



SAR EVALUATION REPORT

Applicant Name:

Samsung Electronics Co., Ltd.
129, Samsung-ro, Maetan dong,
Yeongtong-gu, Suwon-si
Gyeonggi-do, 16677, Korea

Date of Testing:

06/05/17 – 07/04/17

Test Site/Location:

PCTEST Lab, Columbia, MD, USA

Document Serial No.:

1M1705220174-01-R2.A3L

FCC ID:

A3LSMN950U

APPLICANT:

SAMSUNG ELECTRONICS CO., LTD.

DUT Type:

Portable Handset

Application Type:

Certification

FCC Rule Part(s):

CFR §2.1093

Model:

SM-N950U

Additional Model(s):

SM-N950U1, SM-N950XU, SM-N950W

Equipment Class	Band & Mode	Tx Frequency	SAR			
			1 gm Head (W/kg)	1 gm Body-Worn (W/kg)	1 gm Hotspot (W/kg)	10 gm Phablet (W/kg)
PCE	CDMA/EVDO BC10 (\$90S)	817.90 - 823.10 MHz	0.21	0.48	0.80	N/A
PCE	CDMA/EVDO BC0 (\$22H)	824.70 - 848.31 MHz	0.16	0.38	0.63	N/A
PCE	PCS CDMA/EVDO	1851.25 - 1908.75 MHz	0.13	0.64	1.01	2.32
PCE	GSM/GPRS/EDGE 850	824.20 - 848.80 MHz	0.16	0.36	0.63	N/A
PCE	GSM/GPRS/EDGE 1900	1850.20 - 1909.80 MHz	< 0.1	0.33	0.58	2.47
PCE	UMTS 850	826.40 - 846.60 MHz	0.19	0.45	0.72	N/A
PCE	UMTS 1750	1712.4 - 1752.6 MHz	< 0.1	0.88	0.77	2.54
PCE	UMTS 1900	1852.4 - 1907.6 MHz	0.10	0.77	0.70	2.99
PCE	LTE Band 12	699.7 - 715.3 MHz	0.13	0.26	0.54	N/A
PCE	LTE Band 17	706.5 - 713.5 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 13	779.5 - 784.5 MHz	0.20	0.44	0.70	N/A
PCE	LTE Band 26 (Cell)	814.7 - 848.3 MHz	0.19	0.42	0.78	N/A
PCE	LTE Band 5 (Cell)	824.7 - 848.3 MHz	0.17	0.44	0.81	N/A
PCE	LTE Band 66 (AWS)	1710.7 - 1779.3 MHz	0.13	0.93	0.59	3.29
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	0.17	0.62	1.02	2.07
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	0.16	0.41	0.51	2.27
PCE	LTE Band 7	2502.5 - 2567.5 MHz	< 0.1	0.39	0.38	2.68
PCE	LTE Band 38	2572.5 - 2617.5 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 41	2498.5 - 2687.5 MHz	0.10	0.43	0.85	2.42
DTS	2.4 GHz WLAN	2412 - 2462 MHz	0.70	0.14	0.36	N/A
NI	U-NII-1	5180 - 5240 MHz	N/A	N/A	N/A	N/A
NI	U-NII-2A	5260 - 5320 MHz	0.21	0.12	N/A	0.71
NI	U-NII-2C	5500 - 5720 MHz	0.31	0.11	N/A	0.87
NI	U-NII-3	5745 - 5825 MHz	0.25	0.13	0.21	N/A
DSS/DTS	Bluetooth	2402 - 2480 MHz	0.73	< 0.1	0.11	N/A
Simultaneous SAR per KDB 690783 D01v01r03:			1.05	1.18	1.59	3.97

Note: This revised Test Report (S/N: 1M1705220174-01-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



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1 DEVICE UNDER TEST

1.1 Device Overview

Band & Mode	Operating Modes	Tx Frequency
CDMA/EVDO BC10 (§90S)	Voice/Data	817.90 - 823.10 MHz
CDMA/EVDO BC0 (§22H)	Voice/Data	824.70 - 848.31 MHz
PCS CDMA/EVDO	Voice/Data	1851.25 - 1908.75 MHz
GSM/GPRS/EDGE 850	Voice/Data	824.20 - 848.80 MHz
GSM/GPRS/EDGE 1900	Voice/Data	1850.20 - 1909.80 MHz
UMTS 850	Voice/Data	826.40 - 846.60 MHz
UMTS 1750	Voice/Data	1712.4 - 1752.6 MHz
UMTS 1900	Voice/Data	1852.4 - 1907.6 MHz
LTE Band 12	Voice/Data	699.7 - 715.3 MHz
LTE Band 17	Voice/Data	706.5 - 713.5 MHz
LTE Band 13	Voice/Data	779.5 - 784.5 MHz
LTE Band 26 (Cell)	Voice/Data	814.7 - 848.3 MHz
LTE Band 5 (Cell)	Voice/Data	824.7 - 848.3 MHz
LTE Band 66 (AWS)	Voice/Data	1710.7 - 1779.3 MHz
LTE Band 4 (AWS)	Voice/Data	1710.7 - 1754.3 MHz
LTE Band 25 (PCS)	Voice/Data	1850.7 - 1914.3 MHz
LTE Band 2 (PCS)	Voice/Data	1850.7 - 1909.3 MHz
LTE Band 30	Voice/Data	2307.5 - 2312.5 MHz
LTE Band 7	Voice/Data	2502.5 - 2567.5 MHz
LTE Band 38	Voice/Data	2572.5 - 2617.5 MHz
LTE Band 41	Voice/Data	2498.5 - 2687.5 MHz
2.4 GHz WLAN	Voice/Data	2412 - 2462 MHz
U-NII-1	Voice/Data	5180 - 5240 MHz
U-NII-2A	Voice/Data	5260 - 5320 MHz
U-NII-2C	Voice/Data	5500 - 5720 MHz
U-NII-3	Voice/Data	5745 - 5825 MHz
Bluetooth	Data	2402 - 2480 MHz
NFC	Data	13.56 MHz
ANT+	Data	2402 - 2480 MHz
MST	Data	555 Hz - 8.33 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. 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 Maximum PCE Power

Mode / Band		Voice (dBm)	Burst Average GMSK (dBm)				Burst Average 8-PSK (dBm)			
		1 TX Slot	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots
GSM/GPRS/EDGE 850	Maximum	33.5	33.5	31.5	30.0	28.0	27.0	26.0	24.0	22.5
	Nominal	33.0	33.0	31.0	29.5	27.5	26.5	25.5	23.5	22.0
GSM/GPRS/EDGE 1900	Maximum	31.0	31.0	28.5	26.5	24.5	26.0	25.0	23.0	21.5
	Nominal	30.5	30.5	28.0	26.0	24.0	25.5	24.5	22.5	21.0

Mode / Band		Modulated Average (dBm)			
		3GPP WCDMA	3GPP HSDPA	3GPP HSUPA	3GPP DC-HSDPA
UMTS Band 5 (850 MHz)	Maximum	25.3	24.5	24.5	24.5
	Nominal	24.8	24.0	24.0	24.0
UMTS Band 4 (1750 MHz)	Maximum	25.0	24.5	24.5	24.5
	Nominal	24.5	24.0	24.0	24.0
UMTS Band 2 (1900 MHz)	Maximum	24.5	24.0	24.0	24.0
	Nominal	24.0	23.5	23.5	23.5

Mode / Band		Modulated Average (dBm)
CDMA/EVDO BC10 (\$90S)	Maximum	25.5
	Nominal	25.0
CDMA/EVDO BC0 (\$22H)	Maximum	25.0
	Nominal	24.5
PCS CDMA/EVDO	Maximum	24.5
	Nominal	24.0

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Mode / Band		Modulated Average (dBm)
LTE Band 12	Maximum	25.3
	Nominal	24.8
LTE Band 17	Maximum	25.3
	Nominal	24.8
LTE Band 13	Maximum	25.3
	Nominal	24.8
LTE Band 26 (Cell)	Maximum	25.3
	Nominal	24.8
LTE Band 5 (Cell)	Maximum	25.3
	Nominal	24.8
LTE Band 66 (AWS)	Maximum	25.0
	Nominal	24.5
LTE Band 4 (AWS)	Maximum	25.0
	Nominal	24.5
LTE Band 25 (PCS)	Maximum	24.5
	Nominal	24.0
LTE Band 2 (PCS)	Maximum	24.5
	Nominal	24.0
LTE Band 30	Maximum	24.0
	Nominal	23.5
LTE Band 7	Maximum	24.0
	Nominal	23.5
LTE Band 38	Maximum	23.0
	Nominal	22.5
LTE Band 41 (PC3)	Maximum	24.5
	Nominal	24.0
LTE Band 41 (PC2)	Maximum	28.0
	Nominal	27.5

1.3.2 Reduced PCE Power – Hotspot Mode Activated

Mode / Band		Burst Average GMSK (dBm)				Burst Average 8-PSK (dBm)			
		1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots
GSM/GPRS/EDGE 1900	Maximum	28.0	25.5	24.0	21.5	26.0	25.0	23.0	21.5
	Nominal	27.5	25.0	23.5	21.0	25.5	24.5	22.5	21.0

Mode / Band		Modulated Average (dBm)			
		3GPP WCDMA	3GPP HSDPA	3GPP HSUPA	3GPP DC-HSDPA
UMTS Band 4 (1750 MHz)	Maximum	20.5	20.0	20.0	20.0
	Nominal	20.0	19.5	19.5	19.5
UMTS Band 2 (1900 MHz)	Maximum	20.0	19.5	19.5	19.5
	Nominal	19.5	19.0	19.0	19.0

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Mode / Band		Modulated Average (dBm)
PCS CDMA/EVDO	Maximum	20.5
	Nominal	20.0

Mode / Band		Modulated Average (dBm)
LTE Band 66 (AWS)	Maximum	20.0
	Nominal	19.5
LTE Band 4 (AWS)	Maximum	20.0
	Nominal	19.5
LTE Band 25 (PCS)	Maximum	20.0
	Nominal	19.5
LTE Band 2 (PCS)	Maximum	20.0
	Nominal	19.5
LTE Band 30	Maximum	20.5
	Nominal	20.0
LTE Band 7	Maximum	20.5
	Nominal	20.0
LTE Band 38	Maximum	22.5
	Nominal	22.0
LTE Band 41 (PC3)	Maximum	22.5
	Nominal	22.0
LTE Band 41 (PC2)	Maximum	22.5
	Nominal	22.0

1.3.3 Reduced PCE Power – Grip Sensor Activated

Mode / Band		Voice (dBm)	Burst Average GMSK (dBm)				Burst Average 8-PSK (dBm)			
		1 TX Slot	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots
GSM/GPRS/EDGE 1900	Maximum	30.0	30.0	27.5	26.0	24.0	26.0	25.0	23.0	21.5
	Nominal	29.5	29.5	27.0	25.5	23.5	25.5	24.5	22.5	21.0

Mode / Band		Modulated Average (dBm)			
		3GPP WCDMA	3GPP HSDPA	3GPP HSUPA	3GPP DC-HSDPA
UMTS Band 4 (1750 MHz)	Maximum	21.0	20.5	20.5	20.5
	Nominal	20.5	20.0	20.0	20.0
UMTS Band 2 (1900 MHz)	Maximum	21.5	21.0	21.0	21.0
	Nominal	21.0	20.5	20.5	20.5

Mode / Band		Modulated Average (dBm)
PCS CDMA/EVDO	Maximum	21.5
	Nominal	21.0

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Mode / Band		Modulated Average (dBm)
LTE Band 66 (AWS)	Maximum	21.0
	Nominal	20.5
LTE Band 4 (AWS)	Maximum	21.0
	Nominal	20.5
LTE Band 25 (PCS)	Maximum	21.5
	Nominal	21.0
LTE Band 2 (PCS)	Maximum	21.5
	Nominal	21.0
LTE Band 30	Maximum	21.5
	Nominal	21.0
LTE Band 7	Maximum	21.0
	Nominal	20.5
LTE Band 41 (PC3)	Maximum	23.5
	Nominal	23.0
LTE Band 41 (PC2)	Maximum	23.5
	Nominal	23.0

1.3.4 Maximum Bluetooth and SISO and MIMO WLAN Power

Mode / Band		Modulated Average - Single Tx Chain (dBm)
IEEE 802.11b (2.4 GHz)	Maximum	20.5
	Nominal	20.0
IEEE 802.11g (2.4 GHz)	Maximum	16.5
	Nominal	16.0
IEEE 802.11n (2.4 GHz)	Maximum	16.5
	Nominal	16.0

Mode / Band		Modulated Average - Single Tx Chain (dBm)		
		20 MHz Bandwidth	40 MHz Bandwidth	80 MHz Bandwidth
IEEE 802.11a (5 GHz)	Maximum	16.5		
	Nominal	16.0		
IEEE 802.11n (5 GHz)	Maximum	16.5	15.5 (Ch. 54-62: 14.5)	
	Nominal	16.0	15.0 (Ch. 54-62: 14.0)	
IEEE 802.11ac (5 GHz)	Maximum	16.5	15.5 (Ch. 54-62: 14.5)	14.5
	Nominal	16.0	15.0 (Ch. 54-62: 14.0)	14.0

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Mode / Band		Modulated Average - MIMO (dBm)		
		20 MHz Bandwidth	40 MHz Bandwidth	80 MHz Bandwidth
IEEE 802.11g (2.4 GHz)	Maximum	19.5		
	Nominal	19.0		
IEEE 802.11n (2.4 GHz)	Maximum	19.5		
	Nominal	19.0		
IEEE 802.11a (5 GHz)	Maximum	19.5		
	Nominal	19.0		
IEEE 802.11n (5 GHz)	Maximum	19.5	18.5 (Ch. 54-62: 17.5)	
	Nominal	19.0	18.0 (Ch. 54-62: 17.0)	
IEEE 802.11ac (5 GHz)	Maximum	19.5	18.5 (Ch. 54-62: 17.5)	17.5
	Nominal	19.0	18.0 (Ch. 54-62: 17.0)	17.0

Mode / Band		Modulated Average - Single Tx Chain (dBm)
Bluetooth	Maximum	15.5
	Nominal	15.0
Bluetooth LE	Maximum	9.5
	Nominal	9.0

1.3.5 Reduced SISO and MIMO WLAN Power

Mode / Band		Modulated Average - Single Tx Chain (dBm)
IEEE 802.11b (2.4 GHz)	Maximum	16.5
	Nominal	16.0
IEEE 802.11g (2.4 GHz)	Maximum	13.5
	Nominal	13.0
IEEE 802.11n (2.4 GHz)	Maximum	13.5
	Nominal	13.0

Mode / Band		Modulated Average - Single Tx Chain (dBm)		
		20 MHz Bandwidth	40 MHz Bandwidth	80 MHz Bandwidth
IEEE 802.11a (5 GHz)	Maximum	13.5		
	Nominal	13.0		
IEEE 802.11n (5 GHz)	Maximum	13.5	13.5	
	Nominal	13.0	13.0	
IEEE 802.11ac (5 GHz)	Maximum	13.5	13.5	13.5
	Nominal	13.0	13.0	13.0

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Mode / Band		Modulated Average - MIMO (dBm)		
		20 MHz Bandwidth	40 MHz Bandwidth	80 MHz Bandwidth
IEEE 802.11g (2.4 GHz)	Maximum	16.5		
	Nominal	16.0		
IEEE 802.11n (2.4 GHz)	Maximum	16.5		
	Nominal	16.0		
IEEE 802.11a (5 GHz)	Maximum	16.5		
	Nominal	16.0		
IEEE 802.11n (5 GHz)	Maximum	16.5	16.5	
	Nominal	16.0	16.0	
IEEE 802.11ac (5 GHz)	Maximum	16.5	16.5	16.5
	Nominal	16.0	16.0	16.0

1.3.6 Maximum Powers During Conditions with Simultaneous 2.4 GHz and 5 GHz WLAN

	# Tx	5 GHz WIFI [dBm]		2.4 GHz WIFI [dBm]		802.11 Modes
		Ant1	Ant2	Ant1	Ant2	
2.4 GHz + 5 GHz	2	A	-	-	B	2.4 GHz: b,g,n 5 GHz: a,n,ac
	2	-	A	B	-	
	2	A	-	B	-	
	2	-	A	-	B	
	3	A	A	B	-	2.4 GHz: b, g, n 5 GHz: n, ac, a (CDD + STBC only)
	3	A	A	-	B	
	3	A	-	B	B	2.4 GHz: n, g (CDD + STBC only) 5 GHz: a, n, ac
	3	-	A	B	B	
	4	A	A	B	B	2.4 GHz: n, g (CDD + STBC only) 5 GHz: n, ac, a (CDD + STBC only)

A = 13 dBm

B = 16 dBm

(Upper tolerance: target + 0.5 dB)

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1.3.7 Reduced Powers During Conditions with Simultaneous 2.4 GHz and 5 GHz WLAN

	# Tx	5 GHz WIFI [dBm]		2.4 GHz WIFI [dBm]		802.11 Modes
		Ant1	Ant2	Ant1	Ant2	
2.4 GHz + 5 GHz	2	A	-	-	B	2.4 GHz: b,g,n 5 GHz: a,n,ac
	2	-	A	B	-	
	2	A	-	B	-	
	2	-	A	-	B	
	3	A	A	B	-	2.4 GHz: b, g, n 5 GHz: n, ac, a (CDD + STBC only)
	3	A	A	-	B	
	3	A	-	B	B	2.4 GHz: n, g (CDD + STBC only) 5 GHz: a, n, ac
	3	-	A	B	B	
	4	A	A	B	B	2.4 GHz: n, g (CDD + STBC only) 5 GHz: n, ac, a (CDD + STBC only)

A = 13 dBm

B = 12 dBm

(Upper tolerance: target + 0.5 dB)

1.4 DUT Antenna Locations

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

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

Mode	Back	Front	Top	Bottom	Right	Left
EVDO BC10 (\$90S)	Yes	Yes	No	Yes	Yes	Yes
EVDO BC0 (\$22H)	Yes	Yes	No	Yes	Yes	Yes
PCS EVDO	Yes	Yes	No	Yes	Yes	Yes
GPRS 850	Yes	Yes	No	Yes	Yes	Yes
GPRS 1900	Yes	Yes	No	Yes	Yes	Yes
UMTS 850	Yes	Yes	No	Yes	Yes	Yes
UMTS 1750	Yes	Yes	No	Yes	Yes	Yes
UMTS 1900	Yes	Yes	No	Yes	Yes	Yes
LTE Band 12	Yes	Yes	No	Yes	Yes	Yes
LTE Band 13	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	Yes	No	No	Yes
2.4 GHz WLAN Ant 2	Yes	Yes	Yes	No	No	Yes
5 GHz WLAN Ant 1	Yes	Yes	Yes	No	No	Yes
5 GHz WLAN Ant 2	Yes	Yes	Yes	No	No	Yes
Bluetooth	Yes	Yes	Yes	No	No	Yes

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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. Therefore, U-NII-1, U-NII-2A, U-NII-2C operations are not considered in this section.

1.5 Near Field Communications (NFC) Antenna

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

1.6 Simultaneous Transmission Capabilities

According to FCC KDB Publication 447498 D01v06, transmitters are considered to be transmitting simultaneously when there is overlapping transmission, with the exception of transmissions during network hand-offs with maximum hand-off duration less than 30 seconds. Possible transmission paths for the DUT are shown in Figure 1-1 and are color-coded to indicate communication modes which share the same path. Modes which share the same transmission path cannot transmit simultaneously with one another.

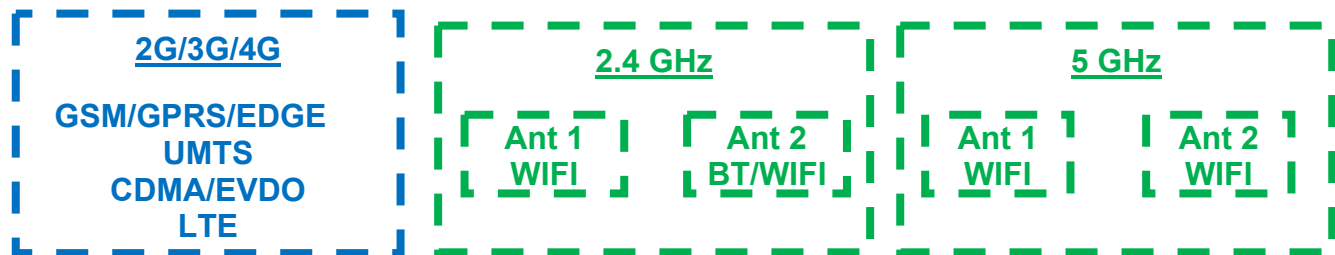


Figure 1-1
Simultaneous Transmission Paths

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

Table 1-2
Simultaneous Transmission Scenarios

No.	Capable Transmit Configuration	Head	Body-Worn Accessory	Wireless Router	Phablet	Notes
1	1x CDMA voice + 2.4 GHz Wi-Fi	Yes	Yes	N/A	Yes	
2	1x CDMA voice + 5 GHz Wi-Fi	Yes	Yes	N/A	Yes	
3	1x CDMA voice + 2.4 GHz Wi-Fi + 5 GHz Wi-Fi	Yes	Yes	N/A	Yes	
4	1x CDMA voice + 2.4 GHz Bluetooth	Yes^	Yes	N/A	Yes	^BT Tethering applications are considered.
5	1x CDMA voice + 2.4 GHz Wi-Fi MIMO	Yes	Yes	N/A	Yes	
6	1x CDMA voice + 5 GHz Wi-Fi MIMO	Yes	Yes	N/A	Yes	
7	1x CDMA voice + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	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 Wi-Fi + 5 GHz Wi-Fi	Yes	Yes	N/A	Yes	
11	GSM voice + 2.4 GHz Bluetooth	Yes^	Yes	N/A	Yes	^BT Tethering applications are considered.
12	GSM voice + 2.4 GHz Wi-Fi MIMO	Yes	Yes	N/A	Yes	
13	GSM voice + 5 GHz Wi-Fi MIMO	Yes	Yes	N/A	Yes	
14	GSM voice + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	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 Wi-Fi + 5 GHz Wi-Fi	Yes	Yes	Yes	Yes	
18	UMTS + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^BT Tethering applications are considered.
19	UMTS + 2.4 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
20	UMTS + 5 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
21	UMTS + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	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 Wi-Fi + 5 GHz Wi-Fi	Yes	Yes	Yes	Yes	
25	LTE + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^BT Tethering applications are considered.
26	LTE + 2.4 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
27	LTE + 5 GHz Wi-Fi MIMO	Yes	Yes	Yes	Yes	
28	LTE + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	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 Wi-Fi + 5 GHz Wi-Fi	Yes*	Yes*	Yes	Yes	*-Pre-installed VOIP applications are considered.
32	CDMA/EVDO data + 2.4 GHz Bluetooth	Yes^*	Yes*	Yes^	Yes	*-Pre-installed VOIP applications are considered. ^BT Tethering applications are considered.
33	CDMA/EVDO data + 2.4 GHz Wi-Fi MIMO	Yes*	Yes*	Yes	Yes	*-Pre-installed VOIP applications are considered.
34	CDMA/EVDO data + 5 GHz Wi-Fi MIMO	Yes*	Yes*	Yes	Yes	*-Pre-installed VOIP applications are considered.
35	CDMA/EVDO data + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	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 Wi-Fi + 5 GHz Wi-Fi	N/A	N/A	Yes	Yes	
39	GPRS/EDGE + 2.4 GHz Bluetooth	N/A	N/A	Yes^	Yes	^BT Tethering applications are considered.
40	GPRS/EDGE + 2.4 GHz Wi-Fi MIMO	N/A	N/A	Yes	Yes	
41	GPRS/EDGE + 5 GHz Wi-Fi MIMO	N/A	N/A	Yes	Yes	
42	GPRS/EDGE + 2.4 GHz Wi-Fi MIMO + 5 GHz Wi-Fi MIMO	N/A	N/A	Yes	Yes	

- Bluetooth cannot transmit simultaneously with WLAN.
- All licensed modes share the same antenna path and cannot transmit simultaneously.
- 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.
- 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 GHz Wireless Router is only supported for the U-NII-3 by S/W, therefore U-NII-1, U-NII2A, and U-NII2C were not evaluated for wireless router conditions.
- This device supports 2x2 MIMO Tx for WLAN. 802.11a/g/n/ac supports CDD and STBC and 802.11n/ac additionally supports SDM.
- This device supports VOLTE.
- This device supports VoWIFI.

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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 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 downlink only LTE CA operations was not needed since the maximum average output power in downlink only LTE CA mode was not >0.25 dB higher than the maximum output power when downlink carrier aggregation was inactive.

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

This device supports downlink 4x4 MIMO operations for LTE Bands 2, 4, 25 and 66 only. Per FCC Guidance, SAR for downlink 4x4 MIMO was not needed since the maximum average output power in 4x4 downlink MIMO mode was not > 0.25 dB higher than the maximum output power with downlink 4x4 MIMO inactive.

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

This device supports both Power Class 2 (PC2) and Power Class 3 (PC3) for LTE Band 41. Per May 2017 TCB Workshop Notes, SAR tests were performed with Power Class 3 (given the specific UL/DL limitations for Power Class 2). Additionally, SAR testing for the power class condition was evaluated for the highest configuration in Power Class 3 for each test configuration to confirm the results were scalable linearly (See Section 14.2).

This device supports both LTE B12 and LTE B17. Since the supported frequency span for LTE B17 falls completely within the supported frequency span for LTE B12, both LTE bands have the same target power, and both LTE bands share the same transmission path, SAR was only assessed for LTE B12.

This device supports both LTE B66 (AWS) and LTE B4 (AWS). Since the supported frequency span for LTE B4 (AWS) falls completely within the supported frequency span for LTE B66 (AWS), both LTE bands have the same target power, and both LTE bands share the same transmission path, SAR was only assessed for LTE B66 (AWS).

This device supports both LTE B25 (PCS) and LTE B2 (PCS). Since the supported frequency span for LTE B2 (PCS) falls completely within the supported frequency span for LTE B25 (PCS), both LTE bands have the same target power, and both LTE bands share the same transmission path, SAR was only assessed for LTE B25 (PCS).

This device supports both LTE B41 and LTE B38. Since the supported frequency span for LTE B38 falls completely within the supported frequency span for LTE B41, and LTE Band 41 has a higher target power, and both LTE bands share the same transmission path, SAR was only assessed for LTE B41.

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.

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)
- October 2013 TCB Workshop Notes (GPRS Testing Considerations)
- May 2017 TCB Workshop Notes (LTE Band 41 Power Class 2, LTE 4x4 DL MIMO)

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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.

	Head Serial Number	Body-Worn Serial Number	Hotspot Serial Number	Phablet Max Serial Number	Phablet Reduced Serial Number
CDMA/EVDO BC10 (\$90S)	155D4	155D4	155D4	-	-
CDMA/EVDO BC0 (\$22H)	155D4	155D4	155D4	-	-
PCS CDMA/EVDO	155D4	155D4	1522F	155D4	1574F
GSM/GPRS/EDGE 850	158C6	158C6	158C6	-	-
GSM/GPRS/EDGE 1900	158C6	158C6	1521E	158C6	15EC2
UMTS 850	158C6	158C6	158C6	-	-
UMTS 1750	158C6	06D58	1521E	06D58	15EC2
UMTS 1900	158C6	06D58	1521E	158C6	15EC2
LTE Band 12	15DDA	15DDA	15DDA	-	-
LTE Band 13	15DDA	15DDA	15DDA	-	-
LTE Band 26 (Cell)	15DDA	15DDA	15DDA	-	-
LTE Band 5 (Cell)	15DDA	15DDA	15DDA	-	-
LTE Band 66 (AWS)	1593F	06D58	155CD	06D58	15DF4
LTE Band 25 (PCS)	1593F	1593F	155CD	1593F	15DF4
LTE Band 30	158DD	158DD	15EC3	158DD	158D1
LTE Band 7	158DD	158DD	15EC3	158DD	158D1
LTE Band 41 (PC3)	15DE5	15DE5	15EC3	15DE5	158D1
LTE Band 41 (PC2)	15DE5	15DE5	1551D	-	15950
2.4 GHz WLAN	1593D	1593D	1593D	.	-
5 GHz WLAN	1593D	1595F	1595F	1595F	1595F
Bluetooth	1593D	1593D	1593D	-	-

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LTE Information					
FCC ID	A3LSMN950U				
Form Factor	Portable Handset				
Frequency Range of each LTE transmission band	LTE Band 12 (699.7 - 715.3 MHz)				
	LTE Band 17 (706.5 - 713.5 MHz)				
	LTE Band 13 (779.5 - 784.5 MHz)				
	LTE Band 26 (Cell) (814.7 - 848.3 MHz)				
	LTE Band 5 (Cell) (824.7 - 848.3 MHz)				
	LTE Band 66 (AWS) (1710.7 - 1779.3 MHz)				
	LTE Band 4 (AWS) (1710.7 - 1754.3 MHz)				
	LTE Band 25 (PCS) (1850.7 - 1914.3 MHz)				
	LTE Band 2 (PCS) (1850.7 - 1909.3 MHz)				
	LTE Band 30 (2307.5 - 2312.5 MHz)				
	LTE Band 7 (2502.5 - 2567.5 MHz)				
	LTE Band 38 (2572.5 - 2617.5 MHz)				
	LTE Band 41 (2498.5 - 2687.5 MHz)				
	LTE Band 12: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 17: 5 MHz, 10 MHz				
Channel Bandwidths	LTE Band 13: 5 MHz, 10 MHz				
	LTE Band 26 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz				
	LTE Band 5 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 66 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 4 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 25 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 2 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 30: 5 MHz, 10 MHz				
	LTE Band 7: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 38: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 41: 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 38: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 41: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
Channel Numbers and Frequencies (MHz)	Low	Low-Mid	Mid	Mid-High	High
LTE Band 12: 1.4 MHz	699.7 (23017)	707.5 (23095)	715.3 (23173)		
LTE Band 12: 3 MHz	700.5 (23025)	707.5 (23095)	714.5 (23165)		
LTE Band 12: 5 MHz	701.5 (23035)	707.5 (23095)	713.5 (23155)		
LTE Band 12: 10 MHz	704 (23060)	707.5 (23095)	711 (23130)		
LTE Band 17: 5 MHz	706.5 (23755)	710 (23790)	713.5 (23825)		
LTE Band 17: 10 MHz	709 (23780)	710 (23790)	711 (23800)		
LTE Band 13: 5 MHz	779.5 (23205)	782 (23230)	784.5 (23255)		
LTE Band 13: 10 MHz	N/A	782 (23230)	N/A		
LTE Band 26 (Cell): 1.4 MHz	814.7 (26697)	831.5 (26865)	848.3 (27033)		
LTE Band 26 (Cell): 3 MHz	815.5 (26705)	831.5 (26865)	847.5 (27025)		
LTE Band 26 (Cell): 5 MHz	816.5 (26715)	831.5 (26865)	846.5 (27015)		
LTE Band 26 (Cell): 10 MHz	819 (26740)	831.5 (26865)	844 (26990)		
LTE Band 26 (Cell): 15 MHz	821.5 (26765)	831.5 (26865)	841.5 (26965)		
LTE Band 5 (Cell): 1.4 MHz	824.7 (20407)	836.5 (20525)	848.3 (20643)		
LTE Band 5 (Cell): 3 MHz	825.5 (20415)	836.5 (20525)	847.5 (20635)		
LTE Band 5 (Cell): 5 MHz	826.5 (20425)	836.5 (20525)	846.5 (20625)		
LTE Band 5 (Cell): 10 MHz	829 (20450)	836.5 (20525)	844 (20600)		
LTE Band 66 (AWS): 1.4 MHz	1710.7 (131979)	1745 (132322)	1779.3 (132665)		
LTE Band 66 (AWS): 3 MHz	1711.5 (131987)	1745 (132322)	1778.5 (132657)		
LTE Band 66 (AWS): 5 MHz	1712.5 (131997)	1745 (132322)	1777.5 (132647)		
LTE Band 66 (AWS): 10 MHz	1715 (132022)	1745 (132322)	1775 (132622)		
LTE Band 66 (AWS): 15 MHz	1717.5 (132047)	1745 (132322)	1772.5 (132597)		
LTE Band 66 (AWS): 20 MHz	1720 (132072)	1745 (132322)	1770 (132572)		
LTE Band 4 (AWS): 1.4 MHz	1710.7 (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)	2566 (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 38: 5 MHz	2572.5 (37775)	2595 (38000)	2612.5 (38199)		
LTE Band 38: 10 MHz	2575.0 (37800)	2595 (38000)	2615.0 (38199)		
LTE Band 38: 15 MHz	2577.5 (37825)	2595 (38000)	2612.5 (38174)		
LTE Band 38: 20 MHz	N/A	2595 (38000)	N/A		
LTE Band 41: 5 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 10 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 15 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 20 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
UE Category	DL UE Cat 16 (QPSK, 16QAM, 64QAM, 256QAM) UL UE Cat 5 (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	LTE Release 14 Information, and This device does not support full CA features on 3G Release 14. It supports carriers aggregation and downlink MIMO, LAA, and LTE-U features as shown in Section 9 and Appendix G and H. All other uplink communications are identical to the Release 8 specifications. Uplink Communications are done on the PCC unless otherwise specified. The following LTE Release 14 features are not supported: Relay, HetNet, Enhanced eICIC, MDH, eMBMS, Cross-carrier scheduling, Enhanced SC-FDMA.				

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3 INTRODUCTION

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

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

3.1 SAR Definition

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

Equation 3-1
SAR Mathematical Equation

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

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

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

where:

- σ = conductivity of the tissue-simulating material (S/m)
- ρ = mass density of the tissue-simulating material (kg/m³)
- E = Total RMS electric field strength (V/m)

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

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4 DOSIMETRIC ASSESSMENT

4.1 Measurement Procedure

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

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

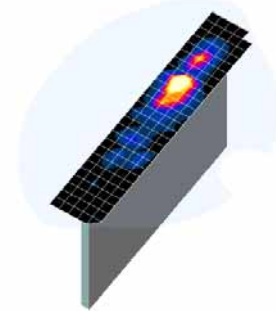


Figure 4-1
Sample SAR Area
Scan

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

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

*Also compliant to IEEE 1528-2013 Table 6

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5.1 EAR REFERENCE POINT

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

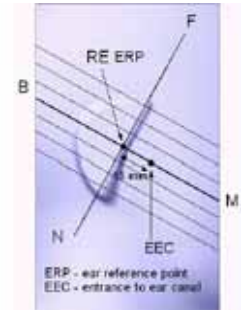


Figure 5-1
Close-Up Side view
of ERP

5.2 HANDSET REFERENCE POINTS

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



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

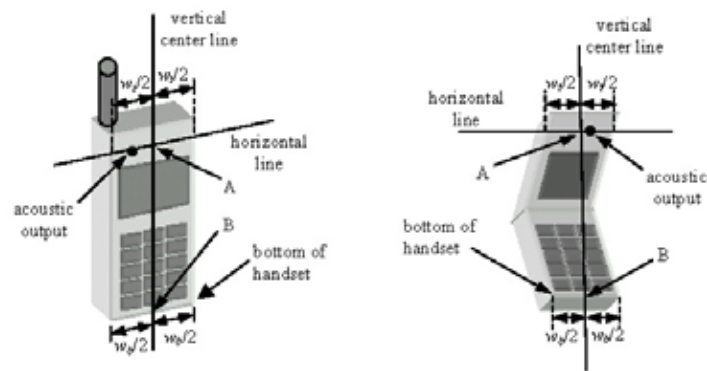


Figure 5-3
Handset Vertical Center & Horizontal Line Reference Points

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6 TEST CONFIGURATION POSITIONS

6.1 Device Holder

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

6.2 Positioning for Cheek

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



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

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

6.3 Positioning for Ear / 15° Tilt

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

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

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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 1-g body and 10-g extremity SAR Exclusion Thresholds found in KDB Publication 447498 D01v06 should be applied to determine SAR test requirements.

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

6.7 Wireless Router Configurations

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

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

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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 10-g SAR. The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g SAR > 1.2 W/kg.

6.9 Additional Test Positions due to Proximity Conditions

This device uses a sensor to reduce voice and data powers in extremity (hand-held) use conditions.

When the sensor detects a user is touching the device on or near to the antenna the device reduces the maximum allowed output power. However, the proximity sensor is not active when the device is moved beyond the sensor triggering distance and the maximum output power is no longer limited. Therefore, an additional exposure condition is needed in the vicinity of the triggering distance to ensure SAR is compliant when the device is allowed to operate at a non-reduced output power level.

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

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7 RF EXPOSURE LIMITS

7.1 Uncontrolled Environment

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

7.2 Controlled Environment

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

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

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

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

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8 FCC MEASUREMENT PROCEDURES

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

8.1 Measured and Reported SAR

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

8.2 3G SAR Test Reduction Procedure

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

8.3 Procedures Used to Establish RF Signal for SAR

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

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

8.4 SAR Measurement Conditions for CDMA2000

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

8.4.1 Output Power Verification

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

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

Table 8-1
Parameters for Max. Power for RC1

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

Table 8-2
Parameters for Max. Power for RC3

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

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

8.4.2 Head SAR Measurements

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

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

8.4.3 Body-worn SAR Measurements

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

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

8.4.4 Body-worn SAR Measurements for EVDO Devices

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

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

When SAR is required for EVDO Rev. A, SAR is measured with a Reverse Data Channel payload size of 4096 bits and a Termination Target of 16 slots defined for Subtype 2 Physical Layer configurations, using

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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 Ev-Do 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 Ev-Do Rev. 0 and Rev. A as the respective primary modes. Otherwise, the 'Body-Worn Accessory SAR' procedures in the '3GPP2 CDMA 2000 1x Handsets' section are applied.

8.4.6 CDMA2000 1x Advanced

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

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

8.5 SAR Measurement Conditions for UMTS

8.5.1 Output Power Verification

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

8.5.2 Head SAR Measurements

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

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.

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8.5.4 SAR Measurements with Rel 5 HSDPA

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

8.5.5 SAR Measurements with Rel 6 HSUPA

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

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

8.5.6 SAR Measurement Conditions for DC-HSDPA

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

8.6 SAR Measurement Conditions for LTE

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

8.6.1 Spectrum Plots for RB Configurations

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

8.6.2 MPR

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

8.6.3 A-MPR

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

8.6.4 Required RB Size and RB Offsets for SAR Testing

According to FCC KDB 941225 D05v02r04:

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- 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 ≤ 0.6 W/kg for LTE Band 41 and ≤ 0.8 W/kg for other LTE Bands, testing of the remaining RB offset configurations and required test channels is not required. Otherwise, SAR is required for the remaining required test channels using the RB offset configuration with highest output power for that channel.
 - iii. When the reported SAR for a required test channel is > 1.45 W/kg, SAR is required for all RB offset configurations for that channel.
- b. Per Section 5.2.2, SAR is required for 50% RB allocation using the largest bandwidth following the same procedures outlined in Section 5.2.1.
- c. Per Section 5.2.3, QPSK SAR is not required for the 100% allocation when the highest maximum output power for the 100% allocation is less than the highest maximum output power of the 1 RB and 50% RB allocations and the reported SAR for the 1 RB and 50% RB allocations is < 0.8 W/kg.
- d. Per Section 5.2.4 and 5.3, SAR tests for higher order modulations and lower bandwidths configurations are not required when the conducted power of the required test configurations determined by Sections 5.2.1 through 5.2.3 is less than or equal to $\frac{1}{2}$ dB higher than the equivalent configuration using QPSK modulation and when the QPSK SAR for those configurations is < 1.45 W/kg.

8.6.5 TDD

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

8.6.6 Downlink Only Carrier Aggregation

Conducted power measurements with LTE Carrier Aggregation (CA) (downlink only) active are made in accordance to KDB Publication 941225 D05Av01r02. The RRC connection is only handled by one cell, the primary component carrier (PCC) for downlink and uplink communications. After making a data connection to the PCC, the UE device adds secondary component carrier(s) (SCC) on the downlink only. All uplink communications and acknowledgements remain identical to specifications when downlink carrier aggregation is inactive on the PCC. For every supported combination of downlink only carrier aggregation, 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 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

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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 10-g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

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

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

8.7.4 Initial Test Position Procedure

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

8.7.5 2.4 GHz SAR Test Requirements

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

- 1) When the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.
- 2) When the reported SAR is > 0.8 W/kg, SAR is required for that position using the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel; i.e., all channels require testing.

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2.4 GHz 802.11 g/n 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 10-g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

8.7.6 OFDM Transmission Mode and SAR Test Channel Selection

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

8.7.7 Initial Test Configuration Procedure

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

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

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9 RF CONDUCTED POWERS

9.1 CDMA Conducted Powers

Table 9-1
Maximum Conducted Powers

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	24.92	24.96	24.92	24.97	24.99	24.98	24.82
Cellular	1013	22H	824.7	24.27	24.28	24.28	24.27	24.26	24.23	24.01
	384	22H	836.52	24.30	24.30	24.31	24.29	24.23	24.34	24.15
	777	22H	848.31	24.39	24.34	24.38	24.32	24.31	24.40	24.22
PCS	25	24E	1851.25	23.78	23.76	23.75	23.79	23.74	23.83	23.65
	600	24E	1880	23.76	23.79	23.77	23.78	23.77	23.81	23.62
	1175	24E	1908.75	23.92	23.89	23.93	23.85	23.90	23.92	23.81

Table 9-2
Reduced Conducted Powers – Hotspot Mode Active

Band	Channel	Rule Part	Frequency	TDSO SO32 [dBm]	TDSO SO32 [dBm]	1x EvDO Rev. 0 [dBm]	1x EvDO Rev. A [dBm]
	F-RC		MHz	FCH+SCH	FCH	(RTAP)	(RETAP)
PCS	25	24E	1851.25	19.75	19.80	19.97	19.97
	600	24E	1880	19.81	19.83	19.96	19.98
	1175	24E	1908.75	19.87	19.88	19.99	19.96

Table 9-3
Reduced Conducted Powers – Grip Sensor Active

Band	Channel	Rule Part	Frequency	SO55 [dBm]	SO55 [dBm]	SO75 [dBm]	TDSO SO32 [dBm]	TDSO SO32 [dBm]	1x EvDO Rev. 0 [dBm]	1x EvDO Rev. A [dBm]
	F-RC		MHz	RC1	RC3	RC11	FCH+SCH	FCH	(RTAP)	(RETAP)
PCS	25	24E	1851.25	20.79	20.78	20.77	20.79	20.79	20.83	20.85
	600	24E	1880	20.80	20.80	20.78	20.80	20.80	20.84	20.87
	1175	24E	1908.75	20.79	20.87	20.87	20.78	20.78	20.84	20.92

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Note:

1. 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.
2. 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.

