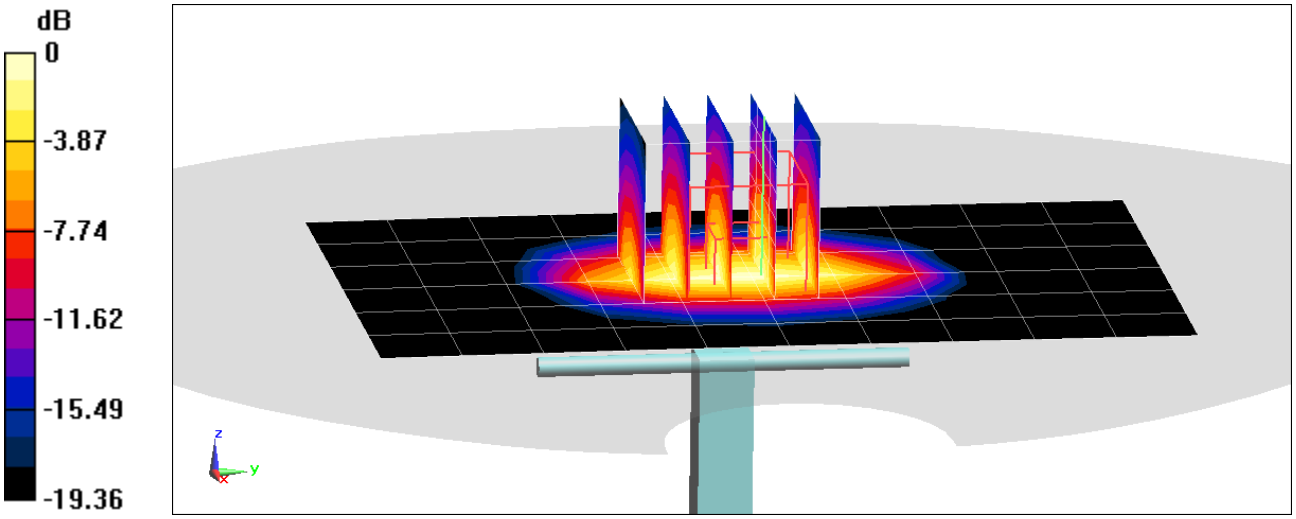
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used:
f = 1900 MHz; σ = 1.582 S/m; ε_r = 50.76; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/01/2020; Ambient Temp: 23.1°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN7551; ConvF(7.69, 7.69, 7.69) @ 1900 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

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) = 7.64 W/kg
SAR(1 g) = 4.04 W/kg
Deviation(1 g) = 3.32%



0 dB = 6.23 W/kg = 7.94 dBW/kg

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d080

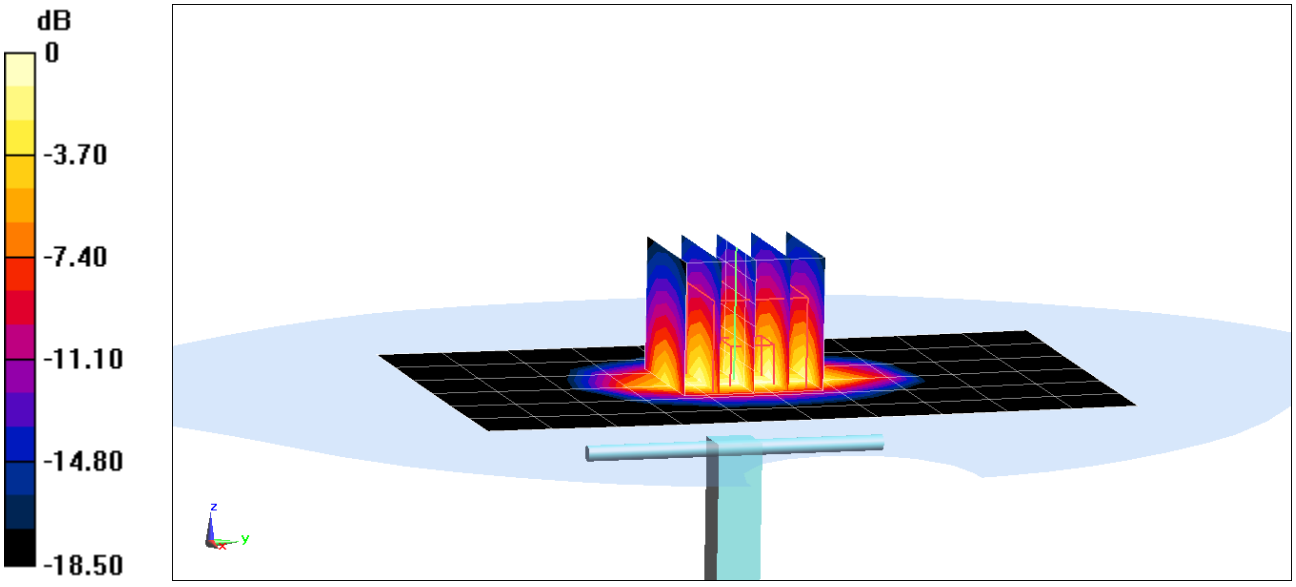
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1900 MHz; σ = 1.548 S/m; ε_r = 52.138; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/09/2020; Ambient Temp: 24.5°C; Tissue Temp: 24.2°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1900 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

1900 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.79 W/kg
SAR(1 g) = 4.22 W/kg
Deviation(1 g) = 7.65%



0 dB = 6.49 W/kg = 8.12 dBW/kg

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d080

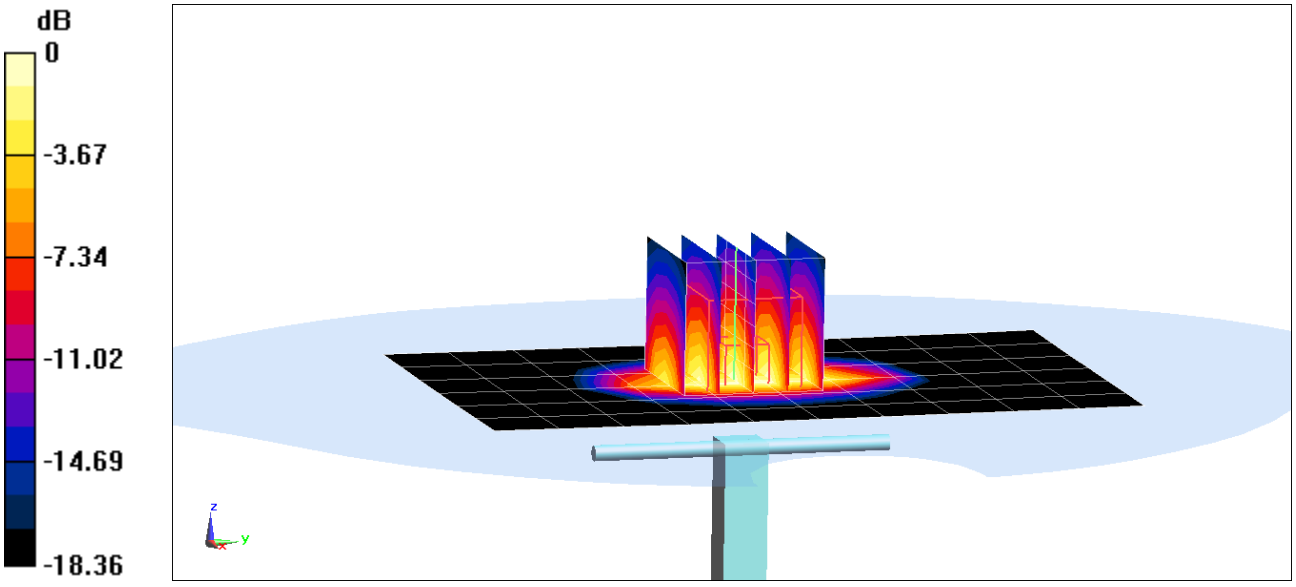
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1900 MHz; σ = 1.56 S/m; ε_r = 52.007; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/12/2020; Ambient Temp: 24.1°C; Tissue Temp: 23.5°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1900 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

1900 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.54 W/kg
SAR(1 g) = 4.15 W/kg; SAR(10 g) = 2.13 W/kg
Deviation(1 g) = 5.87%; Deviation(10 g) = 3.40%



0 dB = 6.39 W/kg = 8.06 dBW/kg

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d149

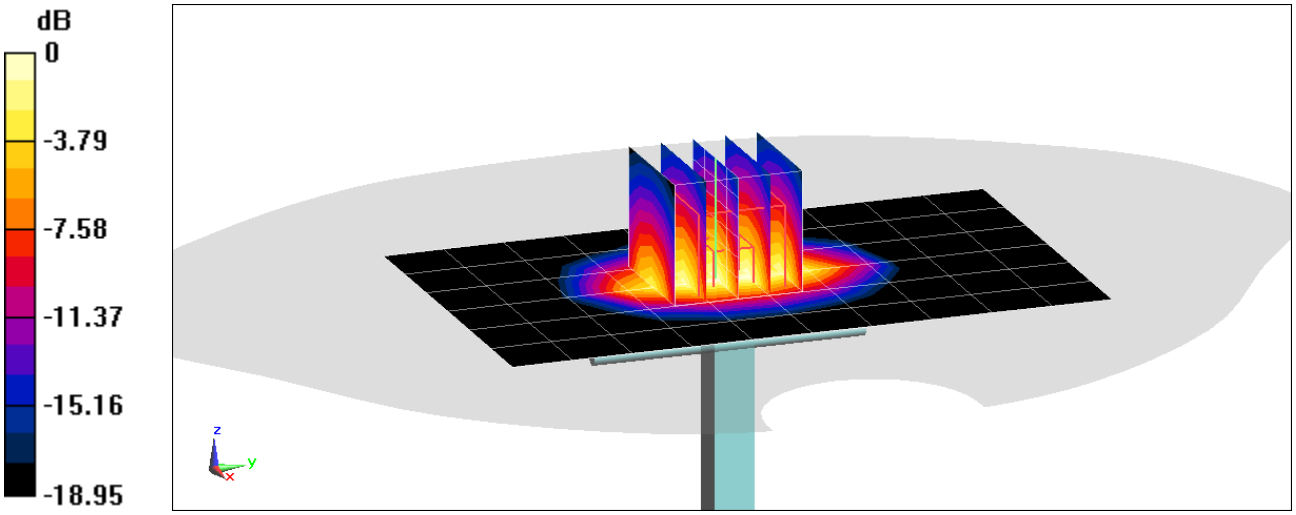
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used:
f = 1900 MHz; σ = 1.579 S/m; ε_r = 51.161; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/13/2020; Ambient Temp: 22.7°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7551; ConvF(7.69, 7.69, 7.69) @ 1900 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

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) = 7.94 W/kg
SAR(1 g) = 4.18 W/kg
Deviation(1 g) = 6.09%



0 dB = 6.56 W/kg = 8.17 dBW/kg

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d080

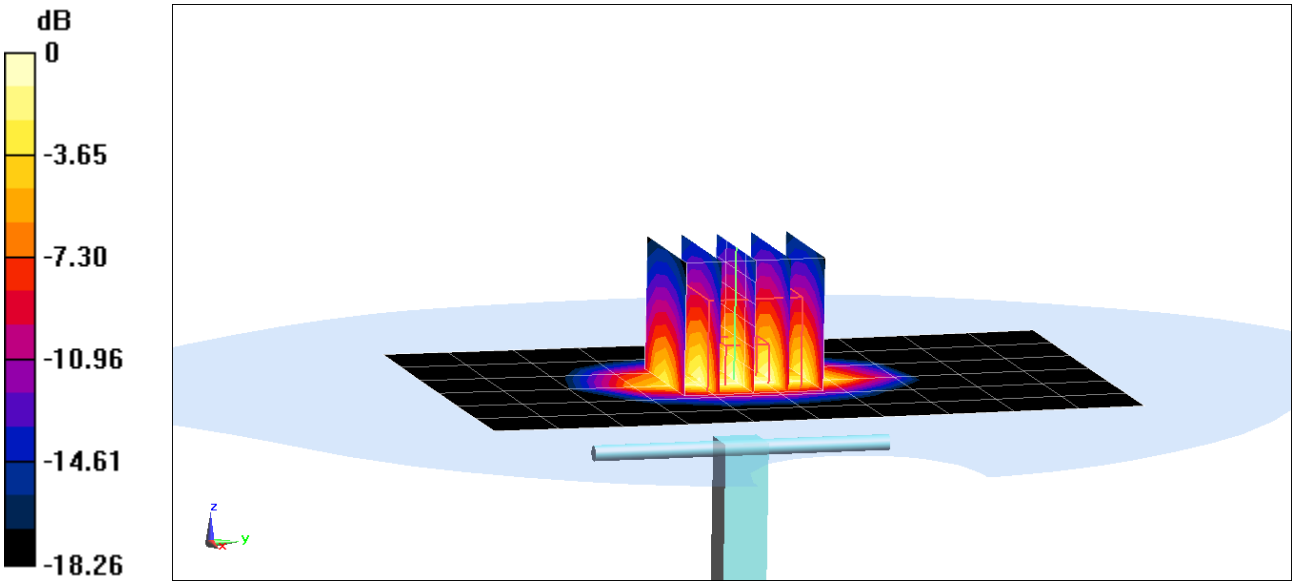
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1900 MHz; σ = 1.542 S/m; ε_r = 52.146; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/15/2020; Ambient Temp: 22.7°C; Tissue Temp: 23.3°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1900 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

1900 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.52 W/kg
SAR(10 g) = 2.14 W/kg
Deviation(10 g) = 3.88%



0 dB = 6.40 W/kg = 8.06 dBW/kg

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d149

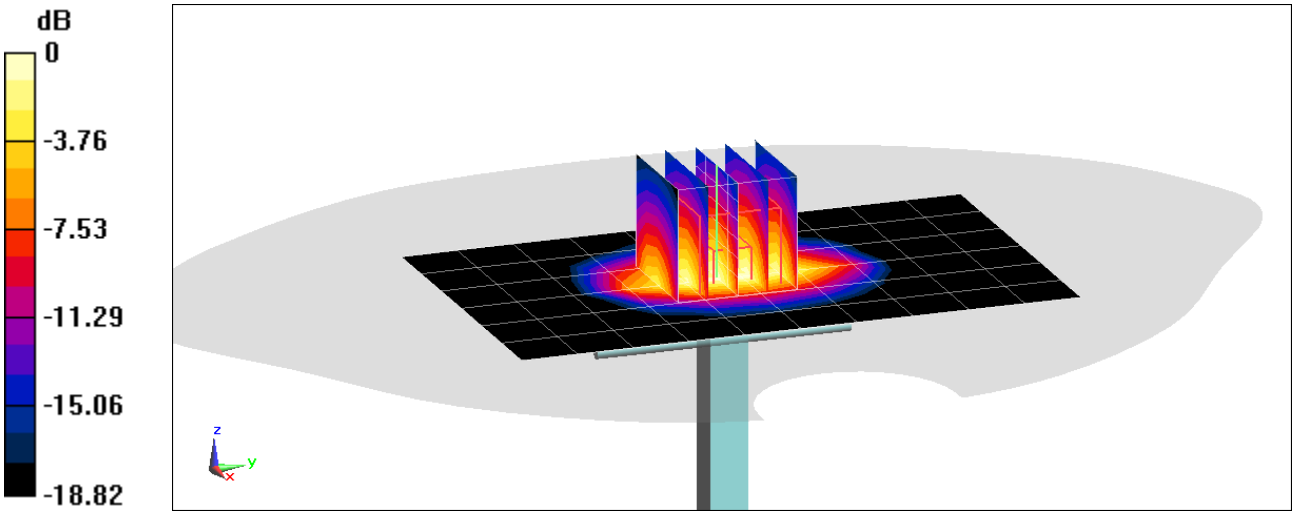
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used:
f = 1900 MHz; σ = 1.578 S/m; ε_r = 50.921; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Space: 1.0 cm

Test Date: 01/15/2020; Ambient Temp: 22.5°C; Tissue Temp: 22.2°C

Probe: EX3DV4 - SN7551; ConvF(7.69, 7.69, 7.69) @ 1900 MHz; Calibrated: 9/19/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 9/17/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

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) = 7.47 W/kg
SAR(10 g) = 2.09 W/kg
Deviation(10 g) = 0.97%



0 dB = 6.18 W/kg = 7.91 dBW/kg

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d148

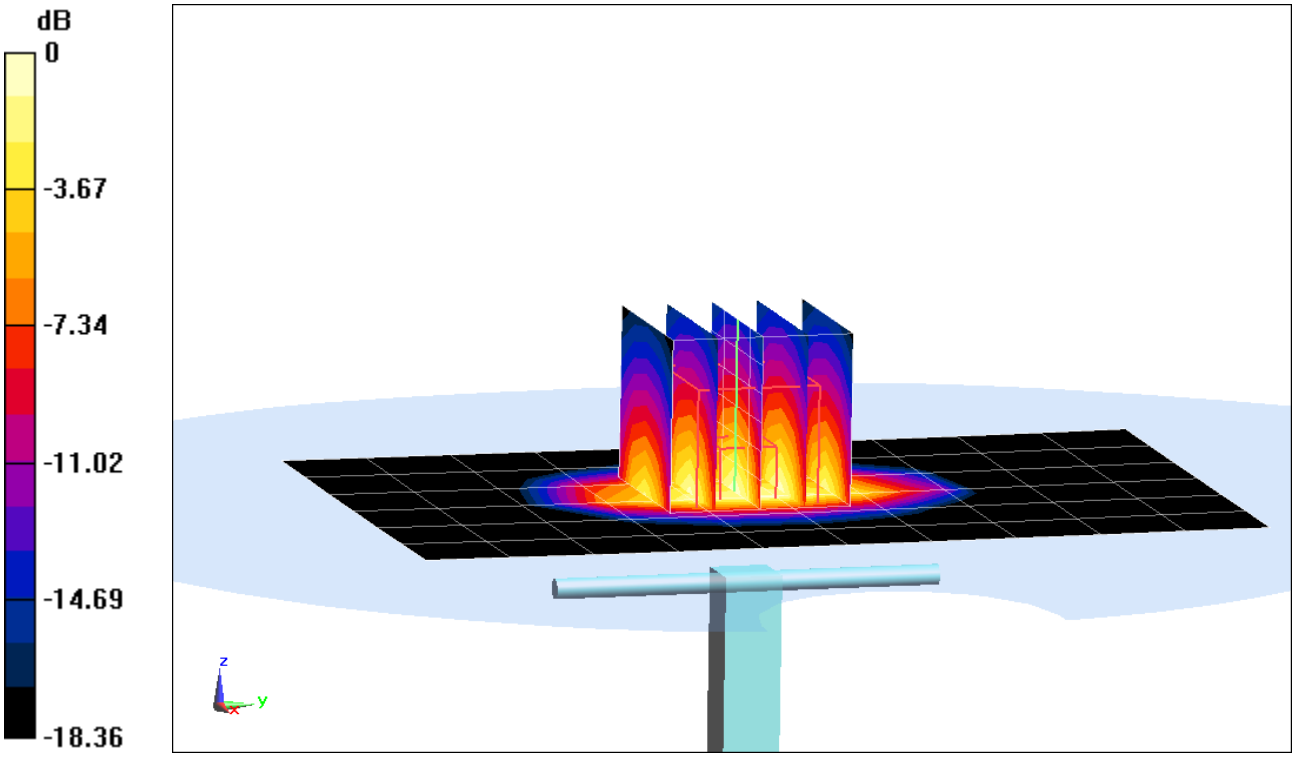
Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1900 MHz; σ = 1.56 S/m; ε_r = 51.782; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/22/2020; Ambient Temp: 23.3°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1900 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