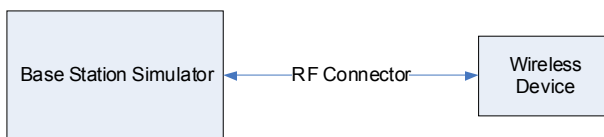


Figure 9-1
Power Measurement Setup

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9.2 GSM Conducted Powers

Table 9-4
Maximum Conducted Powers

Maximum Burst-Averaged Output Power										
		Voice	GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
Band	Channel	GSM [dBm] CS (1 Slot)	GPRS [dBm] 1 Tx Slot	GPRS [dBm] 2 Tx Slot	GPRS [dBm] 3 Tx Slot	GPRS [dBm] 4 Tx Slot	EDGE [dBm] 1 Tx Slot	EDGE [dBm] 2 Tx Slot	EDGE [dBm] 3 Tx Slot	EDGE [dBm] 4 Tx Slot
GSM 850	128	32.36	32.52	30.79	28.96	26.78	26.50	25.15	23.02	21.61
	190	32.43	32.55	30.86	29.03	26.96	26.60	25.21	23.01	21.72
	251	32.33	32.44	30.77	28.70	26.76	26.27	25.21	22.67	21.30
GSM 1900	512	30.45	30.69	28.21	26.30	24.38	26.00	25.00	22.77	21.26
	661	30.15	30.39	28.01	25.99	24.11	25.85	24.75	22.50	21.08
	810	30.39	30.62	28.12	26.16	24.30	25.98	24.88	22.62	21.20

Calculated Maximum Frame-Averaged Output Power										
		Voice	GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
Band	Channel	GSM [dBm] CS (1 Slot)	GPRS [dBm] 1 Tx Slot	GPRS [dBm] 2 Tx Slot	GPRS [dBm] 3 Tx Slot	GPRS [dBm] 4 Tx Slot	EDGE [dBm] 1 Tx Slot	EDGE [dBm] 2 Tx Slot	EDGE [dBm] 3 Tx Slot	EDGE [dBm] 4 Tx Slot
GSM 850	128	23.33	23.49	24.77	24.70	23.77	17.47	19.13	18.76	18.60
	190	23.40	23.52	24.84	24.77	23.95	17.57	19.19	18.75	18.71
	251	23.30	23.41	24.75	24.44	23.75	17.24	19.19	18.41	18.29
GSM 1900	512	21.42	21.66	22.19	22.04	21.37	16.97	18.98	18.51	18.25
	661	21.12	21.36	21.99	21.73	21.10	16.82	18.73	18.24	18.07
	810	21.36	21.59	22.10	21.90	21.29	16.95	18.86	18.36	18.19

GSM 850	Frame	23.97	23.97	24.98	25.24	24.49	17.47	19.48	19.24	18.99
GSM 1900	Avg. Targets:	21.47	21.47	21.98	21.74	20.99	16.47	18.48	18.24	17.99

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Table 9-5
Reduced Conducted Powers – 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	27.85	24.57	22.93	20.27	26.00	25.00	22.77	21.26
	661	27.59	24.73	23.07	20.39	25.85	24.75	22.50	21.08
	810	27.59	24.84	23.13	20.53	25.98	24.88	22.62	21.20

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	18.82	18.55	18.67	17.26	16.97	18.98	18.51	18.25
	661	18.56	18.71	18.81	17.38	16.82	18.73	18.24	18.07
	810	18.56	18.82	18.87	17.52	16.95	18.86	18.36	18.19

GSM 1900	Frame Avg. Targets:	18.47	18.98	19.24	17.99	16.47	18.48	18.24	17.99
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Table 9-6
Reduced Conducted Powers – Grip Sensor 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	29.07	29.04	27.45	25.48	23.49	26.00	25.00	22.77	21.26
	661	28.93	28.90	27.31	25.35	23.36	25.85	24.75	22.50	21.08
	810	29.26	29.23	27.47	25.44	23.50	25.98	24.88	22.62	21.20

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	20.04	20.01	21.43	21.22	20.48	16.97	18.98	18.51	18.25
	661	19.90	19.87	21.29	21.09	20.35	16.82	18.73	18.24	18.07
	810	20.23	20.20	21.45	21.18	20.49	16.95	18.86	18.36	18.19

GSM 1900	Frame Avg. Targets:	20.47	20.47	20.98	21.24	20.49	16.47	18.48	18.24	17.99
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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 8PSK modulation do not have an impact on output power.

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



Figure 9-2
Power Measurement Setup

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9.3 UMTS Conducted Powers

Table 9-7
Maximum Conducted Powers

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	24.30	24.27	24.36	23.82	23.90	23.98	23.21	23.08	23.33	-
99		12.2 kbps AMR	24.33	24.27	24.31	24.05	23.79	23.97	23.19	23.00	23.38	-
6	HSDPA	Subtest 1	23.45	23.87	23.98	22.68	23.27	23.72	22.08	22.28	22.16	0
6		Subtest 2	23.56	23.90	23.92	22.74	23.30	23.77	22.06	22.29	22.14	0
6		Subtest 3	23.07	23.41	23.44	22.24	22.80	23.26	21.54	21.77	21.64	0.5
6		Subtest 4	23.09	23.42	23.46	22.23	22.80	23.27	21.55	21.79	21.65	0.5
6	HSUPA	Subtest 1	23.62	23.94	23.96	22.73	23.33	23.76	22.13	22.40	22.23	0
6		Subtest 2	21.65	22.08	22.16	20.70	21.37	21.72	20.04	20.30	20.10	2
6		Subtest 3	22.76	22.93	23.05	21.73	22.33	22.75	21.12	21.39	21.19	1
6		Subtest 4	21.73	21.98	22.17	20.68	21.38	21.71	20.05	20.31	20.18	2
6		Subtest 5	23.68	23.94	24.00	22.74	23.35	23.78	22.12	22.39	22.20	0
8	DC-HSDPA	Subtest 1	23.45	23.97	24.00	22.63	23.25	23.70	22.11	22.31	22.17	0
8		Subtest 2	23.53	23.88	23.97	22.70	23.27	23.71	22.09	22.32	22.16	0
8		Subtest 3	23.03	23.40	23.44	22.18	22.77	23.19	21.56	21.79	21.65	0.5
8		Subtest 4	23.05	23.41	23.45	22.19	22.77	23.20	21.57	21.81	21.66	0.5

Table 9-8
Reduced Conducted Powers – Hotspot 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	19.68	19.63	19.63	19.18	19.30	19.03	-
99		12.2 kbps AMR	19.72	19.64	19.56	19.15	19.27	19.01	-
6	HSDPA	Subtest 1	18.61	18.64	18.60	18.31	18.16	18.05	0
6		Subtest 2	18.62	18.66	18.57	18.35	18.21	18.06	0
6		Subtest 3	18.14	18.14	18.13	17.88	17.72	17.65	0.5
6		Subtest 4	18.20	18.11	18.12	17.85	17.68	17.63	0.5
6	HSUPA	Subtest 1	18.75	18.64	18.59	18.32	18.18	18.07	0
6		Subtest 2	16.73	16.62	16.57	16.33	16.15	16.09	2
6		Subtest 3	17.76	17.63	17.60	17.35	17.21	17.09	1
6		Subtest 4	16.76	16.53	16.62	16.31	16.19	16.08	2
6		Subtest 5	18.77	18.66	18.62	18.35	18.20	18.06	0
8	DC-HSDPA	Subtest 1	18.78	18.65	18.62	18.34	18.17	18.06	0
8		Subtest 2	18.85	18.64	18.58	18.30	18.16	18.02	0
8		Subtest 3	18.22	18.09	18.09	17.76	17.65	17.56	0.5
8		Subtest 4	18.24	18.14	18.07	17.80	17.66	17.53	0.5

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Table 9-9
Reduced Conducted Powers – Grip Sensor Active

3GPP Release Version	Mode	3GPP 34.121 Subtest	AWS Band [dBm]			PCS Band [dBm]			3GPP MPR [dB]
			1312	1412	1513	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	20.84	20.77	20.84	21.18	21.01	21.14	-
99		12.2 kbps AMR	20.94	20.78	20.45	21.19	20.85	21.13	-
6	HSDPA	Subtest 1	19.80	20.37	20.50	20.09	19.70	19.84	0
6		Subtest 2	19.85	20.28	20.50	20.07	19.73	19.81	0
6		Subtest 3	19.32	19.75	20.31	19.54	19.22	19.29	0.5
6		Subtest 4	19.34	19.73	20.35	19.59	19.25	19.32	0.5
6	HSUPA	Subtest 1	19.91	20.09	20.39	20.05	19.72	19.80	0
6		Subtest 2	17.89	18.36	18.85	18.11	17.73	17.80	2
6		Subtest 3	18.87	19.19	19.84	19.07	18.76	18.80	1
6		Subtest 4	17.65	18.03	18.59	18.15	17.63	17.84	2
6		Subtest 5	19.85	19.96	20.50	20.07	19.72	19.78	0
8	DC-HSDPA	Subtest 1	19.68	20.05	20.50	19.82	19.87	19.84	0
8		Subtest 2	19.86	20.01	20.49	19.76	19.72	19.74	0
8		Subtest 3	19.35	19.59	20.35	19.26	19.23	19.31	0.5
8		Subtest 4	19.25	19.52	20.26	19.29	19.21	19.37	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 9-3
Power Measurement Setup

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9.4 LTE Conducted Powers

9.4.1 LTE Band 12

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

LTE Band 12 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			23095 (707.5 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	24.78	0	0
	1	25	24.66		0
	1	49	24.58		0
	25	0	23.76	0-1	1
	25	12	23.72		1
	25	25	23.70		1
	50	0	23.73		1
16QAM	1	0	23.91	0-1	1
	1	25	23.82		1
	1	49	23.70		1
	25	0	22.80	0-2	2
	25	12	22.77		2
	25	25	22.71		2
	50	0	22.73		2
64QAM	1	0	22.70	0-2	2
	1	25	22.69		2
	1	49	22.64		2
	25	0	21.50	0-3	3
	25	12	21.53		3
	25	25	21.49		3
	50	0	21.48		3

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

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

LTE Band 12 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			23035 (701.5 MHz)	23095 (707.5 MHz)	23155 (713.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.79	24.52	24.54	0	0
	1	12	24.48	24.45	24.50		0
	1	24	24.49	24.40	24.44		0
	12	0	23.54	23.46	23.48	0-1	1
	12	6	23.55	23.46	23.47		1
	12	13	23.49	23.44	23.42		1
	25	0	23.52	23.44	23.42		1
16QAM	1	0	23.99	23.90	23.85	0-1	1
	1	12	23.83	23.86	23.83		1
	1	24	23.79	23.83	23.77		1
	12	0	22.56	22.57	22.48	0-2	2
	12	6	22.57	22.57	22.51		2
	12	13	22.56	22.46	22.41		2
	25	0	22.55	22.48	22.44		2
64QAM	1	0	22.98	22.97	22.95	0-2	2
	1	12	23.00	22.93	22.74		2
	1	24	22.97	22.94	22.69		2
	12	0	21.90	21.85	21.74	0-3	3
	12	6	21.89	21.85	21.76		3
	12	13	21.80	21.87	21.69		3
	25	0	21.84	21.65	21.63		3

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

LTE Band 12 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			23025 (700.5 MHz)	23095 (707.5 MHz)	23165 (714.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.55	24.35	24.51	0	0
	1	7	24.58	24.56	24.56		0
	1	14	24.51	24.39	24.41		0
	8	0	23.51	23.46	23.42	0-1	1
	8	4	23.56	23.46	23.46		1
	8	7	23.55	23.45	23.43		1
	15	0	23.51	23.44	23.43		1
16QAM	1	0	23.80	23.82	23.68	0-1	1
	1	7	24.00	23.96	23.59		1
	1	14	23.81	23.64	23.51		1
	8	0	22.63	22.44	22.41	0-2	2
	8	4	22.64	22.57	22.56		2
	8	7	22.63	22.53	22.57		2
	15	0	22.60	22.43	22.43		2
64QAM	1	0	22.99	22.84	22.78	0-2	2
	1	7	23.00	22.67	22.92		2
	1	14	22.98	22.69	22.80		2
	8	0	21.96	21.79	21.67	0-3	3
	8	4	21.85	21.80	21.73		3
	8	7	21.76	21.80	21.74		3
	15	0	21.79	21.80	21.66		3

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

LTE Band 12 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			23017 (699.7 MHz)	23095 (707.5 MHz)	23173 (715.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.47	24.32	24.39	0	0
	1	2	24.54	24.40	24.46		0
	1	5	24.46	24.34	24.35		0
	3	0	24.46	24.36	24.41		0
	3	2	24.49	24.43	24.43		0
	3	3	24.45	24.40	24.38		0
	6	0	23.45	23.35	23.33	0-1	1
16QAM	1	0	23.90	23.63	23.64	0-1	1
	1	2	23.82	23.65	23.78		1
	1	5	23.73	23.50	23.51		1
	3	0	23.59	23.55	23.42		1
	3	2	23.66	23.50	23.51		1
	3	3	23.69	23.50	23.38		1
	6	0	22.56	22.51	22.40	0-2	2
64QAM	1	0	22.87	22.79	22.88	0-2	2
	1	2	22.93	22.88	22.90		2
	1	5	22.91	22.81	22.91		2
	3	0	22.94	22.90	22.72		2
	3	2	23.00	22.87	22.80		2
	3	3	22.96	22.73	22.71		2
	6	0	21.71	21.75	21.58	0-3	3

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LTE Band 13

Table 9-14
LTE Band 13 Conducted Powers - 10 MHz Bandwidth

LTE Band 13 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			23230 (782.0 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	24.43	0	0
	1	25	24.31		0
	1	49	24.19		0
	25	0	23.43	0-1	1
	25	12	23.41		1
	25	25	23.34		1
	50	0	23.37		1
16QAM	1	0	23.63	0-1	1
	1	25	23.57		1
	1	49	23.48		1
	25	0	22.44	0-2	2
	25	12	22.45		2
	25	25	22.34		2
	50	0	22.39		2
64QAM	1	0	22.62	0-2	2
	1	25	22.53		2
	1	49	22.41		2
	25	0	21.46	0-3	3
	25	12	21.42		3
	25	25	21.37		3
	50	0	21.38		3

Table 9-15
LTE Band 13 Conducted Powers - 5 MHz Bandwidth

LTE Band 13 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			23230 (782.0 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	24.47	0	0
	1	12	24.33		0
	1	24	24.32		0
	12	0	23.37	0-1	1
	12	6	23.38		1
	12	13	23.33		1
	25	0	23.36		1
16QAM	1	0	23.58	0-1	1
	1	12	23.67		1
	1	24	23.47		1
	12	0	22.40	0-2	2
	12	6	22.38		2
	12	13	22.34		2
	25	0	22.37		2
64QAM	1	0	22.70	0-2	2
	1	12	22.69		2
	1	24	22.63		2
	12	0	21.55	0-3	3
	12	6	21.59		3
	12	13	21.51		3
	25	0	21.50		3

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

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LTE Band 26 (Cell)

Table 9-16
LTE Band 26 (Cell) Conducted Powers - 15 MHz Bandwidth

LTE Band 26 (Cell) 15 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26865 (831.5 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	24.48	0	0
	1	36	24.35		0
	1	74	24.16		0
	36	0	23.47	0-1	1
	36	18	23.41		1
	36	37	23.28		1
	75	0	23.34		1
16QAM	1	0	23.79	0-1	1
	1	36	23.68		1
	1	74	23.21		1
	36	0	22.48	0-2	2
	36	18	22.45		2
	36	37	22.33		2
	75	0	22.37		2
64QAM	1	0	22.47	0-2	2
	1	36	22.36		2
	1	74	22.18		2
	36	0	21.17	0-3	3
	36	18	21.15		3
	36	37	21.06		3
	75	0	21.12		3

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

Table 9-17
LTE Band 26 (Cell) Conducted Powers - 10 MHz Bandwidth

LTE Band 26 (Cell) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26740 (819.0 MHz)	26865 (831.5 MHz)	26990 (844.0 MHz)		
QPSK	1	0	24.62	24.49	24.59	0	0
	1	25	24.63	24.56	24.57		0
	1	49	24.47	24.31	24.50		0
	25	0	23.59	23.52	23.64	0-1	1
	25	12	23.57	23.49	23.62		1
	25	25	23.50	23.43	23.56		1
	50	0	23.55	23.46	23.59		1
16QAM	1	0	23.82	23.77	24.00	0-1	1
	1	25	23.73	23.56	23.92		1
	1	49	23.66	23.42	23.91		1
	25	0	22.63	22.57	22.64	0-2	2
	25	12	22.62	22.52	22.62		2
	25	25	22.53	22.47	22.58		2
	50	0	22.59	22.47	22.63		2
64QAM	1	0	22.28	22.55	22.52	0-2	2
	1	25	22.18	22.45	22.36		2
	1	49	22.19	22.36	22.24		2
	25	0	21.16	21.18	21.29	0-3	3
	25	12	21.10	21.17	21.25		3
	25	25	21.07	21.11	21.27		3
	50	0	21.10	21.17	21.25		3

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Table 9-18
LTE Band 26 (Cell) Conducted Powers - 5 MHz Bandwidth

LTE Band 26 (Cell) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26715 (816.5 MHz)	26865 (831.5 MHz)	27015 (846.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.59	24.51	24.60	0	0
	1	12	24.59	24.43	24.55		0
	1	24	24.58	24.40	24.54		0
	12	0	23.58	23.46	23.57	0-1	1
	12	6	23.59	23.46	23.57		1
	12	13	23.56	23.40	23.53		1
	25	0	23.58	23.44	23.55		1
16QAM	1	0	23.90	23.89	24.00	0-1	1
	1	12	23.85	23.83	23.96		1
	1	24	23.83	23.75	23.92		1
	12	0	22.58	22.47	22.58	0-2	2
	12	6	22.56	22.46	22.64		2
	12	13	22.60	22.41	22.58		2
	25	0	22.59	22.47	22.61		2
64QAM	1	0	22.26	22.32	22.27	0-2	2
	1	12	22.21	22.37	22.26		2
	1	24	22.11	22.22	22.28		2
	12	0	21.05	21.25	21.16	0-3	3
	12	6	21.11	21.24	21.19		3
	12	13	21.10	21.07	21.14		3
	25	0	21.07	21.20	21.20		3

Table 9-19
LTE Band 26 (Cell) Conducted Powers - 3 MHz Bandwidth

LTE Band 26 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26705 (815.5 MHz)	26865 (831.5 MHz)	27025 (847.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.60	24.45	24.53	0	0
	1	7	24.66	24.54	24.53		0
	1	14	24.56	24.37	24.47		0
	8	0	23.60	23.45	23.54	0-1	1
	8	4	23.62	23.45	23.53		1
	8	7	23.58	23.43	23.50		1
	15	0	23.58	23.43	23.53		1
16QAM	1	0	23.90	23.79	23.68	0-1	1
	1	7	24.00	23.82	23.63		1
	1	14	23.93	23.83	23.70		1
	8	0	22.67	22.47	22.50	0-2	2
	8	4	22.73	22.58	22.67		2
	8	7	22.77	22.45	22.55		2
	15	0	22.64	22.51	22.57		2
64QAM	1	0	22.21	22.31	22.38	0-2	2
	1	7	22.40	22.42	22.36		2
	1	14	22.18	22.24	22.16		2
	8	0	21.07	21.17	21.15	0-3	3
	8	4	21.10	21.27	21.21		3
	8	7	21.09	21.13	21.13		3
	15	0	21.07	21.11	21.10		3

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Table 9-20
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	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26697 (814.7 MHz)	26865 (831.5 MHz)	27033 (848.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.51	24.44	24.41	0	0
	1	2	24.54	24.40	24.51		0
	1	5	24.49	24.35	24.42		0
	3	0	24.54	24.36	24.43		0
	3	2	24.57	24.43	24.47		0
	3	3	24.51	24.38	24.40		0
	6	0	23.50	23.37	23.43	0-1	1
16QAM	1	0	23.94	23.57	23.72	0-1	1
	1	2	23.78	23.77	23.46		1
	1	5	23.64	23.53	23.60		1
	3	0	23.78	23.74	23.61		1
	3	2	23.63	23.77	23.81		1
	3	3	23.59	23.60	23.79		1
	6	0	22.69	22.45	22.60	0-2	2
64QAM	1	0	22.14	22.10	22.29	0-2	2
	1	2	22.17	22.31	22.36		2
	1	5	22.04	22.23	22.04		2
	3	0	22.25	22.37	22.08		2
	3	2	22.34	22.43	22.08		2
	3	3	22.26	22.33	22.22		2
	6	0	21.09	21.07	21.17	0-3	3

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LTE Band 5 (Cell)

Table 9-21
LTE Band 5 (Cell) Conducted Powers - 10 MHz Bandwidth

LTE Band 5 (Cell) 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20525 (836.5 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	24.58	0	0
	1	25	24.42		0
	1	49	24.37		0
	25	0	23.57	0-1	1
	25	12	23.55		1
	25	25	23.47		1
	50	0	23.51		1
16QAM	1	0	23.72	0-1	1
	1	25	23.56		1
	1	49	23.47		1
	25	0	22.60	0-2	2
	25	12	22.55		2
	25	25	22.48		2
	50	0	22.51		2
64QAM	1	0	22.54	0-2	2
	1	25	22.46		2
	1	49	22.46		2
	25	0	21.44	0-3	3
	25	12	21.42		3
	25	25	21.35		3
	50	0	21.39		3

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

Table 9-22
LTE Band 5 (Cell) Conducted Powers - 5 MHz Bandwidth

LTE Band 5 (Cell) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20425 (826.5 MHz)	20525 (836.5 MHz)	20625 (846.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.72	24.56	24.81	0	0
	1	12	24.63	24.47	24.79		0
	1	24	24.66	24.51	24.78		0
	12	0	23.68	23.54	23.79	0-1	1
	12	6	23.68	23.54	23.79		1
	12	13	23.62	23.49	23.74		1
	25	0	23.66	23.52	23.77		1
16QAM	1	0	23.98	23.86	24.00	0-1	1
	1	12	24.00	23.76	23.98		1
	1	24	23.92	23.81	23.90		1
	12	0	22.74	22.56	22.91	0-2	2
	12	6	22.70	22.56	22.79		2
	12	13	22.64	22.55	22.86		2
	25	0	22.64	22.52	22.82		2
64QAM	1	0	22.68	22.61	22.62	0-2	2
	1	12	22.66	22.64	22.43		2
	1	24	22.51	22.62	22.36		2
	12	0	21.39	21.51	21.35	0-3	3
	12	6	21.39	21.50	21.44		3
	12	13	21.34	21.50	21.37		3
	25	0	21.35	21.45	21.33		3

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Table 9-23
LTE Band 5 (Cell) Conducted Powers - 3 MHz Bandwidth

LTE Band 5 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20415 (825.5 MHz)	20525 (836.5 MHz)	20635 (847.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.70	24.58	24.79	0	0
	1	7	24.76	24.60	24.86		0
	1	14	24.66	24.41	24.59		0
	8	0	23.67	23.52	23.75	0-1	1
	8	4	23.69	23.52	23.76		1
	8	7	23.64	23.50	23.72		1
	15	0	23.65	23.48	23.73		1
16QAM	1	0	23.94	23.93	24.00	0-1	1
	1	7	24.00	23.78	23.84		1
	1	14	23.95	23.75	23.72		1
	8	0	22.75	22.55	22.71	0-2	2
	8	4	22.75	22.60	22.95		2
	8	7	22.72	22.69	22.90		2
	15	0	22.68	22.56	22.81		2
64QAM	1	0	22.60	22.56	22.54	0-2	2
	1	7	22.77	22.62	22.70		2
	1	14	22.60	22.67	22.46		2
	8	0	21.47	21.37	21.34	0-3	3
	8	4	21.53	21.50	21.40		3
	8	7	21.44	21.52	21.38		3
	15	0	21.47	21.30	21.31		3

Table 9-24
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	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20407 (824.7 MHz)	20525 (836.5 MHz)	20643 (848.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.61	24.38	24.67	0	0
	1	2	24.73	24.49	24.77		0
	1	5	24.54	24.38	24.61		0
	3	0	24.63	24.45	24.66		0
	3	2	24.66	24.50	24.70		0
	3	3	24.61	24.45	24.62		0
6	0	23.59	23.44	23.68	0-1	1	
16QAM	1	0	23.99	23.65	23.98	0-1	1
	1	2	23.76	23.72	23.82		1
	1	5	24.00	23.52	23.79		1
	3	0	23.75	23.58	23.93		1
	3	2	23.71	23.56	23.79		1
	3	3	23.67	23.50	23.79		1
6	0	22.62	22.51	22.80	0-2	2	
64QAM	1	0	22.45	22.39	22.49	0-2	2
	1	2	22.54	22.55	22.55		2
	1	5	22.48	22.46	22.37		2
	3	0	22.55	22.47	22.36		2
	3	2	22.52	22.57	22.41		2
	3	3	22.46	22.49	22.41		2
6	0	21.31	21.33	21.20	0-3	3	

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LTE Band 66 (AWS)

Table 9-25
LTE Band 66 (AWS) Conducted Powers - 20 MHz Bandwidth

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132072 (1720.0 MHz)	132322 (1745.0 MHz)	132572 (1770.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.00	23.80	23.89	0	0
	1	50	23.81	23.65	23.62		0
	1	99	23.75	23.60	23.60		0
	50	0	22.94	22.74	22.66	0-1	1
	50	25	22.86	22.71	22.67		1
	50	50	22.79	22.62	22.63		1
	100	0	22.77	22.70	22.61		1
16QAM	1	0	23.06	23.00	23.03	0-1	1
	1	50	22.95	22.88	22.91		1
	1	99	22.96	22.90	22.93		1
	50	0	21.77	21.71	21.74	0-2	2
	50	25	21.74	21.68	21.71		2
	50	50	21.66	21.62	21.60		2
	100	0	21.71	21.65	21.68		2
64QAM	1	0	22.11	22.07	22.08	0-2	2
	1	50	21.96	21.90	21.93		2
	1	99	21.79	21.73	21.76		2
	50	0	20.92	20.83	20.87	0-3	3
	50	25	20.79	20.73	20.76		3
	50	50	20.76	20.70	20.73		3
	100	0	20.76	20.72	20.70		3

Table 9-26
LTE Band 66 (AWS) Conducted Powers - 15 MHz Bandwidth

LTE Band 66 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132047 (1717.5 MHz)	132322 (1745.0 MHz)	132597 (1772.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.22	24.15	24.12	0	0
	1	36	24.03	23.98	23.92		0
	1	74	24.08	23.96	23.99		0
	36	0	23.04	23.10	23.03	0-1	1
	36	18	23.01	23.02	22.98		1
	36	37	23.02	22.98	22.95		1
	75	0	23.04	23.04	23.00		1
16QAM	1	0	23.63	23.06	23.23	0-1	1
	1	36	23.45	22.84	23.48		1
	1	74	23.47	22.82	23.62		1
	36	0	22.10	22.07	22.11	0-2	2
	36	18	22.07	22.00	21.99		2
	36	37	22.04	21.91	21.93		2
	75	0	22.08	21.98	21.94		2
64QAM	1	0	22.22	22.17	22.41	0-2	2
	1	36	21.99	21.93	22.20		2
	1	74	22.02	21.92	22.18		2
	36	0	21.09	21.07	21.13	0-3	3
	36	18	21.01	21.03	21.09		3
	36	37	20.97	20.97	21.01		3
	75	0	21.02	20.80	21.03		3

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Table 9-27
LTE Band 66 (AWS) Conducted Powers - 10 MHz Bandwidth

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132022 (1715.0 MHz)	132322 (1745.0 MHz)	132622 (1775.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.08	24.06	24.07	0	0
	1	25	24.02	23.96	23.95		0
	1	49	23.99	24.02	23.94		0
	25	0	23.06	23.07	23.06	0-1	1
	25	12	23.07	23.04	23.03		1
	25	25	23.04	22.99	22.98		1
	50	0	23.05	23.02	23.02		1
16QAM	1	0	23.64	23.25	23.70	0-1	1
	1	25	23.59	23.01	23.63		1
	1	49	23.43	22.94	23.59		1
	25	0	22.12	22.10	22.11	0-2	2
	25	12	22.13	22.06	22.06		2
	25	25	22.05	22.01	21.98		2
	50	0	22.02	22.04	22.02		2
64QAM	1	0	22.31	22.24	22.27	0-2	2
	1	25	22.23	22.17	22.17		2
	1	49	22.21	22.11	21.88		2
	25	0	21.15	21.13	21.04	0-3	3
	25	12	21.05	21.08	21.00		3
	25	25	21.00	21.01	20.88		3
	50	0	21.07	21.06	20.97		3

Table 9-28
LTE Band 66 (AWS) Conducted Powers - 5 MHz Bandwidth

LTE Band 66 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131997 (1712.5 MHz)	132322 (1745.0 MHz)	132647 (1777.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.97	24.10	24.16	0	0
	1	12	23.95	24.02	24.09		0
	1	24	23.98	23.94	24.12		0
	12	0	22.93	23.08	23.11	0-1	1
	12	6	22.89	22.98	23.09		1
	12	13	22.93	22.94	23.08		1
	25	0	22.91	22.95	23.14		1
16QAM	1	0	23.48	22.94	23.21	0-1	1
	1	12	23.58	22.85	23.36		1
	1	24	23.52	23.01	23.32		1
	12	0	22.02	21.90	22.21	0-2	2
	12	6	22.04	22.00	22.24		2
	12	13	22.14	21.85	22.14		2
	25	0	22.16	21.95	22.12		2
64QAM	1	0	22.31	21.94	22.25	0-2	2
	1	12	22.19	21.84	22.16		2
	1	24	22.18	21.97	22.11		2
	12	0	21.14	20.94	21.13	0-3	3
	12	6	21.18	20.93	21.15		3
	12	13	21.11	20.90	21.11		3
	25	0	21.07	20.93	21.16		3

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Table 9-29
LTE Band 66 (AWS) Conducted Powers - 3 MHz Bandwidth

LTE Band 66 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131987 (1711.5 MHz)	132322 (1745.0 MHz)	132657 (1778.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.02	23.95	23.50	0	0
	1	7	24.15	24.05	23.60		0
	1	14	24.01	23.92	23.47		0
	8	0	23.04	22.98	22.48	0-1	1
	8	4	23.06	23.01	22.47		1
	8	7	22.99	22.99	22.40		1
	15	0	23.02	22.97	22.44		1
16QAM	1	0	23.36	22.94	22.68	0-1	1
	1	7	23.48	23.04	22.78		1
	1	14	23.33	23.26	22.62		1
	8	0	22.16	22.06	21.34	0-2	2
	8	4	22.17	22.07	21.34		2
	8	7	22.16	22.05	21.30		2
	15	0	21.95	21.94	21.42		2
64QAM	1	0	22.06	22.25	21.55	0-2	2
	1	7	22.19	22.31	21.66		2
	1	14	22.07	22.19	21.53		2
	8	0	21.06	21.06	20.33	0-3	3
	8	4	21.07	21.07	20.36		3
	8	7	21.05	21.03	20.34		3
	15	0	20.84	20.94	20.27		3

Table 9-30
LTE Band 66 (AWS) Conducted Powers -1.4 MHz Bandwidth

LTE Band 66 (AWS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid-High	MPR Allowed per 3GPP [dB]	MPR [dB]
			131979 (1710.7 MHz)	132322 (1745.0 MHz)	132665 (1779.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.00	24.00	23.98	0	0
	1	2	23.99	24.00	24.00		0
	1	5	24.00	23.98	23.97		0
	3	0	24.00	23.99	24.00		0
	3	2	23.98	23.99	24.00		0
	3	3	23.97	24.00	23.97		0
	6	0	23.40	23.32	23.28	0-1	1
16QAM	1	0	23.60	23.24	23.47	0-1	1
	1	2	23.68	23.33	23.51		1
	1	5	23.66	23.28	23.50		1
	3	0	23.34	23.40	23.20		1
	3	2	23.40	23.45	23.24		1
	3	3	23.34	23.41	23.21		1
	6	0	22.44	22.47	22.30	0-2	2
64QAM	1	0	22.19	22.56	22.09	0-2	2
	1	2	22.27	22.67	22.15		2
	1	5	22.22	22.54	22.08		2
	3	0	22.25	22.46	22.13		2
	3	2	22.33	22.51	22.20		2
	3	3	22.27	22.46	22.13		2
	6	0	21.40	21.42	21.25	0-3	3

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Table 9-31
Reduced LTE Band 66 (AWS) Conducted Powers - 20 MHz Bandwidth – Hotspot Mode Active

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132072 (1720.0 MHz)	132322 (1745.0 MHz)	132572 (1770.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	18.91	19.10	18.95	0	0
	1	50	18.69	18.83	18.63		0
	1	99	18.64	18.80	18.61		0
	50	0	18.82	18.90	18.84	0-1	0
	50	25	18.74	18.88	18.85		0
	50	50	18.75	18.80	18.78		0
	100	0	18.80	18.89	18.86		0
16QAM	1	0	19.07	19.09	19.06	0-1	0
	1	50	18.81	18.87	18.84		0
	1	99	18.76	18.82	18.79		0
	50	0	18.79	18.85	18.82	0-2	0
	50	25	18.69	18.75	18.72		0
	50	50	18.64	18.70	18.67		0
	100	0	18.81	18.87	18.84		0
64QAM	1	0	18.98	19.08	19.01	0-2	0
	1	50	18.74	18.80	18.77		0
	1	99	18.69	18.75	18.72		0
	50	0	18.84	18.90	18.87	0-3	0
	50	25	18.75	18.77	18.75		0
	50	50	18.65	18.71	18.68		0
	100	0	18.75	18.72	18.66		0

Table 9-32
Reduced LTE Band 66 (AWS) Conducted Powers - 15 MHz Bandwidth – Hotspot Mode Active

LTE Band 66 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132047 (1717.5 MHz)	132322 (1745.0 MHz)	132597 (1772.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	19.04	19.03	19.18	0	0
	1	36	18.87	18.90	18.95		0
	1	74	18.89	18.81	18.98		0
	36	0	18.99	18.98	19.09	0-1	0
	36	18	18.96	18.90	19.05		0
	36	37	18.94	18.88	19.00		0
	75	0	18.97	18.89	19.05		0
16QAM	1	0	19.31	19.28	19.42	0-1	0
	1	36	19.12	19.07	19.20		0
	1	74	19.14	19.05	19.21		0
	36	0	19.02	18.98	19.12	0-2	0
	36	18	18.96	18.90	19.06		0
	36	37	18.93	18.87	19.00		0
	75	0	18.96	18.90	19.06		0
64QAM	1	0	19.29	19.20	19.28	0-2	0
	1	36	19.10	18.98	19.09		0
	1	74	19.09	18.94	19.10		0
	36	0	19.11	18.99	19.11	0-3	0
	36	18	19.06	18.95	19.07		0
	36	37	19.01	18.89	19.02		0
	75	0	19.05	18.94	19.05		0

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Table 9-33
Reduced LTE Band 66 (AWS) Conducted Powers - 10 MHz Bandwidth – Hotspot Mode Active

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132022 (1715.0 MHz)	132322 (1745.0 MHz)	132622 (1775.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	18.93	18.89	19.04	0	0
	1	25	18.85	18.79	18.93		0
	1	49	18.83	18.76	18.93		0
	25	0	18.93	18.89	19.04	0-1	0
	25	12	18.95	18.88	19.01		0
	25	25	18.90	18.83	18.97		0
	50	0	18.93	18.85	19.03		0
16QAM	1	0	19.19	19.15	19.29	0-1	0
	1	25	19.09	19.03	19.18		0
	1	49	19.10	19.04	19.18		0
	25	0	18.96	18.91	19.03	0-2	0
	25	12	18.94	18.90	19.03		0
	25	25	18.89	18.84	18.97		0
	50	0	18.93	18.88	19.02		0
64QAM	1	0	19.08	19.07	19.19	0-2	0
	1	25	19.00	18.94	19.08		0
	1	49	18.99	18.92	19.06		0
	25	0	18.98	18.95	19.07	0-3	0
	25	12	18.98	18.94	19.06		0
	25	25	18.94	18.88	19.02		0
	50	0	18.97	18.92	19.05		0

Table 9-34
Reduced LTE Band 66 (AWS) Conducted Powers - 5 MHz Bandwidth – Hotspot Mode Active

LTE Band 66 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131997 (1712.5 MHz)	132322 (1745.0 MHz)	132647 (1777.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	18.91	18.86	19.01	0	0
	1	12	18.84	18.79	18.95		0
	1	24	18.84	18.78	18.95		0
	12	0	18.91	18.85	18.97	0-1	0
	12	6	18.90	18.86	18.99		0
	12	13	18.85	18.82	18.96		0
	25	0	18.88	18.85	18.95		0
16QAM	1	0	19.15	19.11	19.25	0-1	0
	1	12	19.08	19.04	19.18		0
	1	24	19.06	19.02	19.17		0
	12	0	18.95	18.88	19.03	0-2	0
	12	6	18.95	18.90	19.04		0
	12	13	18.91	18.84	19.00		0
	25	0	18.91	18.86	18.99		0
64QAM	1	0	19.03	19.01	19.11	0-2	0
	1	12	18.99	18.96	19.09		0
	1	24	18.98	18.94	19.06		0
	12	0	18.96	18.94	19.04	0-3	0
	12	6	18.96	18.93	19.05		0
	12	13	18.92	18.90	19.01		0
	25	0	18.94	18.90	19.02		0

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Table 9-35
Reduced LTE Band 66 (AWS) Conducted Powers - 3 MHz Bandwidth – Hotspot Mode Active

LTE Band 66 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131987 (1711.5 MHz)	132322 (1745.0 MHz)	132657 (1778.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	18.84	18.81	18.97	0	0
	1	7	18.93	18.89	19.06		0
	1	14	18.79	18.75	18.93		0
	8	0	18.87	18.83	18.98	0-1	0
	8	4	18.87	18.85	19.00		0
	8	7	18.85	18.81	18.96		0
16QAM	15	0	18.85	18.81	18.96	0	
	1	0	19.07	19.03	19.17	0-1	0
	1	7	19.15	19.15	19.28		0
	1	14	19.03	19.04	19.15		0
	8	0	18.91	18.89	19.04	0-2	0
	8	4	18.93	18.90	19.05		0
8	7	18.91	18.88	19.03	0		
64QAM	15	0	18.83	18.82	18.97	0	
	1	0	18.97	18.94	18.94	0-2	0
	1	7	19.09	19.05	19.06		0
	1	14	18.94	18.93	18.90		0
	8	0	18.92	18.89	18.88	0-3	0
	8	4	18.93	18.91	18.89		0
	8	7	18.90	18.87	18.87		0
	15	0	18.91	18.87	18.88		0

Table 9-36
Reduced LTE Band 66 (AWS) Conducted Powers -1.4 MHz Bandwidth – Hotspot Mode Active

LTE Band 66 (AWS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid-High	MPR Allowed per 3GPP [dB]	MPR [dB]
			131979 (1710.7 MHz)	132322 (1745.0 MHz)	132665 (1779.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	18.79	18.73	18.88	0	0
	1	2	18.83	18.78	18.96		0
	1	5	18.76	18.68	18.90		0
	3	0	18.77	18.75	18.88		0
	3	2	18.82	18.78	18.94		0
	3	3	18.77	18.74	18.89		0
	6	0	18.78	18.75	18.91	0-1	0
16QAM	1	0	19.01	18.98	19.14	0-1	0
	1	2	19.06	19.03	19.20		0
	1	5	18.98	18.96	19.11		0
	3	0	18.89	18.89	19.04		0
	3	2	18.94	18.92	19.09		0
	3	3	18.89	18.87	19.05		0
	6	0	18.85	18.81	18.97	0-2	0
64QAM	1	0	18.91	18.81	19.00	0-2	0
	1	2	18.97	18.96	19.06		0
	1	5	18.88	18.87	19.01		0
	3	0	18.94	18.90	19.05		0
	3	2	18.99	18.96	19.08		0
	3	3	18.94	18.89	19.03		0
	6	0	18.84	18.82	18.95	0-3	0

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Table 9-37
Reduced LTE Band 66 (AWS) Conducted Powers - 20 MHz Bandwidth – Grip Sensor Active

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132072 (1720.0 MHz)	132322 (1745.0 MHz)	132572 (1770.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.71	20.75	20.62	0	0
	1	50	20.56	20.56	20.32		0
	1	99	20.66	20.59	20.44		0
	50	0	20.64	20.67	20.52	0-1	0
	50	25	20.62	20.62	20.49		0
	50	50	20.61	20.63	20.46		0
	100	0	20.63	20.66	20.48		0
16QAM	1	0	20.66	20.92	20.73	0-1	0
	1	50	20.51	20.80	20.54		0
	1	99	20.60	20.79	20.65		0
	50	0	20.42	20.56	20.50	0-2	0
	50	25	20.42	20.49	20.45		0
	50	50	20.43	20.48	20.41		0
	100	0	20.48	20.49	20.44		0
64QAM	1	0	20.70	20.76	20.99	0-2	0
	1	50	20.51	20.64	20.95		0
	1	99	20.61	20.65	20.98		0
	50	0	20.21	20.25	20.21	0-3	0
	50	25	20.19	20.18	20.13		0
	50	50	20.17	20.21	20.14		0
	100	0	20.24	20.26	20.11		0

Table 9-38
Reduced LTE Band 66 (AWS) Conducted Powers - 15 MHz Bandwidth – Grip Sensor Active

LTE Band 66 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132047 (1717.5 MHz)	132322 (1745.0 MHz)	132597 (1772.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.60	20.57	20.60	0	0
	1	36	20.45	20.34	20.34		0
	1	74	20.42	20.27	20.29		0
	36	0	20.55	20.56	20.39	0-1	0
	36	18	20.58	20.49	20.29		0
	36	37	20.50	20.44	20.22		0
	75	0	20.55	20.47	20.30		0
16QAM	1	0	20.72	20.97	20.67	0-1	0
	1	36	20.54	20.72	20.44		0
	1	74	20.55	20.64	20.38		0
	36	0	20.55	20.60	20.45	0-2	0
	36	18	20.53	20.54	20.35		0
	36	37	20.49	20.50	20.31		0
	75	0	20.61	20.53	20.30		0
64QAM	1	0	20.88	21.00	21.00	0-2	0
	1	36	20.67	21.00	20.68		0
	1	74	20.82	21.00	20.69		0
	36	0	20.46	20.59	20.45	0-3	0
	36	18	20.40	20.55	20.39		0
	36	37	20.35	20.48	20.34		0
	75	0	20.42	20.53	20.43		0

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Table 9-39
Reduced LTE Band 66 (AWS) Conducted Powers - 10 MHz Bandwidth – Grip Sensor Active

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132022 (1715.0 MHz)	132322 (1745.0 MHz)	132622 (1775.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.74	20.81	20.67	0	0
	1	25	20.59	20.65	20.58		0
	1	49	20.55	20.61	20.56		0
	25	0	20.74	20.75	20.66	0-1	0
	25	12	20.70	20.74	20.64		0
	25	25	20.66	20.69	20.64		0
	50	0	20.71	20.71	20.64		0
16QAM	1	0	21.00	20.72	21.00	0-1	0
	1	25	21.00	20.61	20.93		0
	1	49	21.00	21.00	20.40		0
	25	0	20.68	20.79	20.67	0-2	0
	25	12	20.68	20.78	20.61		0
	25	25	20.66	20.66	20.64		0
	50	0	20.71	20.75	20.65		0
64QAM	1	0	21.00	21.00	21.00	0-2	0
	1	25	20.89	21.00	20.96		0
	1	49	20.76	20.83	20.65		0
	25	0	20.45	20.47	20.40	0-3	0
	25	12	20.46	20.46	20.37		0
	25	25	20.41	20.40	20.37		0
	50	0	20.43	20.45	20.41		0

Table 9-40
Reduced LTE Band 66 (AWS) Conducted Powers - 5 MHz Bandwidth – Grip Sensor Active

LTE Band 66 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131997 (1712.5 MHz)	132322 (1745.0 MHz)	132647 (1777.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.63	20.72	20.64	0	0
	1	12	20.64	20.66	20.52		0
	1	24	20.60	20.63	20.52		0
	12	0	20.68	20.72	20.65	0-1	0
	12	6	20.70	20.70	20.65		0
	12	13	20.66	20.64	20.64		0
	25	0	20.67	20.70	20.59		0
16QAM	1	0	21.00	20.93	20.59	0-1	0
	1	12	20.96	20.61	20.48		0
	1	24	20.90	20.58	20.51		0
	12	0	20.67	20.76	20.70	0-2	0
	12	6	20.68	20.77	20.67		0
	12	13	20.63	20.73	20.67		0
	25	0	20.66	20.70	20.67		0
64QAM	1	0	20.95	20.77	21.00	0-2	0
	1	12	20.88	20.75	20.96		0
	1	24	20.84	21.00	20.96		0
	12	0	20.41	20.45	20.37	0-3	0
	12	6	20.41	20.44	20.34		0
	12	13	20.38	20.41	20.24		0
	25	0	20.52	20.38	20.34		0

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Table 9-41
Reduced LTE Band 66 (AWS) Conducted Powers - 3 MHz Bandwidth – Grip Sensor Active

LTE Band 66 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131987 (1711.5 MHz)	132322 (1745.0 MHz)	132657 (1778.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.60	20.65	20.57	0	0
	1	7	20.72	20.71	20.68		0
	1	14	20.60	20.53	20.55		0
	8	0	20.66	20.67	20.61	0-1	0
	8	4	20.67	20.68	20.63		0
	8	7	20.65	20.68	20.61		0
	15	0	20.64	20.70	20.60		0
16QAM	1	0	20.62	20.92	20.87	0-1	0
	1	7	20.71	21.00	20.95		0
	1	14	20.77	20.94	20.87		0
	8	0	20.67	20.81	20.73	0-2	0
	8	4	20.71	20.72	20.66		0
	8	7	20.66	20.68	20.62		0
	15	0	20.63	20.62	20.55		0
64QAM	1	0	20.84	20.85	20.77	0-2	0
	1	7	20.95	20.95	20.89		0
	1	14	20.64	20.82	20.75		0
	8	0	20.37	20.43	20.37	0-3	0
	8	4	20.38	20.44	20.40		0
	8	7	20.34	20.42	20.36		0
	15	0	20.49	20.39	20.38		0

Table 9-42
Reduced LTE Band 66 (AWS) Conducted Powers -1.4 MHz Bandwidth – Grip Sensor Active

LTE Band 66 (AWS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid-High	MPR Allowed per 3GPP [dB]	MPR [dB]
			131979 (1710.7 MHz)	132322 (1745.0 MHz)	132665 (1779.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.47	20.54	20.10	0	0
	1	2	20.55	20.59	20.22		0
	1	5	20.43	20.53	20.14		0
	3	0	20.42	20.55	20.11		0
	3	2	20.50	20.57	20.18		0
	3	3	20.49	20.52	20.11		0
	6	0	20.57	20.55	20.07	0-1	0
16QAM	1	0	20.88	20.77	20.06	0-1	0
	1	2	20.47	20.81	20.14		0
	1	5	21.00	20.77	20.03		0
	3	0	20.77	20.69	20.33		0
	3	2	20.96	20.69	20.31		0
	3	3	20.59	20.66	20.24		0
	6	0	20.70	20.59	20.12	0-2	0
64QAM	1	0	20.88	20.94	20.16	0-2	0
	1	2	20.98	20.82	20.24		0
	1	5	20.72	20.77	20.16		0
	3	0	20.38	20.73	20.44		0
	3	2	20.42	20.81	20.47		0
	3	3	20.45	20.77	20.41		0
	6	0	20.27	20.29	19.88	0-3	0

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LTE Band 25 (PCS)

Table 9-43
LTE Band 25 (PCS) Conducted Powers - 20 MHz Bandwidth

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26140 (1860.0 MHz)	26365 (1882.5 MHz)	26590 (1905.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.65	23.64	23.75	0	0
	1	50	23.60	23.47	23.51		0
	1	99	23.61	23.50	23.53		0
	50	0	22.58	22.61	22.70	0-1	1
	50	25	22.47	22.54	22.62		1
	50	50	22.44	22.52	22.64		1
	100	0	22.45	22.56	22.68		1
16QAM	1	0	22.88	22.90	23.02	0-1	1
	1	50	22.77	22.71	22.83		1
	1	99	22.75	22.73	22.85		1
	50	0	21.60	21.60	21.72	0-2	2
	50	25	21.55	21.58	21.70		2
	50	50	21.58	21.53	21.65		2
	100	0	21.50	21.54	21.66		2
64QAM	1	0	21.77	21.76	21.88	0-2	2
	1	50	21.70	21.57	21.65		2
	1	99	21.68	21.56	21.64		2
	50	0	20.59	20.63	20.75	0-3	3
	50	25	20.49	20.57	20.69		3
	50	50	20.57	20.55	20.67		3
	100	0	20.55	20.56	20.68		3

Table 9-44
LTE Band 25 (PCS) Conducted Powers - 15 MHz Bandwidth

LTE Band 25 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26115 (1857.5 MHz)	26365 (1882.5 MHz)	26615 (1907.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.73	23.70	23.68	0	0
	1	36	23.58	23.71	23.66		0
	1	74	23.56	23.72	23.69		0
	36	0	22.61	22.78	22.82	0-1	1
	36	18	22.57	22.77	22.78		1
	36	37	22.50	22.72	22.76		1
	75	0	22.64	22.70	22.81		1
16QAM	1	0	23.06	23.18	23.46	0-1	1
	1	36	22.85	23.08	23.28		1
	1	74	22.89	23.11	23.14		1
	36	0	21.84	21.81	21.85	0-2	2
	36	18	21.70	21.80	21.81		2
	36	37	21.55	21.74	21.78		2
	75	0	21.81	21.76	21.79		2
64QAM	1	0	21.84	22.22	22.05	0-2	2
	1	36	21.69	22.12	21.80		2
	1	74	21.71	22.16	21.86		2
	36	0	20.63	21.01	20.82	0-3	3
	36	18	20.59	21.00	20.81		3
	36	37	20.54	20.98	20.80		3
	75	0	20.55	20.65	20.89		3

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Table 9-45
LTE Band 25 (PCS) Conducted Powers - 10 MHz Bandwidth

LTE Band 25 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26090 (1855.0 MHz)	26365 (1882.5 MHz)	26640 (1910.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.62	23.67	23.61	0	0
	1	25	23.54	23.60	23.56		0
	1	49	23.53	23.62	23.55		0
	25	0	22.53	22.59	22.70	0-1	1
	25	12	22.54	22.62	22.68		1
	25	25	22.48	22.57	22.66		1
	50	0	22.51	22.60	22.65		1
16QAM	1	0	23.24	22.88	22.83	0-1	1
	1	25	23.18	22.81	22.76		1
	1	49	22.77	22.84	22.66		1
	25	0	21.50	21.58	21.72	0-2	2
	25	12	21.53	21.57	21.70		2
	25	25	21.50	21.56	21.69		2
	50	0	21.47	21.58	21.74		2
64QAM	1	0	21.77	21.75	21.88	0-2	2
	1	25	21.64	21.72	21.76		2
	1	49	21.63	21.73	21.78		2
	25	0	20.54	20.59	20.72	0-3	3
	25	12	20.49	20.61	20.70		3
	25	25	20.47	20.62	20.84		3
	50	0	20.50	20.61	20.95		3

Table 9-46
LTE Band 25 (PCS) Conducted Powers - 5 MHz Bandwidth

LTE Band 25 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26065 (1852.5 MHz)	26365 (1882.5 MHz)	26665 (1912.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.74	23.71	23.72	0	0
	1	12	23.72	23.67	23.71		0
	1	24	23.71	23.69	23.74		0
	12	0	22.90	22.69	22.76	0-1	1
	12	6	22.88	22.72	22.72		1
	12	13	22.92	22.81	22.69		1
	25	0	22.87	22.79	22.71		1
16QAM	1	0	23.23	22.88	23.41	0-1	1
	1	12	23.22	22.69	23.37		1
	1	24	23.18	22.64	23.40		1
	12	0	21.98	21.67	21.73	0-2	2
	12	6	22.02	21.73	21.79		2
	12	13	21.99	21.75	21.75		2
	25	0	21.93	21.64	21.73		2
64QAM	1	0	22.26	21.63	21.95	0-2	2
	1	12	22.24	21.67	21.89		2
	1	24	22.21	21.87	21.91		2
	12	0	21.05	20.80	20.80	0-3	3
	12	6	20.90	20.78	20.81		3
	12	13	20.80	20.73	20.77		3
	25	0	20.78	20.49	20.74		3

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Table 9-47
LTE Band 25 (PCS) Conducted Powers - 3 MHz Bandwidth

LTE Band 25 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26055 (1851.5 MHz)	26365 (1882.5 MHz)	26675 (1913.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.55	23.71	23.61	0	0
	1	7	23.70	23.74	23.70		0
	1	14	23.60	23.73	23.59		0
	8	0	22.61	22.67	22.62	0-1	1
	8	4	22.58	22.71	22.65		1
	8	7	22.55	22.64	22.61		1
	15	0	22.50	22.68	22.60		1
16QAM	1	0	22.79	22.87	22.84	0-1	1
	1	7	22.87	22.75	22.88		1
	1	14	23.13	22.68	22.65		1
	8	0	21.63	21.59	21.54	0-2	2
	8	4	21.56	21.73	21.62		2
	8	7	21.68	21.69	21.66		2
	15	0	21.49	21.64	21.68		2
64QAM	1	0	21.68	21.75	21.78	0-2	2
	1	7	21.81	21.86	21.89		2
	1	14	21.64	21.71	21.75		2
	8	0	20.58	20.63	20.73	0-3	3
	8	4	20.55	20.67	20.75		3
	8	7	20.53	20.59	20.72		3
	15	0	20.50	20.57	20.73		3

Table 9-48
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	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26047 (1850.7 MHz)	26365 (1882.5 MHz)	26683 (1914.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.71	23.74	23.70	0	0
	1	2	23.73	23.71	23.73		0
	1	5	23.69	23.69	23.74		0
	3	0	23.74	23.66	23.71		0
	3	2	23.73	23.68	23.73		0
	3	3	23.68	23.61	23.68		0
	6	0	23.14	23.09	23.04	0-1	1
16QAM	1	0	23.41	23.50	23.42	0-1	1
	1	2	23.35	23.46	23.47		1
	1	5	23.43	23.33	23.34		1
	3	0	23.35	23.23	23.25		1
	3	2	23.29	23.27	23.33		1
	3	3	23.24	23.22	23.27		1
	6	0	22.11	22.22	22.03	0-2	2
64QAM	1	0	22.23	22.21	22.21	0-2	2
	1	2	22.30	22.28	22.30		2
	1	5	22.12	22.20	22.08		2
	3	0	22.16	22.22	22.17		2
	3	2	22.21	22.26	22.05		2
	3	3	22.15	22.23	22.08		2
	6	0	21.13	20.99	21.08	0-3	3

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Table 9-49
Reduced LTE Band 25 (PCS) Conducted Powers - 20 MHz Bandwidth – Hotspot Mode Active

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26140 (1860.0 MHz)	26365 (1882.5 MHz)	26590 (1905.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	19.15	19.39	19.05	0	0
	1	50	18.90	19.11	18.88		0
	1	99	18.87	19.10	18.79		0
	50	0	18.93	19.26	18.84	0-1	0
	50	25	19.01	19.20	18.92		0
	50	50	18.96	19.15	18.87		0
	100	0	19.04	19.23	18.95		0
16QAM	1	0	19.19	19.38	19.10	0-1	0
	1	50	18.95	19.18	18.90		0
	1	99	19.02	19.19	18.91		0
	50	0	19.07	19.26	18.98	0-2	0
	50	25	19.00	19.18	18.90		0
	50	50	18.96	19.15	18.87		0
	100	0	18.92	19.11	18.83		0
64QAM	1	0	19.23	19.32	19.14	0-2	0
	1	50	18.92	19.12	18.83		0
	1	99	18.93	19.10	18.81		0
	50	0	19.06	19.21	18.92	0-3	0
	50	25	18.93	19.13	18.84		0
	50	50	18.87	19.08	18.79		0
	100	0	18.95	19.15	18.86		0

Table 9-50
Reduced LTE Band 25 (PCS) Conducted Powers - 15 MHz Bandwidth – Hotspot Mode Active

LTE Band 25 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26115 (1857.5 MHz)	26365 (1882.5 MHz)	26615 (1907.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	19.45	19.52	19.18	0	0
	1	36	19.22	19.32	18.98		0
	1	74	19.23	19.37	19.03		0
	36	0	19.36	19.49	19.15	0-1	0
	36	18	19.32	19.41	19.11		0
	36	37	19.26	19.37	19.05		0
	75	0	19.33	19.45	19.10		0
16QAM	1	0	19.72	19.77	19.46	0-1	0
	1	36	19.50	19.62	19.27		0
	1	74	19.54	19.62	19.31		0
	36	0	19.44	19.49	19.18	0-2	0
	36	18	19.38	19.45	19.12		0
	36	37	19.32	19.43	19.09		0
	75	0	19.35	19.44	19.12		0
64QAM	1	0	19.59	19.66	19.32	0-2	0
	1	36	19.38	19.46	19.16		0
	1	74	19.40	19.50	19.18		0
	36	0	19.41	19.48	19.16	0-3	0
	36	18	19.36	19.45	19.12		0
	36	37	19.32	19.40	19.10		0
	75	0	19.34	19.45	19.12		0

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Table 9-51
Reduced LTE Band 25 (PCS) Conducted Powers - 10 MHz Bandwidth – Hotspot Mode Active

LTE Band 25 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26090 (1855.0 MHz)	26365 (1882.5 MHz)	26640 (1910.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	19.36	19.41	19.05	0	0
	1	25	19.24	19.33	18.98		0
	1	49	19.22	19.32	18.98		0
	25	0	19.36	19.42	19.10	0-1	0
	25	12	19.30	19.40	19.05		0
	25	25	19.29	19.38	19.02		0
	50	0	19.30	19.42	19.06		0
16QAM	1	0	19.63	19.70	19.32	0-1	0
	1	25	19.52	19.61	19.24		0
	1	49	19.52	19.61	19.28		0
	25	0	19.38	19.44	19.10	0-2	0
	25	12	19.35	19.42	19.11		0
	25	25	19.30	19.42	19.04		0
	50	0	19.33	19.41	19.09		0
64QAM	1	0	19.49	19.54	19.23	0-2	0
	1	25	19.38	19.45	19.12		0
	1	49	19.36	19.46	19.15		0
	25	0	19.39	19.44	19.14	0-3	0
	25	12	19.38	19.44	19.11		0
	25	25	19.32	19.40	19.08		0
	50	0	19.36	19.43	19.11		0

Table 9-52
Reduced LTE Band 25 (PCS) Conducted Powers - 5 MHz Bandwidth – Hotspot Mode Active

LTE Band 25 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26065 (1852.5 MHz)	26365 (1882.5 MHz)	26665 (1912.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	19.30	19.36	19.04	0	0
	1	12	19.23	19.31	18.98		0
	1	24	19.21	19.31	19.01		0
	12	0	19.28	19.38	19.03	0-1	0
	12	6	19.30	19.41	19.04		0
	12	13	19.27	19.37	19.01		0
	25	0	19.29	19.38	19.01		0
16QAM	1	0	19.56	19.68	19.30	0-1	0
	1	12	19.53	19.62	19.26		0
	1	24	19.49	19.62	19.26		0
	12	0	19.36	19.44	19.06	0-2	0
	12	6	19.37	19.45	19.08		0
	12	13	19.34	19.41	19.05		0
	25	0	19.33	19.39	19.03		0
64QAM	1	0	19.45	19.50	19.16	0-2	0
	1	12	19.39	19.47	19.12		0
	1	24	19.38	19.45	19.14		0
	12	0	19.35	19.41	19.07	0-3	0
	12	6	19.36	19.43	19.08		0
	12	13	19.31	19.38	19.07		0
	25	0	19.32	19.41	19.06		0

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Table 9-53
Reduced LTE Band 25 (PCS) Conducted Powers - 3 MHz Bandwidth – Hotspot Mode Active

LTE Band 25 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26055 (1851.5 MHz)	26365 (1882.5 MHz)	26675 (1913.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	19.29	19.31	18.95	0	0
	1	7	19.35	19.40	19.07		0
	1	14	19.22	19.29	18.94		0
	8	0	19.28	19.36	18.99	0-1	0
	8	4	19.30	19.37	19.00		0
	8	7	19.25	19.37	18.99		0
	15	0	19.28	19.35	19.00		0
16QAM	1	0	19.55	19.61	19.22	0-1	0
	1	7	19.62	19.70	19.34		0
	1	14	19.51	19.56	19.22		0
	8	0	19.35	19.41	19.05	0-2	0
	8	4	19.39	19.42	19.07		0
	8	7	19.34	19.39	19.05		0
	15	0	19.29	19.36	19.01		0
64QAM	1	0	19.39	19.45	19.09	0-2	0
	1	7	19.50	19.56	19.19		0
	1	14	19.33	19.43	19.10		0
	8	0	19.34	19.38	19.01	0-3	0
	8	4	19.34	19.40	19.05		0
	8	7	19.30	19.36	19.02		0
	15	0	19.31	19.37	19.02		0

Table 9-54
Reduced LTE Band 25 (PCS) Conducted Powers - 1.4 MHz Bandwidth – Hotspot Mode Active

LTE Band 25 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26047 (1850.7 MHz)	26365 (1882.5 MHz)	26683 (1914.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	19.18	19.25	18.88	0	0
	1	2	19.23	19.32	18.96		0
	1	5	19.17	19.26	18.90		0
	3	0	19.20	19.28	18.92		0
	3	2	19.24	19.31	18.96		0
	3	3	19.20	19.26	18.90		0
	6	0	19.21	19.29	18.92	0-1	0
16QAM	1	0	19.49	19.50	19.15	0-1	0
	1	2	19.55	19.61	19.23		0
	1	5	19.43	19.49	19.14		0
	3	0	19.38	19.42	19.07		0
	3	2	19.40	19.47	19.11		0
	3	3	19.35	19.41	19.05		0
	6	0	19.31	19.36	19.00	0-2	0
64QAM	1	0	19.34	19.40	19.01	0-2	0
	1	2	19.38	19.44	19.09		0
	1	5	19.32	19.37	19.02		0
	3	0	19.36	19.41	19.05		0
	3	2	19.40	19.45	19.10		0
	3	3	19.35	19.40	19.06		0
	6	0	19.28	19.31	18.97	0-3	0

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Table 9-55
Reduced LTE Band 25 (PCS) Conducted Powers - 20 MHz Bandwidth – Grip Sensor Active

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26140 (1860.0 MHz)	26365 (1882.5 MHz)	26590 (1905.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	21.04	20.98	20.80	0	0
	1	50	20.80	20.74	20.60		0
	1	99	20.74	20.74	20.64		0
	50	0	20.98	20.93	20.85	0-1	0
	50	25	20.89	20.83	20.75		0
	50	50	20.82	20.79	20.70		0
	100	0	20.90	20.87	20.79		0
16QAM	1	0	21.22	21.18	21.07	0-1	0
	1	50	20.77	20.99	20.78		0
	1	99	20.73	21.34	20.82		0
	50	0	20.95	20.94	20.83	0-2	0
	50	25	20.88	20.83	20.80		0
	50	50	20.81	20.81	20.71		0
	100	0	20.88	20.90	20.77		0
64QAM	1	0	21.25	20.95	20.90	0-2	0
	1	50	21.00	20.75	20.67		0
	1	99	20.93	20.74	20.64		0
	50	0	20.64	20.62	20.57	0-3	0
	50	25	20.56	20.55	20.47		0
	50	50	20.51	20.51	20.47		0
	100	0	20.60	20.55	20.51		0

Table 9-56
Reduced LTE Band 25 (PCS) Conducted Powers - 15 MHz Bandwidth – Grip Sensor Active

LTE Band 25 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26115 (1857.5 MHz)	26365 (1882.5 MHz)	26615 (1907.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	21.00	20.98	20.85	0	0
	1	36	20.82	20.77	20.65		0
	1	74	20.76	20.63	20.69		0
	36	0	20.93	20.86	20.78	0-1	0
	36	18	20.87	20.83	20.74		0
	36	37	20.77	20.80	20.71		0
	75	0	20.86	20.85	20.75		0
16QAM	1	0	21.34	20.73	20.87	0-1	0
	1	36	21.31	20.56	20.63		0
	1	74	21.10	20.59	20.64		0
	36	0	20.94	20.89	20.79	0-2	0
	36	18	20.86	20.83	20.73		0
	36	37	20.81	20.76	20.73		0
	75	0	20.87	20.84	20.75		0
64QAM	1	0	21.06	20.93	20.78	0-2	0
	1	36	20.94	20.75	20.69		0
	1	74	20.94	20.75	20.69		0
	36	0	20.63	20.58	20.51	0-3	0
	36	18	20.57	20.57	20.45		0
	36	37	20.53	20.54	20.42		0
	75	0	20.55	20.56	20.45		0

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Table 9-57
Reduced LTE Band 25 (PCS) Conducted Powers - 10 MHz Bandwidth – Grip Sensor Active

LTE Band 25 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26090 (1855.0 MHz)	26365 (1882.5 MHz)	26640 (1910.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.85	20.77	20.85	0	0
	1	25	20.73	20.71	20.72		0
	1	49	20.68	20.67	20.70		0
	25	0	20.87	20.83	20.85	0-1	0
	25	12	20.83	20.83	20.80		0
	25	25	20.77	20.73	20.77		0
	50	0	20.81	20.79	20.82		0
16QAM	1	0	21.21	21.38	21.27	0-1	0
	1	25	21.14	21.08	21.42		0
	1	49	21.09	21.10	21.41		0
	25	0	20.92	20.89	20.92	0-2	0
	25	12	20.92	20.87	20.82		0
	25	25	20.86	20.81	20.79		0
	50	0	20.86	20.79	20.88		0
64QAM	1	0	21.10	20.78	20.85	0-2	0
	1	25	20.83	20.93	20.76		0
	1	49	20.80	20.75	20.95		0
	25	0	20.55	20.49	20.55	0-3	0
	25	12	20.63	20.48	20.53		0
	25	25	20.56	20.44	20.51		0
	50	0	20.58	20.51	20.54		0

Table 9-58
Reduced LTE Band 25 (PCS) Conducted Powers - 5 MHz Bandwidth – Grip Sensor Active

LTE Band 25 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26065 (1852.5 MHz)	26365 (1882.5 MHz)	26665 (1912.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.98	20.72	20.78	0	0
	1	12	20.90	20.76	20.73		0
	1	24	20.93	20.75	20.75		0
	12	0	20.94	20.77	20.83	0-1	0
	12	6	20.93	20.81	20.79		0
	12	13	20.92	20.73	20.77		0
	25	0	20.92	20.73	20.79		0
16QAM	1	0	21.10	21.06	20.83	0-1	0
	1	12	21.10	21.01	21.44		0
	1	24	21.16	21.03	21.35		0
	12	0	21.01	20.81	20.88	0-2	0
	12	6	20.98	20.84	20.89		0
	12	13	20.91	20.80	20.84		0
	25	0	20.97	20.78	20.85		0
64QAM	1	0	21.12	20.82	21.05	0-2	0
	1	12	21.06	20.78	21.01		0
	1	24	20.91	20.76	21.03		0
	12	0	20.63	20.50	20.51	0-3	0
	12	6	20.64	20.49	20.52		0
	12	13	20.60	20.43	20.48		0
	25	0	20.67	20.41	20.50		0

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Table 9-59
Reduced LTE Band 25 (PCS) Conducted Powers - 3 MHz Bandwidth – Grip Sensor Active

LTE Band 25 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26055 (1851.5 MHz)	26365 (1882.5 MHz)	26675 (1913.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.93	20.71	20.76	0	0
	1	7	21.01	20.82	20.85		0
	1	14	20.83	20.74	20.73		0
	8	0	20.95	20.79	20.79	0-1	0
	8	4	20.97	20.77	20.83		0
	8	7	20.92	20.74	20.80		0
	15	0	20.96	20.78	20.81		0
16QAM	1	0	21.25	20.87	21.07	0-1	0
	1	7	21.43	20.95	21.13		0
	1	14	21.26	20.84	20.99		0
	8	0	21.18	20.81	20.86	0-2	0
	8	4	21.19	20.79	20.85		0
	8	7	21.16	20.77	20.82		0
	15	0	20.87	20.80	20.88		0
64QAM	1	0	21.17	20.70	20.75	0-2	0
	1	7	21.24	20.86	20.89		0
	1	14	21.04	20.85	20.75		0
	8	0	20.73	20.47	20.52	0-3	0
	8	4	20.73	20.49	20.55		0
	8	7	20.71	20.47	20.56		0
	15	0	20.68	20.47	20.54		0

Table 9-60
Reduced LTE Band 25 (PCS) Conducted Powers -1.4 MHz Bandwidth – Grip Sensor Active

LTE Band 25 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26047 (1850.7 MHz)	26365 (1882.5 MHz)	26683 (1914.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.79	20.73	20.74	0	0
	1	2	20.84	20.77	20.81		0
	1	5	20.86	20.72	20.77		0
	3	0	20.91	20.76	20.74		0
	3	2	20.94	20.80	20.78		0
	3	3	20.89	20.74	20.73		0
	6	0	20.92	20.72	20.74	0-1	0
16QAM	1	0	20.71	20.89	20.92	0-1	0
	1	2	20.88	20.94	20.97		0
	1	5	21.03	20.78	20.92		0
	3	0	20.98	20.83	20.89		0
	3	2	21.03	20.89	20.84		0
	3	3	20.96	20.84	20.78		0
	6	0	20.83	20.87	20.91	0-2	0
64QAM	1	0	20.92	20.69	20.91	0-2	0
	1	2	20.97	20.90	20.95		0
	1	5	20.88	20.81	20.79		0
	3	0	21.09	20.89	20.89		0
	3	2	21.11	20.91	20.98		0
	3	3	21.07	20.84	21.07		0
	6	0	20.62	20.41	20.57	0-3	0

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LTE Band 30

Table 9-61
LTE Band 30 Conducted Powers - 10 MHz Bandwidth

LTE Band 30 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			27710 (2310.0 MHz) Conducted Power [dBm]		
QPSK	1	0	23.07	0	0
	1	25	23.01		0
	1	49	23.04		0
	25	0	22.63	0-1	1
	25	12	22.61		1
	25	25	22.58		1
	50	0	22.61		1
16QAM	1	0	22.91	0-1	1
	1	25	22.89		1
	1	49	22.93		1
	25	0	21.65	0-2	2
	25	12	21.63		2
	25	25	21.62		2
	50	0	21.63		2
64QAM	1	0	21.98	0-2	2
	1	25	21.97		2
	1	49	21.95		2
	25	0	20.62	0-3	3
	25	12	20.67		3
	25	25	20.68		3
	50	0	20.68		3

Table 9-62
LTE Band 30 Conducted Powers - 5 MHz Bandwidth

LTE Band 30 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			27710 (2310.0 MHz) Conducted Power [dBm]		
QPSK	1	0	23.37	0	0
	1	12	23.29		0
	1	24	23.37		0
	12	0	22.37	0-1	1
	12	6	22.39		1
	12	13	22.38		1
	25	0	22.37		1
16QAM	1	0	22.62	0-1	1
	1	12	22.54		1
	1	24	22.62		1
	12	0	21.35	0-2	2
	12	6	21.43		2
	12	13	21.40		2
	25	0	21.40		2
64QAM	1	0	21.66	0-2	2
	1	12	21.72		2
	1	24	21.36		2
	12	0	20.29	0-3	3
	12	6	20.34		3
	12	13	20.34		3
	25	0	20.35		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 9-63
Reduced LTE Band 30 Conducted Powers - 10 MHz Bandwidth – Hotspot Mode Active

LTE Band 30 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			27710 (2310.0 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	19.78	0	0
	1	25	19.74		0
	1	49	19.77		0
	25	0	19.81	0-1	0
	25	12	19.82		0
	25	25	19.73		0
	50	0	19.75		0
16QAM	1	0	19.92	0-1	0
	1	25	19.89		0
	1	49	19.85		0
	25	0	19.13	0-2	0
	25	12	19.12		0
	25	25	19.11		0
	50	0	19.15		0
64QAM	1	0	19.79	0-2	0
	1	25	19.80		0
	1	49	19.97		0
	25	0	19.85	0-3	0
	25	12	19.87		0
	25	25	19.82		0
	50	0	19.84		0

Table 9-64
Reduced LTE Band 30 Conducted Powers - 5 MHz Bandwidth – Hotspot Mode Active

LTE Band 30 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			27710 (2310.0 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	19.80	0	0
	1	12	19.77		0
	1	24	19.78		0
	12	0	19.84	0-1	0
	12	6	19.81		0
	12	13	19.81		0
	25	0	19.80		0
16QAM	1	0	20.09	0-1	0
	1	12	20.04		0
	1	24	20.04		0
	12	0	19.88	0-2	0
	12	6	19.91		0
	12	13	19.85		0
	25	0	19.59		0
64QAM	1	0	19.92	0-2	0
	1	12	19.91		0
	1	24	19.90		0
	12	0	19.84	0-3	0
	12	6	19.88		0
	12	13	19.84		0
	25	0	19.60		0

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 9-65
Reduced LTE Band 30 Conducted Powers - 10 MHz Bandwidth – Grip Sensor Active

LTE Band 30 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			27710 (2310.0 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	20.79	0	0
	1	25	20.75		0
	1	49	20.73		0
	25	0	20.81	0-1	0
	25	12	20.83		0
	25	25	20.80		0
	50	0	20.78		0
16QAM	1	0	21.02	0-1	0
	1	25	20.97		0
	1	49	21.01		0
	25	0	20.11	0-2	0
	25	12	20.09		0
	25	25	20.07		0
	50	0	20.10		0
64QAM	1	0	21.04	0-2	0
	1	25	20.99		0
	1	49	20.97		0
	25	0	20.23	0-3	0.5
	25	12	20.24		0.5
	25	25	20.22		0.5
	50	0	20.23		0.5

Table 9-66
Reduced LTE Band 30 Conducted Powers - 5 MHz Bandwidth – Grip Sensor Active

LTE Band 30 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			27710 (2310.0 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	20.77	0	0
	1	12	20.75		0
	1	24	20.77		0
	12	0	20.81	0-1	0
	12	6	20.86		0
	12	13	20.82		0
	25	0	20.80		0
16QAM	1	0	21.04	0-1	0
	1	12	20.98		0
	1	24	21.00		0
	12	0	20.85	0-2	0
	12	6	20.88		0
	12	13	20.84		0
	25	0	20.61		0
64QAM	1	0	21.03	0-2	0
	1	12	20.99		0
	1	24	20.97		0
	12	0	20.17	0-3	0.5
	12	6	20.21		0.5
	12	13	20.18		0.5
	25	0	20.19		0.5

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

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LTE Band 7

Table 9-67
LTE Band 7 Conducted Powers - 20 MHz Bandwidth

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20850 (2510.0 MHz)	21100 (2535.0 MHz)	21350 (2560.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.75	23.90	23.42	0	0
	1	50	23.54	23.75	23.29		0
	1	99	23.56	23.74	23.26		0
	50	0	22.71	22.80	22.63	0-1	1
	50	25	22.62	22.76	22.58		1
	50	50	22.57	22.75	22.48		1
	100	0	22.61	22.76	22.57		1
16QAM	1	0	22.93	23.00	22.78	0-1	1
	1	50	22.75	22.90	22.70		1
	1	99	22.71	22.93	22.68		1
	50	0	21.76	21.83	21.60	0-2	2
	50	25	21.64	21.80	21.57		2
	50	50	21.60	21.78	21.51		2
	100	0	21.63	21.78	21.53		2
64QAM	1	0	21.87	21.90	22.00	0-2	2
	1	50	21.74	21.89	21.89		2
	1	99	21.71	21.98	21.88		2
	50	0	20.68	20.86	20.61	0-3	3
	50	25	20.66	20.82	20.59		3
	50	50	20.61	20.78	20.55		3
	100	0	20.68	20.81	20.56		3

Table 9-68
LTE Band 7 Conducted Powers - 15 MHz Bandwidth

LTE Band 7 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20825 (2507.5 MHz)	21100 (2535.0 MHz)	21375 (2562.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.51	23.67	23.66	0	0
	1	36	23.46	23.58	23.58		0
	1	74	23.44	23.58	23.59		0
	36	0	22.51	22.64	22.63	0-1	1
	36	18	22.53	22.66	22.63		1
	36	37	22.48	22.61	22.65		1
	75	0	22.49	22.64	22.64		1
16QAM	1	0	22.96	22.90	22.69	0-1	1
	1	36	22.82	23.00	22.86		1
	1	74	22.74	22.94	22.59		1
	36	0	21.51	21.66	21.69	0-2	2
	36	18	21.51	21.64	21.70		2
	36	37	21.46	21.61	21.65		2
	75	0	21.54	21.64	21.70		2
64QAM	1	0	21.80	21.93	21.91	0-2	2
	1	36	21.51	21.99	21.87		2
	1	74	21.49	21.66	22.00		2
	36	0	20.51	20.70	20.64	0-3	3
	36	18	20.50	20.70	20.72		3
	36	37	20.44	20.68	20.66		3
	75	0	20.51	20.68	20.66		3

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Table 9-69
LTE Band 7 Conducted Powers - 10 MHz Bandwidth

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20800 (2505.0 MHz)	21100 (2535.0 MHz)	21400 (2565.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.41	23.54	23.42	0	0
	1	25	23.35	23.54	23.42		0
	1	49	23.30	23.58	23.22		0
	25	0	22.41	22.64	22.44	0-1	1
	25	12	22.40	22.65	22.43		1
	25	25	22.37	22.60	22.37		1
	50	0	22.39	22.60	22.41		1
16QAM	1	0	23.00	22.84	22.48	0-1	1
	1	25	22.77	22.85	22.52		1
	1	49	22.69	22.98	22.47		1
	25	0	21.48	21.70	21.45	0-2	2
	25	12	21.46	21.68	21.51		2
	25	25	21.31	21.64	21.42		2
	50	0	21.39	21.62	21.46		2
64QAM	1	0	21.79	21.87	21.76	0-2	2
	1	25	21.42	21.91	21.75		2
	1	49	21.36	21.64	21.36		2
	25	0	20.45	20.65	20.44	0-3	3
	25	12	20.46	20.81	20.47		3
	25	25	20.40	20.70	20.40		3
	50	0	20.40	20.65	20.44		3

Table 9-70
LTE Band 7 Conducted Powers - 5 MHz Bandwidth

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20775 (2502.5 MHz)	21100 (2535.0 MHz)	21425 (2567.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.44	23.59	23.35	0	0
	1	12	23.38	23.60	23.37		0
	1	24	23.30	23.56	23.29		0
	12	0	22.44	22.62	22.42	0-1	1
	12	6	22.45	22.67	22.44		1
	12	13	22.39	22.60	22.42		1
	25	0	22.41	22.63	22.39		1
16QAM	1	0	22.34	22.98	22.22	0-1	1
	1	12	22.37	22.80	22.54		1
	1	24	22.69	22.74	22.29		1
	12	0	21.49	21.68	21.42	0-2	2
	12	6	21.49	21.72	21.50		2
	12	13	21.42	21.70	21.45		2
	25	0	21.39	21.60	21.45		2
64QAM	1	0	21.45	21.84	21.54	0-2	2
	1	12	21.77	21.93	21.56		2
	1	24	21.53	21.94	21.53		2
	12	0	20.50	20.66	20.42	0-3	3
	12	6	20.43	20.69	20.44		3
	12	13	20.39	20.62	20.40		3
	25	0	20.44	20.74	20.54		3

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Table 9-71
Reduced LTE Band 7 Conducted Powers - 20 MHz Bandwidth – Hotspot Mode Active

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20850 (2510.0 MHz)	21100 (2535.0 MHz)	21350 (2560.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	19.75	20.22	20.05	0	0
	1	50	19.65	20.12	20.00		0
	1	99	19.65	20.10	20.07		0
	50	0	19.74	20.21	20.04	0-1	0
	50	25	19.72	20.20	20.00		0
	50	50	19.66	20.17	19.97		0
	100	0	19.69	20.18	20.05		0
16QAM	1	0	19.73	20.50	19.90	0-1	0
	1	50	19.59	20.34	19.76		0
	1	99	19.85	20.36	19.75		0
	50	0	19.71	20.21	20.02	0-2	0
	50	25	19.66	20.23	19.98		0
	50	50	19.62	20.15	19.97		0
	100	0	19.69	20.17	19.98		0
64QAM	1	0	19.95	20.17	20.19	0-2	0
	1	50	19.83	20.09	19.97		0
	1	99	19.82	20.08	19.95		0
	50	0	19.74	20.18	20.10	0-3	0
	50	25	19.73	20.16	20.08		0
	50	50	19.68	20.14	20.05		0
	100	0	19.66	20.18	20.07		0

Table 9-72
Reduced LTE Band 7 Conducted Powers - 15 MHz Bandwidth – Hotspot Mode Active

LTE Band 7 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20825 (2507.5 MHz)	21100 (2535.0 MHz)	21375 (2562.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	19.51	19.98	19.83	0	0
	1	36	19.42	19.89	19.73		0
	1	74	19.40	19.91	19.72		0
	36	0	19.52	20.00	19.84	0-1	0
	36	18	19.51	20.02	19.82		0
	36	37	19.44	19.96	19.77		0
	75	0	19.49	19.96	19.82		0
16QAM	1	0	19.77	20.23	20.06	0-1	0
	1	36	19.66	20.17	19.98		0
	1	74	19.62	20.15	19.96		0
	36	0	19.50	20.01	19.81	0-2	0
	36	18	19.50	20.00	19.83		0
	36	37	19.45	19.98	19.77		0
	75	0	19.47	19.96	19.78		0
64QAM	1	0	19.66	20.13	20.00	0-2	0
	1	36	19.53	20.04	19.89		0
	1	74	19.52	20.01	19.88		0
	36	0	19.50	19.99	19.87	0-3	0
	36	18	19.50	20.00	19.85		0
	36	37	19.45	19.97	19.81		0
	75	0	19.47	19.96	19.82		0

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Table 9-73
Reduced LTE Band 7 Conducted Powers - 10 MHz Bandwidth – Hotspot Mode Active

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20800 (2505.0 MHz)	21100 (2535.0 MHz)	21400 (2565.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	19.47	19.94	19.78	0	0
	1	25	19.43	19.93	19.74		0
	1	49	19.40	19.89	19.70		0
	25	0	19.50	19.99	19.81	0-1	0
	25	12	19.48	19.99	19.83		0
	25	25	19.46	19.95	19.77		0
16QAM	50	0	19.47	19.96	19.77	0-1	0
	1	0	19.73	20.20	19.99		0
	1	25	19.67	20.17	19.99		0
	1	49	19.64	20.15	19.96	0-2	0
	25	0	19.50	19.99	19.90		0
	25	12	19.52	20.03	19.79		0
	25	25	19.44	19.95	19.74		0
50	0	19.46	19.98	19.76	0		
64QAM	1	0	19.59	20.07	19.92	0-2	0
	1	25	19.54	20.04	19.88		0
	1	49	19.50	20.00	19.85		0
	25	0	19.49	19.99	19.83	0-3	0
	25	12	19.51	20.00	19.84		0
	25	25	19.44	19.96	19.79		0
	50	0	19.47	19.97	19.82		0

Table 9-74
Reduced LTE Band 7 Conducted Powers - 5 MHz Bandwidth – Hotspot Mode Active