1900 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Peak SAR (extrapolated) = 7.66 W/kg
SAR(1 g) = 4.16 W/kg
Deviation(1 g) = 6.39%



0 dB = 6.47 W/kg = 8.11 dBW/kg

PCTEST

DUT: Dipole 2300 MHz; Type: D2300V2; Serial: 1073

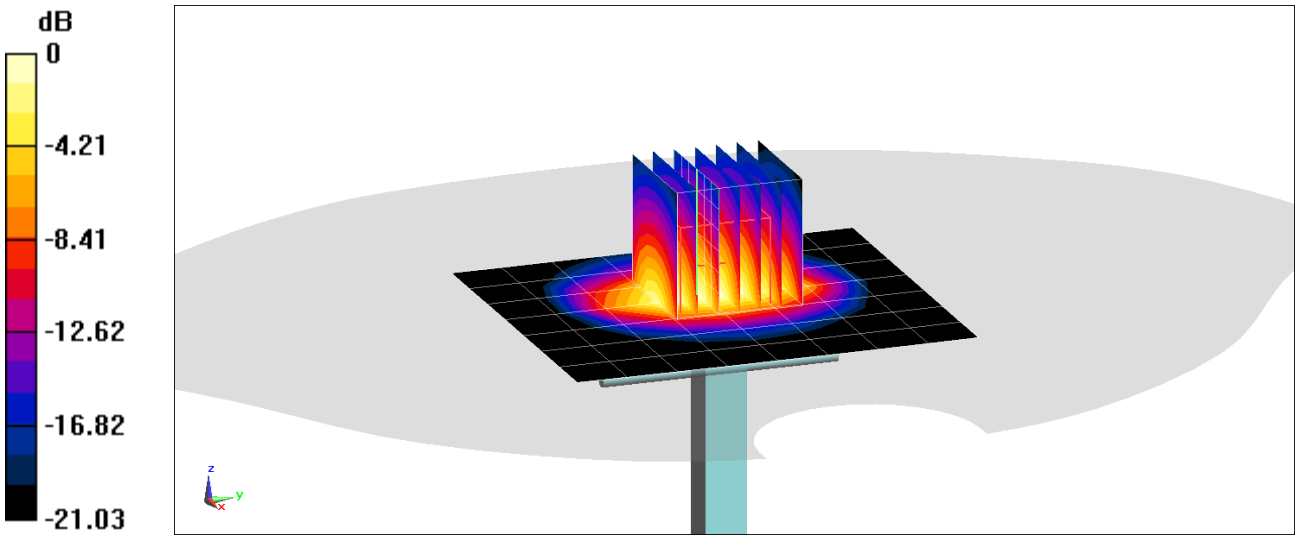
Communication System: UID 0, CW; Frequency: 2300 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2300 MHz; σ = 1.837 S/m; ε_r = 50.989; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/13/2020; Ambient Temp: 22.9°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN7547; ConvF(7.47, 7.47, 7.47) @ 2300 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

2300 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 9.93 W/kg
SAR(1 g) = 5.01 W/kg; SAR(10 g) = 2.38 W/kg
Deviation(1 g) = 5.03%; Deviation(10 g) = 2.59%



0 dB = 8.08 W/kg = 9.07 dBW/kg

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 797

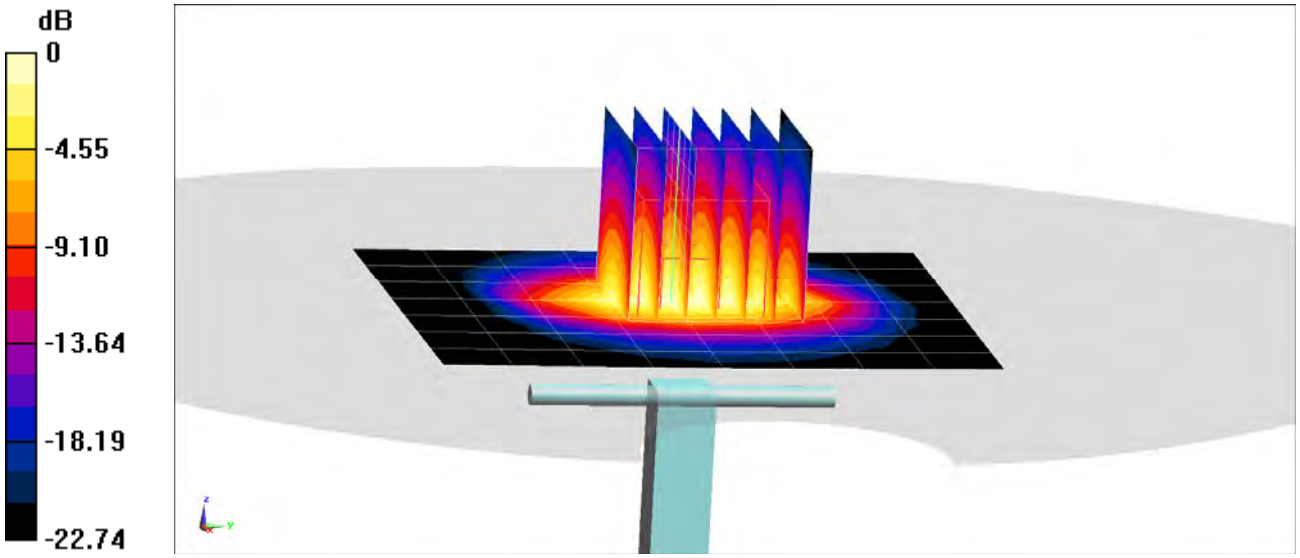
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2450 MHz; σ = 2.041 S/m; ε_r = 51.07; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12/30/2019; Ambient Temp: 23.0°C; Tissue Temp: 23.6°C

Probe: EX3DV4 - SN7547; ConvF(7.3, 7.3, 7.3) @ 2450 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

2450 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 10.6 W/kg
SAR(1 g) = 5.03 W/kg
Deviation(1 g) = -1.57%



0 dB = 8.39 W/kg = 9.24 dBW/kg

PCTEST

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 981

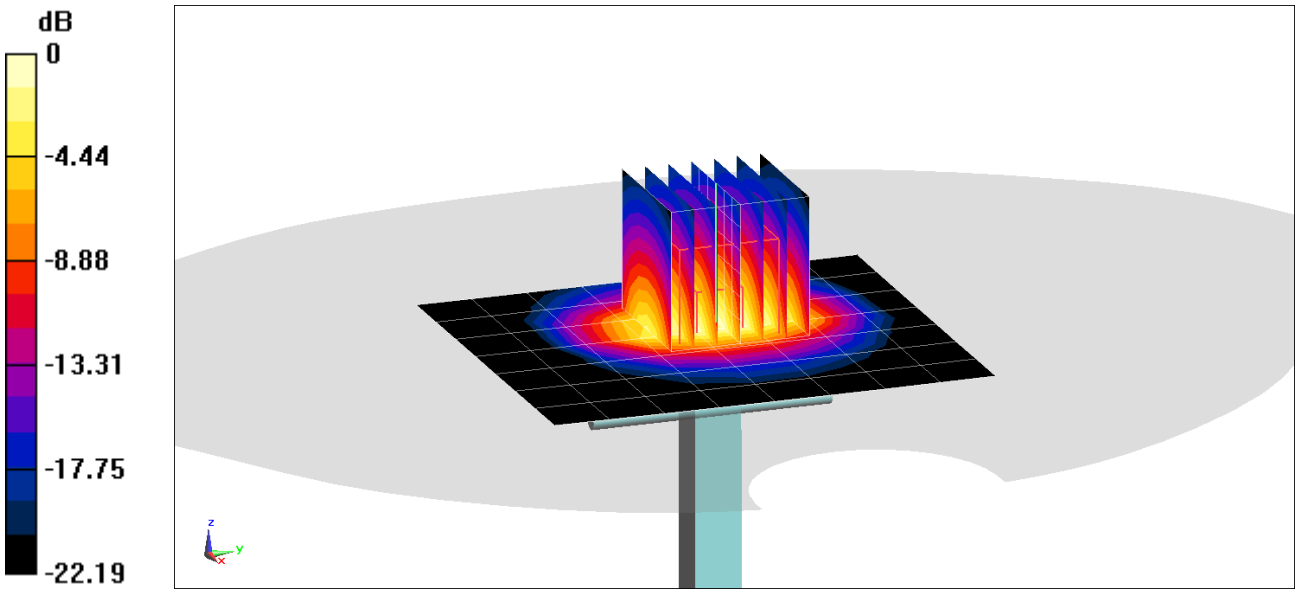
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2450 MHz; σ = 2.043 S/m; ε_r = 51.219; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/17/2020; Ambient Temp: 23.7°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7547; ConvF(7.3, 7.3, 7.3) @ 2450 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

2450 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 10.8 W/kg
SAR(1 g) = 5.19 W/kg; SAR(10 g) = 2.38 W/kg
Deviation(1 g) = 1.96%; Deviation(10 g) = -1.65%



0 dB = 8.74 W/kg = 9.42 dBW/kg

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 797

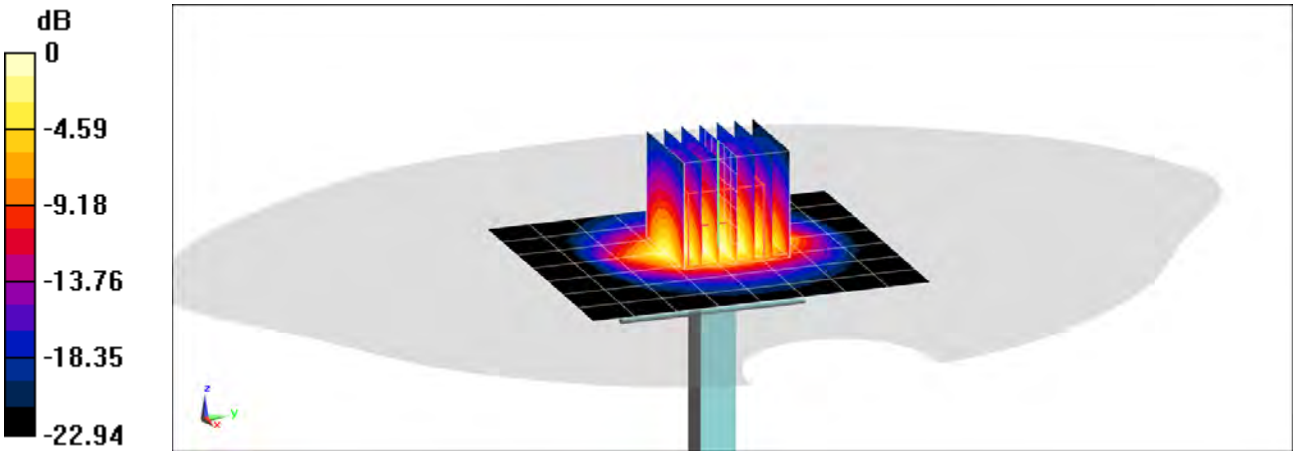
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2450 MHz; σ = 1.983 S/m; ε_r = 51.313; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/22/2020; Ambient Temp: 22.0°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN7308; ConvF(7.46, 7.46, 7.46) @ 2450 MHz; Calibrated: 8/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/14/2019
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

2450 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 10.9 W/kg
SAR(1 g) = 5.14 W/kg
Deviation(1 g) = 0.59%



0 dB = 8.65 W/kg = 9.37 dBW/kg

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 797

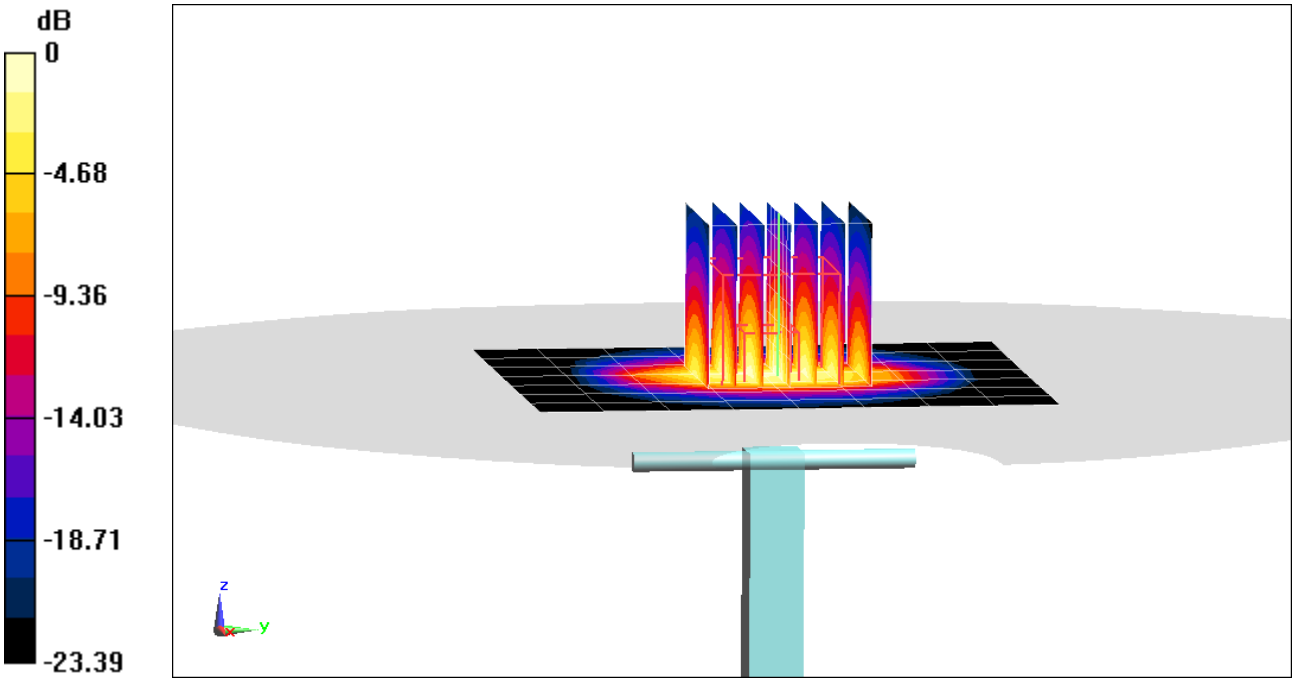
Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2450 MHz; σ = 2.01 S/m; ε_r = 51.325; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/22/2020; Ambient Temp: 23.5°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7410; ConvF(7.44, 7.44, 7.44) @ 2450 MHz; Calibrated: 7/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

2450 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 11.1 W/kg
SAR(1 g) = 5.09 W/kg
Deviation(1 g) = -0.39%



0 dB = 8.68 W/kg = 9.39 dBW/kg

PCTEST

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1064

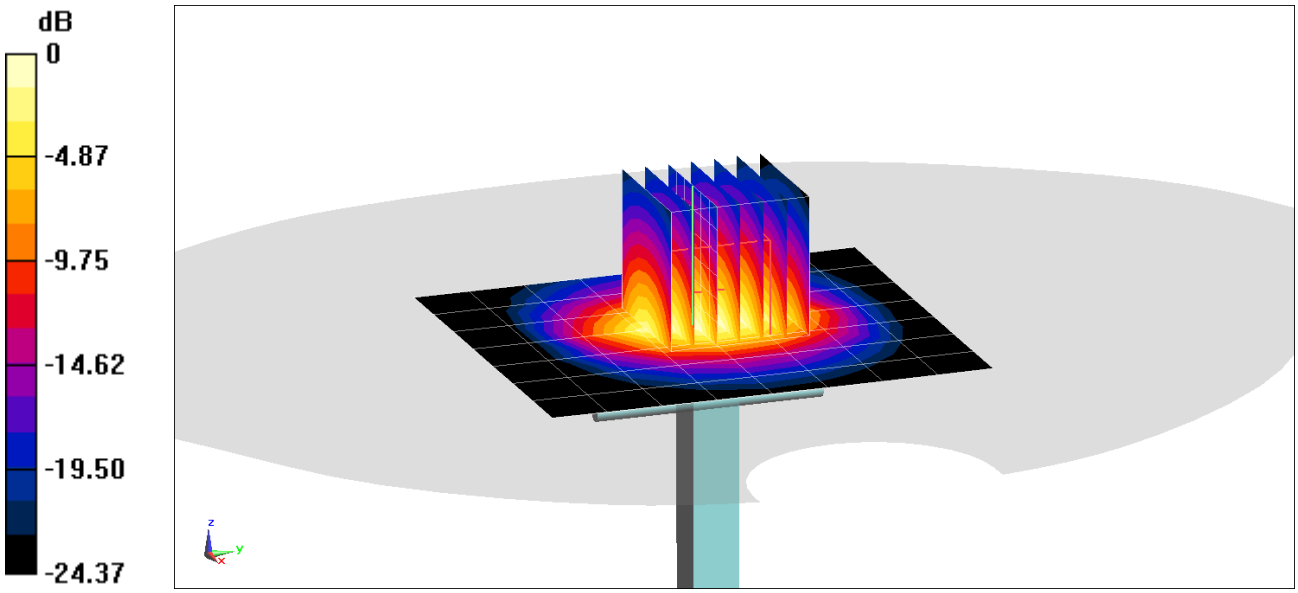
Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2600 MHz; σ = 2.218 S/m; ε_r = 50.777; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/17/2020; Ambient Temp: 23.7°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7547; ConvF(7.18, 7.18, 7.18) @ 2600 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

2600 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 11.9 W/kg
SAR(1 g) = 5.43 W/kg; SAR(10 g) = 2.40 W/kg
Deviation(1 g) = -2.34%; Deviation(10 g) = -4.00%