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20775 (2502.5 MHz)	21100 (2535.0 MHz)	21425 (2567.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	19.34	19.91	19.74	0	0
	1	12	19.34	19.90	19.72		0
	1	24	19.31	19.88	19.68		0
	12	0	19.40	19.95	19.76	0-1	0
	12	6	19.43	19.98	19.78		0
	12	13	19.37	19.93	19.76		0
	25	0	19.40	19.97	19.77		0
16QAM	1	0	19.60	20.16	20.00	0-1	0
	1	12	19.58	20.17	19.96		0
	1	24	19.52	20.12	19.90		0
	12	0	19.40	19.98	19.80	0-2	0
	12	6	19.43	20.02	19.82		0
	12	13	19.38	19.95	19.77		0
	25	0	19.38	19.94	19.76		0
64QAM	1	0	19.44	20.04	19.86	0-2	0
	1	12	19.47	20.04	19.88		0
	1	24	19.42	20.00	19.81		0
	12	0	19.41	19.98	19.82	0-3	0
	12	6	19.43	19.99	19.84		0
	12	13	19.38	19.96	19.78		0
	25	0	19.39	19.96	19.80		0

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Table 9-75
Reduced LTE Band 7 Conducted Powers - 20 MHz Bandwidth – Grip Sensor Active

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20850 (2510.0 MHz)	21100 (2535.0 MHz)	21350 (2560.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.19	20.51	20.24	0	0
	1	50	20.07	20.48	20.19		0
	1	99	19.98	20.52	20.13		0
	50	0	20.08	20.42	20.19	0-1	0
	50	25	20.03	20.41	20.16		0
	50	50	20.01	20.37	20.12		0
	100	0	20.05	20.40	20.18		0
16QAM	1	0	20.03	20.69	20.51	0-1	0
	1	50	20.03	20.62	20.33		0
	1	99	20.04	20.62	20.33		0
	50	0	20.03	20.45	20.21	0-2	0
	50	25	20.03	20.41	20.17		0
	50	50	20.04	20.37	20.13		0
	100	0	20.03	20.43	20.17		0
64QAM	1	0	20.28	20.53	20.51	0-2	0
	1	50	20.13	20.41	20.22		0
	1	99	20.15	20.51	20.23		0
	50	0	19.90	20.21	20.03	0-3	0
	50	25	19.85	20.20	20.01		0
	50	50	19.83	20.16	19.97		0
	100	0	19.85	20.21	19.98		0

Table 9-76
Reduced LTE Band 7 Conducted Powers - 15 MHz Bandwidth – Grip Sensor Active

LTE Band 7 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20825 (2507.5 MHz)	21100 (2535.0 MHz)	21375 (2562.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.46	20.58	20.27	0	0
	1	36	20.28	20.48	20.08		0
	1	74	20.16	20.43	20.05		0
	36	0	20.25	20.57	20.23	0-1	0
	36	18	20.23	20.58	20.21		0
	36	37	20.15	20.50	20.13		0
	75	0	20.17	20.51	20.15		0
16QAM	1	0	20.30	20.65	20.36	0-1	0
	1	36	20.19	20.57	20.21		0
	1	74	20.11	20.68	20.12		0
	36	0	20.30	20.66	20.22	0-2	0
	36	18	20.24	20.62	20.22		0
	36	37	20.19	20.58	20.18		0
	75	0	20.15	20.57	20.24		0
64QAM	1	0	20.06	20.39	19.81	0-2	0
	1	36	19.94	20.31	19.70		0
	1	74	19.92	20.32	19.69		0
	36	0	19.60	19.91	19.53	0-3	0
	36	18	19.59	19.90	19.53		0
	36	37	19.55	19.84	19.48		0
	75	0	19.58	19.87	19.50		0

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Table 9-77
Reduced LTE Band 7 Conducted Powers - 10 MHz Bandwidth – Grip Sensor Active

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20800 (2505.0 MHz)	21100 (2535.0 MHz)	21400 (2565.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.26	20.57	20.17	0	0
	1	25	20.15	20.50	20.07		0
	1	49	20.10	20.49	20.01		0
	25	0	20.27	20.60	20.20	0-1	0
	25	12	20.25	20.59	20.18		0
	25	25	20.19	20.54	20.13		0
16QAM	50	0	20.20	20.57	20.19	0-1	0
	1	0	20.46	20.66	20.43		0
	1	25	20.19	20.63	20.36		0
	1	49	20.09	20.58	20.31	0-2	0
	25	0	20.25	20.64	20.26		0
	25	12	20.23	20.62	20.24		0
64QAM	25	25	20.18	20.58	20.21	0-2	0
	50	0	20.22	20.59	20.23		0
	1	0	20.00	20.20	20.01		0-2
	1	25	19.96	20.28	19.95	0	
	1	49	19.93	20.27	19.87	0	
	64QAM	25	0	19.56	19.97	19.51	0-3
25		12	19.56	19.96	19.52	0	
25		25	19.74	19.92	19.48	0	
50		0	19.58	19.91	19.50		0

Table 9-78
Reduced LTE Band 7 Conducted Powers - 5 MHz Bandwidth – Grip Sensor Active

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20775 (2502.5 MHz)	21100 (2535.0 MHz)	21425 (2567.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.06	20.58	20.16	0	0
	1	12	20.04	20.53	20.15		0
	1	24	20.02	20.55	20.11		0
	12	0	20.15	20.54	20.21	0-1	0
	12	6	20.16	20.56	20.18		0
	12	13	20.11	20.53	20.14		0
16QAM	25	0	20.14	20.51	20.18	0	
	1	0	20.28	20.86	20.40	0-1	0
	1	12	20.22	20.84	20.35		0
	1	24	20.18	20.81	20.33		0
	12	0	20.11	20.56	20.17	0-2	0
	12	6	20.13	20.57	20.19		0
12	13	20.08	20.55	20.11	0		
64QAM	25	0	20.12	20.56	20.17	0	
	1	0	19.84	20.23	19.84	0-2	0
	1	12	19.82	20.22	19.82		0
	1	24	19.79	20.19	19.79		0
	12	0	19.47	19.89	19.54	0-3	0
	12	6	19.50	19.91	19.50		0
12	13	19.45	19.89	19.47	0		
	25	0	19.44	19.87	19.46		0

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LTE Band 41

Table 9-79

LTE Band 41 Power Class 3 Conducted Powers - 20 MHz Bandwidth

LTE Band 41 20 MHzBandwidth									
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	23.41	23.48	23.35	23.25	23.29	0	0
	1	50	23.22	23.28	23.17	23.02	23.09		0
	1	99	23.29	23.20	23.04	22.89	22.90		0
	50	0	22.31	22.38	22.18	22.22	22.36	0-1	1
	50	25	22.11	22.24	22.04	22.13	22.18		1
	50	50	22.18	22.18	22.18	22.07	22.12		1
	100	0	22.07	22.32	22.08	22.15	22.20		1
16QAM	1	0	22.34	22.44	22.45	22.30	22.41	0-1	1
	1	50	22.09	22.31	22.27	22.07	22.12		1
	1	99	22.16	22.33	22.04	22.04	22.02		1
	50	0	21.14	21.44	21.39	21.25	21.40	0-2	2
	50	25	21.22	21.49	21.36	21.05	21.21		2
	50	50	21.20	21.30	21.18	21.10	21.15		2
	100	0	21.11	21.26	21.33	21.10	21.14		2
64QAM	1	0	21.62	21.69	21.38	21.36	21.57	0-2	2
	1	50	21.23	21.44	21.31	21.24	21.27		2
	1	99	21.40	21.47	21.27	21.21	21.17		2
	50	0	20.35	20.48	20.38	20.16	20.40	0-3	3
	50	25	20.22	20.51	20.36	20.06	20.31		3
	50	50	20.21	20.40	20.28	20.11	20.14		3
	100	0	20.26	20.29	20.24	20.14	20.08		3

Table 9-80

LTE Band 41 Power Class 3 Conducted Powers - 15 MHz Bandwidth

LTE Band 41 15 MHzBandwidth									
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	23.50	23.37	23.53	23.50	0	0
	1	36	23.44	23.31	23.16	23.31	23.31		0
	1	74	23.36	23.24	23.10	23.20	23.20		0
	36	0	22.58	22.42	22.31	22.29	22.36	0-1	1
	36	18	22.48	22.38	22.23	22.16	22.23		1
	36	37	22.41	22.30	22.16	22.10	22.15		1
	75	0	22.41	22.32	22.19	22.12	22.17		1
16QAM	1	0	22.83	22.81	22.73	22.40	22.40	0-1	1
	1	36	22.78	22.64	22.52	22.21	22.23		1
	1	74	22.76	22.57	22.50	22.10	22.16		1
	36	0	21.50	21.31	21.24	21.31	21.33	0-2	2
	36	18	21.40	21.26	21.16	21.19	21.25		2
	36	37	21.32	21.22	21.08	21.12	21.14		2
	75	0	21.42	21.31	21.15	21.21	21.16		2
64QAM	1	0	21.09	21.39	21.38	21.30	21.19	0-2	2
	1	36	21.13	21.30	21.16	21.01	21.13		2
	1	74	20.94	21.26	21.03	20.87	20.96		2
	36	0	20.01	20.04	20.11	20.07	19.91	0-3	3
	36	18	20.00	20.14	20.05	19.94	20.03		3
	36	37	19.98	20.10	20.05	19.85	19.97		3
	75	0	19.91	20.13	20.15	19.82	20.01		3

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Table 9-81
LTE Band 41 Power Class 3 Conducted Powers - 10 MHz Bandwidth

LTE Band 41 10 MHzBandwidth									
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	23.70	23.59	23.45	23.46	23.45	0	0
	1	25	23.62	23.50	23.37	23.36	23.31		0
	1	49	23.56	23.41	23.27	23.27	23.25		0
	25	0	22.56	22.45	22.36	22.27	22.33	0-1	1
	25	12	22.58	22.41	22.22	22.23	22.27		1
	25	25	22.50	22.39	22.19	22.18	22.24		1
	50	0	22.53	22.34	22.25	22.21	22.27		1
16QAM	1	0	22.47	22.34	22.39	22.36	22.21	0-1	1
	1	25	22.31	22.20	22.25	22.18	22.08		1
	1	49	22.30	22.15	22.23	22.15	22.00		1
	25	0	21.62	21.44	21.26	21.21	21.31	0-2	2
	25	12	21.55	21.39	21.26	21.19	21.27		2
	25	25	21.52	21.37	21.15	21.13	21.27		2
	50	0	21.57	21.41	21.24	21.23	21.33		2
64QAM	1	0	21.21	21.30	21.48	21.04	21.16	0-2	2
	1	25	20.90	21.27	21.21	21.08	21.08		2
	1	49	21.09	21.09	21.14	21.02	20.94		2
	25	0	20.09	20.04	20.15	19.88	19.93	0-3	3
	25	12	20.11	20.03	19.95	19.93	20.04		3
	25	25	19.82	20.00	19.96	19.94	20.00		3
	50	0	20.01	20.02	19.84	19.92	19.91		3

Table 9-82
LTE Band 41 Power Class 3 Conducted Powers - 5 MHz Bandwidth

LTE Band 41 5 MHzBandwidth									
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	23.52	23.32	23.14	23.17	0	0
	1	12	23.64	23.46	23.25	23.10	23.15		0
	1	24	23.62	23.47	23.26	23.08	23.10		0
	12	0	22.51	22.40	22.23	22.23	22.22	0-1	1
	12	6	22.52	22.38	22.21	22.25	22.23		1
	12	13	22.45	22.28	22.19	22.17	22.21		1
	25	0	22.52	22.37	22.23	22.21	22.24		1
16QAM	1	0	22.51	22.35	22.42	21.85	21.80	0-1	1
	1	12	22.52	22.32	22.32	21.77	21.74		1
	1	24	22.43	22.22	22.28	21.75	21.75		1
	12	0	21.62	21.49	21.24	21.16	21.18	0-2	2
	12	6	21.60	21.49	21.21	21.15	21.17		2
	12	13	21.59	21.43	21.19	21.15	21.15		2
	25	0	21.51	21.44	21.11	21.17	21.25		2
64QAM	1	0	21.13	21.24	21.05	20.99	21.03	0-2	2
	1	12	20.98	21.14	21.08	21.04	21.05		2
	1	24	21.01	21.16	21.02	20.80	20.96		2
	12	0	19.79	20.19	20.12	19.86	20.00	0-3	3
	12	6	19.83	19.94	19.89	19.87	19.97		3
	12	13	20.04	20.17	19.93	19.72	19.78		3
	25	0	19.82	20.04	19.86	19.85	19.94		3

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Table 9-83
LTE Band 41 Power Class 2 Conducted Powers - 20 MHz Bandwidth

LTE Band 41 20 MHzBandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	27.07	26.90	27.28	27.18	27.20	0	0
	1	50	26.93	26.90	26.91	26.93	27.02		0
	1	99	26.93	26.88	26.95	26.81	26.94		0
	50	0	26.01	26.06	26.22	26.21	26.12	0-1	1
	50	25	25.92	26.05	26.08	26.03	26.04		1
	50	50	25.92	26.04	26.02	25.96	25.97		1
16QAM	100	0	26.08	26.06	26.01	26.01	26.07	1	
	1	0	26.42	26.40	26.50	26.49	26.48	0-1	1
	1	50	26.41	26.38	26.49	26.40	26.42		1
	1	99	26.37	26.37	26.35	26.35	26.31		1
	50	0	25.17	25.30	25.27	25.22	25.22	0-2	2
	50	25	25.14	25.28	25.19	25.10	25.23		2
50	50	25.07	25.28	25.09	25.07	25.04	2		
64QAM	100	0	25.15	25.26	25.24	25.18	25.20	2	
	1	0	25.18	25.35	25.38	25.29	25.39	0-2	2
	1	50	25.02	25.23	25.05	25.03	25.08		2
	1	99	25.08	25.16	25.04	24.98	25.04		2
	50	0	24.22	24.33	24.26	24.24	24.29	0-3	3
	50	25	24.15	24.30	24.21	24.17	24.16		3
50	50	24.07	24.22	24.11	24.10	24.11	3		
	100	0	24.13	24.35	24.18	24.13	24.18	3	

Table 9-84
LTE Band 41 Power Class 2 Conducted Powers - 15 MHz Bandwidth

LTE Band 41 15 MHzBandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	27.02	26.97	27.13	27.21	27.10	0	0
	1	36	27.05	26.91	27.02	27.11	26.90		0
	1	74	26.93	26.96	26.98	27.10	26.87		0
	36	0	26.06	25.93	26.00	26.21	25.88	0-1	1
	36	18	26.07	25.98	25.98	26.18	25.86		1
	36	37	26.00	25.88	25.91	26.13	25.80		1
	75	0	25.99	25.86	25.92	26.12	25.76		1
16QAM	1	0	26.23	26.29	26.35	26.38	26.30	0-1	1
	1	36	26.22	26.21	26.41	26.19	26.17		1
	1	74	26.15	26.14	26.44	26.19	26.11		1
	36	0	25.14	24.96	25.40	24.87	24.86	0-2	2
	36	18	25.16	25.04	25.36	24.88	24.84		2
	36	37	25.10	24.96	25.28	24.84	24.85		2
	75	0	25.00	24.90	25.20	24.84	24.89		2
64QAM	1	0	25.05	25.38	25.28	25.26	25.31	0-2	2
	1	36	25.14	25.21	25.25	25.04	25.13		2
	1	74	24.92	25.18	25.03	24.49	24.97		2
	36	0	23.73	24.05	23.90	23.86	23.87	0-3	3
	36	18	23.72	24.03	23.86	23.75	23.86		3
	36	37	23.59	23.90	23.75	23.66	23.80		3
	75	0	23.72	23.99	23.87	23.83	23.91		3

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Table 9-85
LTE Band 41 Power Class 2 Conducted Powers - 10 MHz Bandwidth

LTE Band 41 10 MHzBandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	27.09	27.16	27.01	26.90	26.85	0	0
	1	25	27.01	27.12	26.93	26.77	26.71		0
	1	49	26.96	27.08	26.83	26.75	26.65		0
	25	0	26.03	26.01	25.98	25.92	25.79	0-1	1
	25	12	26.07	25.99	25.96	25.86	25.76		1
	25	25	25.98	25.95	25.90	25.79	25.77		1
	50	0	26.04	26.00	25.97	25.87	25.73		1
16QAM	1	0	26.31	26.47	26.46	26.19	26.06	0-1	1
	1	25	26.29	26.43	26.32	26.03	25.93		1
	1	49	26.24	26.38	26.33	26.03	25.86		1
	25	0	25.10	25.05	25.03	24.97	24.82	0-2	2
	25	12	25.05	25.03	25.01	24.91	24.85		2
	25	25	24.98	24.98	24.95	24.85	24.75		2
	50	0	25.00	24.94	24.98	24.95	24.80		2
64QAM	1	0	25.12	25.25	25.34	25.13	25.21	0-2	2
	1	25	25.00	25.01	25.12	24.99	25.00		2
	1	49	24.96	24.99	25.09	24.90	24.99		2
	25	0	23.94	23.90	24.14	23.84	24.02	0-3	3
	25	12	23.91	24.01	24.02	23.88	24.10		3
	25	25	23.84	23.92	24.05	23.75	23.84		3
	50	0	23.91	23.87	23.99	23.81	23.84		3

Table 9-86
LTE Band 41 Power Class 2 Conducted Powers - 5 MHz Bandwidth

LTE Band 41 5 MHzBandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	27.02	27.03	26.90	26.82	26.75	0	0
	1	12	26.99	26.96	26.84	26.79	26.69		0
	1	24	26.92	26.95	26.80	26.75	26.65		0
	12	0	26.04	26.01	25.92	25.88	25.82	0-1	1
	12	6	26.12	26.02	25.93	25.91	25.84		1
	12	13	26.03	25.94	25.90	25.87	25.81		1
	25	0	26.07	26.01	25.90	25.87	25.79		1
16QAM	1	0	26.19	26.25	25.99	26.13	25.95	0-1	1
	1	12	26.12	26.23	26.02	26.12	25.92		1
	1	24	26.13	26.19	26.00	26.10	25.87		1
	12	0	24.96	25.13	24.96	25.03	24.85	0-2	2
	12	6	25.00	25.10	24.98	24.99	24.90		2
	12	13	24.95	25.08	24.94	24.92	24.85		2
	25	0	25.08	25.02	24.85	24.91	24.75		2
64QAM	1	0	25.07	25.21	25.16	25.01	25.06	0-2	2
	1	12	25.11	25.21	25.21	25.02	25.09		2
	1	24	25.00	25.19	25.10	24.92	25.06		2
	12	0	23.81	24.01	23.99	23.77	23.81	0-3	3
	12	6	23.81	23.96	24.01	23.85	23.87		3
	12	13	23.79	24.02	23.98	23.70	23.84		3
	25	0	23.84	24.00	24.04	23.82	23.85		3

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Table 9-87

Reduced LTE Band 41 Power Class 3 Conducted Powers - 20 MHz Bandwidth – Hotspot Mode Active

LTE Band 41 20 MHzBandwidth									
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	21.54	21.57	21.51	21.47	21.50	0	0
	1	50	21.42	21.42	21.22	21.27	21.25		0
	1	99	21.30	21.38	21.02	21.19	21.18		0
	50	0	21.38	21.46	21.39	21.34	21.44	0-1	0
	50	25	21.37	21.44	21.29	21.31	21.43		0
	50	50	21.39	21.38	21.10	21.22	21.28		0
	100	0	21.43	21.45	21.29	21.33	21.42		0
16QAM	1	0	21.59	21.68	21.61	21.53	21.61	0-1	0
	1	50	21.46	21.50	21.21	21.31	21.40		0
	1	99	21.39	21.38	21.19	21.21	21.31		0
	50	0	21.50	21.55	21.47	21.45	21.55	0-2	0
	50	25	21.46	21.45	21.37	21.34	21.48		0
	50	50	21.42	21.42	21.19	21.28	21.33		0
	100	0	21.49	21.53	21.43	21.41	21.43		0
64QAM	1	0	21.69	21.77	21.50	21.68	21.77	0-2	0
	1	50	21.58	21.60	21.49	21.45	21.53		0
	1	99	21.48	21.52	21.29	21.30	21.40		0
	50	0	20.57	20.61	20.45	20.47	20.53	0-3	1
	50	25	20.52	20.51	20.43	20.42	20.45		1
	50	50	20.48	20.38	20.27	20.26	20.41		1
	100	0	20.51	20.46	20.34	20.31	20.38		1

Table 9-88

Reduced LTE Band 41 Power Class 3 Conducted Powers - 15 MHz Bandwidth – Hotspot Mode Active

LTE Band 41 15 MHzBandwidth									
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	21.49	21.53	21.97	21.52	21.63	0	0
	1	36	21.30	21.48	21.77	21.31	21.40		0
	1	74	21.48	21.58	21.57	21.15	21.38		0
	36	0	21.39	21.56	21.58	21.47	21.53	0-1	0
	36	18	21.37	21.55	21.58	21.42	21.50		0
	36	37	21.28	21.47	21.41	21.40	21.46		0
	75	0	21.33	21.50	21.57	21.41	21.52		0
16QAM	1	0	21.49	21.65	21.66	21.64	21.69	0-1	0
	1	36	21.37	21.57	21.51	21.49	21.44		0
	1	74	21.40	21.53	21.48	21.39	21.37		0
	36	0	21.43	21.64	21.59	21.48	21.61	0-2	0
	36	18	21.39	21.58	21.55	21.45	21.46		0
	36	37	21.38	21.50	21.48	21.39	21.50		0
	75	0	21.39	21.48	21.56	21.49	21.46		0
64QAM	1	0	21.33	21.78	21.87	21.73	21.71	0-2	0
	1	36	21.20	21.63	21.69	21.56	21.65		0
	1	74	21.21	21.67	21.61	21.49	21.55		0
	36	0	20.37	20.53	20.62	20.53	20.59	0-3	1
	36	18	20.32	20.52	20.58	20.49	20.48		1
	36	37	20.31	20.44	20.49	20.44	20.46		1
	75	0	20.48	20.55	20.63	20.40	20.64		1

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Table 9-89

Reduced LTE Band 41 Power Class 3 Conducted Powers - 10 MHz Bandwidth – Hotspot Mode Active

LTE Band 41 10 MHzBandwidth									
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	21.42	21.53	21.86	21.45	21.53	0	0
	1	25	21.32	21.55	21.67	21.43	21.44		0
	1	49	21.45	21.47	21.57	21.27	21.39		0
	25	0	21.37	21.51	21.52	21.44	21.54	0-1	0
	25	12	21.33	21.52	21.54	21.49	21.41		0
	25	25	21.32	21.45	21.46	21.34	21.37		0
	50	0	21.42	21.49	21.60	21.44	21.49		0
16QAM	1	0	21.42	21.54	21.67	21.58	21.58	0-1	0
	1	25	21.37	21.49	21.54	21.45	21.52		0
	1	49	21.35	21.51	21.50	21.37	21.43		0
	25	0	21.34	21.49	21.47	21.42	21.49	0-2	0
	25	12	21.25	21.46	21.49	21.33	21.40		0
	25	25	21.27	21.39	21.45	21.31	21.32		0
	50	0	21.36	21.56	21.51	21.45	21.47		0
64QAM	1	0	21.57	21.72	21.79	21.65	21.76	0-2	0
	1	25	21.49	21.59	21.69	21.55	21.62		0
	1	49	21.51	21.62	21.59	21.44	21.50		0
	25	0	20.44	20.58	20.65	20.50	20.60	0-3	1
	25	12	20.47	20.60	20.61	20.58	20.54		1
	25	25	20.35	20.56	20.59	20.40	20.47		1
	50	0	20.42	20.53	20.56	20.45	20.55		1

Table 9-90

Reduced LTE Band 41 Power Class 3 Conducted Powers - 5 MHz Bandwidth – Hotspot Mode Active

LTE Band 41 5 MHzBandwidth									
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	21.15	21.29	21.69	21.37	21.26	0	0
	1	12	21.13	21.28	21.74	21.36	21.19		0
	1	24	21.06	21.22	21.63	21.27	21.18		0
	12	0	21.09	21.25	21.54	21.40	21.25	0-1	0
	12	6	21.12	21.32	21.48	21.45	21.24		0
	12	13	21.11	21.23	21.44	21.37	21.17		0
	25	0	21.08	21.28	21.50	21.34	21.22		0
16QAM	1	0	21.19	21.37	21.62	21.42	21.29	0-1	0
	1	12	21.21	21.36	21.54	21.48	21.28		0
	1	24	21.17	21.22	21.57	21.33	21.17		0
	12	0	21.19	21.31	21.54	21.38	21.31	0-2	0
	12	6	21.16	21.33	21.56	21.47	21.25		0
	12	13	21.13	21.26	21.53	21.44	21.17		0
	25	0	21.06	21.16	21.48	21.37	21.19		0
64QAM	1	0	21.22	21.47	21.70	21.62	21.35	0-2	0
	1	12	21.26	21.44	21.59	21.56	21.32		0
	1	24	21.22	21.41	21.60	21.50	21.29		0
	12	0	20.12	20.34	20.56	20.44	20.26	0-3	1
	12	6	20.13	20.37	20.50	20.41	20.31		1
	12	13	20.09	20.28	20.48	20.40	20.22		1
	25	0	20.10	20.31	20.56	20.50	20.29		1

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Table 9-91

Reduced LTE Band 41 Power Class 2 Conducted Powers - 20 MHz Bandwidth – Hotspot Mode Active

LTE Band 41 20 MHzBandwidth									
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	22.12	22.17	22.30	22.31	22.08	0	0
	1	50	21.94	22.02	22.21	22.06	21.84		0
	1	99	21.91	22.03	22.17	22.05	21.81		0
	50	0	22.02	22.18	22.37	22.21	22.06	0-1	0
	50	25	21.96	22.10	22.32	22.14	22.01		0
	50	50	21.88	22.06	22.29	22.12	21.91		0
	100	0	22.06	22.09	22.28	22.13	22.00		0
16QAM	1	0	22.41	22.43	22.45	22.50	22.34	0-1	0
	1	50	22.27	22.26	22.41	22.44	22.17		0
	1	99	22.31	22.27	22.41	22.38	22.07		0
	50	0	22.10	22.22	22.37	22.27	22.09	0-2	0
	50	25	22.08	22.15	22.32	22.21	22.05		0
	50	50	22.01	22.09	22.25	22.19	21.96		0
	100	0	22.13	22.14	22.32	22.15	22.06		0
64QAM	1	0	22.50	22.50	22.50	22.38	22.50	0-2	0
	1	50	22.38	22.44	22.40	22.17	22.39		0
	1	99	22.39	22.48	22.42	22.13	22.34		0
	50	0	22.16	22.24	22.39	22.24	22.15	0-3	0
	50	25	22.17	22.22	22.34	22.17	22.11		0
	50	50	22.06	22.16	22.27	22.13	22.02		0
	100	0	22.12	22.14	22.28	22.16	22.05		0

Table 9-92

Reduced LTE Band 41 Power Class 2 Conducted Powers - 15 MHz Bandwidth – Hotspot Mode Active

LTE Band 41 15 MHzBandwidth									
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	21.96	22.07	22.20	22.12	21.97	0	0
	1	36	21.85	21.97	22.04	21.98	21.83		0
	1	74	21.86	21.93	22.00	21.89	21.76		0
	36	0	21.88	22.01	22.13	22.06	21.88	0-1	0
	36	18	21.85	22.03	22.14	22.00	21.88		0
	36	37	21.83	21.95	22.10	22.00	21.76		0
	75	0	21.81	21.99	22.09	21.92	21.82		0
16QAM	1	0	22.39	22.35	22.48	22.50	22.28	0-1	0
	1	36	22.29	22.24	22.45	22.35	22.13		0
	1	74	22.24	22.25	22.42	22.27	22.08		0
	36	0	21.91	22.06	22.17	22.02	22.01	0-2	0
	36	18	21.92	22.09	22.18	21.97	21.94		0
	36	37	21.84	22.02	22.13	21.87	21.88		0
	75	0	21.86	21.96	22.14	21.93	21.82		0
64QAM	1	0	21.89	22.30	22.41	22.33	22.15	0-2	0
	1	36	21.79	22.15	22.25	22.14	22.04		0
	1	74	21.74	22.18	22.23	22.13	21.97		0
	36	0	21.89	22.02	22.18	21.97	21.88	0-3	0
	36	18	21.90	22.02	22.16	21.99	21.88		0
	36	37	21.84	21.99	22.06	21.90	21.83		0
	75	0	21.87	22.00	22.08	22.00	21.83		0

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Table 9-93

Reduced LTE Band 41 Power Class 2 Conducted Powers - 10 MHz Bandwidth – Hotspot Mode Active

LTE Band 41 10 MHzBandwidth									
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	21.91	22.03	22.15	22.04	21.92	0	0
	1	25	21.80	21.90	22.12	21.89	21.83		0
	1	49	21.82	21.91	22.05	21.87	21.76		0
	25	0	21.84	21.93	22.17	21.98	21.88	0-1	0
	25	12	21.81	21.99	22.16	22.02	21.87		0
	25	25	21.85	21.95	22.13	21.95	21.82		0
	50	0	21.81	21.99	22.14	21.96	21.85		0
16QAM	1	0	22.05	22.30	22.49	22.39	22.22	0-1	0
	1	25	21.98	22.26	22.39	22.34	22.10		0
	1	49	21.95	22.29	22.35	22.33	22.07		0
	25	0	21.90	21.95	22.15	21.99	21.89	0-2	0
	25	12	21.87	22.02	22.20	22.03	21.90		0
	25	25	21.91	21.91	22.17	21.97	21.84		0
	50	0	21.89	21.89	22.14	22.00	21.83		0
64QAM	1	0	22.25	22.30	22.47	22.19	22.21	0-2	0
	1	25	22.20	22.25	22.44	22.05	22.14		0
	1	49	22.17	22.21	22.34	22.04	22.03		0
	25	0	21.80	21.92	22.10	21.97	21.79	0-3	0
	25	12	21.76	22.00	22.17	22.01	21.87		0
	25	25	21.77	21.88	22.03	21.90	21.74		0
	50	0	21.81	21.94	22.13	21.95	21.83		0

Table 9-94

Reduced LTE Band 41 Power Class 2 Conducted Powers - 5 MHz Bandwidth – Hotspot Mode Active

LTE Band 41 5 MHzBandwidth									
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	21.83	21.88	22.06	21.96	21.77	0	0
	1	12	21.79	21.93	22.03	21.95	21.75		0
	1	24	21.83	21.90	22.00	21.92	21.73		0
	12	0	21.87	21.99	22.16	22.02	21.87	0-1	0
	12	6	21.87	22.04	22.12	21.97	21.84		0
	12	13	21.81	21.93	22.08	22.01	21.80		0
	25	0	21.81	21.99	22.11	22.01	21.86		0
16QAM	1	0	22.05	22.09	22.42	22.28	21.96	0-1	0
	1	12	22.02	22.05	22.47	22.17	21.93		0
	1	24	22.05	22.03	22.41	22.17	21.90		0
	12	0	21.88	22.03	22.31	22.13	21.92	0-2	0
	12	6	21.96	22.01	22.26	22.16	21.89		0
	12	13	21.87	21.98	22.23	22.05	21.86		0
	25	0	21.82	21.89	22.11	22.03	21.77		0
64QAM	1	0	21.73	21.76	22.46	22.50	21.71	0-2	0
	1	12	21.67	21.81	22.48	22.46	21.66		0
	1	24	21.68	21.78	22.46	22.43	21.66		0
	12	0	21.90	21.99	22.19	22.04	21.87	0-3	0
	12	6	21.94	22.04	22.23	22.06	21.90		0
	12	13	21.92	22.03	22.14	22.02	21.90		0
	25	0	21.77	21.93	22.12	21.95	21.79		0

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Table 9-95

Reduced LTE Band 41 Power Class 3 Conducted Powers - 20 MHz Bandwidth – Grip Sensor Active

LTE Band 41 20 MHzBandwidth									
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	22.46	22.55	22.66	22.55	22.54	0	0
	1	50	22.25	22.38	22.42	22.24	22.31		0
	1	99	22.23	22.28	22.31	22.18	22.23		0
	50	0	22.39	22.47	22.52	22.50	22.53	0-1	0
	50	25	22.26	22.44	22.51	22.33	22.46		0
	50	50	22.16	22.41	22.41	22.24	22.30		0
	100	0	22.19	22.42	22.51	22.35	22.50		0
16QAM	1	0	22.40	22.66	22.79	22.63	22.67	0-1	0
	1	50	22.33	22.45	22.47	22.34	22.44		0
	1	99	22.29	22.40	22.33	22.27	22.32		0
	50	0	21.34	21.52	21.55	21.46	21.54	0-2	1
	50	25	21.35	21.46	21.49	21.32	21.48		1
	50	50	21.25	21.38	21.39	21.26	21.35		1
	100	0	21.24	21.53	21.49	21.40	21.49		1
64QAM	1	0	21.67	21.75	21.89	21.71	21.80	0-2	1
	1	50	21.46	21.60	21.61	21.52	21.55		1
	1	99	21.45	21.58	21.53	21.45	21.45		1
	50	0	20.46	20.55	20.58	20.47	20.56	0-3	2
	50	25	20.36	20.49	20.57	20.35	20.45		2
	50	50	20.32	20.45	20.41	20.34	20.40		2
	100	0	20.29	20.54	20.50	20.35	20.43		2

Table 9-96

Reduced LTE Band 41 Power Class 3 Conducted Powers - 15 MHz Bandwidth – Grip Sensor Active

LTE Band 41 15 MHzBandwidth									
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	22.48	22.61	22.60	22.62	22.55	0	0
	1	36	22.30	22.45	22.43	22.43	22.37		0
	1	74	22.33	22.44	22.36	22.30	22.25		0
	36	0	22.41	22.57	22.55	22.57	22.49	0-1	0
	36	18	22.42	22.55	22.53	22.53	22.44		0
	36	37	22.39	22.45	22.47	22.43	22.39		0
	75	0	22.42	22.51	22.51	22.50	22.41		0
16QAM	1	0	22.58	22.84	22.86	22.84	22.80	0-1	0
	1	36	22.45	22.79	22.68	22.67	22.58		0
	1	74	22.47	22.61	22.67	22.56	22.48		0
	36	0	21.48	21.62	21.57	21.57	21.51	0-2	1
	36	18	21.44	21.52	21.54	21.52	21.43		1
	36	37	21.44	21.46	21.45	21.43	21.38		1
	75	0	21.47	21.52	21.47	21.52	21.46		1
64QAM	1	0	21.18	21.32	21.33	21.34	21.28	0-2	1
	1	36	21.10	21.20	21.15	21.16	21.14		1
	1	74	21.11	21.13	21.13	21.02	21.03		1
	36	0	20.47	20.63	20.56	20.59	20.55	0-3	2
	36	18	20.45	20.55	20.55	20.52	20.43		2
	36	37	20.41	20.49	20.45	20.44	20.34		2
	75	0	20.45	20.54	20.55	20.54	20.47		2

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Table 9-97

Reduced LTE Band 41 Power Class 3 Conducted Powers - 10 MHz Bandwidth – Grip Sensor Active

LTE Band 41 10 MHzBandwidth									
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	22.41	22.51	22.50	22.53	22.44	0	0
	1	25	22.37	22.44	22.40	22.49	22.35		0
	1	49	22.34	22.38	22.36	22.37	22.31		0
	25	0	22.41	22.52	22.53	22.54	22.43	0-1	0
	25	12	22.40	22.55	22.52	22.53	22.45		0
	25	25	22.36	22.47	22.46	22.46	22.37		0
	50	0	22.40	22.49	22.49	22.56	22.38		0
16QAM	1	0	22.56	22.76	22.77	22.79	22.69	0-1	0
	1	25	22.57	22.67	22.66	22.65	22.59		0
	1	49	22.59	22.63	22.61	22.57	22.50		0
	25	0	21.34	21.46	21.45	21.48	21.45	0-2	1
	25	12	21.33	21.45	21.46	21.43	21.38		1
	25	25	21.32	21.41	21.39	21.48	21.27		1
	50	0	21.42	21.53	21.52	21.64	21.42		1
64QAM	1	0	21.15	21.25	21.25	21.29	21.23	0-2	1
	1	25	21.10	21.23	21.25	21.19	21.09		1
	1	49	21.08	21.24	21.23	21.18	21.14		1
	25	0	20.46	20.72	20.66	20.70	20.53	0-3	2
	25	12	20.50	20.70	20.70	20.66	20.57		2
	25	25	20.48	20.63	20.59	20.61	20.53		2
	50	0	20.43	20.65	20.63	20.63	20.55		2

Table 9-98

Reduced LTE Band 41 Power Class 3 Conducted Powers - 5 MHz Bandwidth – Grip Sensor Active

LTE Band 41 5 MHzBandwidth									
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	22.37	22.57	22.59	22.54	22.50	0	0
	1	12	22.33	22.53	22.54	22.52	22.39		0
	1	24	22.30	22.48	22.46	22.45	22.54		0
	12	0	22.42	22.64	22.61	22.59	22.54	0-1	0
	12	6	22.42	22.65	22.64	22.62	22.53		0
	12	13	22.39	22.58	22.57	22.51	22.48		0
	25	0	22.33	22.57	22.56	22.50	22.50		0
16QAM	1	0	22.58	22.80	22.83	22.80	22.63	0-1	0
	1	12	22.59	22.75	22.78	22.72	22.69		0
	1	24	22.57	22.73	22.72	22.65	22.62		0
	12	0	21.40	21.58	21.54	21.57	21.40	0-2	1
	12	6	21.41	21.64	21.56	21.55	21.54		1
	12	13	21.32	21.43	21.56	21.55	21.51		1
	25	0	21.32	21.44	21.57	21.48	21.42		1
64QAM	1	0	21.15	21.23	21.30	21.27	21.28	0-2	1
	1	12	21.11	21.28	21.26	21.25	21.18		1
	1	24	21.09	21.31	21.22	21.27	21.14		1
	12	0	20.47	20.54	20.65	20.63	20.58	0-3	2
	12	6	20.46	20.69	20.63	20.63	20.51		2
	12	13	20.46	20.67	20.62	20.58	20.49		2
	25	0	20.60	20.67	20.63	20.60	20.58		2

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Table 9-99

Reduced LTE Band 41 Power Class 2 Conducted Powers - 20 MHz Bandwidth – Grip Sensor Active

LTE Band 41 20 MHzBandwidth									
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	23.06	22.95	23.04	22.78	22.91	0	0
	1	50	22.89	22.78	22.80	22.61	22.69		0
	1	99	22.88	22.83	22.83	22.56	22.66		0
	50	0	23.01	22.83	22.85	22.71	22.75	0-1	0
	50	25	22.95	22.79	22.79	22.79	22.72		0
	50	50	22.92	22.74	22.77	22.73	22.64		0
	100	0	22.96	22.77	22.79	22.75	22.70		0
16QAM	1	0	23.29	23.27	23.34	22.97	23.30	0-1	0
	1	50	23.12	23.14	23.13	22.77	23.09		0
	1	99	23.14	23.16	23.10	22.70	23.00		0
	50	0	22.98	22.86	22.88	22.83	22.83	0-2	0
	50	25	22.95	22.84	22.84	22.77	22.79		0
	50	50	22.92	22.81	22.83	22.67	22.72		0
	100	0	22.99	22.78	22.79	22.74	22.74		0
64QAM	1	0	23.50	22.98	23.05	23.50	22.99	0-2	0
	1	50	23.38	22.88	22.84	23.18	22.81		0
	1	99	23.35	22.92	22.83	23.16	22.73		0
	50	0	23.06	22.87	22.92	22.85	22.84	0-3	0
	50	25	23.01	22.80	22.86	22.79	22.71		0
	50	50	22.93	22.81	22.78	22.69	22.66		0
	100	0	22.97	22.88	22.82	22.76	22.72		0

Table 9-100

Reduced LTE Band 41 Power Class 2 Conducted Powers - 15 MHz Bandwidth – Grip Sensor Active

LTE Band 41 15 MHzBandwidth									
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	23.03	22.96	23.06	23.09	23.06	0	0
	1	36	22.90	22.88	22.91	22.96	22.95		0
	1	74	22.88	22.91	22.89	22.90	22.89		0
	36	0	22.99	22.94	23.01	23.00	23.03	0-1	0
	36	18	23.00	22.93	22.95	22.97	22.95		0
	36	37	22.91	22.88	22.91	22.91	22.89		0
	75	0	22.97	22.84	22.92	22.94	22.93		0
16QAM	1	0	23.49	23.26	23.48	23.36	23.43	0-1	0
	1	36	23.45	23.16	23.34	23.23	23.27		0
	1	74	23.50	23.22	23.31	23.20	23.20		0
	36	0	22.98	23.05	22.96	23.10	23.06	0-2	0
	36	18	22.96	22.99	22.97	23.06	23.06		0
	36	37	22.94	22.96	22.92	23.00	23.00		0
	75	0	22.96	22.88	22.94	22.96	22.94		0
64QAM	1	0	23.25	23.23	23.15	23.25	23.38	0-2	0
	1	36	23.09	23.11	23.03	23.13	23.21		0
	1	74	23.06	23.20	23.02	23.05	23.13		0
	36	0	23.13	23.00	23.03	23.08	22.92	0-3	0
	36	18	23.12	22.94	23.00	23.06	22.90		0
	36	37	23.05	22.92	22.94	22.94	22.85		0
	75	0	23.07	22.91	22.95	22.99	22.89		0

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Table 9-101

Reduced LTE Band 41 Power Class 2 Conducted Powers - 10 MHz Bandwidth – Grip Sensor Active