0 dB = 9.30 W/kg = 9.68 dBW/kg

PCTEST

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1004

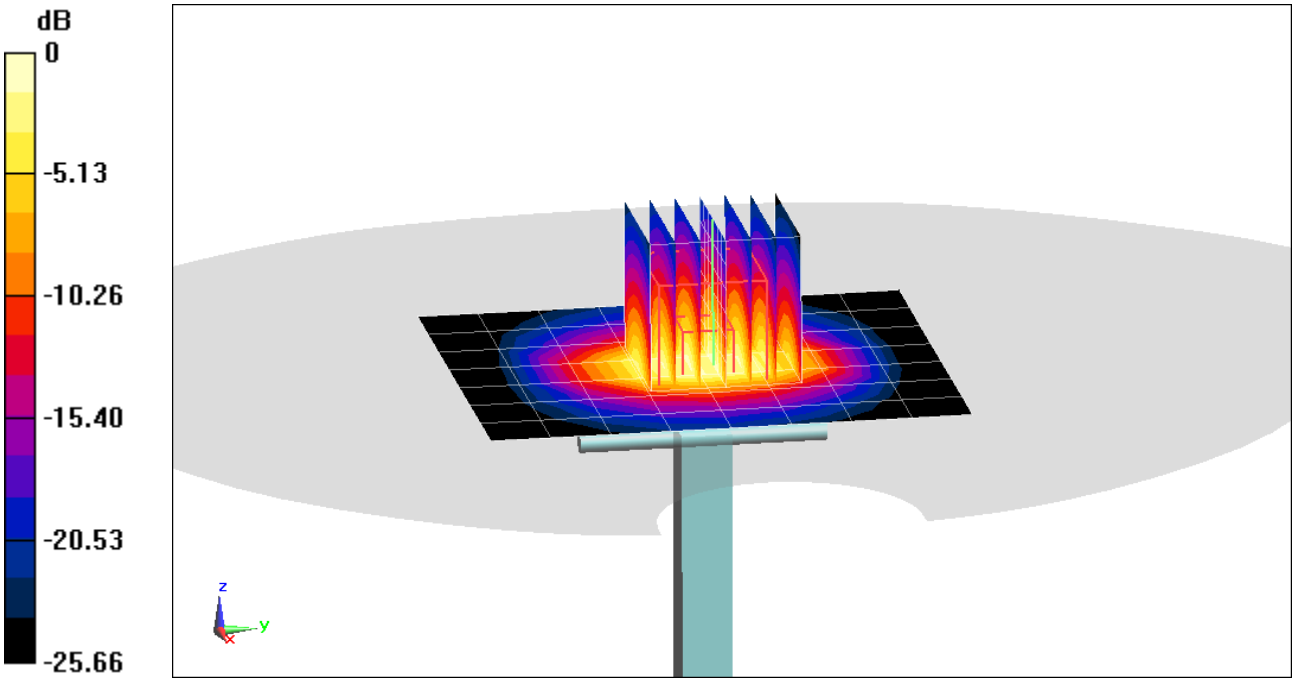
Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2600 MHz; σ = 2.178 S/m; ε_r = 50.401; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/20/2020; Ambient Temp: 20.9°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7410; ConvF(7.43, 7.43, 7.43) @ 2600 MHz; Calibrated: 7/16/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2019
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

2600 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 12.6 W/kg
SAR(1 g) = 5.55 W/kg
Deviation(1 g) = 1.28%



0 dB = 9.76 W/kg = 9.89 dBW/kg

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1004

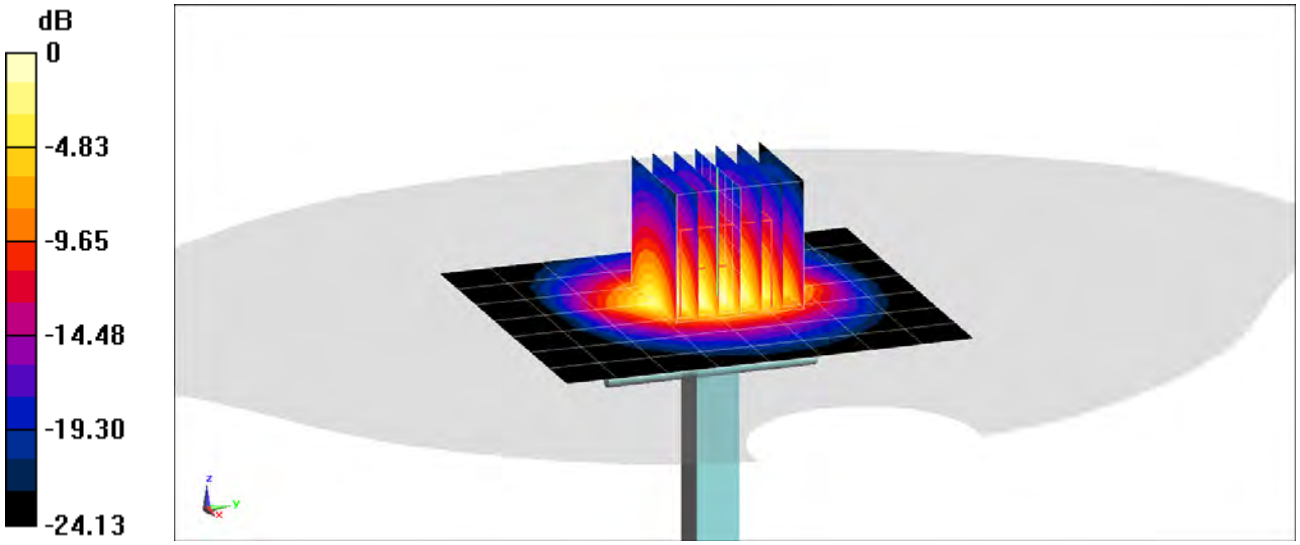
Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1
Medium: 2450 Body; Medium parameters used:
f = 2600 MHz; σ = 2.212 S/m; ε_r = 50.494; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/20/2020; Ambient Temp: 23.9°C; Tissue Temp: 24.1°C

Probe: EX3DV4 - SN7547; ConvF(7.18, 7.18, 7.18) @ 2600 MHz; Calibrated: 7/15/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 7/11/2019
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7470)

2600 MHz System Verification at 20.0 dBm (100 mW)

Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Peak SAR (extrapolated) = 12.3 W/kg
SAR(10 g) = 2.49 W/kg
Deviation(10 g) = 0.81%



0 dB = 9.65 W/kg = 9.85 dBW/kg

PCTEST

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1191

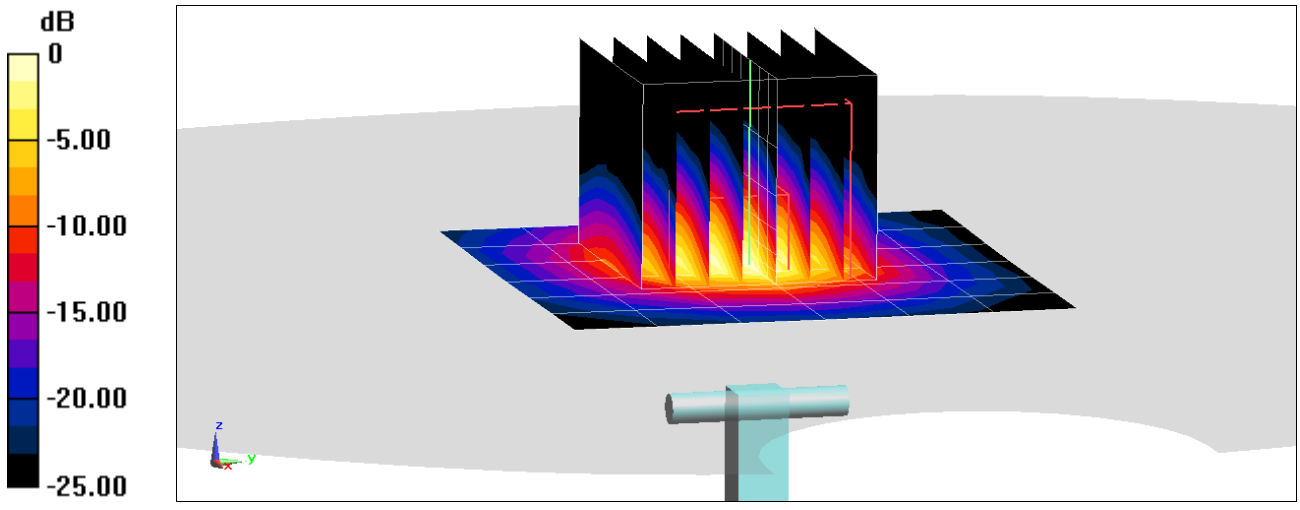
Communication System: UID 0, CW; Frequency: 5250 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Body Medium parameters used:
f = 5250 MHz; σ = 5.478 S/m; ε_r = 46.92; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12/29/2019; Ambient Temp: 23.9°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7409; ConvF(4.7, 4.7, 4.7) @ 5250 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)

5250 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 16.1 W/kg
SAR(1 g) = 3.77 W/kg
Deviation(1 g) = -2.08%



0 dB = 8.95 W/kg = 9.52 dBW/kg

PCTEST

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1191

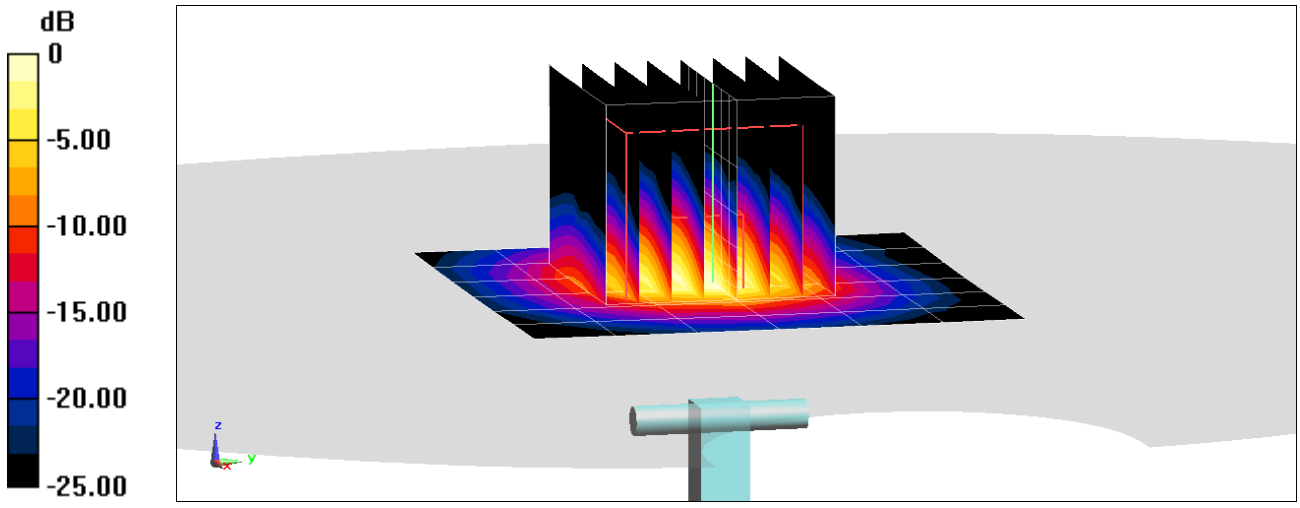
Communication System: UID 0, CW; Frequency: 5600 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Body Medium parameters used:
f = 5600 MHz; σ = 5.948 S/m; ε_r = 46.339; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12/29/2019; Ambient Temp: 23.9°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7409; ConvF(4.22, 4.22, 4.22) @ 5600 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)

5600 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 19.2 W/kg
SAR(1 g) = 4.11 W/kg
Deviation(1 g) = 4.58%



0 dB = 9.95 W/kg = 9.98 dBW/kg

PCTEST

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1191

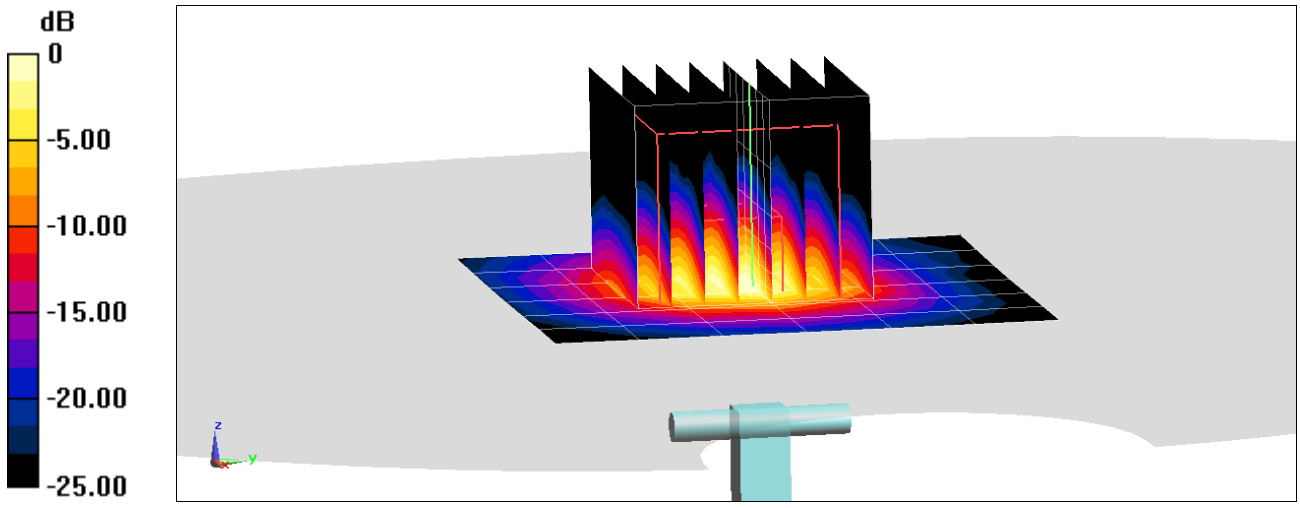
Communication System: UID 0, CW; Frequency: 5750 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Body Medium parameters used:
f = 5750 MHz; σ = 6.158 S/m; ε_r = 46.092; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12/29/2019; Ambient Temp: 23.9°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7409; ConvF(4.23, 4.23, 4.23) @ 5750 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)

5750 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 18.8 W/kg
SAR(1 g) = 3.88 W/kg
Deviation(1 g) = 0.91%



0 dB = 9.38 W/kg = 9.72 dBW/kg

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1191

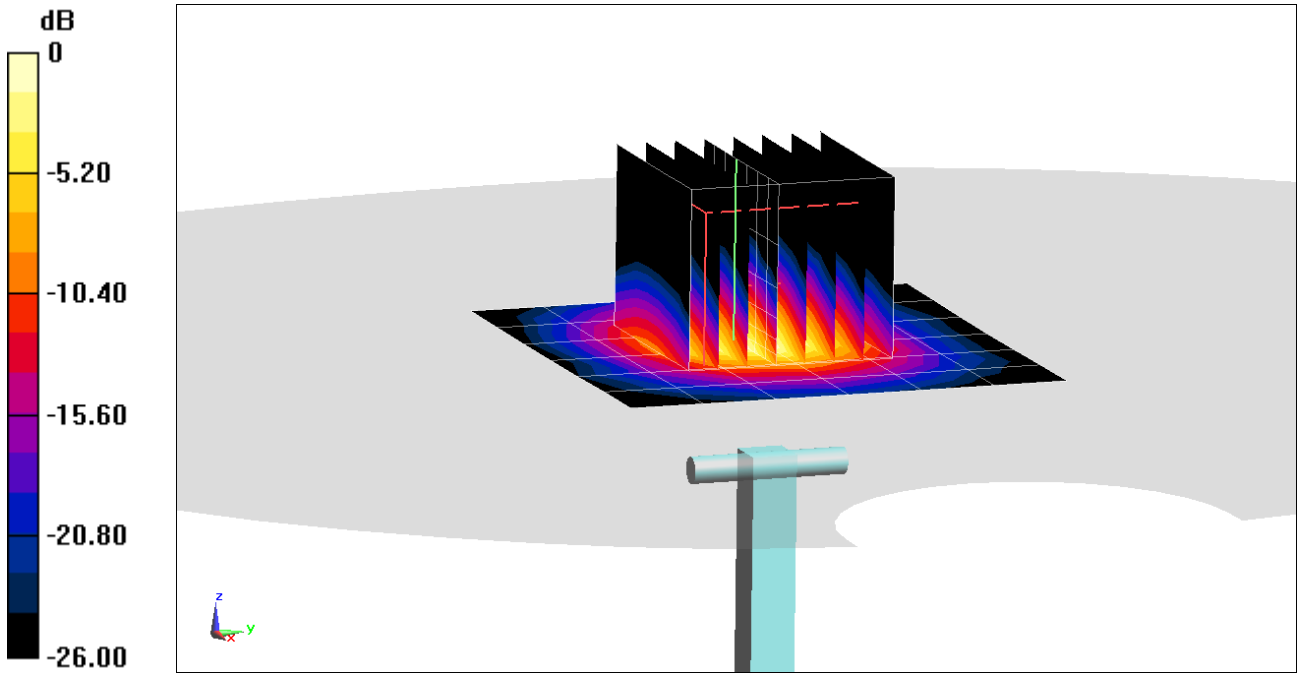
Communication System: UID 0, CW; Frequency: 5250 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Body Medium parameters used:
f = 5250 MHz; σ = 5.465 S/m; ε_r = 48.326; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/19/2020; Ambient Temp: 23.9°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7409; ConvF(4.7, 4.7, 4.7) @ 5250 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)

5250 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 17.2 W/kg
SAR(10 g) = 0.977 W/kg
Deviation(10 g) = -8.69%



0 dB = 9.10 W/kg = 9.59 dBW/kg

PCTEST

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1191

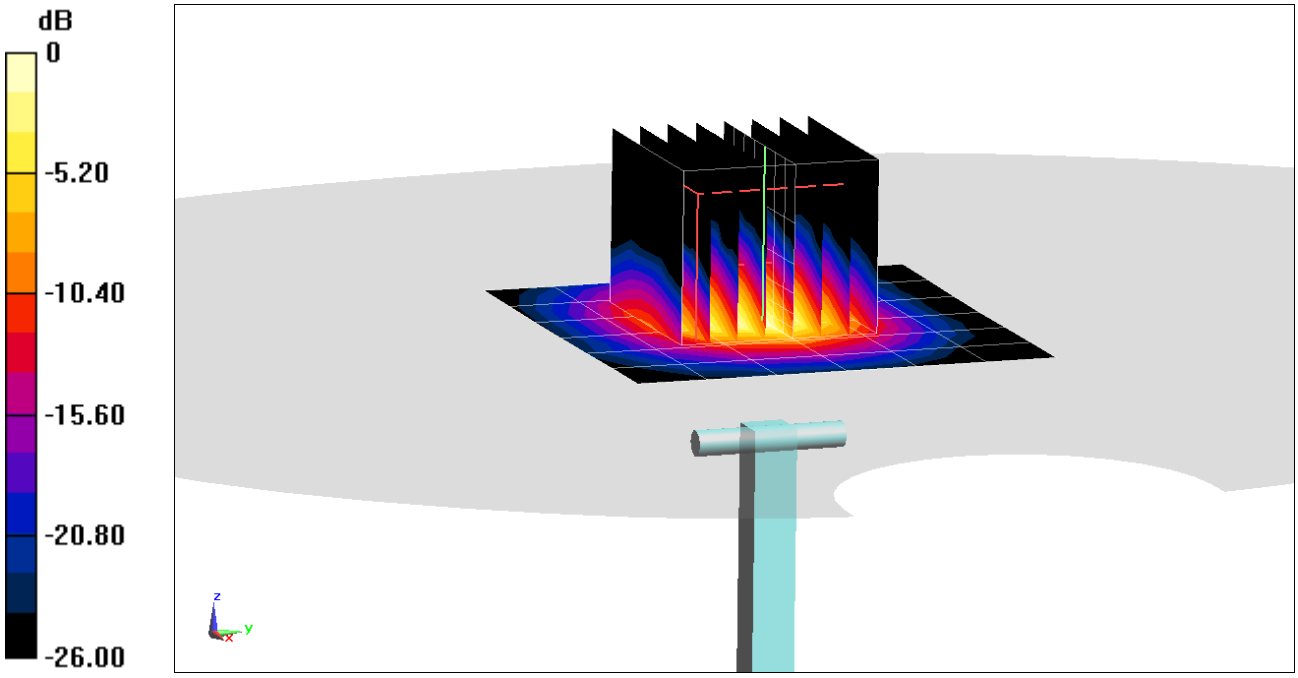
Communication System: UID 0, CW; Frequency: 5600 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Body Medium parameters used:
f = 5600 MHz; σ = 5.918 S/m; ε_r = 47.763; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/19/2020; Ambient Temp: 23.9°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7409; ConvF(4.22, 4.22, 4.22) @ 5600 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)