LTE Band 41 10 MHzBandwidth									
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	22.95	22.77	23.00	22.82	22.76	0	0
	1	25	22.79	22.67	22.91	22.70	22.66		0
	1	49	22.78	22.64	22.93	22.66	22.48		0
	25	0	22.90	22.75	22.99	22.76	22.76	0-1	0
	25	12	22.86	22.73	22.97	22.73	22.68		0
	25	25	22.86	22.37	22.92	22.64	22.66		0
	50	0	22.87	22.77	22.98	22.68	22.70		0
16QAM	1	0	23.29	23.19	23.16	23.20	22.95	0-1	0
	1	25	23.28	23.10	23.10	23.08	22.84		0
	1	49	23.26	23.16	23.14	23.03	22.80		0
	25	0	22.89	22.72	23.03	22.79	22.73	0-2	0
	25	12	22.87	22.76	23.02	22.71	22.71		0
	25	25	22.81	22.67	22.98	22.66	22.67		0
	50	0	22.84	22.65	23.00	22.68	22.74		0
64QAM	1	0	23.34	23.12	23.27	23.10	23.26	0-2	0
	1	25	23.31	23.03	23.22	22.96	23.13		0
	1	49	23.28	23.08	23.19	22.95	23.11		0
	25	0	23.00	22.82	22.96	22.96	22.88	0-3	0
	25	12	22.99	22.88	23.04	22.96	22.93		0
	25	25	22.95	22.85	22.91	22.92	22.85		0
	50	0	23.00	22.90	22.97	22.99	22.93		0

Table 9-102

Reduced LTE Band 41 Power Class 2 Conducted Powers - 5 MHz Bandwidth – Grip Sensor Active

LTE Band 41 5 MHzBandwidth									
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	22.93	22.75	22.69	22.63	22.70	0	0
	1	12	22.94	22.77	22.63	22.61	22.71		0
	1	24	22.88	22.68	22.58	22.58	22.61		0
	12	0	22.89	22.73	22.68	22.68	22.75	0-1	0
	12	6	22.88	22.75	22.71	22.69	22.71		0
	12	13	22.88	22.73	22.65	22.63	22.68		0
	25	0	22.90	22.77	22.69	22.70	22.72		0
16QAM	1	0	23.18	22.90	22.81	23.06	23.00	0-1	0
	1	12	23.12	22.83	22.78	23.02	22.99		0
	1	24	23.15	22.85	22.71	22.92	22.93		0
	12	0	23.07	22.70	22.75	22.81	22.75	0-2	0
	12	6	23.05	22.65	22.74	22.82	22.70		0
	12	13	23.06	22.61	22.73	22.78	22.74		0
	25	0	22.83	22.76	22.61	22.70	22.61		0
64QAM	1	0	22.77	23.45	23.48	23.42	22.84	0-2	0
	1	12	22.73	23.43	23.46	23.41	22.78		0
	1	24	22.70	23.46	23.44	23.35	22.75		0
	12	0	23.06	22.91	22.95	22.92	22.98	0-3	0
	12	6	23.14	22.97	23.02	22.95	23.00		0
	12	13	23.07	22.92	22.98	22.93	22.98		0
	25	0	23.02	22.83	22.88	22.91	22.87		0

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9.4.10 LTE Carrier Aggregation Conducted Powers

Table 9-103

LTE Band 12 Two Component Carrier Maximum Conducted Powers

	PCC									SCC				Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-12A (1)	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B2	20	900	1960	24.44	24.79
CA_4A-12A (1)	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B4	20	2175	2132.5	24.42	24.79
CA_12B	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B12	5	5083	736.3	24.66	24.79
CA_12A-30A	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B30	10	9820	2355	24.42	24.79
CA_12A-66A (4)	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B66	20	66786	2145	24.43	24.79

Table 9-104

LTE Band 12 Three Component Carrier Maximum Conducted Powers

Combination	PCC									SCC 1				SCC 2				Power	
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-2A-12A	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B2	5	900	1960	LTE B2	5	625	1932.5	24.41	24.79
CA_2A-4A-12A	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	24.40	24.79
CA_2A-12A-30A	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B2	20	900	1960	LTE B30	10	9820	2355	24.54	24.79
CA_2A-12A-66A	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B2	20	900	1960	LTE B66	20	66786	2145	24.43	24.79
CA_4A-4A-12A	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B4	20	2175	2132.5	LTE B4	5	2375	2152.5	24.41	24.79
CA_12A-66C	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	24.41	24.79
CA_12A-66A-66A	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B66	5	66786	2145	LTE B66	5	67311	2197.5	24.39	24.79
CA_4A-7A-12A	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B4	20	2175	2132.5	LTE B7	20	3100	2655	24.54	24.79
CA_2A-7A-12A	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B2	20	900	1960	LTE B7	20	3100	2655	24.51	24.79

Table 9-105

LTE Band 12 Four Component Carrier Maximum Conducted Powers

Combination	PCC								SCC 1				SCC 2				SCC 3				Power		
	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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-2A-12A-30A	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B2	5	900	1960	LTE B2	5	625	1932.5	LTE B30	10	9820	2355	24.37	24.79
CA_2A-12A-30A-66A	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B2	20	900	1960	LTE B30	10	9820	2355	LTE B66	20	66786	2145	24.29	24.79
CA_2A-12A-66A-66A	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B2	20	900	1960	LTE B66	5	66786	2145	LTE B66	5	67311	2197.5	24.31	24.79
CA_12A-30A-66A-66A	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B30	10	9820	2355	LTE B66	5	66786	2145	LTE B66	5	67311	2197.5	24.29	24.79
CA_2A-4A-7A-12A	LTE B12	5	23035	701.5	QPSK	1	0	5035	731.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B7	20	3100	2655	24.42	24.79

Table 9-106

LTE Band 17 Two Component Carrier Maximum Conducted Powers

	PCC									SCC				Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-17A	LTE B17	5	23755	706.5	QPSK	1	0	5755	736.5	LTE B2	10	900	1960	24.83	24.79
CA_4A-17A	LTE B17	5	23755	706.5	QPSK	1	0	5755	736.5	LTE B4	10	2175	2132.5	24.81	24.79

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Table 9-107
LTE Band 13 Two Component Carrier Maximum Conducted Powers

Combination	PCC									SCC				Power	
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-13A	LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B2	20	900	1960	24.23	24.43
CA_4A-13A	LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B4	20	2175	2132.5	24.23	24.43
CA_13A-66A	LTE B13	5	23230	782	QPSK	1	0	5230	751	LTE B66	20	66786	2145	24.21	24.47

Table 9-108
LTE Band 13 Three Component Carrier Maximum Conducted Powers

Combination	PCC									SCC1				SCC2				Power	
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-2A-13A	LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B2	5	900	1960	LTE B2	5	625	1932.5	24.54	24.43
CA_2A-4A-13A	LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	24.55	24.43
CA_2A-13A-66A	LTE B13	5	23230	782	QPSK	1	0	5230	751	LTE B2	20	900	1960	LTE B66	20	66786	2145	24.47	24.43
CA_4A-4A-13A	LTE B13	10	23230	782	QPSK	1	0	5230	751	LTE B4	20	2175	2132.5	LTE B4	5	2375	2152.5	24.55	24.43
CA_13A-66C	LTE B13	5	23230	782	QPSK	1	0	5230	751	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	24.52	24.47
CA_13A-66A-66A	LTE B13	5	23230	782	QPSK	1	0	5230	751	LTE B66	5	66786	2145	LTE B66	5	67311	2197.5	24.53	24.47

Table 9-109
LTE Band 5 Two Component Carrier Maximum Conducted Powers

Combination	PCC									SCC				Power	
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-5A	LTE B5	5	20625	846.5	QPSK	1	0	2625	891.5	LTE B2	20	900	1960	24.59	24.81
CA_4A-5A (1)	LTE B5	5	20625	846.5	QPSK	1	0	2625	891.5	LTE B4	20	2175	2132.5	24.63	24.81
CA_5B	LTE B5	5	20625	846.5	QPSK	1	0	2625	891.5	LTE B5	10	2553	2884.3	24.79	24.81
CA_5A-30A	LTE B5	5	20625	846.5	QPSK	1	0	2625	891.5	LTE B30	10	9820	2355	24.62	24.81
CA_5A-66A	LTE B5	5	20625	846.5	QPSK	1	0	2625	891.5	LTE B66	20	66786	2145	24.62	24.81

Table 9-110
LTE Band 5 Three Component Carrier Maximum Conducted Powers

Combination	PCC									SCC1				SCC2				Power	
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2C-5A	LTE B5	5	20625	846.5	QPSK	1	0	2625	891.5	LTE B2	20	900	1960	LTE B2	20	702	1940.2	24.61	24.81
CA_2A-2A-5A	LTE B5	5	20625	846.5	QPSK	1	0	2625	891.5	LTE B2	5	900	1960	LTE B2	5	625	1932.5	24.68	24.81
CA_2A-4A-5A	LTE B5	5	20625	846.5	QPSK	1	0	2625	891.5	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	24.72	24.81
CA_2A-5A-30A	LTE B5	5	20625	846.5	QPSK	1	0	2625	891.5	LTE B2	20	900	1960	LTE B30	10	9820	2355	24.68	24.81
CA_2A-5A-66A	LTE B5	5	20625	846.5	QPSK	1	0	2625	891.5	LTE B2	20	900	1960	LTE B66	20	66786	2145	24.72	24.81
CA_4A-4A-5A	LTE B5	5	20625	846.5	QPSK	1	0	2625	891.5	LTE B4	5	2175	2132.5	LTE B4	5	1975	2112.5	24.73	24.81
CA_4A-5A-30A	LTE B5	5	20625	846.5	QPSK	1	0	2625	891.5	LTE B4	20	2175	2132.5	LTE B30	10	9820	2355	24.63	24.81
CA_5A-30A-66A	LTE B5	5	20625	846.5	QPSK	1	0	2625	891.5	LTE B30	10	9820	2355	LTE B66	20	66786	2145	24.69	24.81
CA_5A-66C	LTE B5	5	20625	846.5	QPSK	1	0	2625	891.5	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	24.66	24.81
CA_5A-66A-66A	LTE B5	5	20625	846.5	QPSK	1	0	2625	891.5	LTE B66	5	66786	2145	LTE B66	5	67311	2197.5	24.76	24.81

Table 9-111
LTE Band 5 Four Component Carrier Maximum Conducted Powers

Combination	PCC									SCC1				SCC2				SCC3				Power	
	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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-2A-5A-30A	LTE B5	5	20625	846.5	QPSK	1	0	2625	891.5	LTE B2	5	900	1960	LTE B2	5	625	1932.5	LTE B30	10	9820	2355	24.51	24.81
CA_2A-5A-30A-66A	LTE B5	5	20625	846.5	QPSK	1	0	2625	891.5	LTE B2	20	900	1960	LTE B30	10	9820	2355	LTE B66	20	66786	2145	24.58	24.81

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Table 9-112
LTE Band 4 Two Component Carrier Maximum Conducted Powers

	PCC									SCC				Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-4A	LTE B4	15	20025	1717.5	QPSK	1	0	2025	2117.5	LTE B2	20	900	1960	23.70	24.22
CA_4A-4A	LTE B4	15	20025	1717.5	QPSK	1	0	2025	2117.5	LTE B4	5	2375	2152.5	23.71	24.22
CA_4A-5A (1)	LTE B4	15	20025	1717.5	QPSK	1	0	2025	2117.5	LTE B5	10	2525	881.5	23.69	24.22
CA_4A-12A (1)	LTE B4	15	20025	1717.5	QPSK	1	0	2025	2117.5	LTE B12	10	5095	737.5	23.68	24.22
CA_4A-13A	LTE B4	15	20025	1717.5	QPSK	1	0	2025	2117.5	LTE B13	10	5230	751	23.67	24.22
CA_4A-17A	LTE B4	5	20375	1752.5	QPSK	1	0	2375	2152.5	LTE B17	10	5790	740	24.40	24.16
CA_4A-29A (2)	LTE B4	15	20025	1717.5	QPSK	1	0	2025	2117.5	LTE B29	10	9715	722.5	24.03	24.22
CA_4A-30A	LTE B4	15	20025	1717.5	QPSK	1	0	2025	2117.5	LTE B30	10	9820	2355	23.93	24.22
CA_4A-7A (1)	LTE B4	15	20025	1717.5	QPSK	1	0	2025	2117.5	LTE B7	20	3100	2655	23.87	24.22

Table 9-113
LTE Band 4 Three Component Carrier Maximum Conducted Powers

Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA 2A-2A-4A	LTE B4	15	20025	1717.5	QPSK	1	0	2025	2117.5	LTE B2	5	900	1960	LTE B2	5	625	1932.5	24.33	24.22
CA 2A-4A-5A	LTE B4	15	20025	1717.5	QPSK	1	0	2025	2117.5	LTE B2	20	900	1960	LTE B5	10	2525	881.5	24.19	24.22
CA 2A-4A-12A	LTE B4	15	20025	1717.5	QPSK	1	0	2025	2117.5	LTE B2	20	900	1960	LTE B12	10	5095	737.5	24.15	24.22
CA 2A-4A-13A	LTE B4	15	20025	1717.5	QPSK	1	0	2025	2117.5	LTE B2	20	900	1960	LTE B13	10	5230	751	24.17	24.22
CA 2A-4A-29A	LTE B4	15	20025	1717.5	QPSK	1	0	2025	2117.5	LTE B2	20	900	1960	LTE B29	10	9715	722.5	24.18	24.22
CA 2A-4A-30A	LTE B4	15	20025	1717.5	QPSK	1	0	2025	2117.5	LTE B2	20	900	1960	LTE B30	10	9820	2355	24.17	24.22
CA 2A-4A-4A	LTE B4	15	20025	1717.5	QPSK	1	0	2025	2117.5	LTE B4	5	2375	2152.5	LTE B2	20	900	1960	24.30	24.22
CA 4A-4A-5A	LTE B4	15	20025	1717.5	QPSK	1	0	2025	2117.5	LTE B4	5	2375	2152.5	LTE B5	10	2525	881.5	24.26	24.22
CA 4A-4A-12A	LTE B4	15	20025	1717.5	QPSK	1	0	2025	2117.5	LTE B4	5	2375	2152.5	LTE B12	10	5095	737.5	24.19	24.22
CA 4A-4A-13A	LTE B4	15	20025	1717.5	QPSK	1	0	2025	2117.5	LTE B4	5	2375	2152.5	LTE B13	10	5230	751	24.12	24.22
CA 4A-4A-30A	LTE B4	15	20025	1717.5	QPSK	1	0	2025	2117.5	LTE B4	5	2375	2152.5	LTE B30	10	9820	2355	24.17	24.22
CA 4A-5A-30A	LTE B4	15	20025	1717.5	QPSK	1	0	2025	2117.5	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	24.23	24.22
CA 4A-12A-30A	LTE B4	15	20025	1717.5	QPSK	1	0	2025	2117.5	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	24.27	24.22
CA 4A-29A-30A	LTE B4	15	20025	1717.5	QPSK	1	0	2025	2117.5	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	24.24	24.22
CA 2A-4A-7A	LTE B4	15	20025	1717.5	QPSK	1	0	2025	2117.5	LTE B2	20	900	1960	LTE B7	20	3100	2655	24.24	24.22
CA 4A-7A-7A	LTE B4	15	20025	1717.5	QPSK	1	0	2025	2117.5	LTE B7	20	3100	2655	LTE B7	5	2775	2622.5	24.29	24.22
CA 4A-7A-12A	LTE B4	15	20025	1717.5	QPSK	1	0	2025	2117.5	LTE B7	20	3100	2655	LTE B12	10	5095	737.5	24.36	24.22

Table 9-114
LTE Band 4 Four Component Carrier Maximum Conducted Powers

Combination	PCC									SCC 1				SCC 2				SCC 3				Power	
	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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-7A-7A	LTE B4	15	20025	1717.5	QPSK	1	0	2025	2117.5	LTE B2	20	900	1960	LTE B7	20	3100	2655	LTE B7	5	2775	2622.5	24.16	24.22
CA 2A-4A-7A-12A	LTE B4	15	20025	1717.5	QPSK	1	0	2025	2117.5	LTE B2	20	900	1960	LTE B7	20	3100	2655	LTE B12	10	5095	737.5	24.13	24.22

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Table 9-115

LTE Band 4 Two Component Carrier Reduced Conducted Powers – Hotspot Mode Active

Combination	PCC									SCC				Power	
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA 2A-4A	LTE B4	15	20325	1747.5	16QAM	1	0	2325	2147.5	LTE B2	20	900	1960	19.33	19.42
CA 4A-4A	LTE B4	15	20325	1747.5	16QAM	1	0	2325	2147.5	LTE B4	5	1975	2112.5	19.37	19.42
CA 4A-5A (1)	LTE B4	15	20325	1747.5	16QAM	1	0	2325	2147.5	LTE B5	10	2525	881.5	19.38	19.42
CA 4A-12A (1)	LTE B4	15	20325	1747.5	16QAM	1	0	2325	2147.5	LTE B12	10	5095	737.5	19.37	19.42
CA 4A-13A	LTE B4	15	20325	1747.5	16QAM	1	0	2325	2147.5	LTE B13	10	5230	751	19.37	19.42
CA 4A-17A	LTE B4	10	20350	1750	16QAM	1	0	2350	2150	LTE B17	10	5790	740	19.25	19.29
CA 4A-29A (2)	LTE B4	15	20325	1747.5	16QAM	1	0	2325	2147.5	LTE B29	10	9715	722.5	19.47	19.42
CA 4A-30A	LTE B4	15	20325	1747.5	16QAM	1	0	2325	2147.5	LTE B30	10	9820	2355	19.26	19.42
CA 4A-7A (1)	LTE B4	15	20325	1747.5	16QAM	1	0	2325	2147.5	LTE B7	20	3100	2655	19.49	19.42

Table 9-116

LTE Band 4 Three Component Carrier Reduced Conducted Powers – Hotspot Mode Active

Combination	PCC									SCC 1				SCC 2				Power	
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA 2A-2A-4A	LTE B4	15	20325	1747.5	16QAM	1	0	2325	2147.5	LTE B2	5	900	1960	LTE B2	5	625	1932.5	19.58	19.42
CA 2A-4A-5A	LTE B4	15	20325	1747.5	16QAM	1	0	2325	2147.5	LTE B2	20	900	1960	LTE B5	10	2525	881.5	19.55	19.42
CA 2A-4A-12A	LTE B4	15	20325	1747.5	16QAM	1	0	2325	2147.5	LTE B2	20	900	1960	LTE B12	10	5095	737.5	19.50	19.42
CA 2A-4A-13A	LTE B4	15	20325	1747.5	16QAM	1	0	2325	2147.5	LTE B2	20	900	1960	LTE B13	10	5230	751	19.51	19.42
CA 2A-4A-29A	LTE B4	15	20325	1747.5	16QAM	1	0	2325	2147.5	LTE B2	20	900	1960	LTE B29	10	9715	722.5	19.39	19.42
CA 2A-4A-30A	LTE B4	15	20325	1747.5	16QAM	1	0	2325	2147.5	LTE B2	20	900	1960	LTE B30	10	9820	2355	19.42	19.42
CA 2A-4A-4A	LTE B4	15	20325	1747.5	16QAM	1	0	2325	2147.5	LTE B4	5	1975	2112.5	LTE B2	20	900	1960	19.49	19.42
CA 4A-4A-5A	LTE B4	15	20325	1747.5	16QAM	1	0	2325	2147.5	LTE B4	5	1975	2112.5	LTE B5	10	2525	881.5	19.47	19.42
CA 4A-4A-12A	LTE B4	15	20325	1747.5	16QAM	1	0	2325	2147.5	LTE B4	5	1975	2112.5	LTE B12	10	5095	737.5	19.51	19.42
CA 4A-4A-13A	LTE B4	15	20325	1747.5	16QAM	1	0	2325	2147.5	LTE B4	5	1975	2112.5	LTE B13	10	5230	751	19.53	19.42
CA 4A-4A-30A	LTE B4	15	20325	1747.5	16QAM	1	0	2325	2147.5	LTE B4	5	1975	2112.5	LTE B30	10	9820	2355	19.40	19.42
CA 4A-5A-30A	LTE B4	15	20325	1747.5	16QAM	1	0	2325	2147.5	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	19.43	19.42
CA 4A-12A-30A	LTE B4	15	20325	1747.5	16QAM	1	0	2325	2147.5	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	19.46	19.42
CA 4A-29A-30A	LTE B4	15	20325	1747.5	16QAM	1	0	2325	2147.5	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	19.45	19.42
CA 2A-4A-7A	LTE B4	15	20325	1747.5	16QAM	1	0	2325	2147.5	LTE B2	20	900	1960	LTE B7	20	3100	2655	19.51	19.42
CA 4A-7A-7A	LTE B4	15	20325	1747.5	16QAM	1	0	2325	2147.5	LTE B7	20	3100	2655	LTE B7	5	2775	2622.5	19.59	19.42
CA 4A-7A-12A	LTE B4	15	20325	1747.5	16QAM	1	0	2325	2147.5	LTE B7	20	3100	2655	LTE B12	10	5095	737.5	19.39	19.42

Table 9-117

LTE Band 4 Four Component Carrier Reduced Conducted Powers – Hotspot Mode Active

Combination	PCC									SCC 1				SCC 2				SCC 3				Power	
	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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-7A-7A	LTE B4	15	20325	1747.5	16QAM	1	0	2325	2147.5	LTE B2	20	900	1960	LTE B7	20	3100	2655	LTE B7	5	2775	2622.5	19.42	19.42
CA 2A-4A-7A-12A	LTE B4	15	20325	1747.5	16QAM	1	0	2325	2147.5	LTE B2	20	900	1960	LTE B7	20	3100	2655	LTE B12	10	5095	737.5	19.48	19.42

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Table 9-118

LTE Band 4 Two Component Carrier Reduced Conducted Powers – Grip Sensor Active

Combination	PCC									SCC				Power	
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA 2A-4A	LTE B4	15	20300	1745	64QAM	1	0	2300	2145	LTE B2	20	900	1960	20.96	21.00
CA 4A-4A	LTE B4	15	20300	1745	64QAM	1	0	2300	2145	LTE B4	5	1975	2112.5	21.00	21.00
CA 4A-5A (1)	LTE B4	15	20300	1745	64QAM	1	0	2300	2145	LTE B5	10	2525	881.5	20.97	21.00
CA 4A-12A (1)	LTE B4	15	20300	1745	64QAM	1	0	2300	2145	LTE B12	10	5095	737.5	20.96	21.00
CA 4A-13A	LTE B4	15	20300	1745	64QAM	1	0	2300	2145	LTE B13	10	5230	751	20.97	21.00
CA 4A-17A	LTE B4	10	20000	1715	16QAM	1	0	2000	2115	LTE B17	10	5790	740	20.72	21.00
CA 4A-29A (2)	LTE B4	15	20300	1745	64QAM	1	0	2300	2145	LTE B29	10	9715	722.5	20.94	21.00
CA 4A-30A	LTE B4	15	20300	1745	64QAM	1	0	2300	2145	LTE B30	10	9820	2355	21.00	21.00
CA 4A-7A (1)	LTE B4	15	20300	1745	64QAM	1	0	2300	2145	LTE B7	20	3100	2655	20.96	21.00

Table 9-119

LTE Band 4 Three Component Carrier Reduced Conducted Powers – Grip Sensor Active

Combination	PCC Band	PCC Bandwidth [MHz]	PCC						SCC 1			SCC 2			Power				
			PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA 2A-2A-4A	LTE B4	15	20300	1745	64QAM	1	0	2300	2145	LTE B2	5	900	1960	LTE B2	5	625	1932.5	20.97	21.00
CA 2A-4A-5A	LTE B4	15	20300	1745	64QAM	1	0	2300	2145	LTE B2	20	900	1960	LTE B5	10	2525	881.5	20.92	21.00
CA 2A-4A-12A	LTE B4	15	20300	1745	64QAM	1	0	2300	2145	LTE B2	20	900	1960	LTE B12	10	5095	737.5	20.79	21.00
CA 2A-4A-13A	LTE B4	15	20300	1745	64QAM	1	0	2300	2145	LTE B2	20	900	1960	LTE B13	10	5230	751	20.80	21.00
CA 2A-4A-29A	LTE B4	15	20300	1745	64QAM	1	0	2300	2145	LTE B2	20	900	1960	LTE B29	10	9715	722.5	20.82	21.00
CA 2A-4A-30A	LTE B4	15	20300	1745	64QAM	1	0	2300	2145	LTE B2	20	900	1960	LTE B30	10	9820	2355	20.79	21.00
CA 2A-4A-4A	LTE B4	15	20300	1745	64QAM	1	0	2300	2145	LTE B4	5	1975	2112.5	LTE B2	20	900	1960	21.00	21.00
CA 4A-4A-5A	LTE B4	15	20300	1745	64QAM	1	0	2300	2145	LTE B4	5	1975	2112.5	LTE B5	10	2525	881.5	20.81	21.00
CA 4A-4A-12A	LTE B4	15	20300	1745	64QAM	1	0	2300	2145	LTE B4	5	1975	2112.5	LTE B12	10	5095	737.5	20.82	21.00
CA 4A-4A-13A	LTE B4	15	20300	1745	64QAM	1	0	2300	2145	LTE B4	5	1975	2112.5	LTE B13	10	5230	751	20.80	21.00
CA 4A-4A-30A	LTE B4	15	20300	1745	64QAM	1	0	2300	2145	LTE B4	5	1975	2112.5	LTE B30	10	9820	2355	20.78	21.00
CA 4A-5A-30A	LTE B4	15	20300	1745	64QAM	1	0	2300	2145	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	20.94	21.00
CA 4A-12A-30A	LTE B4	15	20300	1745	64QAM	1	0	2300	2145	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	20.81	21.00
CA 4A-29A-30A	LTE B4	15	20300	1745	64QAM	1	0	2300	2145	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	20.79	21.00
CA 2A-4A-7A	LTE B4	15	20300	1745	64QAM	1	0	2300	2145	LTE B2	20	900	1960	LTE B7	20	3100	2655	20.93	21.00
CA 4A-7A-7A	LTE B4	15	20300	1745	64QAM	1	0	2300	2145	LTE B7	20	3100	2655	LTE B7	5	2775	2622.5	20.91	21.00
CA 4A-7A-12A	LTE B4	15	20300	1745	64QAM	1	0	2300	2145	LTE B7	20	3100	2655	LTE B12	10	5095	737.5	20.80	21.00

Table 9-120

LTE Band 4 Four Component Carrier Reduced Conducted Powers – Grip Sensor Active

Combination	PCC									SCC 1				SCC 2				SCC 3				Power	
	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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-7A-7A	LTE B4	15	20300	1745	64QAM	1	0	2300	2145	LTE B2	20	900	1960	LTE B7	20	3100	2655	LTE B7	5	2775	2622.5	20.87	21.00
CA 2A-4A-7A-12A	LTE B4	15	20300	1745	64QAM	1	0	2300	2145	LTE B2	20	900	1960	LTE B7	20	3100	2655	LTE B12	10	5095	737.5	20.99	21.00

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Table 9-121
LTE Band 66 Two Component Carrier Maximum Conducted Powers

	PCC									SCC				Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B2	20	900	1960	24.30	24.22
CA_5A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B5	10	2525	881.5	24.31	24.22
CA_12A-66A (4)	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B12	10	5095	737.5	24.30	24.22
CA_13A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B13	10	5230	751	24.29	24.22
CA_29A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B29	10	9715	722.5	24.29	24.22
CA_30A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B30	10	9820	2355	24.38	24.22
CA_66B	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B66	5	66610	2127.4	24.34	24.22
CA_66C	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B66	20	66682	2134.6	24.33	24.22
CA_66A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B66	5	67311	2197.5	24.30	24.22

Table 9-122
LTE Band 66 Three Component Carrier Maximum Conducted Powers

Combination	PCC Band	PCC Bandwidth [MHz]	PCC						SCC 1				SCC 2				Power		
			PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA 2A-5A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B2	20	900	1960	LTE B5	10	2525	881.5	24.26	24.22
CA 2A-12A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B2	20	900	1960	LTE B12	10	5095	737.5	24.17	24.22
CA 2A-13A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B2	20	900	1960	LTE B13	10	5230	751.5	24.15	24.22
CA 2A-30A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B2	20	900	1960	LTE B30	10	9820	2355	24.16	24.22
CA 5A-30A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	24.15	24.22
CA 12A-30A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	24.16	24.22
CA 2A-66C	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B2	20	900	1960	LTE B66	20	66682	2134.6	24.24	24.22
CA 2A-66A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B2	20	900	1960	LTE B66	5	67311	2197.5	24.12	24.22
CA 5A-66C	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B5	10	2525	881.5	LTE B66	20	66682	2134.6	24.26	24.22
CA 5A-66A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B5	10	2525	881.5	LTE B66	5	67311	2197.5	24.17	24.22
CA 12A-66C	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B12	10	5095	737.5	LTE B66	20	66682	2134.6	24.15	24.22
CA 12A-66A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B12	10	5095	737.5	LTE B66	5	67311	2197.5	24.17	24.22
CA 13A-66C	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B13	10	5230	751	LTE B66	20	66682	2134.6	24.20	24.22
CA 13A-66A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B13	10	5230	751	LTE B66	5	67311	2197.5	24.18	24.22
CA 30A-66A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B30	10	9820	2355	LTE B66	5	67311	2197.5	24.12	24.22
CA 66C-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B66	5	67311	2197.5	LTE B66	20	66682	2134.6	24.31	24.22
CA 66A-66C	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B66	20	67186	2185	LTE B66	5	67303	2196.7	24.30	24.22

Table 9-123
LTE Band 66 Four Component Carrier Maximum Conducted Powers

Combination	PCC Band	PCC								SCC 1				SCC 2				SCC 3				Power	
		PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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-5A-30A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	24.15	24.22
CA 2A-12A-30A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B2	20	900	1960	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	24.11	24.22
CA 2A-12A-66A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B66	5	67311	2197.5	LTE B2	20	900	1960	LTE B12	10	5095	737.5	24.09	24.22
CA 12A-30A-66A-66A	LTE B66	15	132047	1717.5	QPSK	1	0	66511	2117.5	LTE B66	5	67311	2197.5	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	24.13	24.22

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Table 9-124

LTE Band 66 Two Component Carrier Reduced Conducted Powers – Hotspot Mode Active

	PCC									SCC				Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA 2A-66A	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B2	20	900	1960	19.49	19.42
CA 5A-66A	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B5	10	2525	881.5	19.49	19.42
CA 12A-66A (4)	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B12	10	5095	737.5	19.48	19.42
CA 13A-66A	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B13	10	5230	751	19.51	19.42
CA 29A-66A	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B29	10	9715	722.5	19.47	19.42
CA 30A-66A	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B30	10	9820	2355	19.66	19.42
CA 66B	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B66	5	66962	2162.6	19.62	19.42
CA 66C	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B66	20	66890	2155.4	19.59	19.42
CA 66A-66A	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B66	5	66461	2112.5	19.59	19.42

Table 9-125

LTE Band 66 Three Component Carrier Reduced Conducted Powers – Hotspot Mode Active

Combination	PCC									SCC 1				SCC 2				Power	
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA 2A-5A-66A	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B2	20	900	1960	LTE B5	10	2525	881.5	19.55	19.42
CA 2A-12A-66A	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B2	20	900	1960	LTE B12	10	5095	737.5	19.55	19.42
CA 2A-13A-66A	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B2	20	900	1960	LTE B13	10	5230	751	19.51	19.42
CA 2A-30A-66A	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B2	20	900	1960	LTE B30	10	9820	2355	19.56	19.42
CA 5A-30A-66A	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	19.54	19.42
CA 12A-30A-66A	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	19.53	19.42
CA 2A-66C	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B2	20	900	1960	LTE B66	20	66890	2155.4	19.65	19.42
CA 2A-66A-66A	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B2	20	900	1960	LTE B66	5	66461	2112.5	19.60	19.42
CA 5A-66C	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B5	10	2525	881.5	LTE B66	20	66890	2155.4	19.67	19.42
CA 5A-66A-66A	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B5	10	2525	881.5	LTE B66	5	66461	2112.5	19.52	19.42
CA 12A-66C	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B12	10	5095	737.5	LTE B66	20	66890	2155.4	19.62	19.42
CA 12A-66A-66A	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B12	10	5095	737.5	LTE B66	5	66461	2112.5	19.51	19.42
CA 13A-66C	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B13	10	5230	751	LTE B66	20	66890	2155.4	19.64	19.42
CA 13A-66A-66A	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B13	10	5230	751	LTE B66	5	66461	2112.5	19.52	19.42
CA 30A-66A-66A	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B30	10	9820	2355	LTE B66	5	66461	2112.5	19.52	19.42
CA 66C-66A	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B66	5	66461	2112.5	LTE B66	20	66890	2155.4	19.66	19.42
CA 66A-66C	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B66	20	66586	2125	LTE B66	5	66469	2113.3	19.64	19.42

Table 9-126

LTE Band 66 Four Component Carrier Reduced Conducted Powers – Hotspot Mode Active

Combination	PCC								SCC 1				SCC 2				SCC 3				Power		
	PCC Band	PCC BW [MHz]	PCC (U) Channel	PCC (U) Freq. [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (D) Channel	PCC (D) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (D) Channel	SCC (D) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (D) Channel	SCC (D) Freq. [MHz]	SCC Band	SCC BW [MHz]	SCC (D) Channel	SCC (D) Freq. [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-5A-30A-66A	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	19.51	19.42
CA_2A-12A-30A-66A	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B2	20	900	1960	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	19.56	19.42
CA_2A-12A-66A-66A	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B66	5	66461	2112.5	LTE B2	20	900	1960	LTE B12	10	5095	737.5	19.61	19.42
CA_12A-30A-66A-66A	LTE B66	15	132597	1772.5	16QAM	1	0	67061	2172.5	LTE B66	5	66461	2112.5	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	19.50	19.42

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Table 9-127

LTE Band 66 Two Component Carrier Reduced Conducted Powers – Grip Sensor Active

	PCC									SCC				Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA 2A-66A	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B2	20	900	1960	20.82	21.00
CA 5A-66A	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B5	10	2525	881.5	20.84	21.00
CA 12A-66A (4)	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B12	10	5095	737.5	20.82	21.00
CA 13A-66A	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B13	10	5230	751	20.85	21.00
CA 29A-66A	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B29	10	9715	722.5	20.83	21.00
CA 30A-66A	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B30	10	9820	2355	20.84	21.00
CA 66B	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B66	5	66687	2135.1	21.00	21.00
CA 66C	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B66	20	66957	2162.1	20.98	21.00
CA 66A-66A	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B66	5	67311	2197.5	20.96	21.00

Table 9-128

LTE Band 66 Three Component Carrier Reduced Conducted Powers – Grip Sensor Active

Combination	PCC Band	PCC Bandwidth [MHz]	PCC								SCC 1				SCC 2				Power	
			PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)	
CA 2A-5A-66A	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B2	20	900	1960	LTE B5	10	2525	881.5	20.98	21.00	
CA 2A-12A-66A	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B2	20	900	1960	LTE B12	10	5095	737.5	20.86	21.00	
CA 2A-13A-66A	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B2	20	900	1960	LTE B13	10	5230	751	20.90	21.00	
CA 2A-30A-66A	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B2	20	900	1960	LTE B30	10	9820	2355	20.91	21.00	
CA 5A-30A-66A	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	20.97	21.00	
CA 12A-30A-66A	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	20.93	21.00	
CA 2A-66C	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B2	20	900	1960	LTE B66	20	66957	2162.1	20.99	21.00	
CA 2A-66A-66A	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B2	20	900	1960	LTE B66	5	67311	2197.5	20.92	21.00	
CA 5A-66C	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B5	10	2525	881.5	LTE B66	20	66957	2162.1	20.93	21.00	
CA 5A-66A-66A	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B5	10	2525	881.5	LTE B66	5	67311	2197.5	20.96	21.00	
CA 12A-66C	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B12	10	5095	737.5	LTE B66	20	66957	2162.1	20.93	21.00	
CA 12A-66A-66A	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B12	10	5095	737.5	LTE B66	5	67311	2197.5	20.91	21.00	
CA 13A-66C	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B13	10	5230	751	LTE B66	20	66957	2162.1	20.92	21.00	
CA 13A-66A-66A	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B13	10	5230	751	LTE B66	5	67311	2197.5	20.97	21.00	
CA 30A-66A-66A	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B30	10	9820	2355	LTE B66	5	67311	2197.5	20.99	21.00	
CA 66C-66A	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B66	5	67311	2197.5	LTE B66	20	66957	2162.1	20.86	21.00	
CA 66A-66C	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B66	20	67186	2185	LTE B66	5	67303	2196.7	20.89	21.00	

Table 9-129

LTE Band 66 Four Component Carrier Reduced Conducted Powers – Grip Sensor Active

Combination	PCC Band	PCC								SCC 1				SCC 2				SCC 3				Power	
		PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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-5A-30A-66A	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	20.90	21.00
CA 2A-12A-30A-66A	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B2	20	900	1960	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	20.96	21.00
CA 2A-12A-66A-66A	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B66	5	67311	2197.5	LTE B2	20	900	1960	LTE B12	10	5095	737.5	20.98	21.00
CA 12A-30A-66A-66A	LTE B66	15	132322	1745	64QAM	1	0	66786	2145	LTE B66	5	67311	2197.5	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	20.96	21.00

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Table 9-130
LTE Band 2 Two Component Carrier Maximum Conducted Powers

Combination	PCC									SCC				Power	
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2C	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B2	20	902	1960.2	23.17	23.75
CA_2A-2A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B2	5	625	1932.5	23.17	23.75
CA_2A-4A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B4	20	2175	2132.5	23.17	23.75
CA_2A-5A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B5	10	2525	881.5	23.19	23.75
CA_2A-12A (1)	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B12	10	5095	737.5	23.18	23.75
CA_2A-13A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B13	10	5230	751	23.21	23.75
CA_2A-17A	LTE B2	5	18925	1882.5	QPSK	1	0	925	1962.5	LTE B17	10	5790	740	23.10	23.27
CA_2A-29A (2)	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B29	10	9715	722.5	23.11	23.75
CA_2A-30A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B30	10	9820	2355	23.12	23.75
CA_2A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B66	20	66786	2145	23.17	23.75
CA_2A-7A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B7	20	3100	2655	23.25	23.75

Table 9-131
LTE Band 2 Three Component Carrier Maximum Conducted Powers

Combination	PCC									SCC 1				SCC 2				Power	
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-2A-4A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B2	5	625	1932.5	LTE B4	20	2175	2132.5	23.88	23.75
CA_2C-5A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B2	20	902	1960.2	LTE B5	10	2525	881.5	23.87	23.75
CA_2A-2A-5A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B2	5	625	1932.5	LTE B5	10	2525	881.5	23.85	23.75
CA_2A-2A-12A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B2	5	625	1932.5	LTE B12	10	5095	737.5	23.87	23.75
CA_2A-2A-13A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B2	5	625	1932.5	LTE B13	10	5230	751	23.91	23.75
CA_2A-2A-30A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B2	5	625	1932.5	LTE B30	10	9820	2355	23.82	23.75
CA_2A-4A-4A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B4	5	2375	2152.5	23.97	23.75
CA_2A-4A-5A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B5	10	2525	881.5	23.89	23.75
CA_2A-4A-12A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	23.78	23.75
CA_2A-4A-13A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B13	10	5230	751	23.83	23.75
CA_2A-4A-29A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B29	10	9715	722.5	23.76	23.75
CA_2A-4A-30A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B30	10	9820	2355	23.74	23.75
CA_2A-5A-30A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	23.85	23.75
CA_2A-5A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	23.78	23.75
CA_2A-12A-30A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	23.68	23.75
CA_2A-12A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	23.69	23.75
CA_2A-13A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B13	10	5230	751	LTE B66	20	66786	2145	23.70	23.75
CA_2A-29A-30A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	23.77	23.75
CA_2A-30A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B30	10	9820	2355	LTE B66	20	66786	2145	23.85	23.75
CA_2A-66C	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	23.93	23.75
CA_2A-66A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B66	5	66786	2145	LTE B66	5	67311	2197.5	23.87	23.75
CA_2A-4A-7A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B7	20	3100	2655	23.85	23.75
CA_2A-7A-7A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B7	20	3100	2655	LTE B7	5	2775	2622.5	23.68	23.75
CA_2A-7A-12A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B7	20	3100	2655	LTE B12	10	5095	737.5	23.76	23.75

Table 9-132
LTE Band 2 Four Component Carrier Maximum Conducted Powers

Combination	PCC									SCC 1				SCC 2				SCC 3				Power	
	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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-2A-5A-30A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B2	5	625	1932.5	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	23.68	23.75
CA_2A-2A-12A-30A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B2	5	625	1932.5	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	23.80	23.75
CA_2A-2A-29A-30A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B2	5	625	1932.5	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	23.72	23.75
CA_2A-5A-30A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	LTE B66	20	66786	2145	23.73	23.75
CA_2A-12A-30A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	LTE B66	20	66786	2145	23.76	23.75
CA_2A-12A-66A-66A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B12	10	5095	737.5	LTE B66	5	66786	2145	LTE B66	5	67311	2197.5	23.83	23.75
CA_2A-4A-7A-7A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B7	20	3100	2655	LTE B7	5	2775	2622.5	23.76	23.75
CA_2A-4A-7A-12A	LTE B2	20	19100	1900	QPSK	1	0	1100	1980	LTE B4	20	2175	2132.5	LTE B7	20	3100	2655	LTE B12	10	5095	737.5	23.70	23.75

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Table 9-133

LTE Band 2 Two Component Carrier Reduced Conducted Powers – Hotspot Mode Active

Combination	PCC									SCC				Power	
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2C	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B2	20	751	1945.1	19.93	19.77
CA_2A-2A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B2	5	625	1932.5	19.57	19.77
CA_2A-4A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B4	20	2175	2132.5	19.57	19.77
CA_2A-5A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B5	10	2525	881.5	19.96	19.77
CA_2A-12A (1)	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B12	10	5095	737.5	19.73	19.77
CA_2A-13A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B13	10	5230	751	19.49	19.77
CA_2A-17A	LTE B2	10	18925	1882.5	16QAM	1	0	925	1962.5	LTE B17	10	5790	740	19.72	19.70
CA_2A-29A (2)	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B29	10	9715	722.5	19.90	19.77
CA_2A-30A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B30	10	9820	2355	19.60	19.77
CA_2A-66A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B66	20	66786	2145	19.51	19.77
CA_2A-7A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B7	20	3100	2655	19.19	19.77

Table 9-134

LTE Band 2 Three Component Carrier Reduced Conducted Powers – Hotspot Mode Active