5600 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 18.2 W/kg
SAR(10 g) = 1.1 W/kg
Deviation(10 g) = 0.46%



0 dB = 9.85 W/kg = 9.93 dBW/kg

PCTEST

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1191

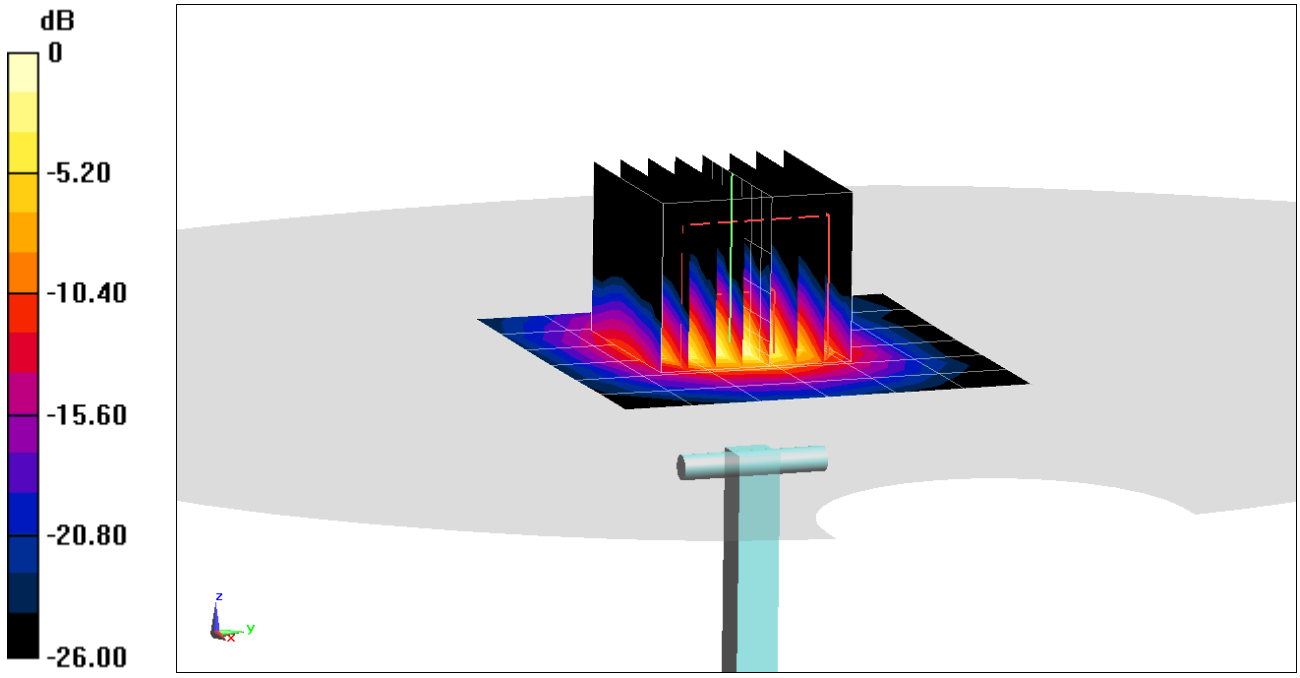
Communication System: UID 0, CW; Frequency: 5750 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Body Medium parameters used:
f = 5750 MHz; σ = 6.116 S/m; ε_r = 47.554; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/19/2020; Ambient Temp: 23.9°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7409; ConvF(4.23, 4.23, 4.23) @ 5750 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)

5750 MHz System Verification at 17.0 dBm (50 mW)

Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Peak SAR (extrapolated) = 17.9 W/kg
SAR(10 g) = 1.04 W/kg
Deviation(10 g) = -2.35%



0 dB = 9.58 W/kg = 9.81 dBW/kg

APPENDIX C: SAR TISSUE SPECIFICATIONS

Measurement Procedure for Tissue verification:

1) The network analyzer and probe system was configured and calibrated.
2) The probe was immersed in the tissue. The tissue was placed in a nonmetallic container. Trapped air bubbles beneath the flange were minimized by placing the probe at a slight angle.
3) The complex admittance with respect to the probe aperture was measured
4) The complex relative permittivity ε_r' can be calculated from the below equation (Pournaropoulos and Misra):

$$Y = \frac{j2\omega\varepsilon_r\varepsilon_0}{[\ln(b/a)]^2}\int_a^b\int_a^b\int_0^\pi \cos\phi' \frac{\exp\left[-j\omega r(\mu_0\varepsilon_r'\varepsilon_0)^{1/2}\right]}{r} d\phi' d\rho' d\rho$$

where *Y* is the admittance of the probe in contact with the sample, the primed and unprimed coordinates refer to source and observation points, respectively, $r^2 = \rho^2 + \rho'^2 - 2\rho\rho'\cos\phi'$, ω is the angular frequency, and $j = \sqrt{-1}$.

3 Composition / Information on ingredients

3.2 Mixtures
Description: Aqueous solution with surfactants and inhibitors
Declarable, or hazardous components:

CAS: 107-21-1 EINECS: 203-473-3 Reg.nr.: 01-2119456816-28-0000	**Ethanediol** STOT RE 2, H373; Acute Tox. 4, H302	>1.0-4.9%
CAS: 68608-26-4 EINECS: 271-781-5 Reg.nr.: 01-2119527859-22-0000	**Sodium petroleum sulfonate** Eye Irrit. 2, H319	< 2.9%
CAS: 107-41-5 EINECS: 203-489-0 Reg.nr.: 01-2119539582-35-0000	**Hexylene Glycol / 2-Methyl-pentane-2,4-diol** Skin Irrit. 2, H315; Eye Irrit. 2, H319	< 2.9%
CAS: 68920-66-1 NLP: 500-236-9 Reg.nr.: 01-2119489407-26-0000	**Alkoxylated alcohol, > C_{16}** Aquatic Chronic 2, H411; Skin Irrit. 2, H315; Eye Irrit. 2, H319	< 2.0%

Additional information:
For the wording of the listed risk phrases refer to section 16.
Not mentioned CAS-, EINECS- or registration numbers are to be regarded as Proprietary/Confidential.
The specific chemical identity and/or exact percentage concentration of proprietary components is withheld as a trade secret.

Figure C-1

Note: Liquid recipes are proprietary SPEAG. Since the composition is approximate to the actual liquids utilized, the manufacturer tissue-equivalent liquid data sheets are provided below.

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Measurement Certificate / Material Test

Item Name	**Body Tissue Simulating Liquid (MBBL600-6000V6)**
Product No.	SL AAM U16 BC (Batch: 181029-1)
Manufacturer	SPEAG

Measurement Method

TSL dielectric parameters measured using calibrated DAK probe.

Target Parameters

Target parameters as defined in the KDB 865664 compliance standard.

Test Condition

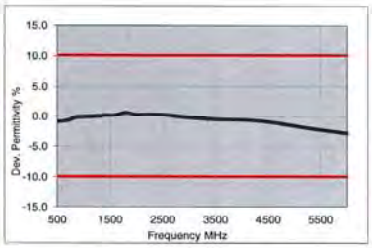
Ambient Condition	22°C ; 30% humidity
TSL Temperature	22°C
Test Date	30-Oct-18
Operator	CL

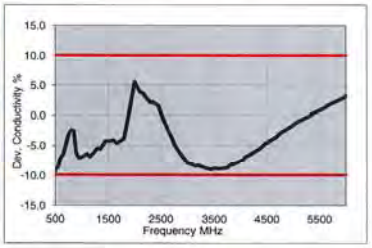
Additional Information

TSL Density
TSL Heat-capacity

Results

	Measured			Target		Diff.to Target [%]	
f [MHz]	ε'	ε''	sigma	eps	sigma	Δ-eps	Δ-sigma
800	55.1	21.3	0.95	55.3	0.97	-0.4	-2.1
825	55.1	20.8	0.96	55.2	0.98	-0.3	-2.0
835	55.1	20.6	0.96	55.1	0.99	0.0	-2.5
850	55.1	20.4	0.96	55.2	0.99	-0.1	-3.0
900	55.0	19.7	0.98	55.0	1.05	0.0	-6.7
1400	54.2	15.6	1.22	54.1	1.28	0.2	-4.7
1450	54.1	15.4	1.24	54.0	1.30	0.2	-4.6
1500	54.1	15.3	1.27	53.9	1.33	0.3	-4.5
1550	54.0	15.1	1.30	53.9	1.36	0.2	-4.4
1600	53.9	15.0	1.33	53.8	1.39	0.2	-4.3
1625	53.9	14.9	1.35	53.8	1.41	0.3	-4.3
1640	53.9	14.9	1.36	53.7	1.42	0.3	-4.2
1650	53.8	14.9	1.36	53.7	1.43	0.2	-4.9
1700	53.8	14.8	1.40	53.6	1.46	0.4	-4.1
1750	53.7	14.7	1.43	53.4	1.49	0.5	-4.0
1800	53.7	14.6	1.46	53.3	1.52	0.8	-3.9
1810	53.7	14.6	1.47	53.3	1.52	0.8	-3.3
1825	53.7	14.6	1.48	53.3	1.52	0.8	-2.6
1850	53.6	14.5	1.50	53.3	1.52	0.6	-1.3
1900	53.5	14.5	1.53	53.3	1.52	0.4	0.7
1950	53.5	14.5	1.57	53.3	1.52	0.4	3.3
2000	53.4	14.4	1.60	53.3	1.52	0.2	5.3
2050	53.4	14.4	1.64	53.2	1.57	0.3	4.5
2100	53.3	14.4	1.68	53.2	1.62	0.2	3.7
2150	53.3	14.4	1.72	53.1	1.66	0.4	3.6
2200	53.2	14.4	1.76	53.0	1.71	0.3	2.9
2250	53.1	14.4	1.81	53.0	1.76	0.2	2.8
2300	53.1	14.4	1.85	52.9	1.81	0.4	2.2
2350	53.0	14.5	1.89	52.8	1.85	0.3	2.2
2400	52.9	14.5	1.94	52.8	1.90	0.2	2.1
2450	52.9	14.5	1.98	52.7	1.95	0.4	1.5
2500	52.8	14.6	2.03	52.6	2.02	0.3	0.5
2550	52.7	14.6	2.07	52.6	2.09	0.2	-1.0
2600	52.6	14.7	2.12	52.5	2.16	0.2	-1.9





3500	51.1	15.5	3.02	51.3	3.31	-0.4	-8.8
3700	50.8	15.7	3.24	51.1	3.55	-0.5	-8.8
5200	48.1	18.2	5.27	49.0	5.30	-1.8	-0.6
5250	48.0	18.3	5.34	49.0	5.36	-1.9	-0.4
5300	47.9	18.4	5.41	48.9	5.42	-2.0	-0.2
5500	47.5	18.6	5.70	48.6	5.65	-2.2	0.8
5600	47.3	18.8	5.84	48.5	5.77	-2.3	1.3
5700	47.1	18.9	5.99	48.3	5.88	-2.5	1.8
5800	47.0	19.0	6.14	48.2	6.00	-2.6	2.3

TSL Dielectric Parameters

Figure C-2
600 – 5800 MHz Body Tissue Equivalent Matter

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s p e a g

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Measurement Certificate / Material Test

Item Name	**Head Tissue Simulating Liquid (HBBL600-10000V6)**
Product No.	SL AAH U16 BC (Batch: 181031-2)
Manufacturer	SPEAG

Measurement Method

TSL dielectric parameters measured using calibrated DAK probe.

Target Parameters

Target parameters as defined in the IEEE 1528 and IEC 62209 compliance standards.

Test Condition

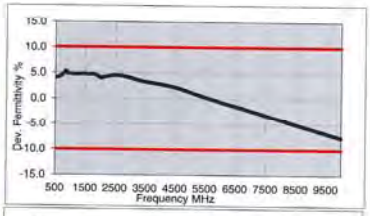
Ambient Condition	22°C ; 30% humidity
TSL Temperature	22°C
Test Date	31-Oct-18
Operator	CL

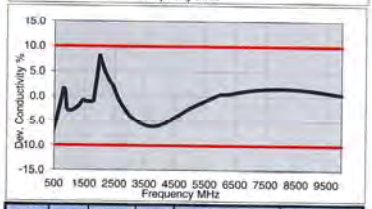
Additional Information

TSL Density
TSL Heat-capacity

Results

	Measured			Target		Diff.to Target [%]	
f [MHz]	e'	e''	sigma	eps	sigma	Δ-eps	Δ-sigma
800	43.8	20.5	0.91	41.7	0.90	5.1	1.4
825	43.8	20.1	0.92	41.6	0.91	5.3	1.5
835	43.8	19.9	0.93	41.5	0.91	5.4	2.0
850	43.7	19.7	0.93	41.5	0.92	5.3	1.5
900	43.5	18.9	0.95	41.5	0.97	4.8	-2.1
1400	42.5	15.0	1.17	40.6	1.18	4.7	-0.8
1450	42.5	14.8	1.19	40.5	1.20	4.9	-0.8
1600	42.2	14.3	1.27	40.3	1.28	4.7	-1.1
1625	42.2	14.2	1.29	40.3	1.30	4.8	-0.7
1640	42.2	14.2	1.30	40.3	1.31	4.8	-0.5
1650	42.1	14.2	1.30	40.2	1.31	4.6	-1.0
1700	42.1	14.0	1.33	40.2	1.34	4.8	-0.9
1750	42.0	13.9	1.36	40.1	1.37	4.8	-0.8
1800	41.9	13.9	1.39	40.0	1.40	4.7	-0.7
1810	41.9	13.8	1.40	40.0	1.40	4.7	0.0
1825	41.9	13.8	1.41	40.0	1.40	4.7	0.7
1850	41.8	13.8	1.42	40.0	1.40	4.5	1.4
1900	41.8	13.7	1.45	40.0	1.40	4.5	3.6
1950	41.7	13.7	1.48	40.0	1.40	4.3	5.7
2000	41.6	13.6	1.51	40.0	1.40	4.0	7.9
2050	41.6	13.6	1.55	39.9	1.44	4.2	7.3
2100	41.5	13.5	1.58	39.8	1.49	4.2	6.1
2150	41.4	13.5	1.62	39.7	1.53	4.2	5.7
2200	41.4	13.5	1.65	39.6	1.58	4.4	4.6
2250	41.3	13.5	1.69	39.6	1.62	4.4	4.2
2300	41.2	13.5	1.72	39.5	1.67	4.4	3.2
2350	41.1	13.5	1.76	39.4	1.71	4.4	2.9
2400	41.1	13.5	1.80	39.3	1.76	4.6	2.5
2450	41.0	13.5	1.84	39.2	1.80	4.6	2.2
2500	40.9	13.5	1.88	39.1	1.85	4.5	1.4
2550	40.8	13.5	1.92	39.1	1.91	4.4	0.6
2600	40.8	13.6	1.96	39.0	1.96	4.6	-0.2
3500	39.2	14.1	2.74	37.9	2.91	3.3	-5.8
3700	38.9	14.2	2.93	37.7	3.12	3.1	-6.1





5200	36.3	15.8	4.57	36.0	4.66	0.9	-1.7
5250	36.2	15.9	4.63	35.9	4.71	0.8	-1.6
5300	36.1	15.9	4.69	35.9	4.76	0.7	-1.4
5500	35.8	16.1	4.92	35.6	4.96	0.3	-0.9
5600	35.6	16.2	5.04	35.5	5.07	0.1	-0.6
5700	35.4	16.2	5.15	35.4	5.17	0.0	-0.3
5800	35.2	16.3	5.27	35.3	5.27	-0.2	0.0
6000	34.9	16.5	5.50	35.1	5.48	-0.6	0.5
6500	34.0	16.9	6.12	34.5	6.07	-1.4	0.9
7000	33.1	17.3	6.74	33.9	6.65	-2.3	1.3
7500	32.2	17.6	7.36	33.3	7.24	-3.2	1.6
8000	31.4	17.9	7.97	32.7	7.84	-4.1	1.7
8500	30.5	18.2	8.59	32.1	8.45	-5.0	1.6
9000	29.7	18.4	9.20	31.5	9.08	-5.9	1.3
9500	28.9	18.5	9.80	31.0	9.71	-6.8	0.9
10000	28.1	18.7	10.40	30.4	10.36	-7.6	0.4

TSL Dielectric Parameters

Figure C-3
600 – 5800 MHz Head Tissue Equivalent Matter

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APPENDIX D: SAR SYSTEM VALIDATION

Per FCC KDB Publication 865664 D02v01r02, SAR system validation status should be documented to confirm measurement accuracy. The SAR systems (including SAR probes, system components and software versions) used for this device were validated against its performance specifications prior to the SAR measurements. Reference dipoles were used with the required tissue- equivalent media for system validation, according to the procedures outlined in FCC KDB Publication 865664 D01v01r04 and IEEE 1528-2013. Since SAR probe calibrations are frequency dependent, each probe calibration point was validated at a frequency within the valid frequency range of the probe calibration point, using the system that normally operates with the probe for routine SAR measurements and according to the required tissue-equivalent media.

A tabulated summary of the system validation status including the validation date(s), measurement frequencies, SAR probes and tissue dielectric parameters has been included.

Table D-1
SAR System Validation Summary – 1g

SAR System	Freq. (MHz)	Date	Probe SN	Probe Cal Point		Cond. (σ)	Perm. (εr)	CW VALIDATION			MOD. VALIDATION		
								SENSITIVITY	PROBE LINEARITY	PROBE ISOTROPY	MOD. TYPE	DUTY FACTOR	PAR
E	750	9/12/2019	7417	750	Head	0.93	42.992	PASS	PASS	PASS	N/A	N/A	N/A
M	835	10/8/2019	7308	835	Head	0.926	40.749	PASS	PASS	PASS	GMSK	PASS	N/A
E	835	9/20/2019	7417	835	Head	0.912	43.45	PASS	PASS	PASS	GMSK	PASS	N/A
H	1750	12/20/2019	7406	1750	Head	1.379	39.702	PASS	PASS	PASS	N/A	N/A	N/A
L	1900	9/24/2019	7410	1900	Head	1.442	39.947	PASS	PASS	PASS	GMSK	PASS	N/A
E	2300	9/6/2019	7417	2300	Head	1.737	39.748	PASS	PASS	PASS	N/A	N/A	N/A
E	2450	9/5/2019	7417	2450	Head	1.855	39.542	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
G	2450	9/24/2019	7409	2450	Head	1.852	38.9	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
E	2600	9/5/2019	7417	2600	Head	1.979	39.302	PASS	PASS	PASS	TDD	PASS	N/A
H	5250	12/7/2019	7406	5250	Head	4.709	35.885	PASS	PASS	PASS	OFDM	N/A	PASS
H	5600	12/7/2019	7406	5600	Head	5.12	35.211	PASS	PASS	PASS	OFDM	N/A	PASS
H	5750	12/7/2019	7406	5750	Head	5.309	34.961	PASS	PASS	PASS	OFDM	N/A	PASS
H	750	1/6/2020	7406	750	Body	0.945	54.38	PASS	PASS	PASS	N/A	N/A	N/A
M	835	10/16/2019	7308	835	Body	0.985	53.07	PASS	PASS	PASS	GMSK	PASS	N/A
I	1750	5/21/2019	7357	1750	Body	1.442	55.384	PASS	PASS	PASS	N/A	N/A	N/A
P	1900	10/8/2019	7551	1900	Body	1.542	51.76	PASS	PASS	PASS	GMSK	PASS	N/A
J	1900	1/1/2020	7571	1900	Body	1.579	51.919	PASS	PASS	PASS	GMSK	PASS	N/A
K	2300	9/5/2019	7547	2300	Body	1.893	52.45	PASS	PASS	PASS	N/A	N/A	N/A
K	2450	9/6/2019	7547	2450	Body	1.996	51.898	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
M	2450	10/10/2019	7308	2450	Body	1.962	51.23	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
L	2450	8/15/2019	7410	2450	Body	2.018	52.505	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
K	2600	9/5/2019	7547	2600	Body	2.716	52.04	PASS	PASS	PASS	TDD	PASS	N/A
L	2600	8/16/2019	7410	2600	Body	2.161	52.297	PASS	PASS	PASS	TDD	PASS	N/A
G	5250	10/4/2019	7409	5250	Body	5.223	47.07	PASS	PASS	PASS	OFDM	N/A	PASS
G	5600	10/7/2019	7409	5600	Body	5.884	47.08	PASS	PASS	PASS	OFDM	N/A	PASS
G	5750	10/7/2019	7409	5750	Body	6.111	46.78	PASS	PASS	PASS	OFDM	N/A	PASS

Table D-2
SAR System Validation Summary – 10g

SAR System	Freq. (MHz)	Date	Probe SN	Probe Cal Point		Cond. (σ)	Perm. (εr)	CW VALIDATION			MOD. VALIDATION		
								SENSITIVITY	PROBE LINEARITY	PROBE ISOTROPY	MOD. TYPE	DUTY FACTOR	PAR
I	1750	5/21/2019	7357	1750	Body	1.442	55.384	PASS	PASS	PASS	N/A	N/A	N/A
J	1900	1/1/2020	7571	1900	Body	1.579	51.919	PASS	PASS	PASS	GMSK	PASS	N/A
P	1900	10/8/2019	7551	1900	Body	1.542	51.76	PASS	PASS	PASS	GMSK	PASS	N/A
K	2300	9/5/2019	7547	2300	Body	1.893	52.45	PASS	PASS	PASS	N/A	N/A	N/A
K	2450	9/6/2019	7547	2450	Body	1.996	51.898	PASS	PASS	PASS	OFDM/TDD	PASS	PASS
K	2600	9/5/2019	7547	2600	Body	2.716	52.04	PASS	PASS	PASS	TDD	PASS	N/A
G	5250	10/4/2019	7409	5250	Body	5.223	47.07	PASS	PASS	PASS	OFDM	N/A	PASS
G	5600	10/7/2019	7409	5600	Body	5.884	47.08	PASS	PASS	PASS	OFDM	N/A	PASS
G	5750	10/7/2019	7409	5750	Body	6.111	46.78	PASS	PASS	PASS	OFDM	N/A	PASS

NOTE: While the probes have been calibrated for both CW and modulated signals, all measurements were performed using communication systems calibrated for CW signals only. Modulations in the table above represent test configurations for which the measurement system has been validated per FCC KDB Publication 865664 D01v01r04 for scenarios when CW probe calibrations are used with other signal types. SAR systems were validated for modulated signals with a periodic duty cycle, such as GMSK, or with a high peak to average ratio (>5 dB), such as OFDM according to FCC KDB Publication 865664 D01v01r04.

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APPENDIX F: DOWNLINK LTE CA RF CONDUCTED POWERS

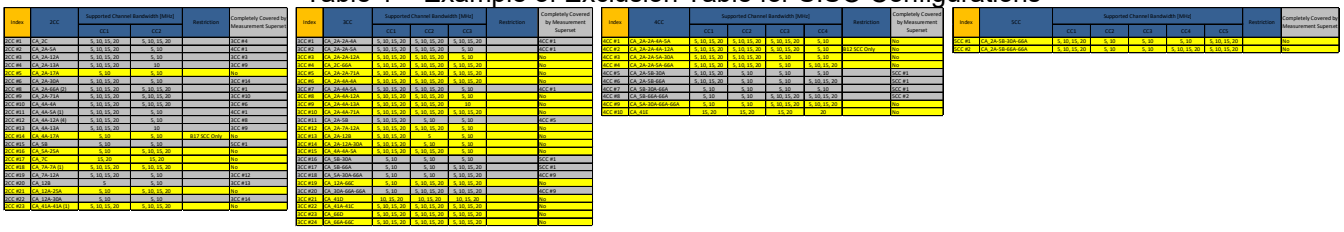
1.1 LTE Downlink Only Carrier Aggregation Test Reduction Methodology

SAR test exclusion for LTE downlink Carrier Aggregation is determined by power measurements according to the number of component carriers (CCs) supported by the product implementation. Per April 2018 TCBC Workshop Notes, the following test reduction methodology was applied to determine the combinations required for conducted power measurements.

LTE DLCA Test Reduction Methodology:

- The supported combinations were arranged by the number of component carriers in columns.
- Any limitations on the PCC or SCC for each combination were identified alongside the combination (e.g. CA_2A-2A-4A-12A, but B12 can only be configured as a SCC).
- Power measurements were performed for "supersets" (LTE CA combinations with multiple components carriers) and any "subsets" (LTE CA combinations with fewer component carriers) that were not completely covered by the supersets.
- Only subsets that have the exact same components as a superset were excluded for measurement.
- When there were certain restrictions on component carriers that existed in the superset that were not applied for the subset, the subset configuration was additionally evaluated.
- Both inter-band and intra-band downlink carrier aggregation scenarios were considered.

Table 1 – Example of Exclusion Table for SISO Configurations



1.2 LTE Downlink Only Carrier Aggregation Test Selection and Setup

SAR test exclusion for LTE downlink Carrier Aggregation is determined by power measurements according to the number component carriers (CCs) supported by the product implementation. For those configurations required by April 2018 TCBC Workshop Notes, 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 carrier aggregation configurations when the maximum 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. All bands required for SAR testing per FCC KDB procedures were considered. Based on the measured maximum powers below, no additional SAR tests were required for DLCA SAR configurations.

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General PCC and SCC configuration selection procedure

- PCC uplink channel, channel bandwidth, modulation and RB configurations were selected based on section C)3)b)ii) of KDB 941225 D05 V01r02. The downlink PCC channel was paired with the selected PCC uplink channel according to normal configurations without carrier aggregation.
- To maximize aggregated bandwidth, highest channel bandwidth available for that CA combination was selected for SCC. For inter-band CA, the SCC downlink channels were selected near the middle of their transmission bands. For contiguous intra-band CA, the downlink channel spacing between the component carriers was set to multiple of 300 kHz less than the nominal channel spacing defined in section 5.4.1A of 3GPP TS 36.521. For non-contiguous intra-band CA, the downlink channel spacing between the component carriers was set to be larger than the nominal channel spacing and provided maximum separation between the component carriers.
- All selected PCC and SCC(s) remained fully within the uplink/downlink transmission band of the respective component carrier.

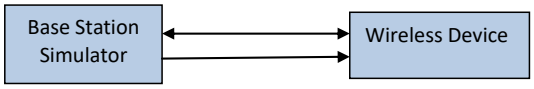


Figure 1
DL CA Power Measurement Setup

1.3 Downlink Carrier Aggregation RF Conducted Powers

1.3.1 LTE Band 71 as PCC

Table 1
Maximum Output Powers

	PCC									SCC 1				SCC 2				SCC 3				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-4A-71A	LTE B71	20	133297	680.5	QPSK	1	50	68761	634.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	-	-	-	-	24.28	24.19
CA_4A-4A-71A	LTE B71	20	133297	680.5	QPSK	1	50	68761	634.5	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	-	-	-	-	24.12	24.19
CA_2A-2A-66A-71A	LTE B71	20	133297	680.5	QPSK	1	50	68761	634.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	24.23	24.19
CA_2A-66A-66A-71A	LTE B71	20	133297	680.5	QPSK	1	50	68761	634.5	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	67236	2190	24.23	24.19
CA_2A-66C-71A	LTE B71	20	133297	680.5	QPSK	1	50	68761	634.5	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	24.20	24.19

1.3.2 LTE Band 12 as PCC

Table 2
Maximum Output Powers

	PCC									SCC 1				SCC 2				SCC 3				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-12A (1)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	-	-	-	-	-	-	-	-	24.66	24.88
CA_4A-12A (1)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	24.79	24.88
CA_4A-12A (2)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	24.79	24.88
CA_12A-66A (1)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B66	20	66786	2145	-	-	-	-	-	-	-	-	24.66	24.88
CA_12A-66A (2)	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B66	20	66786	2145	-	-	-	-	-	-	-	-	24.66	24.88
CA_4A-4A-12A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	-	-	-	-	24.69	24.88
CA_2A-2A-4A-12A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B4	20	2175	2132.5	24.70	24.88
CA_2A-2A-12A-30A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B30	10	9820	2355	24.93	24.88
CA_2A-2A-12A-66A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	24.59	24.88
CA_2A-2A-12B	LTE B12	5	23095	707.5	QPSK	1	12	5095	737.5	LTE B12	5	5047	732.7	LTE B2	20	900	1960	LTE B2	20	700	1940	24.82	24.79
CA_2A-12A-66A-66A	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	67236	2190	24.72	24.88
CA_2A-12A-66C	LTE B12	10	23095	707.5	QPSK	1	0	5095	737.5	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	24.63	24.88

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1.3.3 LTE Band 13 as PCC

Table 3
Maximum Output Powers

	PCC									SCC 1				SCC 2				SCC 3				SCC 4				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-4A-13A	LTE B13	10	23230	782	QPSK	1	25	5230	751	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	-	-	-	-	-	-	-	-	24.81	24.83
CA_4A-4A-13A	LTE B13	10	23230	782	QPSK	1	25	5230	751	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	-	-	-	-	-	-	-	-	24.89	24.83
CA_2A-13A-66B	LTE B13	5	23230	782	QPSK	1	12	5230	751	LTE B2	20	900	1960	LTE B66	15	66786	2145	LTE B66	5	66879	2154.3	-	-	-	-	24.89	24.85
CA_2A-13A-66C	LTE B13	5	23230	782	QPSK	1	12	5230	751	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	-	-	-	-	24.91	24.85
CA_2A-2A-13A-66A-66A	LTE B13	5	23230	782	QPSK	1	12	5230	751	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	LTE B66	20	67236	2190	24.91	24.85

1.3.4 LTE Band 14 as PCC

Table 4
Maximum Output Powers

	PCC									SCC 1				SCC 2				SCC 3				SCC 4				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-2A-14A-30A-66A	LTE B14	10	23330	793	QPSK	1	0	5330	763	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B30	10	9820	2355	LTE B66	20	66786	2145	24.27	24.51
CA_2A-2A-14A-66A-66A	LTE B14	10	23330	793	QPSK	1	0	5330	763	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	LTE B66	20	67236	2190	24.53	24.51
CA_2A-14A-30A-66A-66A	LTE B14	10	23330	793	QPSK	1	0	5330	763	LTE B2	20	900	1960	LTE B30	10	9820	2355	LTE B66	20	66786	2145	LTE B66	20	67236	2190	24.32	24.51

1.3.5 LTE Band 5 as PCC

Table 5
Maximum Output Powers

	PCC									SCC 1				SCC 2				SCC 3				SCC 4				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_5A-5A (1)	LTE B5	3	20635	847.5	QPSK	1	14	2635	892.5	LTE B5	5	2425	871.5	-	-	-	-	-	-	-	-	-	-	-	-	24.93	25.23
CA_5B (1)	LTE B5	3	20635	847.5	QPSK	1	14	2635	892.5	LTE B5	5	2596	888.6	-	-	-	-	-	-	-	-	-	-	-	-	25.15	25.23
CA_2A-2A-4A-5A	LTE B5	10	20525	836.5	QPSK	1	25	2525	881.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B4	20	2175	2132.5	-	-	-	-	25.41	25.42
CA_2A-4A-4A-5A	LTE B5	10	20525	836.5	QPSK	1	25	2525	881.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	-	-	-	-	25.43	25.42
CA_2A-4A-5B	LTE B5	10	20525	836.5	QPSK	1	25	2525	881.5	LTE B5	5	2453	874.3	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	-	-	-	-	25.42	25.42
CA_4A-4A-5B	LTE B5	10	20525	836.5	QPSK	1	25	2525	881.5	LTE B5	5	2453	874.3	LTE B4	20	2175	2132.5	LTE B4	10	2350	2150	-	-	-	-	25.46	25.42
CA_5A-5A-66A-66A	LTE B5	10	20525	836.5	QPSK	1	25	2525	881.5	LTE B5	5	2425	871.5	LTE B66	20	66786	2145	LTE B66	20	67236	2190	-	-	-	-	25.47	25.42
CA_5A-5A-66B	LTE B5	10	20525	836.5	QPSK	1	25	2525	881.5	LTE B5	5	2425	871.5	LTE B66	15	66786	2145	LTE B66	5	66879	2154.3	-	-	-	-	25.38	25.42
CA_5A-5A-66C	LTE B5	10	20525	836.5	QPSK	1	25	2525	881.5	LTE B5	5	2425	871.5	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	-	-	-	-	25.46	25.42
CA_2A-2A-5A-30A-66A	LTE B5	10	20525	836.5	QPSK	1	25	2525	881.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B30	10	9820	2355	LTE B66	20	66786	2145	25.63	25.42
CA_2A-2A-5A-66A-66A	LTE B5	10	20525	836.5	QPSK	1	25	2525	881.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.46	25.42
CA_2A-5A-30A-66A-66A	LTE B5	10	20525	836.5	QPSK	1	25	2525	881.5	LTE B2	20	900	1960	LTE B30	10	9820	2355	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.65	25.42
CA_2A-2A-5A-66B	LTE B5	10	20525	836.5	QPSK	1	25	2525	881.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	15	66786	2145	LTE B66	5	66879	2154.3	25.42	25.42
CA_2A-2A-5A-66C	LTE B5	10	20525	836.5	QPSK	1	25	2525	881.5	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	25.40	25.42
CA_2A-5B-30A-66A	LTE B5	10	20525	836.5	QPSK	1	25	2525	881.5	LTE B5	5	2453	874.3	LTE B2	20	900	1960	LTE B30	10	9820	2355	LTE B66	20	66786	2145	25.64	25.42
CA_2A-5B-66A-66A	LTE B5	10	20525	836.5	QPSK	1	25	2525	881.5	LTE B5	5	2453	874.3	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.42	25.42
CA_2A-5B-66B	LTE B5	10	20525	836.5	QPSK	1	25	2525	881.5	LTE B5	5	2453	874.3	LTE B2	20	900	1960	LTE B66	15	66786	2145	LTE B66	5	66879	2154.3	25.39	25.42
CA_2A-5B-66C	LTE B5	10	20525	836.5	QPSK	1	25	2525	881.5	LTE B5	5	2453	874.3	LTE B2	20	900	1960	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	25.41	25.42
CA_5B-30A-66A-66A	LTE B5	10	20525	836.5	QPSK	1	25	2525	881.5	LTE B5	5	2453	874.3	LTE B30	10	9820	2355	LTE B66	20	66786	2145	LTE B66	20	67236	2190	25.65	25.42

1.3.6 LTE Band 26 as PCC

Table 6
Maximum Output Powers

	PCC									SCC 1				SCC 2				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_25A-26A	LTE B26	10	26990	844	QPSK	1	0	8990	889	LTE B25	20	8365	1962.5	-	-	-	-	24.76	24.81
CA_26A-41A	LTE B26	10	26990	844	QPSK	1	0	8990	889	LTE B41	20	40620	2593	-	-	-	-	24.69	24.81
CA_25A-25A-26A	LTE B26	5	27015	846.5	QPSK	1	12	9015	891.5	LTE B25	20	8365	1962.5	LTE B25	20	8590	1985	24.60	24.80
CA_26A-41C	LTE B26	10	26990	844	QPSK	1	0	8990	889	LTE B41	20	40620	2593	LTE B41	20	40422	2573.2	24.80	24.81