Combination	PCC Band	PCC									SCC 1			SCC 2			Power		
		PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL RB	PCC UL Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-2A-4A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B2	5	625	1932.5	LTE B4	20	2175	2132.5	19.32	19.77
CA_2C-5A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B2	20	754	1945.4	LTE B5	10	2525	881.5	19.27	19.77
CA_2A-2A-5A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B2	5	625	1932.5	LTE B5	10	2525	881.5	19.33	19.77
CA_2A-2A-12A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B2	5	625	1932.5	LTE B12	10	5095	737.5	19.19	19.77
CA_2A-2A-13A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B2	5	625	1932.5	LTE B13	10	5230	751	19.20	19.77
CA_2A-2A-30A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B2	5	625	1932.5	LTE B30	10	9820	2355	19.19	19.77
CA_2A-4A-4A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B4	20	2175	2132.5	LTE B4	5	2375	2152.5	19.23	19.77
CA_2A-4A-5A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B4	20	2175	2132.5	LTE B5	10	2525	881.5	19.27	19.77
CA_2A-4A-12A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	19.18	19.77
CA_2A-4A-13A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B4	20	2175	2132.5	LTE B13	10	5230	751	19.18	19.77
CA_2A-4A-29A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B4	20	2175	2132.5	LTE B29	10	9715	722.5	19.17	19.77
CA_2A-4A-30A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B4	20	2175	2132.5	LTE B30	10	9820	2355	19.22	19.77
CA_2A-5A-30A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	19.29	19.77
CA_2A-5A-66A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	19.23	19.77
CA_2A-12A-30A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	19.19	19.77
CA_2A-12A-66A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	19.20	19.77
CA_2A-13A-66A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B13	10	5230	751	LTE B66	20	66786	2145	19.22	19.77
CA_2A-29A-30A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	19.28	19.77
CA_2A-30A-66A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B30	10	9820	2355	LTE B66	20	66786	2145	19.25	19.77
CA_2A-66C	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	19.35	19.77
CA_2A-66A-66A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B66	5	66786	2145	LTE B66	5	67311	2197.5	19.32	19.77
CA_2A-4A-7A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B4	20	2175	2132.5	LTE B7	20	3100	2655	19.33	19.77
CA_2A-7A-7A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B7	20	3100	2655	LTE B7	5	2775	2622.5	19.29	19.77
CA_2A-7A-12A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B7	20	3100	2655	LTE B12	10	5095	737.5	19.33	19.77

Table 9-135

LTE Band 2 Four Component Carrier Reduced Conducted Powers – Hotspot Mode Active

Combination	PCC Band	PCC								SCC1				SCC2		SCC3				Power			
		PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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-2A-5A-30A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B2	5	625	1932.5	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	19.23	19.77
CA_2A-2A-12A-30A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B2	5	625	1932.5	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	19.20	19.77
CA_2A-2A-29A-30A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B2	5	625	1932.5	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	19.25	19.77
CA_2A-5A-30A-66A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B5	10	2525	881.5	LTE B30	20	66786	2145	LTE B66	20	66786	2145	19.22	19.77
CA_2A-12A-30A-66A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	LTE B66	20	66786	2145	19.20	19.77
CA_2A-12A-66A-66A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B12	10	5095	737.5	LTE B66	5	66786	2145	LTE B66	5	67311	2197.5	19.21	19.77
CA_2A-4A-7A-7A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B4	20	2175	2132.5	LTE B7	20	3100	2655	LTE B7	5	2775	2622.5	19.28	19.77
CA_2A-4A-7A-12A	LTE B2	15	18925	1882.5	16QAM	1	0	925	1962.5	LTE B4	20	2175	2132.5	LTE B7	20	3100	2655	LTE B12	10	5095	737.5	19.20	19.77

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Table 9-136

LTE Band 2 Two Component Carrier Reduced Conducted Powers – Grip Sensor Active

	PCC									SCC				Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2C	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B2	20	1058	1975.8	21.33	21.44
CA_2A-2A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B2	5	625	1932.5	21.36	21.44
CA_2A-4A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B4	20	2175	2132.5	21.42	21.44
CA_2A-5A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B5	10	2525	881.5	21.37	21.44
CA_2A-12A (1)	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B12	10	5095	737.5	21.44	21.44
CA_2A-13A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B13	10	5230	751	21.43	21.44
CA_2A-17A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B17	10	5790	740	21.44	21.44
CA_2A-29A (2)	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B29	10	9715	722.5	21.42	21.44
CA_2A-30A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B30	10	9820	2355	21.40	21.44
CA_2A-66A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B66	20	66786	2145	21.41	21.44
CA_2A-7A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B7	20	3100	2655	21.42	21.44

Table 9-137

LTE Band 2 Three Component Carrier Reduced Conducted Powers – Grip Sensor Active

Combination	PCC Band	PCC Bandwidth [MHz]	PCC						SCC 1				SCC 2				Power		
			PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA 2A-2A-4A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B2	5	625	1932.5	LTE B4	20	2175	2132.5	21.39	21.44
CA 2C-5A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B2	20	1058	1975.8	LTE B5	10	2525	881.5	21.45	21.44
CA 2A-2A-5A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B2	5	625	1932.5	LTE B5	10	2525	881.5	21.43	21.44
CA 2A-2A-12A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B2	5	625	1932.5	LTE B12	10	5095	737.5	21.44	21.44
CA 2A-2A-13A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B2	5	625	1932.5	LTE B13	10	5230	751	21.47	21.44
CA 2A-2A-30A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B2	5	625	1932.5	LTE B30	10	9820	2355	21.42	21.44
CA 2A-4A-4A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B4	20	2175	2132.5	LTE B4	5	2375	2152.5	21.49	21.44
CA 2A-4A-5A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B4	20	2175	2132.5	LTE B5	10	2525	881.5	21.46	21.44
CA 2A-4A-12A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	21.48	21.44
CA 2A-4A-13A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B4	20	2175	2132.5	LTE B13	10	5230	751	21.45	21.44
CA 2A-4A-29A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B4	20	2175	2132.5	LTE B29	10	9715	722.5	21.44	21.44
CA 2A-4A-30A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B4	20	2175	2132.5	LTE B30	10	9820	2355	21.44	21.44
CA 2A-5A-30A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	21.49	21.44
CA 2A-5A-66A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	21.47	21.44
CA 2A-12A-30A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	21.46	21.44
CA 2A-12A-66A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	21.49	21.44
CA 2A-13A-66A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B13	10	5230	751	LTE B66	20	66786	2145	21.48	21.44
CA 2A-29A-30A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	21.47	21.44
CA 2A-30A-66A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B30	10	9820	2355	LTE B66	20	66786	2145	21.47	21.44
CA 2A-66C	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B66	20	66786	2145	LTE B66	20	66984	2164.8	21.46	21.44
CA 2A-66A-66A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B66	5	66786	2145	LTE B66	5	67311	2197.5	21.47	21.44
CA 2A-4A-7A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B4	20	2175	2132.5	LTE B7	20	3100	2655	21.47	21.44
CA 2A-7A-7A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B7	20	3100	2655	LTE B7	5	2775	2622.5	21.49	21.44
CA 2A-7A-12A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B7	20	3100	2655	LTE B12	10	5095	737.5	21.50	21.44

Table 9-138

LTE Band 2 Four Component Carrier Reduced Conducted Powers – Grip Sensor Active

	PCC										SCC 1			SCC 2			SCC 3			Power			
Combination	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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 Power (dfbm)
CA 2A-2A-5A-30A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B2	5	625	1932.5	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	21.44	21.44
CA 2A-2A-12A-30A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B2	5	625	1932.5	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	21.50	21.44
CA 2A-2A-29A-30A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B2	5	625	1932.5	LTE B29	10	9715	722.5	LTE B30	10	9820	2355	21.35	21.44
CA 2A-5A-30A-66A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B5	10	2525	881.5	LTE B30	10	9820	2355	LTE B66	20	66786	2145	21.47	21.44
CA 2A-12A-30A-66A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B12	10	5095	737.5	LTE B30	10	9820	2355	LTE B66	20	66786	2145	21.40	21.44
CA 2A-12A-66A-66A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B12	10	5095	737.5	LTE B66	5	66786	2145	LTE B66	5	67311	2197.5	21.46	21.44
CA 2A-4A-7A-7A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B4	20	2175	2132.5	LTE B7	20	3100	2655	LTE B7	5	2775	2622.5	21.44	21.44
CA 2A-4A-7A-12A	LTE B2	5	19175	1907.5	16QAM	1	12	1175	1987.5	LTE B4	20	2175	2132.5	LTE B7	20	3100	2655	LTE B12	10	5095	737.5	21.33	21.44

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Table 9-139
LTE Band 25 Two Component Carrier Maximum Conducted Powers

	PCC									SCC				Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_25A-25A (1)	LTE B25	20	26590	1905	QPSK	1	0	8590	1985	LTE B25	5	8065	1932.5	23.27	23.75

Table 9-140
LTE Band 25 Two Component Carrier Reduced Conducted Powers – Hotspot Mode Active

	PCC									SCC				Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_25A-25A (1)	LTE B25	15	26365	1882.5	16QAM	1	0	8365	1962.5	LTE B25	5	8065	1932.5	19.86	19.77

Table 9-141
LTE Band 25 Two Component Carrier Reduced Conducted Powers – Grip Sensor Active

	PCC									SCC				Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_25A-25A (1)	LTE B25	5	26665	1912.5	16QAM	1	12	8665	1992.5	LTE B25	5	8065	1932.5	21.45	21.44

Table 9-142
LTE Band 30 Two Component Carrier Maximum Conducted Powers

	PCC									SCC				Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-30A	LTE B30	5	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	23.45	23.37
CA_4A-30A	LTE B30	5	27710	2310	QPSK	1	0	9820	2355	LTE B4	20	2175	2132.5	23.44	23.37
CA_5A-30A	LTE B30	5	27710	2310	QPSK	1	0	9820	2355	LTE B5	10	2525	881.5	23.46	23.37
CA_12A-30A	LTE B30	5	27710	2310	QPSK	1	0	9820	2355	LTE B12	10	5095	737.5	23.45	23.37
CA_29A-30A	LTE B30	5	27710	2310	QPSK	1	0	9820	2355	LTE B29	10	9715	722.5	23.46	23.37
CA_30A-66A	LTE B30	5	27710	2310	QPSK	1	0	9820	2355	LTE B66	20	66786	2145	23.43	23.37

Table 9-143
LTE Band 30 Three Component Carrier Maximum Conducted Powers

Combination	PCC									SCC 1				SCC 2				Power	
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-2A-30A	LTE B30	5	27710	2310	QPSK	1	0	9820	2355	LTE B2	5	900	1960	LTE B2	5	625	1932.5	23.45	23.37
CA_2A-4A-30A	LTE B30	5	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	23.39	23.37
CA_2A-5A-30A	LTE B30	5	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	LTE B5	10	2525	881.5	23.45	23.37
CA_2A-12A-30A	LTE B30	5	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	LTE B12	10	5095	737.5	23.47	23.37
CA_2A-29A-30A	LTE B30	5	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	LTE B29	10	9715	722.5	23.44	23.37
CA_2A-30A-66A	LTE B30	5	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	LTE B66	20	66786	2145	23.39	23.37
CA_4A-4A-30A	LTE B30	5	27710	2310	QPSK	1	0	9820	2355	LTE B4	5	2175	2132.5	LTE B4	5	2375	2152.5	23.41	23.37
CA_4A-5A-30A	LTE B30	5	27710	2310	QPSK	1	0	9820	2355	LTE B4	20	2175	2132.5	LTE B5	10	2525	881.5	23.44	23.37
CA_4A-12A-30A	LTE B30	5	27710	2310	QPSK	1	0	9820	2355	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	23.46	23.37
CA_4A-29A-30A	LTE B30	5	27710	2310	QPSK	1	0	9820	2355	LTE B4	20	2175	2132.5	LTE B29	10	9715	722.5	23.45	23.37
CA_5A-30A-66A	LTE B30	5	27710	2310	QPSK	1	0	9820	2355	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	23.38	23.37
CA_12A-30A-66A	LTE B30	5	27710	2310	QPSK	1	0	9820	2355	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	23.45	23.37
CA_30A-66A-66A	LTE B30	5	27710	2310	QPSK	1	0	9820	2355	LTE B66	5	66786	2145	LTE B66	5	67311	2197.5	23.46	23.37

Table 9-144
LTE Band 30 Four Component Carrier Maximum Conducted Powers

Combination	PCC Band	PCC								SCC 1				SCC 2				SCC 3				Power	
		PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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-2A-5A-30A	LTE B30	5	27710	2310	QPSK	1	0	9820	2355	LTE B2	5	900	1960	LTE B2	5	625	1932.5	LTE B5	10	2525	881.5	23.37	23.37
CA_2A-2A-12A-30A	LTE B30	5	27710	2310	QPSK	1	0	9820	2355	LTE B2	5	900	1960	LTE B2	5	625	1932.5	LTE B12	10	5095	737.5	23.39	23.37
CA_2A-2A-29A-30A	LTE B30	5	27710	2310	QPSK	1	0	9820	2355	LTE B2	5	900	1960	LTE B2	5	625	1932.5	LTE B29	10	9715	722.5	23.42	23.37
CA_2A-5A-30A-66A	LTE B30	5	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	23.44	23.37
CA_2A-12A-30A-66A	LTE B30	5	27710	2310	QPSK	1	0	9820	2355	LTE B2	20	900	1960	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	23.40	23.37
CA_12A-30A-66A-66A	LTE B30	5	27710	2310	QPSK	1	0	9820	2355	LTE B12	10	5095	737.5	LTE B66	5	66786	2145	LTE B66	5	67311	2197.5	23.42	23.37

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Table 9-145

LTE Band 30 Two Component Carrier Reduced Conducted Powers – Hotspot Mode Active

	PCC									SCC				Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA 2A-30A	LTE B30	5	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	20.02	20.09
CA 4A-30A	LTE B30	5	27710	2310	16QAM	1	0	9820	2355	LTE B4	20	2175	2132.5	20.01	20.09
CA 5A-30A	LTE B30	5	27710	2310	16QAM	1	0	9820	2355	LTE B5	10	2525	881.5	20.05	20.09
CA 12A-30A	LTE B30	5	27710	2310	16QAM	1	0	9820	2355	LTE B12	10	5095	737.5	20.00	20.09
CA 29A-30A	LTE B30	5	27710	2310	16QAM	1	0	9820	2355	LTE B29	10	9715	722.5	19.97	20.09
CA 30A-66A	LTE B30	5	27710	2310	16QAM	1	0	9820	2355	LTE B66	20	66786	2145	19.99	20.09

Table 9-146

LTE Band 30 Three Component Carrier Reduced Conducted Powers – Hotspot Mode Active

Combination	PCC Band	PCC								SCC 1				SCC 2				Power	
		PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA 2A-2A-30A	LTE B30	5	27710	2310	16QAM	1	0	9820	2355	LTE B2	5	900	1960	LTE B2	5	625	1932.5	20.24	20.09
CA 2A-4A-30A	LTE B30	5	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	20.21	20.09
CA 2A-5A-30A	LTE B30	5	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B5	10	2525	881.5	20.17	20.09
CA 2A-12A-30A	LTE B30	5	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B12	10	5095	737.5	20.24	20.09
CA 2A-29A-30A	LTE B30	5	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B29	10	9715	722.5	20.26	20.09
CA 2A-30A-66A	LTE B30	5	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B66	20	66786	2145	20.34	20.09
CA 4A-4A-30A	LTE B30	5	27710	2310	16QAM	1	0	9820	2355	LTE B4	5	2175	2132.5	LTE B4	5	2375	2152.5	20.22	20.09
CA 4A-5A-30A	LTE B30	5	27710	2310	16QAM	1	0	9820	2355	LTE B4	20	2175	2132.5	LTE B5	10	2525	881.5	20.24	20.09
CA 4A-12A-30A	LTE B30	5	27710	2310	16QAM	1	0	9820	2355	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	20.22	20.09
CA 4A-29A-30A	LTE B30	5	27710	2310	16QAM	1	0	9820	2355	LTE B4	20	2175	2132.5	LTE B29	10	9715	722.5	20.26	20.09
CA 5A-30A-66A	LTE B30	5	27710	2310	16QAM	1	0	9820	2355	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	20.25	20.09
CA 12A-30A-66A	LTE B30	5	27710	2310	16QAM	1	0	9820	2355	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	20.22	20.09
CA 30A-66A-66A	LTE B30	5	27710	2310	16QAM	1	0	9820	2355	LTE B66	5	66786	2145	LTE B66	5	67311	2197.5	20.22	20.09

Table 9-147

LTE Band 30 Four Component Carrier Reduced Conducted Powers – Hotspot Mode Active

Combination	PCC Band	PCC								SCC 1				SCC 2				SCC 3				Power	
		PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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-2A-5A-30A	LTE B30	5	27710	2310	16QAM	1	0	9820	2355	LTE B2	5	900	1960	LTE B2	5	625	1932.5	LTE B5	10	2525	881.5	20.26	20.09
CA 2A-2A-12A-30A	LTE B30	5	27710	2310	16QAM	1	0	9820	2355	LTE B2	5	900	1960	LTE B2	5	625	1932.5	LTE B12	10	5095	737.5	20.24	20.09
CA 2A-2A-29A-30A	LTE B30	5	27710	2310	16QAM	1	0	9820	2355	LTE B2	5	900	1960	LTE B2	5	625	1932.5	LTE B29	10	9715	722.5	20.27	20.09
CA 2A-5A-30A-66A	LTE B30	5	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	20.24	20.09
CA 2A-12A-30A-66A	LTE B30	5	27710	2310	16QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	20.31	20.09
CA 12A-30A-66A-66A	LTE B30	5	27710	2310	16QAM	1	0	9820	2355	LTE B12	10	5095	737.5	LTE B66	5	66786	2145	LTE B66	5	67311	2197.5	20.28	20.09

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Table 9-148

LTE Band 30 Two Component Carrier Reduced Conducted Powers – Grip Sensor Active

Combination	PCC Band	PCC								SCC				Power	
		PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA 2A-30A	LTE B30	10	27710	2310	64QAM	1	0	9820	2355	LTE B2	20	900	1960	21.28	21.04
CA 4A-30A	LTE B30	10	27710	2310	64QAM	1	0	9820	2355	LTE B4	20	2175	2132.5	21.29	21.04
CA 5A-30A	LTE B30	10	27710	2310	64QAM	1	0	9820	2355	LTE B5	10	2525	881.5	21.29	21.04
CA 12A-30A	LTE B30	10	27710	2310	64QAM	1	0	9820	2355	LTE B12	10	5095	737.5	21.29	21.04
CA 29A-30A	LTE B30	10	27710	2310	64QAM	1	0	9820	2355	LTE B29	10	9715	722.5	21.26	21.04
CA 30A-66A	LTE B30	10	27710	2310	64QAM	1	0	9820	2355	LTE B66	20	66786	2145	21.27	21.04

Table 9-149

LTE Band 30 Three Component Carrier Reduced Conducted Powers – Grip Sensor Active

Combination	PCC Band	PCC								SCC 1				SCC 2				Power	
		PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA 2A-2A-30A	LTE B30	10	27710	2310	64QAM	1	0	9820	2355	LTE B2	5	900	1960	LTE B2	5	625	1932.5	21.03	21.04
CA 2A-4A-30A	LTE B30	10	27710	2310	64QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	20.99	21.04
CA 2A-5A-30A	LTE B30	10	27710	2310	64QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B5	10	2525	881.5	21.10	21.04
CA 2A-12A-30A	LTE B30	10	27710	2310	64QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B12	10	5095	737.5	21.06	21.04
CA 2A-29A-30A	LTE B30	10	27710	2310	64QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B29	10	9715	722.5	21.07	21.04
CA 2A-30A-66A	LTE B30	10	27710	2310	64QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B66	20	66786	2145	21.11	21.04
CA 4A-4A-30A	LTE B30	10	27710	2310	64QAM	1	0	9820	2355	LTE B4	5	2175	2132.5	LTE B4	5	2375	2152.5	21.02	21.04
CA 4A-5A-30A	LTE B30	10	27710	2310	64QAM	1	0	9820	2355	LTE B4	20	2175	2132.5	LTE B5	10	2525	881.5	21.04	21.04
CA 4A-12A-30A	LTE B30	10	27710	2310	64QAM	1	0	9820	2355	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	21.03	21.04
CA 4A-29A-30A	LTE B30	10	27710	2310	64QAM	1	0	9820	2355	LTE B4	20	2175	2132.5	LTE B29	10	9715	722.5	21.06	21.04
CA 5A-30A-66A	LTE B30	10	27710	2310	64QAM	1	0	9820	2355	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	21.02	21.04
CA 12A-30A-66A	LTE B30	10	27710	2310	64QAM	1	0	9820	2355	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	20.98	21.04
CA 30A-66A-66A	LTE B30	10	27710	2310	64QAM	1	0	9820	2355	LTE B66	5	66786	2145	LTE B66	5	67311	2197.5	20.96	21.04

Table 9-150

LTE Band 30 Four Component Carrier Reduced Conducted Powers – Grip Sensor Active

Combination	PCC Band	PCC								SCC 1				SCC 2				SCC 3				Power	
		PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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-2A-5A-30A	LTE B30	10	27710	2310	64QAM	1	0	9820	2355	LTE B2	5	900	1960	LTE B2	5	625	1932.5	LTE B5	10	2525	881.5	20.95	21.04
CA 2A-2A-12A-30A	LTE B30	10	27710	2310	64QAM	1	0	9820	2355	LTE B2	5	900	1960	LTE B2	5	625	1932.5	LTE B12	10	5095	737.5	21.00	21.04
CA 2A-2A-29A-30A	LTE B30	10	27710	2310	64QAM	1	0	9820	2355	LTE B2	5	900	1960	LTE B2	5	625	1932.5	LTE B29	10	9715	722.5	20.99	21.04
CA 2A-5A-30A-66A	LTE B30	10	27710	2310	64QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B5	10	2525	881.5	LTE B66	20	66786	2145	20.97	21.04
CA 2A-12A-30A-66A	LTE B30	10	27710	2310	64QAM	1	0	9820	2355	LTE B2	20	900	1960	LTE B12	10	5095	737.5	LTE B66	20	66786	2145	21.03	21.04
CA 12A-30A-66A-66A	LTE B30	10	27710	2310	64QAM	1	0	9820	2355	LTE B12	10	5095	737.5	LTE B66	5	66786	2145	LTE B66	5	67311	2197.5	21.01	21.04

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Table 9-151
LTE Band 7 Two Component Carrier Maximum Conducted Powers

Combination	PCC									SCC				Power	
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-7A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B2	20	900	1960	23.63	23.90
CA_4A-7A (1)	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B4	20	2175	2132.5	23.64	23.90
CA_7A-7A (1)	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B7	5	2775	2622.5	23.62	23.90

Table 9-152
LTE Band 7 Three Component Carrier Maximum Conducted Powers

Combination	PCC									SCC 1				SCC 2				Power	
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-4A-7A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	23.64	23.90
CA_2A-7A-12A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B2	20	900	1960	LTE B12	10	5095	737.5	23.69	23.90
CA_4A-7A-12A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	23.63	23.90
CA_2A-7A-7A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B2	20	900	1960	LTE B7	5	2775	2622.5	23.60	23.90
CA_4A-7A-7A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B4	20	2175	2132.5	LTE B7	5	2775	2622.5	23.62	23.90

Table 9-153
LTE Band 7 Four Component Carrier Maximum Conducted Powers

Combination	PCC									SCC 1				SCC 2				SCC 3				Power	
	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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-7A-7A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B7	5	2775	2622.5	23.59	23.90
CA_2A-4A-7A-12A	LTE B7	20	21100	2535	QPSK	1	0	3100	2655	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	23.58	23.90

Table 9-154
LTE Band 7 Two Component Carrier Reduced Conducted Powers – Hotspot Mode Active

Combination	PCC									SCC				Power	
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-7A	LTE B7	20	21100	2535	16QAM	1	0	3100	2655	LTE B2	20	900	1960	20.50	20.50
CA_4A-7A (1)	LTE B7	20	21100	2535	16QAM	1	0	3100	2655	LTE B4	20	2175	2132.5	20.47	20.50
CA_7A-7A (1)	LTE B7	20	21100	2535	16QAM	1	0	3100	2655	LTE B7	5	2775	2622.5	20.46	20.50

Table 9-155
LTE Band 7 Three Component Carrier Reduced Conducted Powers – Hotspot Mode Active

Combination	PCC									SCC 1				SCC 2				SCC 3				Power	
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-4A-7A	LTE B7	20	21100	2535	16QAM	1	0	3100	2655	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B7	5	2775	2622.5	20.30	20.50
CA_2A-7A-12A	LTE B7	20	21100	2535	16QAM	1	0	3100	2655	LTE B2	20	900	1960	LTE B12	10	5095	737.5	LTE B12	10	5095	737.5	20.34	20.50
CA_4A-7A-12A	LTE B7	20	21100	2535	16QAM	1	0	3100	2655	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	LTE B12	10	5095	737.5	20.35	20.50
CA_2A-7A-7A	LTE B7	20	21100	2535	16QAM	1	0	3100	2655	LTE B2	20	900	1960	LTE B7	5	2775	2622.5	LTE B7	5	2775	2622.5	20.12	20.50
CA_4A-7A-7A	LTE B7	20	21100	2535	16QAM	1	0	3100	2655	LTE B4	20	2175	2132.5	LTE B7	5	2775	2622.5	LTE B7	5	2775	2622.5	20.16	20.50

Table 9-156
LTE Band 7 Four Component Carrier Reduced Conducted Powers – Hotspot Mode Active

Combination	PCC									SCC 1				SCC 2				SCC 3				Power	
	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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-7A-7A	LTE B7	20	21100	2535	16QAM	1	0	3100	2655	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B7	5	2775	2622.5	20.24	20.50
CA_2A-4A-7A-12A	LTE B7	20	21100	2535	16QAM	1	0	3100	2655	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	20.30	20.50

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Table 9-157

LTE Band 7 Two Component Carrier Reduced Conducted Powers – Grip Sensor Active

Combination	PCC									SCC				Power	
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-7A	LTE B7	5	21100	2535	16QAM	1	0	3100	2655	LTE B2	20	900	1960	20.91	20.86
CA_4A-7A (1)	LTE B7	5	21100	2535	16QAM	1	0	3100	2655	LTE B4	20	2175	2132.5	20.92	20.86
CA_7A-7A (1)	LTE B7	5	21100	2535	16QAM	1	0	3100	2655	LTE B7	5	2775	2622.5	20.94	20.86

Table 9-158

LTE Band 7 Three Component Carrier Reduced Conducted Powers – Grip Sensor Active

Combination	PCC									SCC 1				SCC 2				Power	
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_2A-4A-7A	LTE B7	5	21100	2535	16QAM	1	0	3100	2655	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	20.53	20.86
CA_2A-7A-12A	LTE B7	5	21100	2535	16QAM	1	0	3100	2655	LTE B2	20	900	1960	LTE B12	10	5095	737.5	20.51	20.86
CA_4A-7A-12A	LTE B7	5	21100	2535	16QAM	1	0	3100	2655	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	20.55	20.86
CA_2A-7A-7A	LTE B7	5	21100	2535	16QAM	1	0	3100	2655	LTE B2	20	900	1960	LTE B7	5	2775	2622.5	20.62	20.86
CA_4A-7A-7A	LTE B7	5	21100	2535	16QAM	1	0	3100	2655	LTE B4	20	2175	2132.5	LTE B7	5	2775	2622.5	20.50	20.86

Table 9-159

LTE Band 7 Four Component Carrier Reduced Conducted Powers – Grip Sensor Active

Combination	PCC									SCC 1				SCC 2				SCC 3				Power	
	PCC Band	PCC BW [MHz]	PCC (UL) Channel	PCC (UL) Freq. [MHz]	Modulation	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-7A-7A	LTE B7	5	21100	2535	16QAM	1	0	3100	2655	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B7	5	2775	2622.5	20.49	20.86
CA_2A-4A-7A-12A	LTE B7	5	21100	2535	16QAM	1	0	3100	2655	LTE B2	20	900	1960	LTE B4	20	2175	2132.5	LTE B12	10	5095	737.5	20.28	20.86

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Table 9-160
LTE Band 41 Two Component Carrier Maximum Conducted Powers

	PCC									SCC				Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA 41C (1)	LTE B41 (PC2)	20	40620	2593	QPSK	1	0	40620	2593	LTE B41	20	40422	2573.2	26.89	27.28
CA 41A-41A	LTE B41 (PC2)	20	40620	2593	QPSK	1	0	40620	2593	LTE B41	5	41215	2652.5	26.90	27.28
CA 41C (1)	LTE B41	10	39750	2506	QPSK	1	0	39750	2506	LTE B41	20	39894	2520.4	23.75	23.70
CA 41A-41A	LTE B41	10	39750	2506	QPSK	1	0	39750	2506	LTE B41	5	41215	2652.5	23.74	23.70

Table 9-161
LTE Band 41 Three Component Carrier Maximum Conducted Powers

	PCC									SCC 1				SCC 2				Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA 41D	LTE B41	10	39750	2506	QPSK	1	0	39750	2506	LTE B41	20	39894	2520.4	LTE B41	20	40050	2540.2	23.76	23.70
CA 41D	LTE B41 (PC2)	20	40620	2593	QPSK	1	0	40620	2593	LTE B41	20	40422	2573.2	LTE B41	20	40092	2553.4	26.89	27.28

Table 9-162
LTE Band 41 Two Component Carrier Reduced Conducted Powers – Hotspot Mode Active

	PCC									SCC				Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA 41C (1)	LTE B41	15	40620	2593	QPSK	1	0	40620	2593	LTE B41	20	40449	2575.9	21.99	21.97
CA 41A-41A (1)	LTE B41	15	40620	2593	QPSK	1	0	40620	2593	LTE B41	5	39675	2498.5	22.00	21.97
CA 41C (1)	LTE B41 (PC2)	20	40620	2593	64QAM	1	0	40620	2593	LTE B41	20	40422	2573.2	22.50	22.50
CA 41A-41A (1)	LTE B41 (PC2)	20	40620	2593	64QAM	1	0	40620	2593	LTE B41	5	39675	2498.5	22.49	22.50

Table 9-163
LTE Band 41 Three Component Carrier Reduced Conducted Powers – Hotspot Mode Active

	PCC									SCC 1				SCC 2				Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA 41D	LTE B41	15	40620	2593	QPSK	1	0	40620	2593	LTE B41	20	40449	2575.9	LTE B41	20	40791	2610.1	22.00	21.97
CA 41D	LTE B41 (PC2)	20	40620	2593	64QAM	1	0	40620	2593	LTE B41	20	40422	2573.2	LTE B41	20	40818	2612.8	22.19	22.50

Table 9-164
LTE Band 41 Two Component Carrier Reduced Conducted Powers – Grip Sensor Active

	PCC									SCC				Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA 41C (1)	LTE B41 (PC2)	20	41055	2636.5	64QAM	1	0	41055	2636.5	LTE B41	20	40857	2616.7	23.50	23.50
CA 41A-41A (1)	LTE B41 (PC2)	20	41055	2636.5	64QAM	1	0	41055	2636.5	LTE B41	5	39675	2498.5	23.48	23.50
CA 41C (1)	LTE B41	15	40620	2593	16QAM	1	0	40620	2593	LTE B41	20	40449	2575.9	22.88	22.86
CA 41A-41A	LTE B41	15	40620	2593	16QAM	1	0	40620	2593	LTE B41	5	39675	2498.5	22.82	22.86

Table 9-165
LTE Band 41 Three Component Carrier Reduced Conducted Powers – Grip Sensor Active

Combination	PCC									SCC 1				SCC 2				Power	
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	PCC (DL) Channel	PCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	LTE Tx.Power with DL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA 41D	LTE B41	15	40620	2593	16QAM	1	0	40620	2593	LTE B41	20	40449	2575.9	LTE B41	20	40791	2610.1	22.82	22.86
CA 41D	LTE B41 (PC2)	20	41055	2636.5	64QAM	1	0	41055	2636.5	LTE B41	20	40857	2616.7	LTE B41	20	40659	2596.9	23.19	23.50

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Notes:

1. For every supported combination of downlink carrier aggregation, power measurements were performed 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.
2. All control and acknowledge data is sent on uplink channels that operate identical to specifications when downlink carrier aggregation is inactive.
3. Per FCC guidance, LTE Band 12 standalone powers were used to select measurement configurations for LTE Band 17, LTE Band 66 standalone powers were used to select measurement configurations for LTE Band 4, and LTE Band 25 standalone powers were used to select measurement configurations for LTE Band 2.
4. For downlink carrier aggregation combinations, PCC uplink channel was selected based on section C)3)b)ii) of KBD 941225 D05 V01r02. The downlink PCC channel was paired with the selected PCC uplink channel according to normal configurations without carrier aggregation. 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 downlink channels remained fully within the downlink transmission band of the respective component carrier.

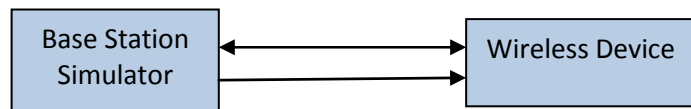


Figure 9-4
Power Measurement Setup

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9.4.11 LTE Uplink Carrier Aggregation Conducted Powers

Table 9-166
LTE Uplink Carrier Aggregation Conducted Powers

Power State	Combination	PCC								SCC								Power	
		PCC Band	PCC Bandwidth [MHz]	PCC (UL/DL) Channel	PCC (UL/DL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset		SCC Band	SCC Bandwidth [MHz]	SCC (UL/DL) Channel	SCC (UL/DL) Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset		ULCA Tx. Power (dBm)	Single Carrier Target Power (dBm)
Max	CA_41C	LTE B41	20	40185	2549.5	QPSK	1	0		LTE B41	20	39987	2529.7	QPSK	1	99		23.95	24.00
Hotspot Active	CA_41C	LTE B41	20	39750	2506.0	QPSK	50	50		LTE B41	20	39948	2525.8	QPSK	50	0		22.02	22.00
Grip Sensor Active	CA_41C	LTE B41	20	41055	2636.5	QPSK	1	0		LTE B41	20	40857	2616.7	QPSK	1	99		23.32	23.00

Table 9-167
LTE Uplink Carrier Aggregation with 41C Uplink and 41D Downlink Conducted Powers

Power State	Combination	PCC								SCC1								SCC2				Power		
		PCC Band	PCC Bandwidth [MHz]	PCC (UL/DL) Channel	PCC (UL/DL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset		SCC Band	SCC Bandwidth [MHz]	SCC (UL/DL) Channel	SCC (UL/DL) Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset		SCC Band	SCC Bandwidth [MHz]	SCC (DL) Channel	SCC (DL) Frequency [MHz]	CA_41C ULCA Tx. Power with CA_41D DLCA Enabled (dBm)	CA_41C ULCA Tx. Power (dBm)	Single Carrier Target Power (dBm)
Max	CA_41C UL with CA_41D DL	LTE B41	20	40185	2549.5	QPSK	1	0		LTE B41	20	39987	2529.7	QPSK	1	99		LTE B41	20	40383	2569.3	23.93	23.95	24.00
Hotspot Active	CA_41C UL with CA_41D DL	LTE B41	20	39750.0	2506	QPSK	50	50		LTE B41	20	39948	2525.8	QPSK	50	0		LTE B41	20.0	40146	2545.6	22.01	22.02	22.00
Grip Sensor Active	CA_41C UL with CA_41D DL	LTE B41	20	41055.0	2636.5	QPSK	1	0		LTE B41	20	40857	2616.7	QPSK	1	99		LTE B41	20.0	40659	2596.9	23.34	23.32	23.00

Notes:

1. This device supports uplink carrier aggregation for LTE CA_41C with a maximum of two 20 MHz component carriers. For intraband contiguous carrier aggregation scenarios, 3GPP 36.101 Table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when non-contiguous RB allocation is implemented. The conducted powers and MPR settings in this device are permanently implemented per the above 3GPP requirements.
2. Per FCC Guidance, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.
3. Uplink carrier aggregation is only possible when the device is operating with Power Class 3 for LTE Band 41.
4. Per FCC Guidance, additional SAR measurements for LTE ULCA for CA_41C uplink with CA_41D DLCA active were not required since the maximum output power for this configuration was not >0.25dB higher than the maximum output power for ULCA with CA_41D DLCA inactive.

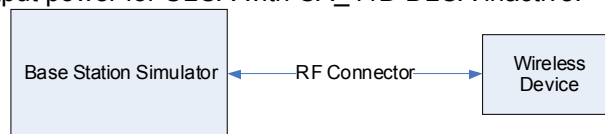


Figure 9-5
Power Measurement Setup

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9.5 WLAN Conducted Powers

Table 9-168
2.4 GHz WLAN Maximum Average RF Power – Antenna 1

Freq [MHz]	Channel	2.4GHz Conducted Power [dBm]		
		IEEE Transmission Mode		
		802.11b	802.11g	802.11n
2412	1	19.72	16.35	16.23
2437	6	19.83	16.47	16.37
2462	11	19.50	16.22	16.16

Table 9-169
2.4 GHz WLAN Maximum Average RF Power – Antenna 2

Freq [MHz]	Channel	2.4GHz Conducted Power [dBm]		
		IEEE Transmission Mode		
		802.11b	802.11g	802.11n
2412	1	19.35	15.91	16.42
2437	6	19.28	16.46	16.33
2462	11	19.43	16.45	16.23

Table 9-170
2.4 GHz WLAN Reduced Average RF Power – Antenna 1 (Held-to-ear)

Freq [MHz]	Channel	2.4GHz Conducted Power [dBm]		
		IEEE Transmission Mode		
		802.11b	802.11g	802.11n
2412	1	16.34	12.72	12.62
2437	6	16.49	13.04	13.00
2462	11	16.39	12.74	12.71

Table 9-171
2.4 GHz WLAN Reduced Average RF Power – Antenna 2 (Held-to-ear)

Freq [MHz]	Channel	2.4GHz Conducted Power [dBm]		
		IEEE Transmission Mode		
		802.11b	802.11g	802.11n
2412	1	16.44	12.78	12.73
2437	6	16.23	12.72	12.55
2462	11	16.37	12.64	12.51

Table 9-172
2.4 GHz WLAN Reduced Average RF Power – MIMO 802.11n

Freq [MHz]	Channel	2.4GHz Conducted Power [dBm]		
		ANT1	ANT2	MIMO
2412	1	12.62	12.73	15.69
2437	6	13.00	12.55	15.79
2462	11	12.71	12.51	15.62

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Table 9-173
5 GHz WLAN Maximum Average RF Power – Antenna 1

Freq [MHz]	Channel	5GHz (20MHz) Conducted Power [dBm]		
		IEEE Transmission Mode		
		802.11a	802.11n	802.11ac
5180	36	15.88	15.86	15.90
5200	40	15.86	15.77	15.82
5220	44	15.91	15.85	15.83
5240	48	15.85	15.89	15.85
5260	52	15.74	15.79	15.83
5280	56	15.78	15.67	15.70
5300	60	15.72	15.69	15.72
5320	64	15.74	15.78	15.69
5500	100	15.88	16.00	15.96
5600	120	16.03	16.04	16.12
5620	124	16.12	16.08	16.06
5720	144	16.04	15.97	16.08
5745	149	15.98	15.99	15.93
5785	157	15.82	15.95	15.96
5825	165	15.79	15.87	15.79

Table 9-174
5 GHz WLAN Maximum Average RF Power – Antenna 2

Freq [MHz]	Channel	5GHz (20MHz) Conducted Power [dBm]		
		IEEE Transmission Mode		
		802.11a	802.11n	802.11ac
5180	36	16.03	16.02	16.12
5200	40	16.02	15.99	16.04
5220	44	16.23	16.12	16.03
5240	48	16.07	16.03	16.07
5260	52	16.13	16.10	16.02
5280	56	16.09	16.13	16.11
5300	60	16.09	16.00	16.11
5320	64	16.11	16.13	16.11
5500	100	16.00	16.04	16.03
5600	120	16.21	16.22	16.17
5620	124	16.24	16.21	16.16
5720	144	16.34	16.26	16.23
5745	149	16.21	16.16	16.17
5785	157	16.23	16.21	16.15
5825	165	16.21	16.21	16.24

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Table 9-175
5 GHz WLAN Reduced Average RF Power – Antenna 1 (Held-to-ear)

5GHz (80MHz) Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11ac
5210	42	13.46
5290	58	13.31
5530	106	12.90
5610	122	13.00
5690	138	13.02
5775	155	13.31

Table 9-176
5 GHz WLAN Reduced Average RF Power – Antenna 2 (Held-to-ear)

5GHz (80MHz) Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11ac
5210	42	13.27
5290	58	13.25
5530	106	13.29
5610	122	13.36
5690	138	13.37
5775	155	13.27

Table 9-177
Maximum Output Powers During Conditions with 2.4 GHz and 5 GHz WLAN

Freq [MHz]	Channel	2.4GHz Conducted Power [dBm]	
		ANT1	ANT2
		802.11n	
2412	1	16.23	16.42
2437	6	16.37	16.33
2462	11	16.16	16.23

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Freq [MHz]	Channel	5GHz (80MHz) Conducted Power [dBm]	
		ANT1	ANT2
		802.11ac	
5210	42	13.46	13.27
5290	58	13.31	13.25
5530	106	12.90	13.29
5610	122	13.00	13.36
5690	138	13.02	13.37
5775	155	13.31	13.27

Table 9-178
Reduced Output Powers During Conditions with 2.4 GHz and 5 GHz WLAN

Freq [MHz]	Channel	2.4GHz Conducted Power [dBm]	
		ANT1	ANT2
		802.11n	
2412	1	11.93	11.79
2437	6	12.05	11.56
2462	11	11.79	11.53

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

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

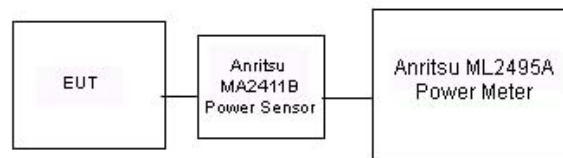


Figure 9-6
Power Measurement Setup for Bandwidths < 50 MHz

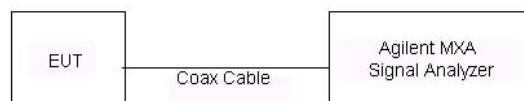


Figure 9-7
Power Measurement Setup for Bandwidths > 50 MHz

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9.6 Bluetooth Conducted Powers

Table 9-179
Bluetooth Average RF Power

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
			[dBm]	[mW]
2402	1.0	0	14.15	26.030
2441	1.0	39	15.05	31.969
2480	1.0	78	13.74	23.681
2402	2.0	0	4.94	3.116
2441	2.0	39	6.64	4.613
2480	2.0	78	6.34	4.303
2402	3.0	0	4.93	3.112
2441	3.0	39	6.68	4.651
2480	3.0	78	6.29	4.259

Note: The bolded data rates and channel above were tested for SAR.