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1.3.7 LTE Band 66 as PCC

Table 7
Maximum Output Powers

	PCC									SCC 1				SCC 2				SCC 3				SCC 4				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-66A	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B2	20	900	1960	-	-	-	-	-	-	-	-	-	-	-	-	24.38	24.43
CA_12A-66A (1)	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B12	10	5095	737.5	-	-	-	-	-	-	-	-	-	-	-	-	24.54	24.43
CA_12A-66A (2)	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B12	10	5095	737.5	-	-	-	-	-	-	-	-	-	-	-	-	24.54	24.43
CA_12B-66A	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B12	5	5095	737.5	LTE B12	5	5047	732.7	-	-	-	-	-	-	-	-	24.29	24.43
CA_66A-66C	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B66	20	66734	2139.8	LTE B66	20	66536	2120	-	-	-	-	-	-	-	-	24.52	24.43
CA_66C-66A	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B66	20	66838	2150.2	LTE B66	20	66536	2120	-	-	-	-	-	-	-	-	24.58	24.43
CA_2A-2A-12A-66A	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B12	10	5095	737.5	-	-	-	-	24.34	24.43
CA_2A-2A-66A-71A	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B71	20	68761	634.5	-	-	-	-	24.31	24.43
CA_2A-12A-66A-66A	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B66	20	66536	2120	LTE B2	20	900	1960	LTE B12	10	5095	737.5	-	-	-	-	24.55	24.43
CA_2A-29A-30A-66A	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B2	20	900	1960	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	-	-	-	-	24.47	24.43
CA_2A-66A-66A-71A	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B66	20	66536	2120	LTE B2	20	900	1960	LTE B71	20	68761	634.5	-	-	-	-	24.37	24.43
CA_2A-12A-66C	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B66	20	66838	2150.2	LTE B2	20	900	1960	LTE B12	10	5095	737.5	-	-	-	-	24.46	24.43
CA_2A-13A-66B	LTE B66	15	132597	1772.5	QPSK	1	0	67061	2172.5	LTE B66	5	66968	2163.2	LTE B2	20	900	1960	LTE B13	10	5230	751	-	-	-	-	24.14	24.17
CA_2A-13A-66C	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B66	20	66838	2150.2	LTE B2	20	900	1960	LTE B13	10	5230	751	-	-	-	-	24.49	24.43
CA_2A-66C-71A	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B66	20	66838	2150.2	LTE B2	20	900	1960	LTE B71	20	68761	634.5	-	-	-	-	24.48	24.43
CA_2C-66A-66A	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B66	20	66536	2120	LTE B2	20	900	1960	LTE B2	20	702	1940.2	-	-	-	-	24.33	24.43
CA_5A-5A-66A-66A	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B66	20	66536	2120	LTE B5	10	2525	881.5	LTE B5	5	2425	871.5	-	-	-	-	24.45	24.43
CA_5A-5A-66B	LTE B66	15	132597	1772.5	QPSK	1	0	67061	2172.5	LTE B66	5	66968	2163.2	LTE B5	10	2525	881.5	LTE B5	5	2425	871.5	-	-	-	-	24.10	24.17
CA_5A-5A-66C	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B66	20	66838	2150.2	LTE B5	10	2525	881.5	LTE B5	5	2425	871.5	-	-	-	-	24.44	24.43
CA_2A-2A-5A-30A-66A	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	24.51	24.43
CA_2A-2A-5A-66A-66A	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B66	20	66536	2120	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B5	10	2525	881.5	24.60	24.43
CA_2A-2A-12A-30A-66A	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	24.61	24.43
CA_2A-2A-12A-66A-66A	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B66	20	66536	2120	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B12	10	5095	737.5	24.63	24.43
CA_2A-2A-13A-66A-66A	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B66	20	66536	2120	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B13	10	5230	751	24.59	24.43
CA_2A-2A-14A-30A-66A	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B14	10	5330	763	LTE B30	10	9820	2355	24.53	24.43
CA_2A-2A-14A-66A-66A	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B66	20	66536	2120	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B14	10	5330	763	24.60	24.43
CA_2A-5A-30A-66A-66A	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B66	20	66536	2120	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	24.61	24.43
CA_2A-12A-30A-66A-66A	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B66	20	66536	2120	LTE B2	20	900	1960	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	24.62	24.43
CA_2A-14A-30A-66A-66A	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B66	20	66536	2120	LTE B2	20	900	1960	LTE B14	10	5330	763	LTE B30	10	9820	2355	24.57	24.43
CA_2A-2A-5A-66B	LTE B66	15	132597	1772.5	QPSK	1	0	67061	2172.5	LTE B66	5	66968	2163.2	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B5	10	2525	881.5	24.09	24.17
CA_2A-2A-5A-66C	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B66	20	66838	2150.2	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B5	10	2525	881.5	24.56	24.43
CA_2A-5B-30A-66A	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	LTE B30	10	9820	2355	24.50	24.43
CA_2A-5B-66A-66A	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B66	20	66536	2120	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	24.52	24.43
CA_2A-5B-66B	LTE B66	15	132597	1772.5	QPSK	1	0	67061	2172.5	LTE B66	5	66968	2163.2	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	24.11	24.17
CA_2A-5B-66C	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B66	20	66838	2150.2	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	24.52	24.43
CA_5B-30A-66A-66A	LTE B66	20	132572	1770	QPSK	1	0	67036	2170	LTE B66	20	66536	2120	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	LTE B30	10	9820	2355	24.56	24.43

1.3.8 LTE Band 25 as PCC

Table 8
Maximum Output Powers

	PCC									SCC 1				SCC 2				SCC 3				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_25A-26A	LTE B25	20	26365	1882.5	QPSK	1	99	8365	1962.5	LTE B26	15	8865	876.5	-	-	-	-	-	-	-	-	24.06	24.29
CA_25A-41A	LTE B25	20	26365	1882.5	QPSK	1	99	8365	1962.5	LTE B41	20	40620	2593	-	-	-	-	-	-	-	-	24.14	24.29
CA_25A-25A-26A	LTE B25	20	26365	1882.5	QPSK	1	99	8365	1962.5	LTE B25	20	8140	1940	LTE B26	5	8865	876.5	-	-	-	-	24.47	24.29
CA_25A-41C	LTE B25	20	26365	1882.5	QPSK	1	99	8365	1962.5	LTE B41	20	40620	2593	LTE B41	20	40422	2573.2	-	-	-	-	24.25	24.29
CA_25A-41D	LTE B25	20	26365	1882.5	QPSK	1	99	8365	1962.5	LTE B41	20	40422	2573.2	LTE B41	20	40620	2593	LTE B41	20	40818	2612.8	24.15	24.29

1.3.9 LTE Band 30 as PCC

Table 9
Maximum Output Powers

	PCC									SCC 1				SCC 2				SCC 3				SCC 4				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-2A-12A-30A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B12	10	5095	737.5	-	-	-	-	24.71	24.83
CA_2A-2A-29A-30A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B29	10	9715	722.5	-	-	-	-	24.65	24.83
CA_2A-29A-30A-66A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	LTE B2	20	900	1960	LTE B29	10	9715	722.5	LTE B66	20	66786	2145	-	-	-	-	24.84	24.83
CA_2A-2A-5A-30A-66A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	24.92	24.83
CA_2A-12A-30A-66A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	24.93	24.83
CA_2A-2A-14A-30A-66A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	LTE B2	20	900	1960	LTE B2	20	700	1940	LTE B14	10	5330	763	LTE B66	20	66786	2145	24.87	24.83
CA_2A-5A-30A-66A-66A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	LTE B66	20	67236	2190	24.93	24.83
CA_2A-12A-30A-66A-66A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	LTE B2	20	900	1960	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	LTE B66	20	67236	2190	24.86	24.83
CA_2A-14A-30A-66A-66A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	LTE B2	20	900	1960	LTE B14	10	5330	763	LTE B66	20	66786	2145	LTE B66	20	67236	2190	24.89	24.83
CA_2A-5B-30A-66A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	LTE B66	20	66786	2145	24.94	24.83
CA_5B-30A-66A-66A	LTE B30	5	27710	2310	QPSK	1	24	9820	2355	LTE B5	10	2525	881.5	LTE B5	5	2453	874.3	LTE B66	20	66786	2145	LTE B66	20	67236	2190	24.89	24.83

1.3.10 LTE Band 41 as PCC

Table 10
Maximum Output Powers

	PCC									SCC 1				SCC 2				SCC 3				SCC 4				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_41A-41A (1)	LTE B41	20	40620	2593	QPSK	1	50	40620	2593	LTE B41	20	41490	2680	-	-	-	-	-	-	-	-	-	-	-	-	24.37	24.53
CA_41A-41C	LTE B41	20	40620	2593	QPSK	1	50	40620	2593	LTE B41	20	41292	2660.2	LTE B41	20	41490	2680	-	-	-	-	-	-	-	-	24.57	24.53
CA_41C-41A	LTE B41	20	40620	2593	QPSK	1	50	40620	2593	LTE B41	20	40818	2612.8	LTE B41	20	41490	2680	-	-	-	-	-	-	-	-	24.37	24.53
CA_41A-41D	LTE B41	20	40620	2593	QPSK	1	50	40620	2593	LTE B41	20	41094	2640.4	LTE B41	20	41292	2660.2	LTE B41	20	41490	2680	-	-	-	-	24.48	24.53
CA_41D-41A	LTE B41	20	40620	2593	QPSK	1	50	40620	2593	LTE B41	20	40422	2573.2	LTE B41	20	40818	2612.8	LTE B41	20	41490	2680	-	-	-	-	24.46	24.53
CA_41C-41C	LTE B41	20	40620	2593	QPSK	1	50	40620	2593	LTE B41	20	40422	2573.2	LTE B41	20	41292	2660.2	LTE B41	20	41490	2680	-	-	-	-	24.50	24.53
CA_41E	LTE B41	20	40620	2593	QPSK	1	50	40620	2593	LTE B41	20	40422	2573.2	LTE B41	20	40818	2612.8	LTE B41	20	41016	2632.6	-	-	-	-	24.47	24.53
CA_41C-41D	LTE B41	20	40620	2593	QPSK	1	50	40620	2593	LTE B41	20	40422	2573.2	LTE B41	20	41094	2640.4	LTE B41	20	41292	2660.2	LTE B41	20	41490	2680	24.50	24.53
CA_41D-41C	LTE B41	20	40620	2593	QPSK	1	50	40620	2593	LTE B41	20	40422	2573.2	LTE B41	20	40818	2612.8	LTE B41	20	41292	2660.2	LTE B41	20	41490	2680	24.51	24.53
CA_41F	LTE B41	20	40620	2593	QPSK	1	50	40620	2593	LTE B41	20	40422	2573.2	LTE B41	20	40818	2612.8	LTE B41	20	40224	2533.4	LTE B41	20	40026	2533.6	24.53	24.53

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1.3.11 **LTE Band 41 PC2 as PCC**

Table 11
Maximum Output Powers

	PCC									SCC 1				SCC 2				SCC 3				SCC 4				Power	
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Ch.	PCC (UL) Freq. [MHz]	Mod.	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (DL) Channel	SCC (DL) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_41A-41A (1)	LTE B41 PC2	10	41055	2636.5	QPSK	1	25	41055	2636.5	LTE B41 PC2	20	39750	2506	-	-	-	-	-	-	-	-	-	-	-	-	26.33	26.36
CA_41A-41C	LTE B41 PC2	10	41055	2636.5	QPSK	1	25	41055	2636.5	LTE B41 PC2	20	39948	2525.8	LTE B41 PC2	20	39750	2506	-	-	-	-	-	-	-	-	26.55	26.36
CA_41C-41A	LTE B41 PC2	10	41055	2636.5	QPSK	1	25	41055	2636.5	LTE B41 PC2	20	40911	2622.1	LTE B41 PC2	20	39750	2506	-	-	-	-	-	-	-	-	26.52	26.36
CA_41A-41D	LTE B41 PC2	10	41055	2636.5	QPSK	1	25	41055	2636.5	LTE B41 PC2	20	40146	2545.6	LTE B41 PC2	20	39948	2525.8	LTE B41 PC2	20	39750	2506	-	-	-	-	26.54	26.36
CA_41D-41A	LTE B41 PC2	10	41055	2636.5	QPSK	1	25	41055	2636.5	LTE B41 PC2	20	40911	2622.1	LTE B41 PC2	20	40713	2602.3	LTE B41 PC2	20	39750	2506	-	-	-	-	26.54	26.36
CA_41C-41C	LTE B41 PC2	10	41055	2636.5	QPSK	1	25	41055	2636.5	LTE B41 PC2	20	40911	2622.1	LTE B41 PC2	20	39948	2525.8	LTE B41 PC2	20	39750	2506	-	-	-	-	26.58	26.36
CA_41E	LTE B41 PC2	15	41055	2636.5	QPSK	1	36	41055	2636.5	LTE B41 PC2	20	40894	2619.4	LTE B41 PC2	20	40686	2599.6	LTE B41 PC2	20	40488	2579.8	-	-	-	-	26.17	26.31
CA_41C-41D	LTE B41 PC2	10	41055	2636.5	QPSK	1	25	41055	2636.5	LTE B41 PC2	20	40911	2622.1	LTE B41 PC2	20	40146	2545.6	LTE B41 PC2	20	39948	2525.8	LTE B41 PC2	20	39750	2506	26.40	26.36
CA_41D-41C	LTE B41 PC2	10	41055	2636.5	QPSK	1	25	41055	2636.5	LTE B41 PC2	20	40911	2622.1	LTE B41 PC2	20	40713	2602.3	LTE B41 PC2	20	39948	2525.8	LTE B41 PC2	20	39750	2506	26.50	26.36
CA_41F	LTE B41 PC2	10	41055	2636.5	QPSK	1	25	41055	2636.5	LTE B41 PC2	20	40911	2622.1	LTE B41 PC2	20	40713	2602.3	LTE B41 PC2	20	40515	2582.5	LTE B41 PC2	20	40317	2562.7	26.44	26.36

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APPENDIX G POWER REDUCTION VERIFICATION

Per the May 2017 TCBC Workshop Notes, demonstration of proper functioning of the power reduction mechanisms is required to support the corresponding SAR configurations. The verification process was divided into two parts: (1) evaluation of output power levels for individual or multiple triggering mechanisms and (2) evaluation of the triggering distances for proximity-based sensors.

G.1 Power Verification Procedure

The power verification was performed according to the following procedure:

1. A base station simulator was used to establish a conducted RF connection and the output power was monitored. The power measurements were confirmed to be within expected tolerances for all states before and after a power reduction mechanism was triggered.

2. Step 1 was repeated for all relevant modes and frequency bands for the mechanism being investigated.

3. Steps 1 and 2 were repeated for all individual power reduction mechanisms and combinations thereof. For the combination cases, one mechanism was switched to a 'triggered' state at a time; powers were confirmed to be within tolerances after each additional mechanism was activated.

G.2 Distance Verification Procedure

The distance verification procedure was performed according to the following procedure:

1. A base station simulator was used to establish an RF connection and to monitor the power levels. The device being tested was placed below the relevant section of the phantom with the relevant side or edge of the device facing toward the phantom.

2. The device was moved toward and away from the phantom to determine the distance at which the mechanism triggers and the output power is reduced, per KDB Publication 616217 D04v01r02 and FCC Guidance. Each applicable test position was evaluated. The distances were confirmed to be the same or larger (more conservative) than the minimum distances provided by the manufacturer.

3. Steps 1 and 2 were repeated for low, mid, and high bands, as appropriate (see note below Table G-2 for more details).

4. Steps 1 through 3 were repeated for all distance-based power reduction mechanisms.

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G.3 Main Antenna Verification Summary

Table G-1
Power Measurement Verification for Main Antenna

Mechanism(s)		Mode/Band	Conducted Power (dBm)		
1st	2nd		Un-triggered (Max)	Mechanism #1 (Reduced)	Mechanism #2 (Reduced)
Hotspot On		GPRS 1900 1 Tx Slot	29.09	27.64	
Hotspot On	Grip	GPRS 1900 1 Tx Slot	29.01	27.62	27.61
Grip		GPRS 1900 1 Tx Slot	29.08	27.77	
Grip	Hotspot On	GPRS 1900 1 Tx Slot	29.12	27.70	27.69
Hotspot On		UMTS 1750	22.31	20.31	
Hotspot On	Grip	UMTS 1750	22.35	20.34	20.35
Grip		UMTS 1750	22.35	20.36	
Grip	Hotspot On	UMTS 1750	22.36	20.38	20.36
Hotspot On		UMTS 1900	23.38	20.90	
Hotspot On	Grip	UMTS 1900	23.39	20.86	20.88
Grip		UMTS 1900	23.37	20.85	
Grip	Hotspot On	UMTS 1900	23.37	20.86	20.86
Hotspot On		PCS EVDO	23.78	21.28	
Hotspot On	Grip	PCS EVDO	23.75	21.29	21.32
Grip		PCS EVDO	23.77	21.33	
Grip	Hotspot On	PCS EVDO	23.76	21.32	21.25
Hotspot On		LTE FDD Band 66	24.00	20.44	
Hotspot On	Grip	LTE FDD Band 66	24.00	20.47	20.45
Grip		LTE FDD Band 66	24.08	20.48	
Grip	Hotspot On	LTE FDD Band 66	24.01	20.63	20.43
Hotspot On		LTE FDD Band 4	23.94	20.69	
Hotspot On	Grip	LTE FDD Band 4	23.93	20.76	20.76
Grip		LTE FDD Band 4	23.93	20.86	
Grip	Hotspot On	LTE FDD Band 4	23.92	20.84	20.74
Hotspot On		LTE FDD Band 25	23.80	20.08	
Hotspot On	Grip	LTE FDD Band 25	23.81	20.03	20.03
Grip		LTE FDD Band 25	23.84	20.00	
Grip	Hotspot On	LTE FDD Band 25	23.82	20.01	20.02
Hotspot On		LTE FDD Band 2	24.55	21.05	
Hotspot On	Grip	LTE FDD Band 2	24.50	21.05	21.04
Grip		LTE FDD Band 2	24.58	21.04	
Grip	Hotspot On	LTE FDD Band 2	24.57	21.01	21.06
Hotspot On		LTE FDD Band 30	24.11	21.44	
Hotspot On	Grip	LTE FDD Band 30	24.12	21.31	21.28
Grip		LTE FDD Band 30	24.11	21.39	
Grip	Hotspot On	LTE FDD Band 30	24.14	21.30	21.31
Hotspot On		LTE FDD Band 7	24.36	21.24	
Hotspot On	Grip	LTE FDD Band 7	24.42	21.23	21.22
Grip		LTE FDD Band 7	24.38	21.23	
Grip	Hotspot On	LTE FDD Band 7	24.37	21.20	21.18
Hotspot On		LTE TDD Band 41 (PC3)	23.90	21.17	
Hotspot On	Grip	LTE TDD Band 41 (PC3)	23.84	21.18	21.20
Grip		LTE TDD Band 41 (PC3)	23.85	21.16	
Grip	Hotspot On	LTE TDD Band 41 (PC3)	23.88	21.10	21.12
Hotspot On		LTE TDD Band 41 (PC2)	26.34	23.16	
Hotspot On	Grip	LTE TDD Band 41 (PC2)	26.43	23.14	23.14
Grip		LTE TDD Band 41 (PC2)	26.42	23.14	
Grip	Hotspot On	LTE TDD Band 41 (PC2)	26.40	23.16	23.12
Hotspot On		LTE TDD Band 38	24.02	22.02	
Hotspot On	Grip	LTE TDD Band 38	24.00	21.98	21.98
Grip		LTE TDD Band 38	24.02	22.02	
Grip	Hotspot On	LTE TDD Band 38	24.03	21.98	21.97

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Table G-2
Distance Measurement Verification for Main Antenna

Mechanism(s)	Test Condition	Band	Distance Measurements (mm)		Minimum Distance per Manufacturer (mm)
			Moving Toward	Moving Away	
Grip	Phablet - Back Side	Mid	14	15	10
Grip	Phablet - Back Side	High	14	15	10
Grip	Phablet - Front Side	Mid	13	14	8
Grip	Phablet - Front Side	High	13	14	8
Grip	Phablet - Bottom Edge	Mid	15	16	14
Grip	Phablet - Bottom Edge	High	15	16	14

*Note: Mid band refers to: GSM1900, UMTS B2/4 CDMA PCS, LTE B2/4/25/66; High band refers to: LTE B7/30/38/41PC3/PC2

G.4 WIFI Verification Summary

Table G-3
Power Measurement Verification WIFI – Antenna 1

Mechanism(s)	Mode/Band	Conducted Power (dBm)	
1st		Un-triggered (Max)	Mechanism #1 (Reduced)
Held-to-Ear	802.11b	21.84	11.16
Held-to-Ear	802.11g	19.72	9.68
Held-to-Ear	802.11n (2.4GHz)	18.66	9.65
Held-to-Ear	802.11a	16.41	9.87
Held-to-Ear	802.11n (5GHz, 20MHz BW)	16.07	9.26
Held-to-Ear	802.11ac (20MHz BW)	15.75	9.81
Held-to-Ear	802.11n (5GHz, 40MHz BW)	14.85	10.08
Held-to-Ear	802.11ac (40MHz BW)	14.10	9.43
Held-to-Ear	802.11ac (80MHz BW)	14.00	10.44

*Note: MIMO WIFI modes were not evaluated due to equipment limitations.

Table G-4
Power Measurement Verification WIFI – Antenna 2

Mechanism(s)	Mode/Band	Conducted Power (dBm)	
1st		Un-triggered (Max)	Mechanism #1 (Reduced)
Held-to-Ear	802.11b	21.57	11.80
Held-to-Ear	802.11g	20.30	10.33
Held-to-Ear	802.11n (2.4GHz)	18.98	10.06
Held-to-Ear	802.11a	16.97	9.61
Held-to-Ear	802.11n (5GHz, 20MHz BW)	15.04	9.06
Held-to-Ear	802.11ac (20MHz BW)	16.99	10.88
Held-to-Ear	802.11n (5GHz, 40MHz BW)	14.87	9.84
Held-to-Ear	802.11ac (40MHz BW)	14.36	9.84
Held-to-Ear	802.11ac (80MHz BW)	13.02	9.12

*Note: MIMO WIFI modes were not evaluated due to equipment limitations.

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APPENDIX H: PROBE CALIBRATION

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Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **PC Test**

Certificate No: **D750V3-1003_Jan18**

CALIBRATION CERTIFICATE

Object	D750V3 - SN:1003
Calibration procedure(s)	QA CAL-05.v9 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	January 15, 2018

BN ✓
01-25-2018

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate. BN ✓
02/06/2019

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	04-Apr-17 (No. 217-02521/02522)	Apr-18
Power sensor NRP-Z91	SN: 103244	04-Apr-17 (No. 217-02521)	Apr-18
Power sensor NRP-Z91	SN: 103245	04-Apr-17 (No. 217-02522)	Apr-18
Reference 20 dB Attenuator	SN: 5058 (20k)	07-Apr-17 (No. 217-02528)	Apr-18
Type-N mismatch combination	SN: 5047.2 / 06327	07-Apr-17 (No. 217-02529)	Apr-18
Reference Probe EX3DV4	SN: 7349	30-Dec-17 (No. EX3-7349_Dec17)	Dec-18
DAE4	SN: 601	26-Oct-17 (No. DAE4-601_Oct17)	Oct-18

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Oct-16)	In house check: Oct-18
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-17)	In house check: Oct-18

	Name	Function	Signature
Calibrated by:	Leif Klysner	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 15, 2018

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.10.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5.0 mm	
Frequency	750 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.9	0.89 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	40.9 ± 6 %	0.90 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.10 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**8.28 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.37 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**5.42 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.5	0.96 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	55.0 ± 6 %	0.96 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.15 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**8.58 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.43 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**5.71 W/kg ± 16.5 % (k=2)**

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	53.8 Ω - 2.1 jΩ
Return Loss	- 27.6 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	49.2 Ω - 6.2 jΩ
Return Loss	- 24.0 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.043 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	January 21, 2009

Appendix (Additional assessments outside the scope of SCS 0108)

Measurement Conditions

DASY system configuration, as far as not given on page 1 and 3.

Phantom	SAM Head Phantom	For usage with cSAR3DV2-R/L

SAR result with SAM Head (Top)

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	1.98 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**7.94 W/kg ± 17.5 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.33 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**5.32 W/kg ± 16.9 % (k=2)**

SAR result with SAM Head (Mouth)

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.05 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**8.22 W/kg ± 17.5 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.38 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**5.52 W/kg ± 16.9 % (k=2)**

SAR result with SAM Head (Neck)

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.01 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**8.06 W/kg ± 17.5 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.38 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**5.52 W/kg ± 16.9 % (k=2)**

SAR result with SAM Head (Ear)

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	1.67 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**6.70 W/kg ± 17.5 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.15 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**4.60 W/kg ± 16.9 % (k=2)**

Date: 12.01.2018

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN:1003

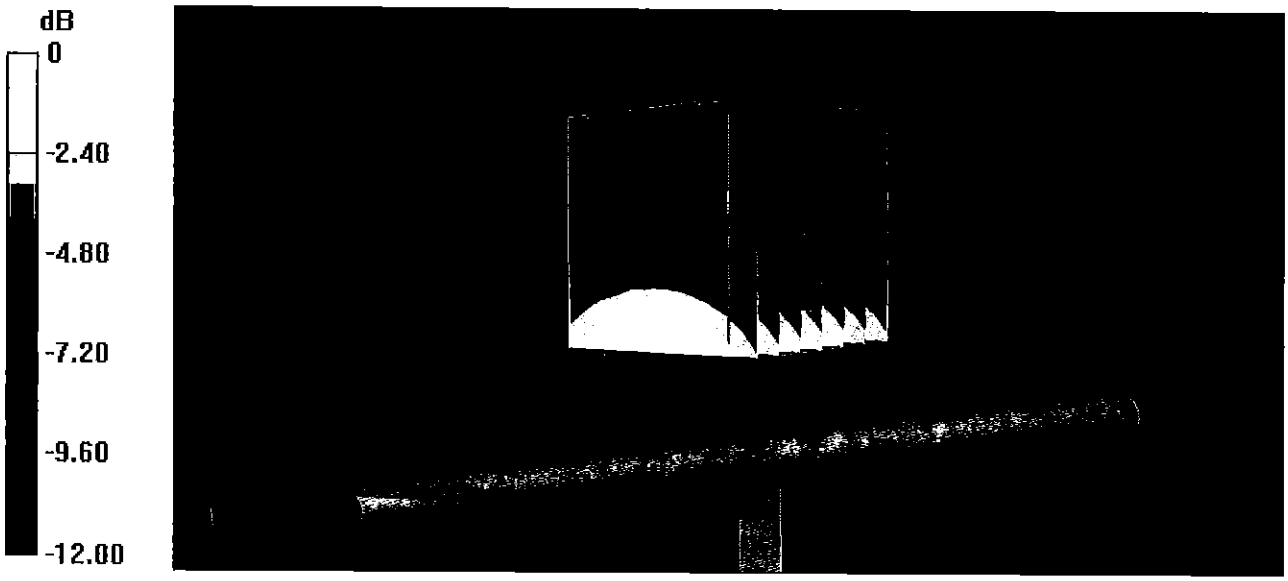
Communication System: UID 0 - CW; Frequency: 750 MHz
Medium parameters used: f = 750 MHz; σ = 0.9 S/m; ε_r = 40.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(10.22, 10.22, 10.22); Calibrated: 30.12.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 4.9 (front); Type: QD 00L P49 AA; Serial: 1001
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

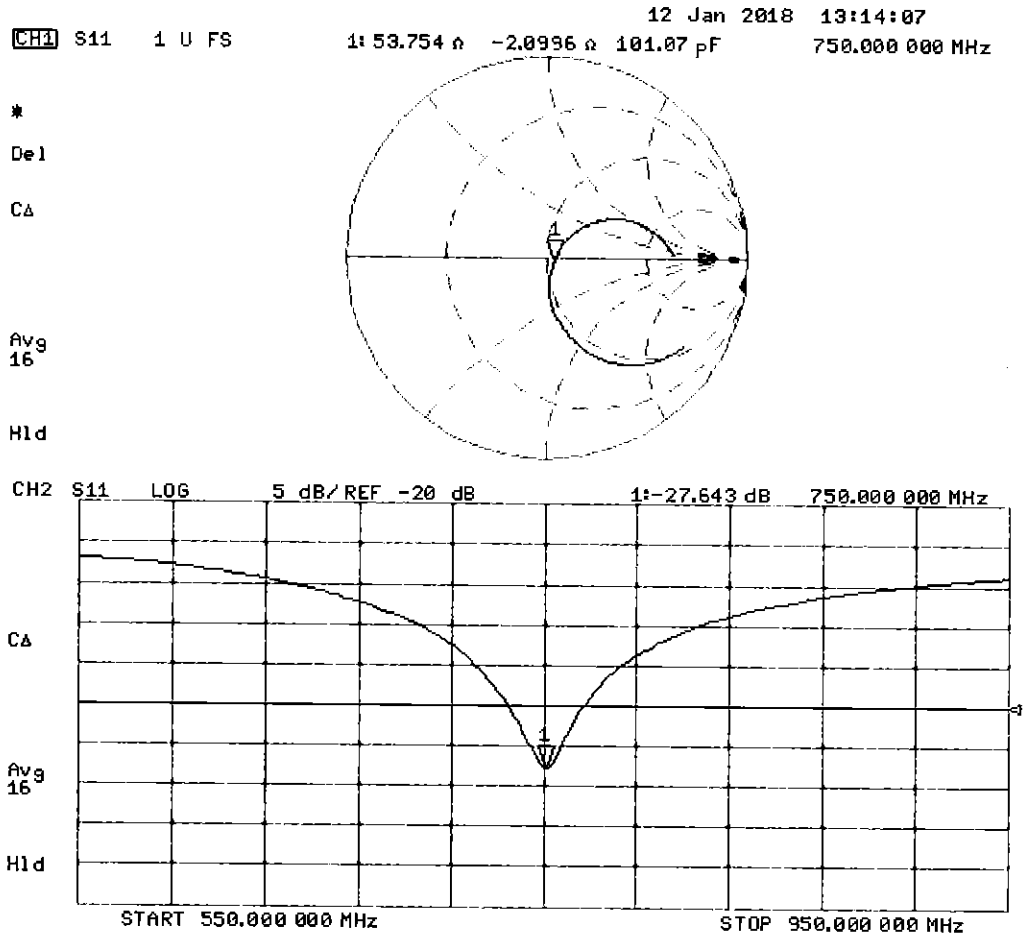
Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 59.11 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 3.15 W/kg
SAR(1 g) = 2.1 W/kg; SAR(10 g) = 1.37 W/kg
Maximum value of SAR (measured) = 2.80 W/kg



0 dB = 2.80 W/kg = 4.47 dBW/kg

Impedance Measurement Plot for Head TSL



Date: 12.01.2018

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN:1003

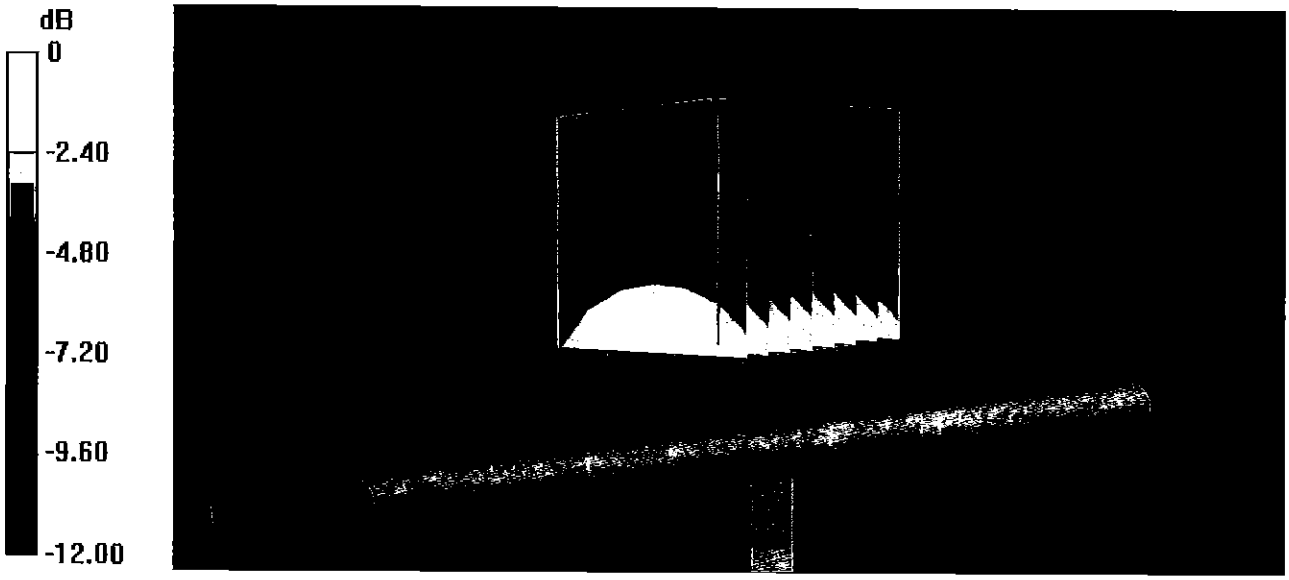
Communication System: UID 0 - CW; Frequency: 750 MHz
Medium parameters used: f = 750 MHz; σ = 0.96 S/m; ε_r = 55; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(10.19, 10.19, 10.19); Calibrated: 30.12.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 4.9 (Back); Type: QD 00R P49 AA; Serial: 1005
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

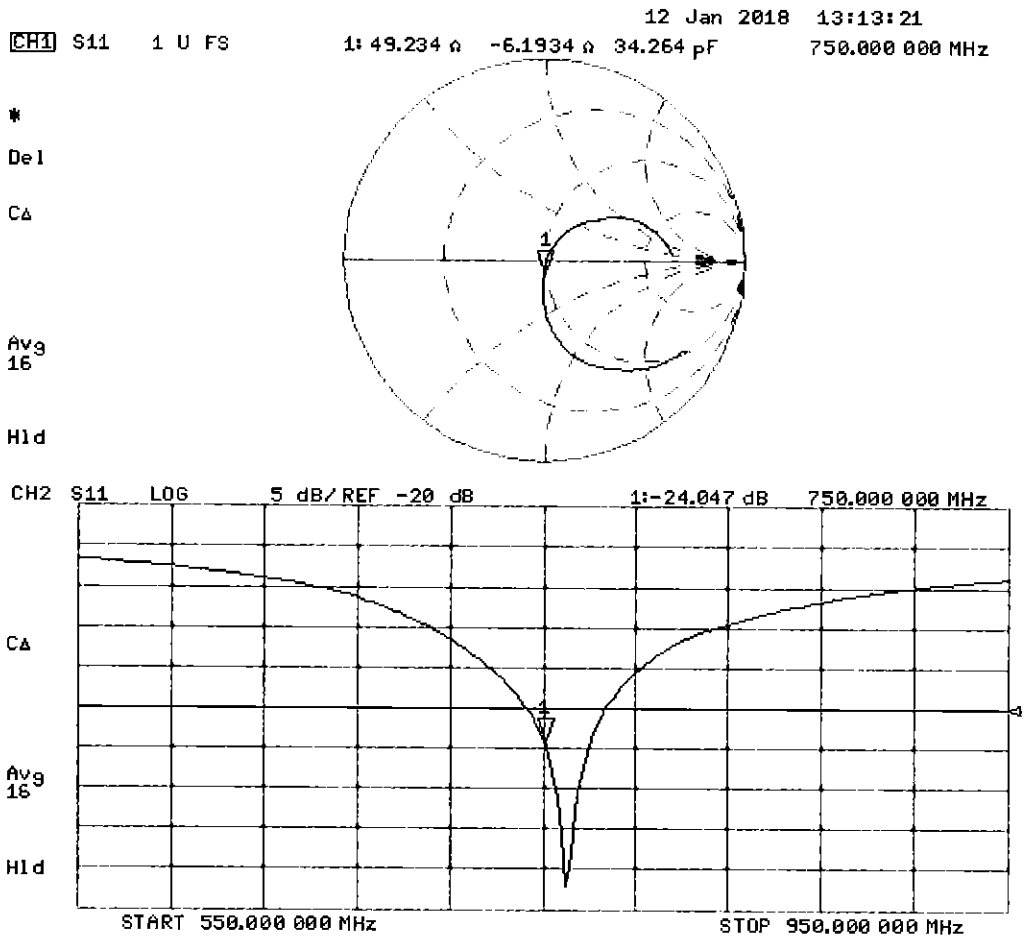
Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x8x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 57.31 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 3.17 W/kg
SAR(1 g) = 2.15 W/kg; SAR(10 g) = 1.43 W/kg
Maximum value of SAR (measured) = 2.83 W/kg



0 dB = 2.83 W/kg = 4.52 dBW/kg

Impedance Measurement Plot for Body TSL



Date: 15.01.2018

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN:1003

Communication System: UID 0 - CW; Frequency: 750 MHz
Medium parameters used: f = 750 MHz; σ = 0.9 S/m; ε_r = 44.2; ρ = 1000 kg/m^3
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

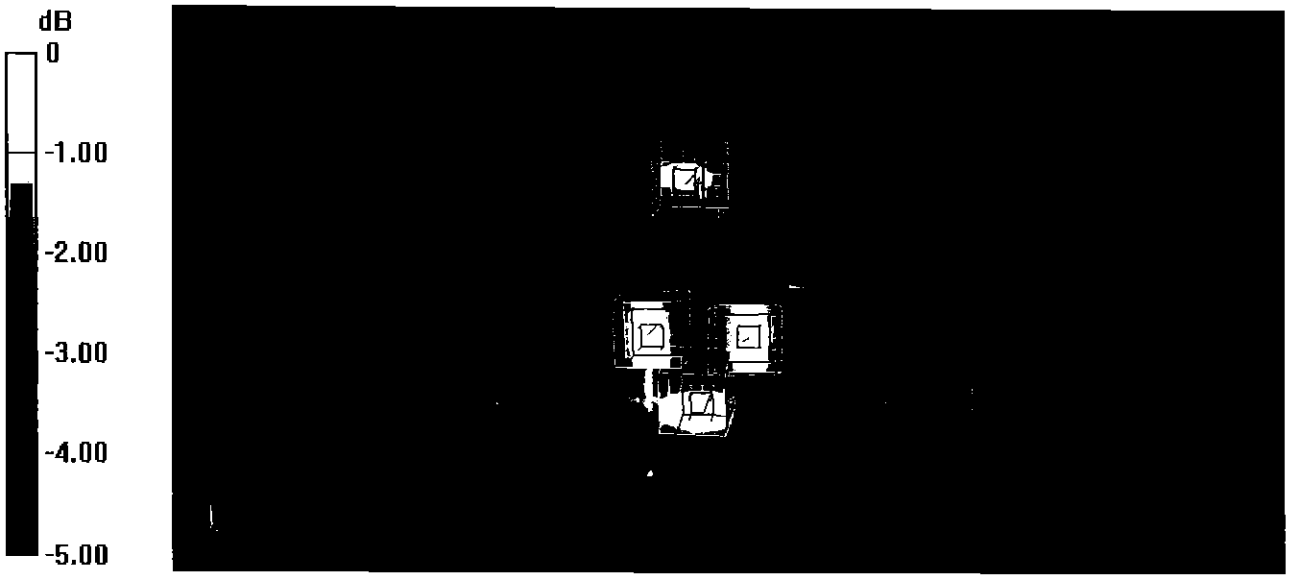
- Probe: EX3DV4 - SN7349; ConvF(10.22, 10.22, 10.22); Calibrated: 30.12.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: SAM Head
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

SAM Head/Top/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.79 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 2.89 W/kg
SAR(1 g) = 1.98 W/kg; SAR(10 g) = 1.33 W/kg
Maximum value of SAR (measured) = 2.58 W/kg

SAM Head/Mouth/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.85 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 2.94 W/kg
SAR(1 g) = 2.05 W/kg; SAR(10 g) = 1.38 W/kg
Maximum value of SAR (measured) = 2.62 W/kg

SAM Head/Neck/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.29 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 2.78 W/kg
SAR(1 g) = 2.01 W/kg; SAR(10 g) = 1.38 W/kg
Maximum value of SAR (measured) = 2.56 W/kg

SAM Head/Ear/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 51.01 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 2.31 W/kg
SAR(1 g) = 1.67 W/kg; SAR(10 g) = 1.15 W/kg
Maximum value of SAR (measured) = 2.11 W/kg



0 dB = 2.58 W/kg = 4.12 dBW/kg

Certification of Calibration

Object	D750V3 – SN: 1003
Calibration procedure(s)	Procedure for Calibration Extension for SAR Dipoles.
Extension Calibration date:	1/15/2019
Description:	SAR Validation Dipole at 750 MHz.