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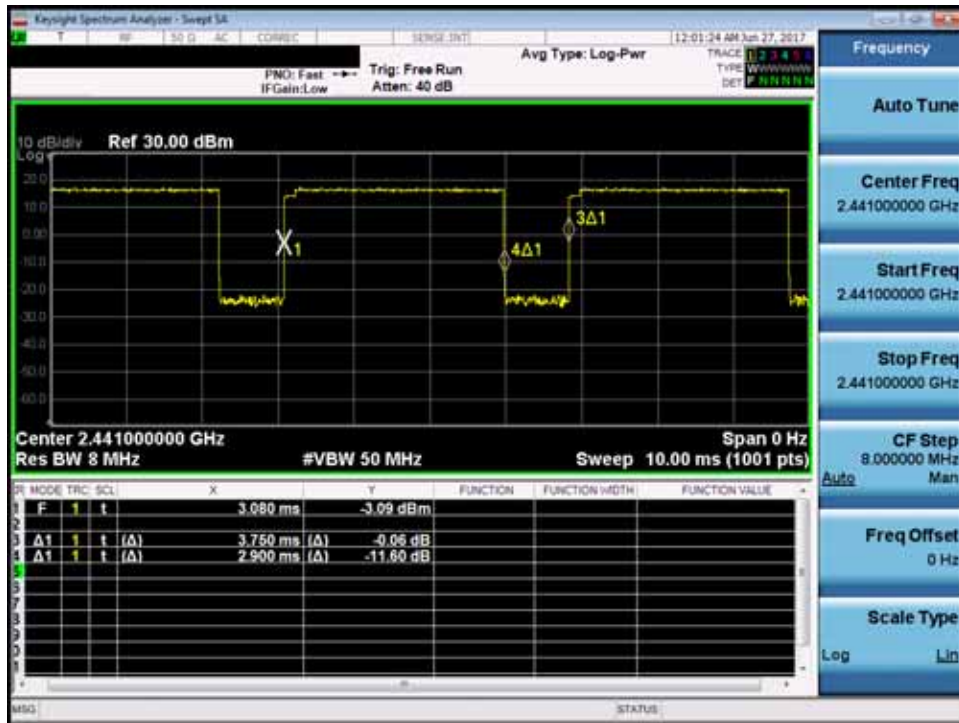


Figure 9-8
Bluetooth Transmission Plot

Equation 2 Bluetooth Duty Cycle Calculation

$$\text{Duty Cycle} = \text{Pulse} \frac{\text{Width}}{\text{Period}} * 100\% = \frac{2.900\text{ms}}{3.750\text{ms}} * 100\% = 77.3\%$$

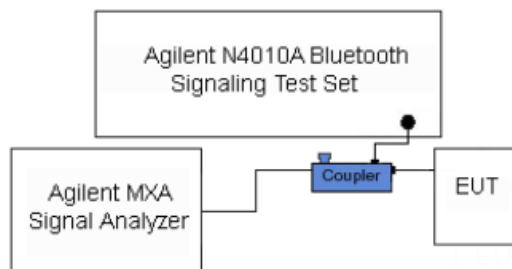


Figure 9-9
Power Measurement Setup

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10 SYSTEM VERIFICATION

10.1 Tissue Verification

Table 10-1
Measured Head Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (°C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ϵ	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ϵ	% dev σ	% dev ϵ
6/8/2017	750H	21.7	700	0.852	42.391	0.889	42.201	-4.16%	0.45%
			710	0.861	42.163	0.890	42.149	-3.26%	0.03%
			740	0.891	41.665	0.893	41.994	-0.22%	-0.78%
			755	0.899	41.478	0.894	41.916	0.56%	-1.04%
			770	0.916	41.391	0.895	41.838	2.35%	-1.07%
			785	0.929	41.191	0.896	41.760	3.68%	-1.36%
6/5/2017	835H	20.6	820	0.894	41.671	0.899	41.578	-0.56%	0.22%
			835	0.909	41.431	0.900	41.500	1.00%	-0.17%
			850	0.923	41.273	0.916	41.500	0.76%	-0.55%
6/8/2017	835H	20.3	820	0.871	40.245	0.899	41.578	-3.11%	-3.21%
			835	0.875	40.085	0.900	41.500	-2.78%	-3.41%
			850	0.893	39.848	0.916	41.500	-2.51%	-3.98%
6/10/2017	1750H	21.7	1710	1.370	40.062	1.348	40.142	1.63%	-0.20%
			1750	1.415	39.886	1.371	40.079	3.21%	-0.48%
			1790	1.455	39.715	1.394	40.016	4.38%	-0.75%
6/12/2017	1900H	22.0	1850	1.398	39.162	1.400	40.000	-0.14%	-2.10%
			1880	1.431	39.060	1.400	40.000	2.21%	-2.35%
			1910	1.462	38.950	1.400	40.000	4.43%	-2.62%
6/7/2017	2300H	21.2	2300	1.706	38.519	1.670	39.500	2.16%	-2.48%
			2310	1.720	38.527	1.679	39.480	2.44%	-2.41%
			2320	1.725	38.417	1.687	39.460	2.25%	-2.64%
6/12/2017	2450H-2600H	24.3	2400	1.806	38.465	1.756	39.289	2.85%	-2.10%
			2450	1.867	38.251	1.800	39.200	3.72%	-2.42%
			2500	1.921	38.063	1.855	39.136	3.56%	-2.74%
			2550	1.985	37.838	1.909	39.073	3.98%	-3.16%
			2600	2.040	37.640	1.964	39.009	3.87%	-3.51%
			2650	2.101	37.427	2.018	38.945	4.11%	-3.90%
			2700	2.161	37.229	2.073	38.882	4.25%	-4.25%
6/19/2017	2450H	24.0	2400	1.750	38.524	1.756	39.289	-0.34%	-1.95%
			2450	1.803	38.360	1.800	39.200	0.17%	-2.14%
			2500	1.858	38.152	1.855	39.136	0.16%	-2.51%
6/7/2017	2600H	21.2	2500	1.918	37.705	1.855	39.136	3.40%	-3.66%
			2550	1.983	37.542	1.909	39.073	3.88%	-3.92%
			2600	2.035	37.370	1.964	39.009	3.62%	-4.20%
06/06/2017	5250H-5750H	19.8	5240	4.558	35.876	4.696	35.940	-2.94%	-0.18%
			5260	4.598	35.776	4.717	35.917	-2.52%	-0.39%
			5280	4.587	35.740	4.737	35.894	-3.17%	-0.43%
			5300	4.630	35.688	4.758	35.871	-2.69%	-0.51%
			5600	4.936	35.317	5.065	35.529	-2.55%	-0.60%
			5680	5.025	35.267	5.147	35.437	-2.37%	-0.48%
			5700	5.060	35.228	5.168	35.414	-2.09%	-0.53%
			5745	5.093	35.198	5.214	35.363	-2.32%	-0.47%
			5765	5.105	35.121	5.234	35.340	-2.46%	-0.62%
			5785	5.121	35.058	5.255	35.317	-2.55%	-0.73%

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Table 10-2
Measured Body Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (°C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ϵ	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ϵ	% dev σ	% dev ϵ
6/5/2017	750B	21.8	700	0.925	57.466	0.959	55.726	-3.55%	3.12%
			710	0.935	57.351	0.960	55.687	-2.60%	2.99%
			740	0.966	57.032	0.963	55.570	0.31%	2.63%
			755	0.981	56.891	0.964	55.512	1.76%	2.48%
			770	0.995	56.750	0.965	55.453	3.11%	2.34%
			785	1.011	56.576	0.966	55.395	4.66%	2.13%
6/6/2017	835B	20.2	820	0.951	53.653	0.969	55.258	-1.86%	-2.90%
			835	0.966	53.500	0.970	55.200	-0.41%	-3.08%
			850	0.982	53.340	0.988	55.154	-0.61%	-3.29%
6/7/2017	1750B	20.6	1710	1.486	51.504	1.463	53.537	1.57%	-3.80%
			1750	1.529	51.296	1.488	53.432	2.76%	-4.00%
			1790	1.582	51.125	1.514	53.326	4.49%	-4.13%
6/11/2017	1750B	22.4	1710	1.421	53.115	1.463	53.537	-2.87%	-0.79%
			1750	1.461	52.944	1.488	53.432	-1.81%	-0.91%
			1790	1.500	52.802	1.514	53.326	-0.92%	-0.98%
6/19/2017	1750B	22.0	1710	1.399	52.672	1.463	53.537	-4.37%	-1.62%
			1750	1.440	52.565	1.488	53.432	-3.23%	-1.62%
			1790	1.481	52.384	1.514	53.326	-2.18%	-1.77%
7/3/2017	1750B	21.4	1710	1.459	51.617	1.463	53.537	-0.27%	-3.59%
			1750	1.500	51.443	1.488	53.432	0.81%	-3.72%
			1790	1.547	51.298	1.514	53.326	2.18%	-3.80%
6/6/2017	1900B	22.0	1850	1.523	51.945	1.520	53.300	0.20%	-2.54%
			1880	1.555	51.859	1.520	53.300	2.30%	-2.70%
			1910	1.589	51.764	1.520	53.300	4.54%	-2.88%
6/8/2017	1900B	21.9	1850	1.519	52.555	1.520	53.300	-0.07%	-1.40%
			1880	1.553	52.477	1.520	53.300	2.17%	-1.54%
			1910	1.585	52.368	1.520	53.300	4.28%	-1.75%
6/10/2017	1900B	21.9	1850	1.527	51.902	1.520	53.300	0.46%	-2.62%
			1880	1.553	51.810	1.520	53.300	2.17%	-2.80%
			1910	1.591	51.741	1.520	53.300	4.67%	-2.92%
6/20/2017	1900B	21.3	1850	1.513	51.297	1.520	53.300	-0.46%	-3.76%
			1880	1.545	51.183	1.520	53.300	1.64%	-3.97%
			1910	1.582	51.123	1.520	53.300	4.08%	-4.08%
7/4/2017	1900B	23.1	1850	1.482	52.168	1.520	53.300	-2.50%	-2.12%
			1880	1.512	51.971	1.520	53.300	-0.53%	-2.49%
			1910	1.560	51.971	1.520	53.300	2.63%	-2.49%
6/5/2017	2300B	22.9	2300	1.820	52.839	1.809	52.900	0.61%	-0.12%
			2310	1.834	52.798	1.816	52.887	0.99%	-0.17%
			2320	1.848	52.759	1.826	52.873	1.20%	-0.22%
6/7/2017	2450B	23.4	2400	1.862	51.112	1.902	52.767	-2.10%	-3.14%
			2450	1.937	50.961	1.950	52.700	-0.67%	-3.30%
			2500	1.992	50.759	2.021	52.636	-1.43%	-3.57%
6/10/2017	2450B	23.2	2400	1.905	51.752	1.902	52.767	0.16%	-1.92%
			2450	1.971	51.563	1.950	52.700	1.08%	-2.16%
			2500	2.038	51.372	2.021	52.636	0.84%	-2.40%
6/19/2017	2450B	23.1	2400	1.959	51.489	1.902	52.767	3.00%	-2.42%
			2450	2.018	51.288	1.950	52.700	3.49%	-2.68%
			2500	2.093	51.068	2.021	52.636	3.56%	-2.98%
6/7/2017	2600B	23.4	2500	1.992	50.759	2.021	52.636	-1.43%	-3.57%
			2550	2.072	50.542	2.092	52.573	-0.96%	-3.86%
			2600	2.126	50.433	2.163	52.509	-1.71%	-3.95%
6/27/2017	2600B	22.6	2450	1.985	51.927	1.950	52.700	1.79%	-1.47%
			2500	2.056	51.724	2.021	52.636	1.73%	-1.73%
			2550	2.127	51.555	2.092	52.573	1.67%	-1.94%
			2600	2.195	51.353	2.163	52.509	1.48%	-2.20%
			2650	2.266	51.167	2.234	52.445	1.43%	-2.44%
			2700	2.333	50.977	2.305	52.382	1.21%	-2.68%
06/05/2017	5250B-5750B	21.9	5240	5.411	48.902	5.346	48.960	1.22%	-0.12%
			5260	5.422	48.864	5.369	48.933	0.99%	-0.14%
			5280	5.464	48.874	5.393	48.906	1.32%	-0.07%
			5300	5.487	48.830	5.416	48.879	1.31%	-0.10%
			5600	5.889	48.319	5.766	48.471	2.13%	-0.31%
			5620	5.919	48.284	5.790	48.444	2.23%	-0.33%
			5680	5.993	48.197	5.860	48.363	2.27%	-0.34%
			5700	6.027	48.150	5.883	48.336	2.45%	-0.38%
			5745	6.083	48.081	5.936	48.275	2.48%	-0.40%
			5765	6.121	47.987	5.959	48.248	2.72%	-0.54%
			5785	6.141	47.998	5.982	48.220	2.66%	-0.46%

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

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10.2 Test System Verification

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

Table 10-3
System Verification Results – 1g

System Verification TARGET & MEASURED												
SAR System #	Tissue Frequency (MHz)	Tissue Type	Date:	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Source SN	Probe SN	Measured SAR _{1g} (W/kg)	1 W Target SAR _{1g} (W/kg)	1 W Normalized SAR _{1g} (W/kg)	Deviation _{1g} (%)
K	750	HEAD	06/08/2017	22.7	21.7	0.200	1003	7406	1.790	8.390	8.950	6.67%
K	835	HEAD	06/05/2017	22.3	20.6	0.200	4d180	7406	1.860	9.260	9.300	0.43%
K	835	HEAD	06/08/2017	21.3	20.3	0.200	4d180	7406	1.860	9.260	9.300	0.43%
F	1750	HEAD	06/10/2017	20.4	21.7	0.100	1092	3332	3.700	36.400	37.000	1.65%
J	1900	HEAD	06/12/2017	19.2	22.0	0.100	5d080	3209	3.860	39.300	38.600	-1.78%
I	2300	HEAD	06/07/2017	19.3	21.2	0.100	1038	3213	4.730	47.500	47.300	-0.42%
K	2450	HEAD	06/12/2017	22.7	23.5	0.100	981	7406	5.350	52.800	53.500	1.33%
I	2450	HEAD	06/19/2017	23.0	23.0	0.100	797	3213	5.330	52.100	53.300	2.30%
I	2600	HEAD	06/07/2017	19.3	21.2	0.100	1126	3213	5.570	56.300	55.700	-1.07%
K	2600	HEAD	06/12/2017	22.7	23.5	0.100	1004	7406	5.790	57.600	57.900	0.52%
J	5250	HEAD	06/06/2017	20.1	19.8	0.050	1191	7357	3.790	78.900	75.800	-3.93%
J	5600	HEAD	06/06/2017	20.1	19.8	0.050	1191	7357	3.830	83.600	76.600	-8.37%
J	5750	HEAD	06/06/2017	20.1	19.8	0.050	1191	7357	3.690	79.100	73.800	-6.70%
K	750	BODY	06/05/2017	21.7	21.8	0.200	1054	7406	1.830	8.610	9.150	6.27%
E	835	BODY	06/06/2017	21.6	22.2	0.200	4d047	3319	1.960	9.570	9.800	2.40%
E	1750	BODY	06/07/2017	24.3	20.8	0.100	1051	3319	3.820	37.100	38.200	2.96%
H	1750	BODY	06/19/2017	24.6	22.4	0.100	1148	3318	3.660	37.000	36.600	-1.08%
E	1750	BODY	07/03/2017	22.1	21.4	0.100	1148	3319	3.790	37.000	37.900	2.43%
H	1900	BODY	06/06/2017	20.8	21.5	0.100	5d026	3318	3.960	40.300	39.600	-1.74%
H	1900	BODY	06/08/2017	20.9	21.1	0.100	5d026	3318	4.130	40.300	41.300	2.48%
H	1900	BODY	06/10/2017	22.1	21.9	0.100	5d026	3318	4.260	40.300	42.600	5.71%
E	1900	BODY	06/20/2017	23.3	21.3	0.100	5d149	3319	4.060	39.900	40.600	1.75%
J	1900	BODY	07/04/2017	21.1	21.7	0.100	5d148	3209	3.920	40.900	39.200	-4.16%
G	2300	BODY	06/05/2017	22.5	22.1	0.100	1038	3287	4.920	47.500	49.200	3.58%
G	2450	BODY	06/10/2017	22.0	22.6	0.100	981	3287	5.360	50.800	53.600	5.51%
K	2450	BODY	06/19/2017	22.1	22.6	0.100	981	7406	5.100	50.800	51.000	0.39%
G	2450	BODY	06/27/2017	21.1	22.6	0.100	981	3287	5.430	50.800	54.300	6.89%
G	2600	BODY	06/07/2017	22.5	23.4	0.100	1071	3287	5.840	54.200	58.400	7.75%
G	2600	BODY	06/27/2017	21.1	22.6	0.100	1004	3287	5.900	55.300	59.000	6.69%
D	5250	BODY	06/05/2017	22.6	21.2	0.050	1237	3589	3.590	74.800	71.800	-4.01%
D	5600	BODY	06/05/2017	22.6	21.2	0.050	1237	3589	3.880	77.000	77.600	0.78%
D	5750	BODY	06/05/2017	22.6	21.2	0.050	1237	3589	3.490	75.400	69.800	-7.43%

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Table 10-4
System Verification Results – 10g

System Verification TARGET & MEASURED												
SAR System #	Tissue Frequency (MHz)	Tissue Type	Date:	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Source SN	Probe SN	Measured SAR _{10g} (W/kg)	1 W Target SAR _{10g} (W/kg)	1 W Normalized SAR _{10g} (W/kg)	Deviation _{10g} (%)
E	1750	BODY	06/07/2017	24.3	20.8	0.100	1051	3319	2.030	19.900	20.300	2.01%
E	1750	BODY	06/11/2017	23.0	22.5	0.100	1148	3319	2.000	19.800	20.000	1.01%
H	1900	BODY	06/08/2017	20.9	21.1	0.100	5d026	3318	2.130	21.500	21.300	-0.93%
H	1900	BODY	06/10/2017	22.1	21.9	0.100	5d026	3318	2.200	21.500	22.000	2.33%
G	2300	BODY	06/05/2017	22.5	22.1	0.100	1038	3287	2.360	23.000	23.600	2.61%
G	2450	BODY	06/07/2017	22.5	23.4	0.100	981	3287	2.500	23.800	25.000	5.04%
G	2600	BODY	06/07/2017	22.5	23.4	0.100	1071	3287	2.610	24.500	26.100	6.53%
G	2600	BODY	06/27/2017	21.1	22.6	0.100	1004	3287	2.630	24.900	26.300	5.62%
D	5250	BODY	06/05/2017	22.6	21.2	0.050	1237	3589	1.000	21.000	20.000	-4.76%
D	5600	BODY	06/05/2017	22.6	21.2	0.050	1237	3589	1.070	21.500	21.400	-0.47%
D	5750	BODY	06/05/2017	22.6	21.2	0.050	1237	3589	0.967	20.900	19.340	-7.46%

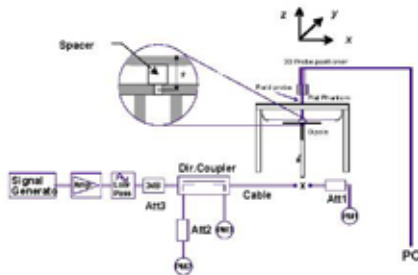


Figure 10-1
System Verification Setup Diagram



Figure 10-2
System Verification Setup Photo

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11 SAR DATA SUMMARY

11.1 Standalone Head SAR Data

Table 11-1
CDMA BC10 (§90S) Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Ant State	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
820.10	564	CDMABC10 (\$90S)	RC3 / SO55	25.5	24.96	0.05	Right	Cheek	47	155D4	1:1	0.184	1.132	0.208	A1
820.10	564	CDMABC10 (\$90S)	RC3 / SO55	25.5	24.96	0.02	Right	Tilt	47	155D4	1:1	0.105	1.132	0.119	
820.10	564	CDMABC10 (\$90S)	RC3 / SO55	25.5	24.96	-0.06	Left	Cheek	47	155D4	1:1	0.166	1.132	0.188	
820.10	564	CDMABC10 (\$90S)	RC3 / SO55	25.5	24.96	-0.05	Left	Tilt	47	155D4	1:1	0.125	1.132	0.142	
820.10	564	CDMABC10 (\$90S)	EVDO Rev. A	25.5	24.82	-0.08	Right	Cheek	47	155D4	1:1	0.167	1.169	0.195	
820.10	564	CDMABC10 (\$90S)	EVDO Rev. A	25.5	24.82	0.09	Right	Tilt	47	155D4	1:1	0.098	1.169	0.115	
820.10	564	CDMABC10 (\$90S)	EVDO Rev. A	25.5	24.82	-0.17	Left	Cheek	47	155D4	1:1	0.132	1.169	0.154	
820.10	564	CDMABC10 (\$90S)	EVDO Rev. A	25.5	24.82	0.15	Left	Tilt	47	155D4	1:1	0.150	1.169	0.175	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-2
CDMA BC0 (§22H) Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Ant State	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
836.52	384	CDMA BC0 (\$22H)	RC3 / SO55	25.0	24.30	-0.15	Right	Cheek	47	155D4	1:1	0.137	1.175	0.161	A2
836.52	384	CDMA BC0 (\$22H)	RC3 / SO55	25.0	24.30	0.03	Right	Tilt	47	155D4	1:1	0.073	1.175	0.086	
836.52	384	CDMA BC0 (\$22H)	RC3 / SO55	25.0	24.30	0.06	Left	Cheek	47	155D4	1:1	0.106	1.175	0.125	
836.52	384	CDMA BC0 (\$22H)	RC3 / SO55	25.0	24.30	0.12	Left	Tilt	47	155D4	1:1	0.071	1.175	0.083	
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. A	25.0	24.15	0.06	Right	Cheek	47	155D4	1:1	0.115	1.216	0.140	
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. A	25.0	24.15	0.12	Right	Tilt	47	155D4	1:1	0.062	1.216	0.075	
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. A	25.0	24.15	-0.10	Left	Cheek	47	155D4	1:1	0.084	1.216	0.102	
836.52	384	CDMA BC0 (\$22H)	EVDO Rev. A	25.0	24.15	0.04	Left	Tilt	47	155D4	1:1	0.095	1.216	0.116	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram								

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Table 11-3
PCS CDMA Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Ant State	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1880.00	600	PCS CDMA	RC3 / SO55	24.5	23.79	-0.09	Right	Cheek	15	155D4	1:1	0.104	1.178	0.123	A3
1880.00	600	PCS CDMA	RC3 / SO55	24.5	23.79	0.14	Right	Tilt	15	155D4	1:1	0.028	1.178	0.033	
1880.00	600	PCS CDMA	RC3 / SO55	24.5	23.79	-0.02	Left	Cheek	15	155D4	1:1	0.082	1.178	0.097	
1880.00	600	PCS CDMA	RC3 / SO55	24.5	23.79	0.17	Left	Tilt	15	155D4	1:1	0.037	1.178	0.044	
1880.00	600	PCS CDMA	EVDO Rev. A	24.5	23.62	-0.06	Right	Cheek	15	155D4	1:1	0.102	1.225	0.125	
1880.00	600	PCS CDMA	EVDO Rev. A	24.5	23.62	-0.03	Right	Tilt	15	155D4	1:1	0.023	1.225	0.028	
1880.00	600	PCS CDMA	EVDO Rev. A	24.5	23.62	0.18	Left	Cheek	15	155D4	1:1	0.086	1.225	0.105	
1880.00	600	PCS CDMA	EVDO Rev. A	24.5	23.62	-0.03	Left	Tilt	15	155D4	1:1	0.030	1.225	0.037	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 11-4
GSM 850 Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode/Band	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)	
836.60	190	GSM 850	GSM	33.5	32.43	-0.05	Right	Cheek	158C6	1:8.3	0.121	1.279	0.155	A4
836.60	190	GSM 850	GSM	33.5	32.43	-0.19	Right	Tilt	158C6	1:8.3	0.066	1.279	0.084	
836.60	190	GSM 850	GSM	33.5	32.43	-0.05	Left	Cheek	158C6	1:8.3	0.095	1.279	0.122	
836.60	190	GSM 850	GSM	33.5	32.43	0.02	Left	Tilt	158C6	1:8.3	0.063	1.279	0.081	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-5
GSM 1900 Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode/Band	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)	
1880.00	661	GSM 1900	GSM	31.0	30.15	-0.19	Right	Cheek	158C6	1:8.3	0.048	1.216	0.058	A5
1880.00	661	GSM 1900	GSM	31.0	30.15	-0.18	Right	Tilt	158C6	1:8.3	0.010	1.216	0.012	
1880.00	661	GSM 1900	GSM	31.0	30.15	0.19	Left	Cheek	158C6	1:8.3	0.036	1.216	0.044	
1880.00	661	GSM 1900	GSM	31.0	30.15	-0.04	Left	Tilt	158C6	1:8.3	0.017	1.216	0.021	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

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Table 11-6
UMTS 850 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Ant State	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
836.60	4183	UMTS 850	RMC	25.3	24.27	0.08	Right	Cheek	32	158C6	1:1	0.149	1.268	0.189	A6
836.60	4183	UMTS 850	RMC	25.3	24.27	0.02	Right	Tilt	32	158C6	1:1	0.075	1.268	0.095	
836.60	4183	UMTS 850	RMC	25.3	24.27	-0.14	Left	Cheek	32	158C6	1:1	0.112	1.268	0.142	
836.60	4183	UMTS 850	RMC	25.3	24.27	0.13	Left	Tilt	32	158C6	1:1	0.081	1.268	0.103	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 11-7
UMTS 1750 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Ant State	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1732.40	1412	UMTS 1750	RMC	25.0	23.90	0.02	Right	Cheek	30	158C6	1:1	0.045	1.288	0.058	
1732.40	1412	UMTS 1750	RMC	25.0	23.90	0.03	Right	Tilt	30	158C6	1:1	0.042	1.288	0.054	
1732.40	1412	UMTS 1750	RMC	25.0	23.90	0.02	Left	Cheek	30	158C6	1:1	0.056	1.288	0.072	A7
1732.40	1412	UMTS 1750	RMC	25.0	23.90	0.01	Left	Tilt	30	158C6	1:1	0.039	1.288	0.050	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-8
UMTS 1900 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Ant State	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1880.00	9400	UMTS 1900	RMC	24.5	23.08	-0.04	Right	Cheek	15	158C6	1:1	0.075	1.387	0.104	A8
1880.00	9400	UMTS 1900	RMC	24.5	23.08	0.16	Right	Tilt	15	158C6	1:1	0.020	1.387	0.028	
1880.00	9400	UMTS 1900	RMC	24.5	23.08	0.01	Left	Cheek	15	158C6	1:1	0.056	1.387	0.078	
1880.00	9400	UMTS 1900	RMC	24.5	23.08	0.08	Left	Tilt	15	158C6	1:1	0.027	1.387	0.037	
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 12 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Ant State	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.	(W/kg)															(W/kg)			
707.50	23095	Mid	LTE Band 12	10	25.3	24.78	-0.08	0	Right	Cheek	78	QPSK	1	0	15DDA	1:1	0.115	1.127	0.130	A9
707.50	23095	Mid	LTE Band 12	10	24.3	23.76	0.19	1	Right	Cheek	78	QPSK	25	0	15DDA	1:1	0.088	1.132	0.100	
707.50	23095	Mid	LTE Band 12	10	25.3	24.78	0.02	0	Right	Tilt	78	QPSK	1	0	15DDA	1:1	0.075	1.127	0.085	
707.50	23095	Mid	LTE Band 12	10	24.3	23.76	0.07	1	Right	Tilt	78	QPSK	25	0	15DDA	1:1	0.057	1.132	0.065	
707.50	23095	Mid	LTE Band 12	10	25.3	24.78	0.13	0	Left	Cheek	78	QPSK	1	0	15DDA	1:1	0.103	1.127	0.116	
707.50	23095	Mid	LTE Band 12	10	24.3	23.76	0.02	1	Left	Cheek	78	QPSK	25	0	15DDA	1:1	0.069	1.132	0.078	
707.50	23095	Mid	LTE Band 12	10	25.3	24.78	0.13	0	Left	Tilt	78	QPSK	1	0	15DDA	1:1	0.114	1.127	0.128	
707.50	23095	Mid	LTE Band 12	10	24.3	23.76	-0.02	1	Left	Tilt	78	QPSK	25	0	15DDA	1:1	0.083	1.132	0.094	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram											

Table 11-10
LTE Band 13 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Ant State	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.	(W/kg)															(W/kg)			
782.00	23230	Mid	LTE Band 13	10	25.3	24.43	0.03	0	Right	Cheek	15	QPSK	1	0	15DDA	1:1	0.166	1.222	0.203	A10
782.00	23230	Mid	LTE Band 13	10	24.3	23.43	-0.04	1	Right	Cheek	15	QPSK	25	0	15DDA	1:1	0.136	1.222	0.166	
782.00	23230	Mid	LTE Band 13	10	25.3	24.43	0.11	0	Right	Tilt	15	QPSK	1	0	15DDA	1:1	0.086	1.222	0.105	
782.00	23230	Mid	LTE Band 13	10	24.3	23.43	-0.01	1	Right	Tilt	15	QPSK	25	0	15DDA	1:1	0.073	1.222	0.089	
782.00	23230	Mid	LTE Band 13	10	25.3	24.43	-0.02	0	Left	Cheek	15	QPSK	1	0	15DDA	1:1	0.112	1.222	0.137	
782.00	23230	Mid	LTE Band 13	10	24.3	23.43	-0.12	1	Left	Cheek	15	QPSK	25	0	15DDA	1:1	0.090	1.222	0.110	
782.00	23230	Mid	LTE Band 13	10	25.3	24.43	0.12	0	Left	Tilt	15	QPSK	1	0	15DDA	1:1	0.072	1.222	0.088	
782.00	23230	Mid	LTE Band 13	10	24.3	23.43	0.07	1	Left	Tilt	15	QPSK	25	0	15DDA	1:1	0.054	1.222	0.066	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT																				
Spatial Peak									Head											
Uncontrolled Exposure/General Population									1.6 W/kg (mW/g) averaged over 1 gram											

Table 11-11
LTE Band 26 (Cell) Head SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Ant State	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.3	24.48	0.05	0	Right	Cheek	47	QPSK	1	0	15DDA	1:1	0.155	1.208	0.187	A11
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.3	23.47	-0.02	1	Right	Cheek	47	QPSK	36	0	15DDA	1:1	0.112	1.211	0.136	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.3	24.48	-0.01	0	Right	Tilt	47	QPSK	1	0	15DDA	1:1	0.089	1.208	0.108	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.3	23.47	0.04	1	Right	Tilt	47	QPSK	36	0	15DDA	1:1	0.067	1.211	0.081	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.3	24.48	-0.07	0	Left	Cheek	47	QPSK	1	0	15DDA	1:1	0.112	1.208	0.135	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.3	23.47	-0.03	1	Left	Cheek	47	QPSK	36	0	15DDA	1:1	0.086	1.211	0.104	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.3	24.48	0.04	0	Left	Tilt	47	QPSK	1	0	15DDA	1:1	0.117	1.208	0.141	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.3	23.47	0.07	1	Left	Tilt	47	QPSK	36	0	15DDA	1:1	0.096	1.211	0.116	
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 5 (Cell) Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Ant State	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
																	(W/kg)		(W/kg)	
MHz	Ch.																			
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.3	24.58	-0.05	0	Right	Cheek	47	QPSK	1	0	15DDA	1:1	0.144	1.180	0.170	A12
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.3	23.57	0.11	1	Right	Cheek	47	QPSK	25	0	15DDA	1:1	0.109	1.183	0.129	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.3	24.58	0.12	0	Right	Tilt	47	QPSK	1	0	15DDA	1:1	0.082	1.180	0.097	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.3	23.57	-0.01	1	Right	Tilt	47	QPSK	25	0	15DDA	1:1	0.059	1.183	0.070	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.3	24.58	0.15	0	Left	Cheek	47	QPSK	1	0	15DDA	1:1	0.096	1.180	0.113	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.3	23.57	0.07	1	Left	Cheek	47	QPSK	25	0	15DDA	1:1	0.078	1.183	0.092	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.3	24.58	0.08	0	Left	Tilt	47	QPSK	1	0	15DDA	1:1	0.110	1.180	0.130	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.3	23.57	0.08	1	Left	Tilt	47	QPSK	25	0	15DDA	1:1	0.085	1.183	0.101	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT																				
Spatial Peak									Head											
Uncontrolled Exposure/General Population									1.6 W/kg (mW/g) averaged over 1 gram											

Table 11-13
LTE Band 66 (AWS) Head SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Ant State	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
1720.00	132072	Low	LTE Band 66 (AWS)	20	25.0	24.00	0.01	0	Right	Cheek	31	QPSK	1	0	1593F	1:1	0.081	1.259	0.102	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.0	22.94	-0.01	1	Right	Cheek	31	QPSK	50	0	1593F	1:1	0.055	1.276	0.070	
1720.00	132072	Low	LTE Band 66 (AWS)	20	25.0	24.00	0.08	0	Right	Tilt	31	QPSK	1	0	1593F	1:1	0.054	1.259	0.068	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.0	22.94	0.05	1	Right	Tilt	31	QPSK	50	0	1593F	1:1	0.042	1.276	0.054	
1720.00	132072	Low	LTE Band 66 (AWS)	20	25.0	24.00	-0.06	0	Left	Cheek	31	QPSK	1	0	1593F	1:1	0.102	1.259	0.128	A13
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.0	22.94	-0.01	1	Left	Cheek	31	QPSK	50	0	1593F	1:1	0.078	1.276	0.100	
1720.00	132072	Low	LTE Band 66 (AWS)	20	25.0	24.00	-0.02	0	Left	Tilt	31	QPSK	1	0	1593F	1:1	0.056	1.259	0.071	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.0	22.94	0.04	1	Left	Tilt	31	QPSK	50	0	1593F	1:1	0.046	1.276	0.059	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram											

Table 11-14
LTE Band 25 (PCS) Head SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Ant State	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.75	-0.01	0	Right	Cheek	27	QPSK	1	0	1593F	1:1	0.146	1.189	0.174	A14
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.70	0.16	1	Right	Cheek	27	QPSK	50	0	1593F	1:1	0.104	1.202	0.125	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.75	0.02	0	Right	Tilt	27	QPSK	1	0	1593F	1:1	0.026	1.189	0.031	
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.70	0.02	1	Right	Tilt	27	QPSK	50	0	1593F	1:1	0.018	1.202	0.022	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.75	0.05	0	Left	Cheek	27	QPSK	1	0	1593F	1:1	0.075	1.189	0.089	
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.70	0.19	1	Left	Cheek	27	QPSK	50	0	1593F	1:1	0.063	1.202	0.076	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.75	0.11	0	Left	Tilt	27	QPSK	1	0	1593F	1:1	0.035	1.189	0.042	
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.70	-0.01	1	Left	Tilt	27	QPSK	50	0	1593F	1:1	0.022	1.202	0.026	
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 30 Head SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.														(W/kg)		(W/kg)		
2310.00	27710														Mid		LTE Band 30		10
2310.00	27710	Mid	LTE Band 30	10	23.0	22.63	0.12	1	Right	Cheek	QPSK	25	0	158DD	1:1	0.084	1.089	0.091	
2310.00	27710	Mid	LTE Band 30	10	24.0	23.07	0.10	0	Right	Tilt	QPSK	1	0	158DD	1:1	0.066	1.239	0.082	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.63	0.18	1	Right	Tilt	QPSK	25	0	158DD	1:1	0.051	1.089	0.056	
2310.00	27710	Mid	LTE Band 30	10	24.0	23.07	0.05	0	Left	Cheek	QPSK	1	0	158DD	1:1	0.127	1.239	0.157	A15
2310.00	27710	Mid	LTE Band 30	10	23.0	22.63	0.08	1	Left	Cheek	QPSK	25	0	158DD	1:1	0.100	1.089	0.109	
2310.00	27710	Mid	LTE Band 30	10	24.0	23.07	0.09	0	Left	Tilt	QPSK	1	0	158DD	1:1	0.033	1.239	0.041	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.63	0.17	1	Left	Tilt	QPSK	25	0	158DD	1:1	0.029	1.089	0.032	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-16
LTE Band 7 Head SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.	(W/kg)														(W/kg)			
2535.00	21100	Mid	LTE Band 7	20	24.0	23.90	0.16	0	Right	Cheek	QPSK	1	0	158DD	1:1	0.091	1.023	0.093	A16
2535.00	21100	Mid	LTE Band 7	20	23.0	22.80	0.13	1	Right	Cheek	QPSK	50	0	158DD	1:1	0.068	1.047	0.071	
2535.00	21100	Mid	LTE Band 7	20	24.0	23.90	0.11	0	Right	Tilt	QPSK	1	0	158DD	1:1	0.091	1.023	0.093	
2535.00	21100	Mid	LTE Band 7	20	23.0	22.80	0.10	1	Right	Tilt	QPSK	50	0	158DD	1:1	0.063	1.047	0.066	
2535.00	21100	Mid	LTE Band 7	20	24.0	23.90	0.15	0	Left	Cheek	QPSK	1	0	158DD	1:1	0.089	1.023	0.091	
2535.00	21100	Mid	LTE Band 7	20	23.0	22.80	0.12	1	Left	Cheek	QPSK	50	0	158DD	1:1	0.077	1.047	0.081	
2535.00	21100	Mid	LTE Band 7	20	24.0	23.90	0.06	0	Left	Tilt	QPSK	1	0	158DD	1:1	0.053	1.023	0.054	
2535.00	21100	Mid	LTE Band 7	20	23.0	22.80	-0.06	1	Left	Tilt	QPSK	50	0	158DD	1:1	0.036	1.047	0.038	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT										Head									
Spatial Peak										1.6 W/kg (mW/g)									
Uncontrolled Exposure/General Population										averaged over 1 gram									

Table 11-17
LTE Band 41 Head SAR

MEASUREMENT RESULTS																					
1 CC Uplink 2CC Uplink	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
		MHz	Ch.															(W/kg)		(W/kg)	
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.5	23.48	-0.03	0	Right	Cheek	QPSK	1	0	15DE5	1:1.58	0.056	1.265	0.071	
1 CC Uplink, Power Class 2	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	28.0	26.90	0.09	0	Right	Cheek	QPSK	1	0	15DE5	1:2.31	0.075	1.288	0.097	A17
2 CC Uplink, Power Class 3	PCC	2549.50	40185	Low-Mid	LTE Band 41	20	24.5	23.95	-0.12	0	Right	Cheek	QPSK	1	0	15DE5	1:1.58	0.048	1.135	0.054	
	SCC	2529.7	39987	Low-Mid	LTE Band 41	20							QPSK	1	99						
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	22.38	0.01	1	Right	Cheek	QPSK	50	0	15DE5	1:1.58	0.040	1.294	0.052	
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.5	23.48	0.08	0	Right	Tilt	QPSK	1	0	15DE5	1:1.58	0.051	1.265	0.065	
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	22.38	0.03	1	Right	Tilt	QPSK	50	0	15DE5	1:1.58	0.045	1.294	0.058	
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.5	23.48	0.01	0	Left	Cheek	QPSK	1	0	15DE5	1:1.58	0.056	1.265	0.071	
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	22.38	0.13	1	Left	Cheek	QPSK	50	0	15DE5	1:1.58	0.045	1.294	0.058	
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.5	23.48	0.15	0	Left	Tilt	QPSK	1	0	15DE5	1:1.58	0.037	1.265	0.047	
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	22.38	0.10	1	Left	Tilt	QPSK	50	0	15DE5	1:1.58	0.025	1.294	0.032	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT												Head									
Spatial Peak												1.6 W/kg (mW/g)									
Uncontrolled Exposure/General Population												averaged over 1 gram									

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**Table 11-18
DTS SISO Head SAR**

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
2437	6	802.11b	DSSS	22	16.5	16.49	0.13	Right	Cheek	1	1593D	1	99.0	0.705	0.495	1.002	1.010	0.501	
2437	6	802.11b	DSSS	22	16.5	16.49	0.01	Right	Tilt	1	1593D	1	99.0	0.669	0.383	1.002	1.010	0.388	
2437	6	802.11b	DSSS	22	16.5	16.49	0.16	Left	Cheek	1	1593D	1	99.0	0.275	-	1.002	1.010	-	
2437	6	802.11b	DSSS	22	16.5	16.49	0.08	Left	Tilt	1	1593D	1	99.0	0.288	-	1.002	1.010	-	
2412	1	802.11b	DSSS	22	16.5	16.44	0.15	Right	Cheek	2	1593D	1	99.0	0.866	0.684	1.014	1.010	0.701	A18
2412	1	802.11b	DSSS	22	16.5	16.44	-0.04	Right	Tilt	2	1593D	1	99.0	0.705	0.584	1.014	1.010	0.598	
2412	1	802.11b	DSSS	22	16.5	16.44	-0.11	Left	Cheek	2	1593D	1	99.0	0.403	-	1.014	1.010	-	
2412	1	802.11b	DSSS	22	16.5	16.44	-0.15	Left	Tilt	2	1593D	1	99.0	0.277	-	1.014	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 11-19
DTS MIMO Head SAR**

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Ant 1 Conducted Power [dBm]	Ant 2 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	802.11n	OFDM	20	13.5	13.00	12.55	0.07	Right	Cheek	MIMO	1593D	13	93.8	0.531	0.455	1.245	1.066	0.604	
2437	6	802.11n	OFDM	20	13.5	13.00	12.55	0.10	Right	Tilt	MIMO	1593D	13	93.8	0.438	0.348	1.245	1.066	0.462	
2437	6	802.11n	OFDM	20	13.5	13.00	12.55	-0.13	Left	Cheek	MIMO	1593D	13	93.8	0.188	-	1.245	1.066	-	
2437	6	802.11n	OFDM	20	13.5	13.00	12.55	0.06	Left	Tilt	MIMO	1593D	13	93.8	0.137	-	1.245	1.066	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram										

To achieve the 16.5 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 13.5 dBm.