Calibration Equipment used:

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	8753ES	S-Parameter Network Analyzer	2/8/2018	Annual	2/8/2019	US39170122
Agilent	N5182A	MXG Vector Signal Generator	4/18/2018	Annual	4/18/2019	MY47420800
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433971
Anritsu	MA2411B	Pulse Power Sensor	3/2/2018	Annual	3/2/2019	1207364
Anritsu	MA2411B	Pulse Power Sensor	3/2/2018	Annual	3/2/2019	1339018
Anritsu	ML2495A	Power Meter	10/21/2018	Annual	10/21/2019	941001
Control Company	4040	Therm./Clock/Humidity Monitor	3/31/2017	Biennial	3/31/2019	170232394
Control Company	4352	Ultra Long Stem Thermometer	5/2/2017	Biennial	5/2/2019	170330156
Keysight	772D	Dual Directional Coupler	CBT	N/A	CBT	MY52180215
Keysight Technologies	85033E	Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm)	6/4/2018	Annual	6/4/2019	MY53401181
MiniCircuits	VLF-6000+	Low Pass Filter	CBT	N/A	CBT	N/A
Mini-Circuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	CBT	N/A
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Pasternack	PE2208-6	Bidirectional Coupler	CBT	N/A	CBT	N/A
Seekonk	NC-100	Torque Wrench	7/11/2018	Annual	7/11/2019	N/A
SPEAG	DAE4	Dasy Data Acquisition Electronics	10/3/2018	Annual	10/3/2019	1558
SPEAG	DAE4	Dasy Data Acquisition Electronics	6/18/2018	Annual	6/18/2019	1334
SPEAG	DAK-3.5	Dielectric Assessment Kit	9/11/2018	Annual	9/11/2019	1091
SPEAG	EX3DV4	SAR Probe	8/23/2018	Annual	8/23/2019	7308
SPEAG	EX3DV4	SAR Probe	6/25/2018	Annual	6/25/2019	7409

Measurement Uncertainty = ±23% (k=2)

	Name	Function	Signature
Calibrated By:	Brodie Halbfoster	Test Engineer	BRODIE HALBFOSTER
Approved By:	Kaitlin O'Keefe	Senior Technical Manager	

DIPOLE CALIBRATION EXTENSION

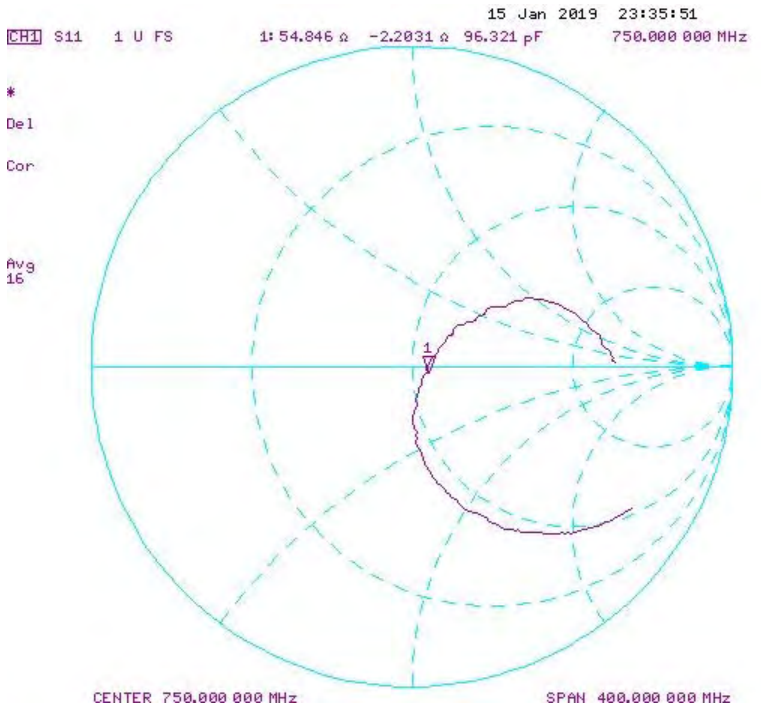
Per KDB 865664 D01, calibration intervals of up to three years may be considered for reference dipoles when it is demonstrated that the SAR target, impedance and return loss of a dipole have remained stable according to the following requirements:

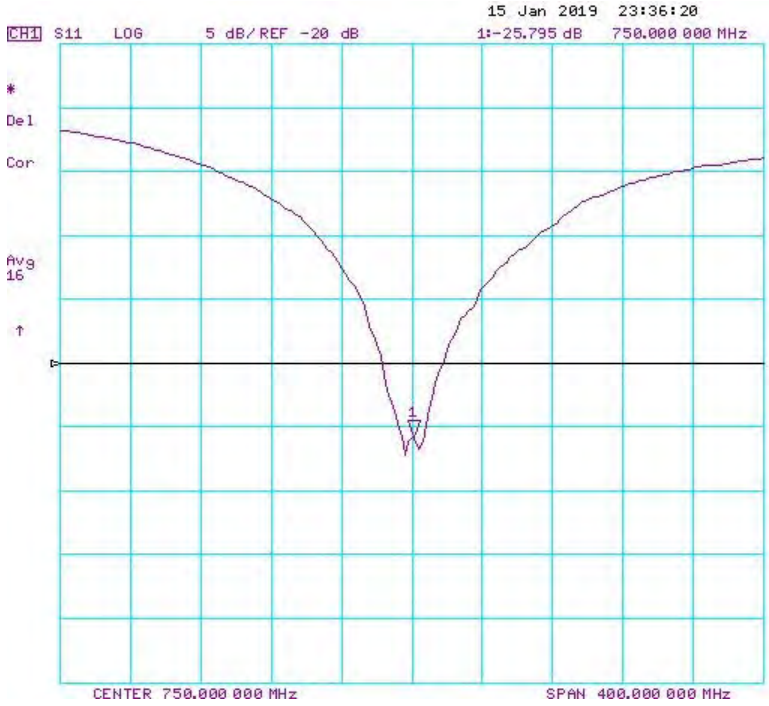
1. The measured SAR does not deviate more than 10% from the target on the calibration certificate.
2. The return-loss does not deviate more than 20% from the previous measurement and meets the required 20dB minimum return-loss requirement.
3. The measurement of real or imaginary parts of impedance does not deviate more than 5Ω from the previous measurement.

The following dipole was checked to pass the above 3 requirements to have 2-year calibration period from the calibration date:

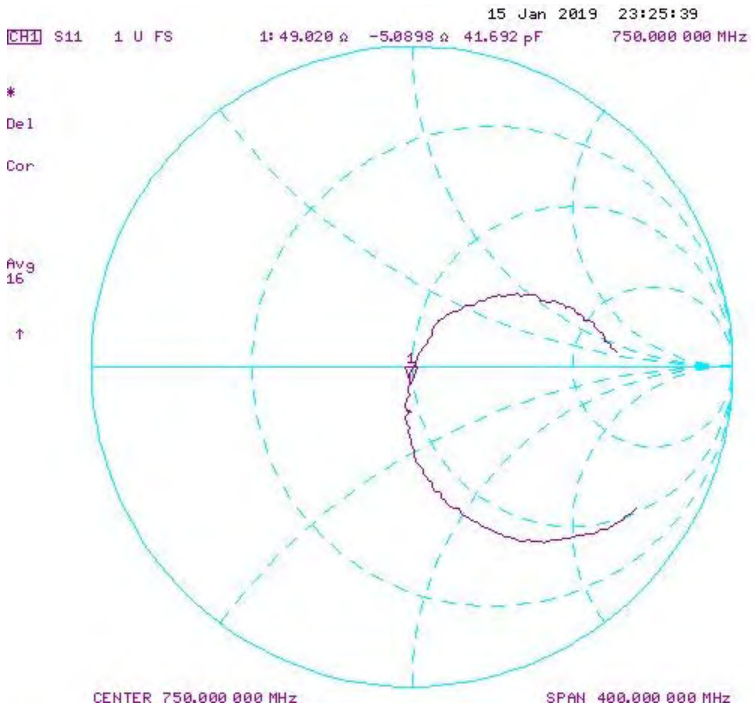
Calibration Date	Extension Date	Certificate Electrical Delay (ns)	Certificate SAR Target Head (1g) W/kg @ 23.0 dBm	Measured Head SAR (1g) W/kg @ 23.0 dBm	Deviation 1g (%)	Certificate SAR Target Head (10g) W/kg @ 23.0 dBm	Measured Head SAR (10g) W/kg @ 23.0 dBm	Deviation 10g (%)	Certificate Impedance Head (Ohm) Real	Measured Impedance Head (Ohm) Real	Difference (Ohm) Real	Certificate Impedance Head (Ohm) Imaginary	Measured Impedance Head (Ohm) Imaginary	Difference (Ohm) Imaginary	Certificate Return Loss Head (dB)	Measured Return Loss Head (dB)	Deviation (%)	PASS/FAIL
1/15/2018	1/15/2019	1.043	1.656	1.75	5.68%	1.08	1.15	6.09%	53.8	54.8	1	-2.1	-2.2	0.1	-27.6	-25.8	6.50%	PASS
Calibration Date	Extension Date	Certificate Electrical Delay (ns)	Certificate SAR Target Body (1g) W/kg @ 23.0 dBm	Measured Body SAR (1g) W/kg @ 23.0 dBm	Deviation 1g (%)	Certificate SAR Target Body (10g) W/kg @ 23.0 dBm	Measured Body SAR (10g) W/kg @ 23.0 dBm	Deviation 10g (%)	Certificate Impedance Body (Ohm) Real	Measured Impedance Body (Ohm) Real	Difference (Ohm) Real	Certificate Impedance Body (Ohm) Imaginary	Measured Impedance Body (Ohm) Imaginary	Difference (Ohm) Imaginary	Certificate Return Loss Body (dB)	Measured Return Loss Body (dB)	Deviation (%)	PASS/FAIL
1/15/2018	1/15/2019	1.043	1.716	1.84	7.23%	1.14	1.23	7.71%	49.2	49	0.2	-6.2	-5.1	1.1	-24	-25.6	-6.80%	PASS

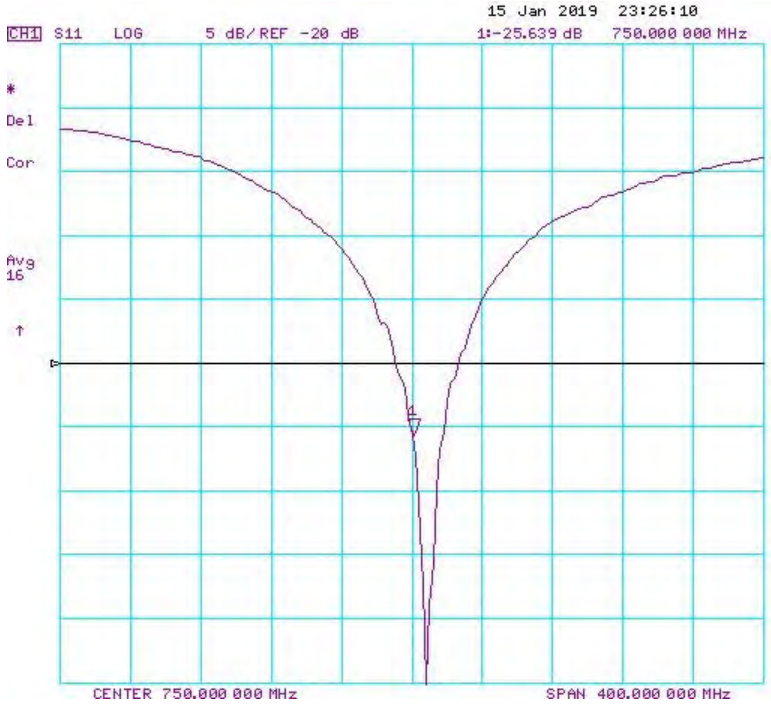
Impedance & Return-Loss Measurement Plot for Head TSL





Impedance & Return-Loss Measurement Plot for Body TSL





Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 0108

Client PC Test

Certificate No: D835V2-4d047_Mar19

CALIBRATION CERTIFICATE

Object: D835V2 - SN:4d047

Calibration procedure(s): QA CAL-05.v11
Calibration Procedure for SAR Validation Sources between 0.7-3 GHz

BN ✓

Calibration date: March 13, 2019 04-12-2019

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	04-Apr-18 (No. 217-02672/02673)	Apr-19
Power sensor NRP-Z91	SN: 103244	04-Apr-18 (No. 217-02672)	Apr-19
Power sensor NRP-Z91	SN: 103245	04-Apr-18 (No. 217-02673)	Apr-19
Reference 20 dB Attenuator	SN: 5058 (20k)	04-Apr-18 (No. 217-02682)	Apr-19
Type-N mismatch combination	SN: 5047.2 / 06327	04-Apr-18 (No. 217-02683)	Apr-19
Reference Probe EX3DV4	SN: 7349	31-Dec-18 (No. EX3-7349_Dec18)	Dec-19
DAE4	SN: 601	04-Oct-18 (No. DAE4-601_Oct18)	Oct-19

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB39512475	07-Oct-15 (in house check Feb-19)	In house check: Oct-20
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (in house check Oct-18)	In house check: Oct-20
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (in house check Oct-18)	In house check: Oct-20
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Oct-18)	In house check: Oct-20
Network Analyzer Agilent E8358A	SN: US41080477	31-Mar-14 (in house check Oct-18)	In house check: Oct-19

	Name	Function	Signature
Calibrated by:	Manu Seitz	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: March 13, 2019

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.10.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	41.5	0.90 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	41.9 ± 6 %	0.91 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.37 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**9.42 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.54 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**6.13 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Body TSL parameters	22.0 °C	55.2	0.97 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	54.3 ± 6 %	1.01 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.45 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**9.47 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.61 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**6.27 W/kg ± 16.5 % (k=2)**

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	51.4 Ω - 2.6 jΩ
Return Loss	- 30.7 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	46.8 Ω - 6.1 jΩ
Return Loss	- 22.9 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.387 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG

DASY5 Validation Report for Head TSL

Date: 13.03.2019

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d047

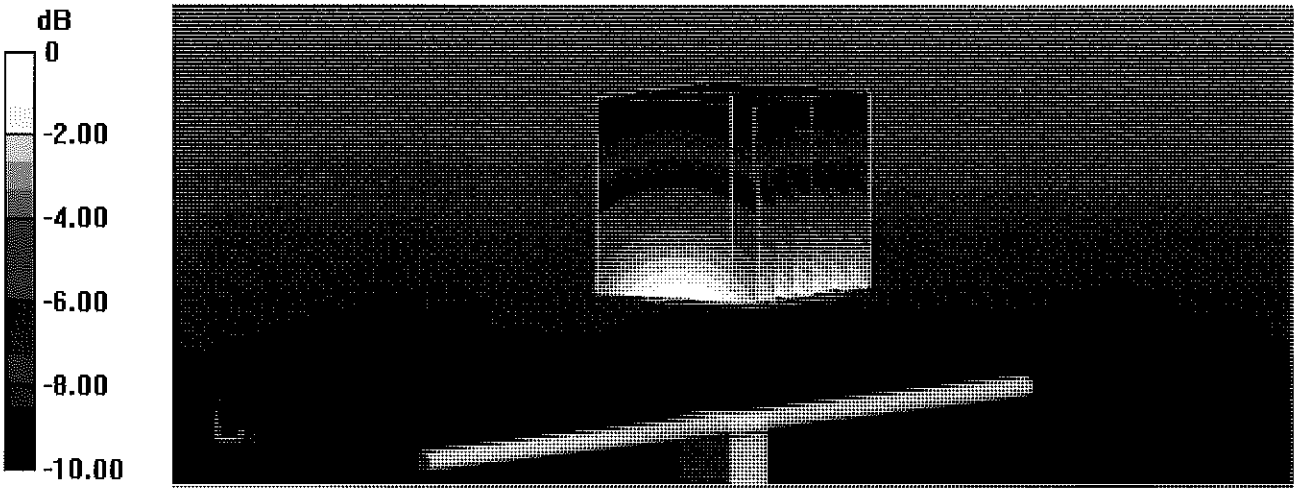
Communication System: UID 0 - CW; Frequency: 835 MHz
Medium parameters used: f = 835 MHz; $\sigma = 0.91$ S/m; $\varepsilon_r = 41.9$; $\rho = 1000$ kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(10, 10, 10) @ 835 MHz; Calibrated: 31.12.2018
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.10.2018
- Phantom: Flat Phantom 4.9 (front); Type: QD 00L P49 AA; Serial: 1001
- DASY52 52.10.2(1495); SEMCAD X 14.6.12(7450)

Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 62.48 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 3.60 W/kg
SAR(1 g) = 2.37 W/kg; SAR(10 g) = 1.54 W/kg
Maximum value of SAR (measured) = 3.18 W/kg



0 dB = 3.18 W/kg = 5.02 dBW/kg