**Table 11-20
DTS MIMO Head SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR**

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Ant 1 Conducted Power [dBm]	Ant 2 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)	
2412	1	802.11n	OFDM	20	12.5	11.93	11.79	0.09	Right	Cheek	MIMO	1593D	13	93.8	0.511	0.336	1.178	1.066	0.422	
2412	1	802.11n	OFDM	20	12.5	11.93	11.79	0.07	Right	Tilt	MIMO	1593D	13	93.8	0.416	0.256	1.178	1.066	0.321	
2412	1	802.11n	OFDM	20	12.5	11.93	11.79	-0.10	Left	Cheek	MIMO	1593D	13	93.8	0.190	-	1.178	1.066	-	
2412	1	802.11n	OFDM	20	12.5	11.93	11.79	-0.06	Left	Tilt	MIMO	1593D	13	93.8	0.170	-	1.178	1.066	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram										

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

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**Table 11-21
NII Head SAR**

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5290	58	802.11ac	OFDM	80	13.5	13.31	0.18	Right	Cheek	1	1593D	29.3	94.6	0.363	-	1.045	1.057	-	
5290	58	802.11ac	OFDM	80	13.5	13.31	0.10	Right	Tilt	1	1593D	29.3	94.6	0.464	0.190	1.045	1.057	0.210	
5290	58	802.11ac	OFDM	80	13.5	13.31	-0.01	Left	Cheek	1	1593D	29.3	94.6	0.167	-	1.045	1.057	-	
5290	58	802.11ac	OFDM	80	13.5	13.31	0.17	Left	Tilt	1	1593D	29.3	94.6	0.145	-	1.045	1.057	-	
5290	58	802.11ac	OFDM	80	13.5	13.25	0.10	Right	Cheek	2	1593D	29.3	94.5	0.179	0.064	1.059	1.058	0.072	
5290	58	802.11ac	OFDM	80	13.5	13.25	0.10	Right	Tilt	2	1593D	29.3	94.5	0.144	-	1.059	1.058	-	
5290	58	802.11ac	OFDM	80	13.5	13.25	0.10	Left	Cheek	2	1593D	29.3	94.5	0.093	-	1.059	1.058	-	
5290	58	802.11ac	OFDM	80	13.5	13.25	0.10	Left	Tilt	2	1593D	29.3	94.5	0.076	-	1.059	1.058	-	
5690	138	802.11ac	OFDM	80	13.5	13.02	-0.13	Right	Cheek	1	1593D	29.3	94.6	0.531	-	1.117	1.057	-	
5690	138	802.11ac	OFDM	80	13.5	13.02	0.16	Right	Tilt	1	1593D	29.3	94.6	0.599	0.259	1.117	1.057	0.306	A19
5690	138	802.11ac	OFDM	80	13.5	13.02	-0.16	Left	Cheek	1	1593D	29.3	94.6	0.527	-	1.117	1.057	-	
5690	138	802.11ac	OFDM	80	13.5	13.02	0.18	Left	Tilt	1	1593D	29.3	94.6	0.369	-	1.117	1.057	-	
5690	138	802.11ac	OFDM	80	13.5	13.37	0.08	Right	Cheek	2	1593D	29.3	94.5	0.155	0.047	1.030	1.058	0.051	
5690	138	802.11ac	OFDM	80	13.5	13.37	0.13	Right	Tilt	2	1593D	29.3	94.5	0.074	-	1.030	1.058	-	
5690	138	802.11ac	OFDM	80	13.5	13.37	-0.19	Left	Cheek	2	1593D	29.3	94.5	0.077	-	1.030	1.058	-	
5690	138	802.11ac	OFDM	80	13.5	13.37	-0.10	Left	Tilt	2	1593D	29.3	94.5	0.066	-	1.030	1.058	-	
5775	155	802.11ac	OFDM	80	13.5	13.31	0.10	Right	Cheek	1	1593D	29.3	94.6	0.744	-	1.045	1.057	-	
5775	155	802.11ac	OFDM	80	13.5	13.31	0.11	Right	Tilt	1	1593D	29.3	94.6	0.810	0.223	1.045	1.057	0.246	
5775	155	802.11ac	OFDM	80	13.5	13.31	-0.11	Left	Cheek	1	1593D	29.3	94.6	0.570	-	1.045	1.057	-	
5775	155	802.11ac	OFDM	80	13.5	13.31	0.15	Left	Tilt	1	1593D	29.3	94.6	0.483	-	1.045	1.057	-	
5775	155	802.11ac	OFDM	80	13.5	13.27	0.10	Right	Cheek	2	1593D	29.3	94.5	0.178	0.098	1.054	1.058	0.109	
5775	155	802.11ac	OFDM	80	13.5	13.27	0.10	Right	Tilt	2	1593D	29.3	94.5	0.110	-	1.054	1.058	-	
5775	155	802.11ac	OFDM	80	13.5	13.27	-0.18	Left	Cheek	2	1593D	29.3	94.5	0.132	-	1.054	1.058	-	
5775	155	802.11ac	OFDM	80	13.5	13.27	-0.13	Left	Tilt	2	1593D	29.3	94.5	0.076	-	1.054	1.058	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram											

**Table 11-22
Bluetooth Head SAR**

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle (%)	Data Rate (Mbps)	SAR (1g)	Scaling Factor (Cond. Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)			(W/kg)	
2441	39	Bluetooth	FHSS	15.5	15.05	0.00	Right	Cheek	1593D	77.3	1	0.505	1.109	1.294	0.725	A20
2441	39	Bluetooth	FHSS	15.5	15.05	0.12	Right	Tilt	1593D	77.3	1	0.333	1.109	1.294	0.478	
2441	39	Bluetooth	FHSS	15.5	15.05	0.09	Left	Cheek	1593D	77.3	1	0.210	1.109	1.294	0.301	
2441	39	Bluetooth	FHSS	15.5	15.05	0.03	Left	Tilt	1593D	77.3	1	0.152	1.109	1.294	0.218	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram									

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11.2 Standalone Body-Worn SAR Data

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

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Ant State	Device Serial Number	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
820.10	564	CDMA BC10 (\$90S)	TDSO / SO32	25.5	24.99	0.03	15 mm	15	155D4	1:1	back	0.423	1.125	0.476	A21
836.52	384	CDMA BC0 (\$22H)	TDSO / SO32	25.0	24.23	-0.01	15 mm	15	155D4	1:1	back	0.317	1.194	0.378	A23
1880.00	600	PCS CDMA	TDSO / SO32	24.5	23.77	0.00	15 mm	15	155D4	1:1	back	0.542	1.183	0.641	A25
836.60	190	GSM 850	GSM	33.5	32.43	0.01	15 mm	N/A	158C6	1:8.3	back	0.284	1.279	0.363	A27
1880.00	661	GSM 1900	GSM	31.0	30.15	0.03	15 mm	N/A	158C6	1:8.3	back	0.267	1.216	0.325	A29
836.60	4183	UMTS 850	RMC	25.3	24.27	0.01	15 mm	47	158C6	1:1	back	0.357	1.268	0.453	A31
1712.40	1312	UMTS 1750	RMC	25.0	23.82	0.01	15 mm	31	06D58	1:1	back	0.673	1.312	0.883	
1732.40	1412	UMTS 1750	RMC	25.0	23.90	0.00	15 mm	31	06D58	1:1	back	0.635	1.288	0.818	
1752.60	1513	UMTS 1750	RMC	25.0	23.98	0.01	15 mm	31	06D58	1:1	back	0.699	1.265	0.884	A33
1880.00	9400	UMTS 1900	RMC	24.5	23.08	-0.03	15 mm	30	06D58	1:1	back	0.557	1.387	0.773	A35
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 11-24
LTE FDD Body-Worn SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant State	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
707.50	23095	Mid	LTE Band 12	10	25.3	24.78	-0.04	0	15	15DDA	QPSK	1	0	15 mm	back	1:1	0.232	1.127	0.261	A37
707.50	23095	Mid	LTE Band 12	10	24.3	23.76	-0.01	1	15	15DDA	QPSK	25	0	15 mm	back	1:1	0.183	1.132	0.207	
782.00	23230	Mid	LTE Band 13	10	25.3	24.43	-0.04	0	15	15DDA	QPSK	1	0	15 mm	back	1:1	0.360	1.222	0.440	A39
782.00	23230	Mid	LTE Band 13	10	24.3	23.43	-0.02	1	15	15DDA	QPSK	25	0	15 mm	back	1:1	0.289	1.222	0.353	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.3	24.48	-0.05	0	47	15DDA	QPSK	1	0	15 mm	back	1:1	0.348	1.208	0.420	A41
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.3	23.47	-0.02	1	47	15DDA	QPSK	36	0	15 mm	back	1:1	0.264	1.211	0.320	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.3	24.58	0.01	0	47	15DDA	QPSK	1	0	15 mm	back	1:1	0.373	1.180	0.440	A43
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.3	23.57	-0.02	1	47	15DDA	QPSK	25	0	15 mm	back	1:1	0.294	1.183	0.348	
1720.00	132072	Low	LTE Band 66 (AWS)	20	25.0	24.00	0.03	0	31	06D58	QPSK	1	0	15 mm	back	1:1	0.657	1.259	0.827	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	23.80	0.02	0	31	06D58	QPSK	1	0	15 mm	back	1:1	0.707	1.318	0.932	
1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	23.89	-0.08	0	31	06D58	QPSK	1	0	15 mm	back	1:1	0.713	1.291	0.920	A45
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.0	22.94	0.02	1	31	06D58	QPSK	50	0	15 mm	back	1:1	0.592	1.276	0.755	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.0	22.77	0.02	1	31	06D58	QPSK	100	0	15 mm	back	1:1	0.525	1.327	0.697	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.75	-0.03	0	31	1593F	QPSK	1	0	15 mm	back	1:1	0.517	1.189	0.615	A47
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.70	0.00	1	31	1593F	QPSK	50	0	15 mm	back	1:1	0.405	1.202	0.487	
2310.00	27710	Mid	LTE Band 30	10	24.0	23.07	0.03	0	N/A	158DD	QPSK	1	0	15 mm	back	1:1	0.332	1.239	0.411	A49
2310.00	27710	Mid	LTE Band 30	10	23.0	22.63	-0.01	1	N/A	158DD	QPSK	25	0	15 mm	back	1:1	0.266	1.089	0.290	
2535.00	21100	Mid	LTE Band 7	20	24.0	23.90	-0.12	0	N/A	158DD	QPSK	1	0	15 mm	back	1:1	0.380	1.023	0.389	A51
2535.00	21100	Mid	LTE Band 7	20	23.0	22.80	0.14	1	N/A	158DD	QPSK	50	0	15 mm	back	1:1	0.293	1.047	0.307	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT									Body											
Spatial Peak									1.6 W/kg (mW/g)											
Uncontrolled Exposure/General Population									averaged over 1 gram											

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Table 11-25
LTE TDD Body-Worn SAR

MEASUREMENT RESULTS																					
1 CC Uplink 2CC Uplink	Component Carrier	FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
		MHz	Ch.														(W/kg)		(W/kg)		
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.5	23.48	-0.02	0	15DE5	QPSK	1	0	15 mm	back	1:1.58	0.234	1.265	0.296	
1 CC Uplink, Power Class 2	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	28.0	26.90	-0.02	0	15DE5	QPSK	1	0	15 mm	back	1:2.31	0.332	1.288	0.428	A53
2 CC Uplink, Power Class 3	PCC	2549.50	40185	Low-Mid	LTE Band 41	20	24.5	23.95	-0.10	0	15DE5	QPSK	1	0	15 mm	back	1:1.58	0.266	1.135	0.302	
	SCC	2529.70	39987	Low-Mid								QPSK	1	99							
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	22.38	0.03	1	15DE5	QPSK	50	0	15 mm	back	1:1.58	0.170	1.294	0.220	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Body 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-26
DTS Body-Worn SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
2437	6	802.11b	DSSS	22	20.5	19.83	-0.02	15 mm	1	1593D	1	back	99.0	0.140	0.117	1.167	1.010	0.138	A55
2462	11	802.11b	DSSS	22	20.5	19.43	0.00	15 mm	2	1593D	1	back	99.0	0.100	0.085	1.279	1.010	0.110	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram											

Table 11-27
DTS MIMO Body-Worn SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Ant 1 Conducted Power [dBm]	Ant 2 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	802.11n	OFDM	20	16.5	16.37	16.33	-0.02	15 mm	MIMO	1593D	13	back	93.8	0.109	0.092	1.040	1.066	0.102	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram										

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

Table 11-28
NII Body-Worn SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5280	56	802.11a	OFDM	20	16.5	15.78	0.02	15 mm	1	1595F	6	back	98.8	0.237	0.104	1.180	1.012	0.124	
5260	52	802.11a	OFDM	20	16.5	16.13	0.13	15 mm	2	1595F	6	back	98.8	0.136	0.047	1.089	1.012	0.052	
5620	124	802.11a	OFDM	20	16.5	16.12	0.14	15 mm	1	1595F	6	back	98.8	0.229	0.100	1.091	1.012	0.110	
5720	144	802.11a	OFDM	20	16.5	16.34	0.14	15 mm	2	1595F	6	back	98.8	0.239	0.088	1.038	1.012	0.092	
5745	149	802.11a	OFDM	20	16.5	15.98	0.19	15 mm	1	1595F	6	back	98.8	0.310	0.111	1.127	1.012	0.127	A57
5785	157	802.11a	OFDM	20	16.5	16.23	0.13	15 mm	2	1595F	6	back	98.8	0.262	0.099	1.064	1.012	0.107	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT								Body 1.6 W/kg (mW/g) averaged over 1 gram											
Spatial Peak Uncontrolled Exposure/General Population																			

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

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Ant 1 Conducted Power [dBm]	Ant 2 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)	
5290	58	802.11ac	OFDM	80	13.5	13.31	13.25	-0.10	15 mm	MIMO	1595F	58.5	back	92.3	0.152	0.061	1.059	1.083	0.070	
5690	138	802.11ac	OFDM	80	13.5	13.02	13.37	0.10	15 mm	MIMO	1595F	58.5	back	92.3	0.236	0.088	1.117	1.083	0.106	
5775	155	802.11ac	OFDM	80	13.5	13.31	13.27	0.12	15 mm	MIMO	1595F	58.5	back	92.3	0.284	0.094	1.054	1.083	0.107	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT										Body										
Spatial Peak										1.6 W/kg (mW/g)										
Uncontrolled Exposure/General Population										averaged over 1 gram										

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

Table 11-30
Bluetooth Body-Worn SAR

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Duty Cycle (%)	Side	Data Rate (Mbps)	SAR (1g)	Scaling Factor (Cond. Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g) (W/kg)	Plot #
MHz	Ch.											(W/kg)				
2441	39	Bluetooth	FHSS	15.5	15.05	0.20	15 mm	1593D	77.3	back	1	0.038	1.109	1.294	0.055	A59
ANSI / IEEE C95.1 1992 - SAFETY LIMIT										Body						
Spatial Peak										1.6 W/kg (mW/g)						
Uncontrolled Exposure/General Population										averaged over 1 gram						

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11.3 Standalone Hotspot SAR Data

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

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Ant State	Device Serial Number	# of GPRS Slots	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.												(W/kg)		(W/kg)	
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. 0	25.5	24.98	-0.06	10 mm	15	155D4	N/A	1:1	back	0.705	1.127	0.795	A22
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. 0	25.5	24.98	-0.01	10 mm	15	155D4	N/A	1:1	front	0.576	1.127	0.649	
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. 0	25.5	24.98	-0.09	10 mm	15	155D4	N/A	1:1	bottom	0.374	1.127	0.421	
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. 0	25.5	24.98	-0.02	10 mm	15	155D4	N/A	1:1	right	0.338	1.127	0.381	
820.10	564	CDMA BC10 (\$90S)	EVDO Rev. 0	25.5	24.98	-0.02	10 mm	15	155D4	N/A	1:1	left	0.070	1.127	0.079	
836.52	384	CDMABC0 (\$22H)	EVDO Rev. 0	25.0	24.34	0.00	10 mm	15	155D4	N/A	1:1	back	0.541	1.164	0.630	A24
836.52	384	CDMABC0 (\$22H)	EVDO Rev. 0	25.0	24.34	-0.03	10 mm	15	155D4	N/A	1:1	front	0.518	1.164	0.603	
836.52	384	CDMABC0 (\$22H)	EVDO Rev. 0	25.0	24.34	-0.03	10 mm	15	155D4	N/A	1:1	bottom	0.276	1.164	0.321	
836.52	384	CDMABC0 (\$22H)	EVDO Rev. 0	25.0	24.34	-0.02	10 mm	15	155D4	N/A	1:1	right	0.252	1.164	0.293	
836.52	384	CDMABC0 (\$22H)	EVDO Rev. 0	25.0	24.34	0.01	10 mm	15	155D4	N/A	1:1	left	0.084	1.164	0.098	
1880.00	600	PCS CDMA	EVDO Rev. 0	20.5	19.96	-0.04	10 mm	15	1522F	N/A	1:1	back	0.424	1.132	0.480	
1880.00	600	PCS CDMA	EVDO Rev. 0	20.5	19.96	0.00	10 mm	15	1522F	N/A	1:1	front	0.368	1.132	0.417	
1851.25	25	PCS CDMA	EVDO Rev. 0	20.5	19.97	0.02	10 mm	15	1522F	N/A	1:1	bottom	0.835	1.130	0.944	
1880.00	600	PCS CDMA	EVDO Rev. 0	20.5	19.96	0.01	10 mm	15	1522F	N/A	1:1	bottom	0.889	1.132	1.006	A26
1908.75	1175	PCS CDMA	EVDO Rev. 0	20.5	19.99	-0.02	10 mm	15	1522F	N/A	1:1	bottom	0.887	1.125	0.998	
1880.00	600	PCS CDMA	EVDO Rev. 0	20.5	19.96	0.02	10 mm	15	1522F	N/A	1:1	right	0.062	1.132	0.070	
1880.00	600	PCS CDMA	EVDO Rev. 0	20.5	19.96	-0.03	10 mm	15	1522F	N/A	1:1	left	0.148	1.132	0.168	
1880.00	600	PCS CDMA	EVDO Rev. 0	20.5	19.96	-0.04	10 mm	15	1522F	N/A	1:1	bottom	0.808	1.132	0.915	
836.60	190	GSM850	GPRS	30.0	29.03	-0.09	10 mm	N/A	158C6	3	1:2.76	back	0.504	1.250	0.630	A28
836.60	190	GSM850	GPRS	30.0	29.03	-0.03	10 mm	N/A	158C6	3	1:2.76	front	0.453	1.250	0.566	
836.60	190	GSM850	GPRS	30.0	29.03	-0.08	10 mm	N/A	158C6	3	1:2.76	bottom	0.265	1.250	0.331	
836.60	190	GSM850	GPRS	30.0	29.03	0.05	10 mm	N/A	158C6	3	1:2.76	right	0.233	1.250	0.291	
836.60	190	GSM850	GPRS	30.0	29.03	-0.06	10 mm	N/A	158C6	3	1:2.76	left	0.066	1.250	0.083	
1880.00	661	GSM 1900	GPRS	24.0	23.07	0.00	10 mm	N/A	1521E	3	1:2.76	back	0.253	1.239	0.313	
1880.00	661	GSM 1900	GPRS	24.0	23.07	-0.08	10 mm	N/A	1521E	3	1:2.76	front	0.247	1.239	0.306	
1880.00	661	GSM 1900	GPRS	24.0	23.07	-0.12	10 mm	N/A	1521E	3	1:2.76	bottom	0.469	1.239	0.581	A30
1880.00	661	GSM 1900	GPRS	24.0	23.07	0.02	10 mm	N/A	1521E	3	1:2.76	right	0.045	1.239	0.056	
1880.00	661	GSM 1900	GPRS	24.0	23.07	-0.10	10 mm	N/A	1521E	3	1:2.76	left	0.079	1.239	0.098	
836.60	4183	UMTS 850	RMC	25.3	24.27	-0.04	10 mm	47	158C6	N/A	1:1	back	0.567	1.268	0.719	A32
836.60	4183	UMTS 850	RMC	25.3	24.27	-0.01	10 mm	47	158C6	N/A	1:1	front	0.495	1.268	0.628	
836.60	4183	UMTS 850	RMC	25.3	24.27	0.01	10 mm	47	158C6	N/A	1:1	bottom	0.279	1.268	0.354	
836.60	4183	UMTS 850	RMC	25.3	24.27	0.01	10 mm	47	158C6	N/A	1:1	right	0.256	1.268	0.325	
836.60	4183	UMTS 850	RMC	25.3	24.27	0.05	10 mm	47	158C6	N/A	1:1	left	0.069	1.268	0.087	
1732.40	1412	UMTS 1750	RMC	20.5	19.63	-0.05	10 mm	31	1521E	N/A	1:1	back	0.341	1.222	0.417	
1732.40	1412	UMTS 1750	RMC	20.5	19.63	0.01	10 mm	31	1521E	N/A	1:1	front	0.222	1.222	0.271	
1732.40	1412	UMTS 1750	RMC	20.5	19.63	-0.02	10 mm	31	1521E	N/A	1:1	bottom	0.629	1.222	0.769	A34
1732.40	1412	UMTS 1750	RMC	20.5	19.63	-0.08	10 mm	31	1521E	N/A	1:1	right	0.060	1.222	0.073	
1732.40	1412	UMTS 1750	RMC	20.5	19.63	-0.09	10 mm	31	1521E	N/A	1:1	left	0.044	1.222	0.054	
1880.00	9400	UMTS 1900	RMC	20.0	19.30	-0.08	10 mm	30	1521E	N/A	1:1	back	0.331	1.175	0.389	
1880.00	9400	UMTS 1900	RMC	20.0	19.30	0.01	10 mm	30	1521E	N/A	1:1	front	0.315	1.175	0.370	
1880.00	9400	UMTS 1900	RMC	20.0	19.30	-0.02	10 mm	30	1521E	N/A	1:1	bottom	0.593	1.175	0.697	A36
1880.00	9400	UMTS 1900	RMC	20.0	19.30	-0.06	10 mm	30	1521E	N/A	1:1	right	0.054	1.175	0.063	
1880.00	9400	UMTS 1900	RMC	20.0	19.30	0.02	10 mm	30	1521E	N/A	1:1	left	0.070	1.175	0.082	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT							Body									
Spatial Peak							1.6 W/kg (mW/g)									
Uncontrolled Exposure/General Population							averaged over 1 gram									

Blue entry represents variability data.

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Table 11-32
LTE Band 12 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant State	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
707.50	23095	Mid	LTE Band 12	10	25.3	24.78	0.00	0	15	15DDA	QPSK	1	0	10 mm	back	1:1	0.480	1.127	0.541	A38
707.50	23095	Mid	LTE Band 12	10	24.3	23.76	-0.15	1	15	15DDA	QPSK	25	0	10 mm	back	1:1	0.397	1.132	0.449	
707.50	23095	Mid	LTE Band 12	10	25.3	24.78	0.03	0	15	15DDA	QPSK	1	0	10 mm	front	1:1	0.344	1.127	0.388	
707.50	23095	Mid	LTE Band 12	10	24.3	23.76	0.07	1	15	15DDA	QPSK	25	0	10 mm	front	1:1	0.307	1.132	0.348	
707.50	23095	Mid	LTE Band 12	10	25.3	24.78	0.01	0	15	15DDA	QPSK	1	0	10 mm	bottom	1:1	0.248	1.127	0.279	
707.50	23095	Mid	LTE Band 12	10	24.3	23.76	-0.03	1	15	15DDA	QPSK	25	0	10 mm	bottom	1:1	0.212	1.132	0.240	
707.50	23095	Mid	LTE Band 12	10	25.3	24.78	0.00	0	15	15DDA	QPSK	1	0	10 mm	right	1:1	0.298	1.127	0.336	
707.50	23095	Mid	LTE Band 12	10	24.3	23.76	-0.04	1	15	15DDA	QPSK	25	0	10 mm	right	1:1	0.255	1.132	0.289	
707.50	23095	Mid	LTE Band 12	10	25.3	24.78	0.06	0	15	15DDA	QPSK	1	0	10 mm	left	1:1	0.072	1.127	0.081	
707.50	23095	Mid	LTE Band 12	10	24.3	23.76	-0.09	1	15	15DDA	QPSK	25	0	10 mm	left	1:1	0.054	1.132	0.061	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT								Body												
Spatial Peak								1.6 W/kg (mW/g)												
Uncontrolled Exposure/General Population								averaged over 1 gram												

Table 11-33
LTE Band 13 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant State	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
782.00	23230	Mid	LTE Band 13	10	25.3	24.43	-0.09	0	15	15DDA	QPSK	1	0	10 mm	back	1:1	0.572	1.222	0.699	A40
782.00	23230	Mid	LTE Band 13	10	24.3	23.43	-0.06	1	15	15DDA	QPSK	25	0	10 mm	back	1:1	0.464	1.222	0.567	
782.00	23230	Mid	LTE Band 13	10	25.3	24.43	-0.04	0	15	15DDA	QPSK	1	0	10 mm	front	1:1	0.476	1.222	0.582	
782.00	23230	Mid	LTE Band 13	10	24.3	23.43	0.00	1	15	15DDA	QPSK	25	0	10 mm	front	1:1	0.380	1.222	0.464	
782.00	23230	Mid	LTE Band 13	10	25.3	24.43	-0.06	0	15	15DDA	QPSK	1	0	10 mm	bottom	1:1	0.332	1.222	0.406	
782.00	23230	Mid	LTE Band 13	10	24.3	23.43	-0.04	1	15	15DDA	QPSK	25	0	10 mm	bottom	1:1	0.256	1.222	0.313	
782.00	23230	Mid	LTE Band 13	10	25.3	24.43	0.05	0	15	15DDA	QPSK	1	0	10 mm	right	1:1	0.335	1.222	0.409	
782.00	23230	Mid	LTE Band 13	10	24.3	23.43	-0.03	1	15	15DDA	QPSK	25	0	10 mm	right	1:1	0.264	1.222	0.323	
782.00	23230	Mid	LTE Band 13	10	25.3	24.43	-0.05	0	15	15DDA	QPSK	1	0	10 mm	left	1:1	0.147	1.222	0.180	
782.00	23230	Mid	LTE Band 13	10	24.3	23.43	0.00	1	15	15DDA	QPSK	25	0	10 mm	left	1:1	0.118	1.222	0.144	
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 11-34
LTE Band 26 (Cell) Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant State	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.3	24.48	0.00	0	47	15DDA	QPSK	1	0	10 mm	back	1:1	0.644	1.208	0.778	A42
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.3	23.47	0.00	1	47	15DDA	QPSK	36	0	10 mm	back	1:1	0.504	1.211	0.610	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.3	24.48	0.01	0	47	15DDA	QPSK	1	0	10 mm	front	1:1	0.498	1.208	0.602	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.3	23.47	-0.01	1	47	15DDA	QPSK	36	0	10 mm	front	1:1	0.389	1.211	0.471	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.3	24.48	-0.05	0	47	15DDA	QPSK	1	0	10 mm	bottom	1:1	0.330	1.208	0.399	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.3	23.47	-0.05	1	47	15DDA	QPSK	36	0	10 mm	bottom	1:1	0.254	1.211	0.308	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.3	24.48	-0.01	0	47	15DDA	QPSK	1	0	10 mm	right	1:1	0.312	1.208	0.377	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.3	23.47	-0.06	1	47	15DDA	QPSK	36	0	10 mm	right	1:1	0.238	1.211	0.288	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.3	24.48	-0.02	0	47	15DDA	QPSK	1	0	10 mm	left	1:1	0.066	1.208	0.080	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.3	23.47	0.03	1	47	15DDA	QPSK	36	0	10 mm	left	1:1	0.051	1.211	0.062	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT								Body												
Spatial Peak								1.6 W/kg (mW/g)												
Uncontrolled Exposure/General Population								averaged over 1 gram												

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

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant State	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.3	24.58	0.01	0	47	15DDA	QPSK	1	0	10 mm	back	1:1	0.683	1.180	0.806	A44
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.3	23.57	0.00	1	47	15DDA	QPSK	25	0	10 mm	back	1:1	0.540	1.183	0.639	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.3	23.51	0.02	1	47	15DDA	QPSK	50	0	10 mm	back	1:1	0.533	1.199	0.639	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.3	24.58	-0.01	0	47	15DDA	QPSK	1	0	10 mm	front	1:1	0.564	1.180	0.666	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.3	23.57	-0.02	1	47	15DDA	QPSK	25	0	10 mm	front	1:1	0.445	1.183	0.526	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.3	24.58	-0.05	0	47	15DDA	QPSK	1	0	10 mm	bottom	1:1	0.310	1.180	0.366	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.3	23.57	0.15	1	47	15DDA	QPSK	25	0	10 mm	bottom	1:1	0.246	1.183	0.291	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.3	24.58	0.00	0	47	15DDA	QPSK	1	0	10 mm	right	1:1	0.268	1.180	0.316	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.3	23.57	0.00	1	47	15DDA	QPSK	25	0	10 mm	right	1:1	0.206	1.183	0.244	
836.50	20525	Mid	LTE Band 5 (Cell)	10	25.3	24.58	-0.01	0	47	15DDA	QPSK	1	0	10 mm	left	1:1	0.079	1.180	0.093	
836.50	20525	Mid	LTE Band 5 (Cell)	10	24.3	23.57	-0.08	1	47	15DDA	QPSK	25	0	10 mm	left	1:1	0.064	1.183	0.076	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram												

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

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant State	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
1745.00	132322	Mid	LTE Band 66 (AWS)	20	20.0	19.10	0.01	0	31	155CD	QPSK	1	0	10 mm	back	1:1	0.340	1.230	0.418	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	20.0	18.90	0.01	0	31	155CD	QPSK	50	0	10 mm	back	1:1	0.347	1.288	0.447	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	20.0	19.10	-0.04	0	31	155CD	QPSK	1	0	10 mm	front	1:1	0.314	1.230	0.386	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	20.0	18.90	0.03	0	31	155CD	QPSK	50	0	10 mm	front	1:1	0.308	1.288	0.397	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	20.0	19.10	-0.02	0	31	155CD	QPSK	1	0	10 mm	bottom	1:1	0.454	1.230	0.558	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	20.0	18.90	-0.01	0	31	155CD	QPSK	50	0	10 mm	bottom	1:1	0.459	1.288	0.591	A46
1745.00	132322	Mid	LTE Band 66 (AWS)	20	20.0	19.10	-0.01	0	31	155CD	QPSK	1	0	10 mm	right	1:1	0.057	1.230	0.070	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	20.0	18.90	-0.01	0	31	155CD	QPSK	50	0	10 mm	right	1:1	0.060	1.288	0.077	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	20.0	19.10	0.00	0	31	155CD	QPSK	1	0	10 mm	left	1:1	0.057	1.230	0.070	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	20.0	18.90	-0.02	0	31	155CD	QPSK	50	0	10 mm	left	1:1	0.051	1.288	0.066	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram												

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

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant State	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.0	19.39	-0.04	0	31	155CD	QPSK	1	0	10 mm	back	1:1	0.421	1.151	0.485	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.0	19.26	-0.04	0	31	155CD	QPSK	50	0	10 mm	back	1:1	0.408	1.186	0.484	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.0	19.39	0.00	0	31	155CD	QPSK	1	0	10 mm	front	1:1	0.338	1.151	0.389	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.0	19.26	0.02	0	31	155CD	QPSK	50	0	10 mm	front	1:1	0.332	1.186	0.394	
1860.00	26140	Low	LTE Band 25 (PCS)	20	20.0	19.15	-0.04	0	31	155CD	QPSK	1	0	10 mm	bottom	1:1	0.805	1.216	0.979	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.0	19.39	-0.03	0	31	155CD	QPSK	1	0	10 mm	bottom	1:1	0.858	1.151	0.988	A48
1905.00	26590	High	LTE Band 25 (PCS)	20	20.0	19.05	0.00	0	31	155CD	QPSK	1	0	10 mm	bottom	1:1	0.801	1.245	0.997	
1860.00	26140	Low	LTE Band 25 (PCS)	20	20.0	19.01	-0.03	0	31	155CD	QPSK	50	25	10 mm	bottom	1:1	0.800	1.256	1.005	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.0	19.26	-0.03	0	31	155CD	QPSK	50	0	10 mm	bottom	1:1	0.856	1.186	1.015	
1905.00	26590	High	LTE Band 25 (PCS)	20	20.0	18.92	-0.04	0	31	155CD	QPSK	50	25	10 mm	bottom	1:1	0.783	1.282	1.004	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.0	19.23	0.01	0	31	155CD	QPSK	100	0	10 mm	bottom	1:1	0.844	1.194	1.008	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.0	19.39	0.03	0	31	155CD	QPSK	1	0	10 mm	right	1:1	0.070	1.151	0.081	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.0	19.26	0.00	0	31	155CD	QPSK	50	0	10 mm	right	1:1	0.069	1.186	0.082	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.0	19.39	0.00	0	31	155CD	QPSK	1	0	10 mm	left	1:1	0.097	1.151	0.112	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.0	19.26	-0.01	0	31	155CD	QPSK	50	0	10 mm	left	1:1	0.096	1.186	0.114	
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 11-38
LTE Band 30 Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.														(W/kg)		(W/kg)		
2310.00	27710	Mid	LTE Band 30	10	20.5	19.78	0.03	0	15EC3	QPSK	1	0	10 mm	back	1:1	0.247	1.180	0.291	
2310.00	27710	Mid	LTE Band 30	10	20.5	19.82	-0.10	0	15EC3	QPSK	25	12	10 mm	back	1:1	0.246	1.169	0.288	
2310.00	27710	Mid	LTE Band 30	10	20.5	19.78	0.01	0	15EC3	QPSK	1	0	10 mm	front	1:1	0.238	1.180	0.281	
2310.00	27710	Mid	LTE Band 30	10	20.5	19.82	-0.02	0	15EC3	QPSK	25	12	10 mm	front	1:1	0.238	1.169	0.278	
2310.00	27710	Mid	LTE Band 30	10	20.5	19.78	-0.06	0	15EC3	QPSK	1	0	10 mm	bottom	1:1	0.433	1.180	0.511	
2310.00	27710	Mid	LTE Band 30	10	20.5	19.82	-0.11	0	15EC3	QPSK	25	12	10 mm	bottom	1:1	0.438	1.169	0.512	A50
2310.00	27710	Mid	LTE Band 30	10	20.5	19.78	0.07	0	15EC3	QPSK	1	0	10 mm	left	1:1	0.145	1.180	0.171	
2310.00	27710	Mid	LTE Band 30	10	20.5	19.82	-0.03	0	15EC3	QPSK	25	12	10 mm	left	1:1	0.148	1.169	0.173	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak								Body 1.6 W/kg (mW/g) averaged over 1 gram											
Uncontrolled Exposure/General Population																			

Table 11-39
LTE Band 7 Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.														(W/kg)		(W/kg)		
2535.00	21100	Mid	LTE Band 7	20	20.5	20.22	-0.04	0	15EC3	QPSK	1	0	10 mm	back	1:1	0.231	1.067	0.246	
2535.00	21100	Mid	LTE Band 7	20	20.5	20.21	0.00	0	15EC3	QPSK	50	0	10 mm	back	1:1	0.235	1.069	0.251	
2535.00	21100	Mid	LTE Band 7	20	20.5	20.22	-0.04	0	15EC3	QPSK	1	0	10 mm	front	1:1	0.220	1.067	0.235	
2535.00	21100	Mid	LTE Band 7	20	20.5	20.21	0.00	0	15EC3	QPSK	50	0	10 mm	front	1:1	0.223	1.069	0.238	
2535.00	21100	Mid	LTE Band 7	20	20.5	20.22	-0.01	0	15EC3	QPSK	1	0	10 mm	bottom	1:1	0.352	1.067	0.376	
2535.00	21100	Mid	LTE Band 7	20	20.5	20.21	0.00	0	15EC3	QPSK	50	0	10 mm	bottom	1:1	0.359	1.069	0.384	A52
2535.00	21100	Mid	LTE Band 7	20	20.5	20.22	-0.03	0	15EC3	QPSK	1	0	10 mm	left	1:1	0.163	1.067	0.174	
2535.00	21100	Mid	LTE Band 7	20	20.5	20.21	0.00	0	15EC3	QPSK	50	0	10 mm	left	1:1	0.171	1.069	0.183	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT								Body											
Spatial Peak								1.6 W/kg (mW/g)											
Uncontrolled Exposure/General Population								averaged over 1 gram											

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Table 11-40
LTE Band 41 Hotspot SAR

MEASUREMENT RESULTS																					
1 CC Uplink 2CC Uplink	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR[dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR(1g)	Scaling Factor	Reported SAR (1g)	Plot #
		MHz	Ch.	(W/kg)														(W/kg)			
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Md	LTE Band 41	20	22.5	21.57	0.03	0	15EC3	QPSK	1	0	10 mm	back	1:1.58	0.338	1.239	0.419	A54
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Md	LTE Band 41	20	22.5	21.46	-0.05	0	15EC3	QPSK	50	0	10 mm	back	1:1.58	0.330	1.271	0.419	
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Md	LTE Band 41	20	22.5	21.57	-0.13	0	15EC3	QPSK	1	0	10 mm	front	1:1.58	0.326	1.239	0.404	
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Md	LTE Band 41	20	22.5	21.46	0.16	0	15EC3	QPSK	50	0	10 mm	front	1:1.58	0.249	1.271	0.316	
1 CC Uplink, Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	22.5	21.54	-0.06	0	15EC3	QPSK	1	0	10 mm	bottom	1:1.58	0.618	1.247	0.771	
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low	LTE Band 41	20	22.5	21.57	-0.03	0	15EC3	QPSK	1	0	10 mm	bottom	1:1.58	0.603	1.239	0.747	
1 CC Uplink, Power Class 3	N/A	2593.00	40620	Md	LTE Band 41	20	22.5	21.51	-0.15	0	15EC3	QPSK	1	0	10 mm	bottom	1:1.58	0.583	1.256	0.732	
1 CC Uplink, Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	22.5	21.47	-0.01	0	15EC3	QPSK	1	0	10 mm	bottom	1:1.58	0.569	1.268	0.721	
1 CC Uplink, Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	22.5	21.50	-0.04	0	15EC3	QPSK	1	0	10 mm	bottom	1:1.58	0.539	1.259	0.679	
2 CC Uplink, Power Class 3	PCC	2506.00	39750	Low	LTE Band 41	20	22.5	22.02	-0.03	0	15EC3	QPSK	50	50	10 mm	bottom	1:1.58	0.763	1.117	0.852	
	SCC	2525.80	39948	Low	LTE Band 41	20						QPSK	50	0							
1 CC Uplink, Power Class 2	N/A	2506.00	39750	Low	LTE Band 41	20	22.5	21.88	-0.08	0	1551D	QPSK	50	50	10 mm	bottom	1:2.31	0.444	1.153	0.512	
1 CC Uplink, Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	22.5	21.39	-0.05	0	15EC3	QPSK	50	50	10 mm	bottom	1:1.58	0.643	1.291	0.830	
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Md	LTE Band 41	20	22.5	21.46	-0.05	0	15EC3	QPSK	50	0	10 mm	bottom	1:1.58	0.596	1.271	0.758	
1 CC Uplink, Power Class 3	N/A	2593.00	40620	Md	LTE Band 41	20	22.5	21.39	-0.07	0	15EC3	QPSK	50	0	10 mm	bottom	1:1.58	0.593	1.291	0.766	
1 CC Uplink, Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	22.5	21.34	-0.05	0	15EC3	QPSK	50	0	10 mm	bottom	1:1.58	0.567	1.306	0.741	
1 CC Uplink, Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	22.5	21.44	-0.07	0	15EC3	QPSK	50	0	10 mm	bottom	1:1.58	0.515	1.276	0.657	
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Md	LTE Band 41	20	22.5	21.45	0.01	0	15EC3	QPSK	100	0	10 mm	bottom	1:1.58	0.601	1.274	0.766	
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Md	LTE Band 41	20	22.5	21.57	-0.13	0	15EC3	QPSK	1	0	10 mm	left	1:1.58	0.145	1.239	0.180	
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Md	LTE Band 41	20	22.5	21.46	-0.05	0	15EC3	QPSK	50	0	10 mm	left	1:1.58	0.150	1.271	0.191	
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 11-41
WLAN Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
2437	6	802.11b	DSSS	22	20.5	19.83	-0.08	10 mm	1	1593D	1	back	99.0	0.305	-	1.167	1.010	-	
2437	6	802.11b	DSSS	22	20.5	19.83	-0.16	10 mm	1	1593D	1	front	99.0	0.178	-	1.167	1.010	-	
2437	6	802.11b	DSSS	22	20.5	19.83	0.14	10 mm	1	1593D	1	top	99.0	0.379	0.307	1.167	1.010	0.362	A56
2437	6	802.11b	DSSS	22	20.5	19.83	0.11	10 mm	1	1593D	1	left	99.0	0.108	-	1.167	1.010	-	
2462	11	802.11b	DSSS	22	20.5	19.43	0.14	10 mm	2	1593D	1	back	99.0	0.230	0.172	1.279	1.010	0.222	
2462	11	802.11b	DSSS	22	20.5	19.43	-0.20	10 mm	2	1593D	1	front	99.0	0.208	-	1.279	1.010	-	
2462	11	802.11b	DSSS	22	20.5	19.43	0.06	10 mm	2	1593D	1	top	99.0	0.088	-	1.279	1.010	-	
2462	11	802.11b	DSSS	22	20.5	19.43	-0.18	10 mm	2	1593D	1	left	99.0	0.105	-	1.279	1.010	-	
5745	149	802.11a	OFDM	20	16.5	15.98	0.16	10 mm	1	1595F	6	back	98.8	0.451	0.182	1.127	1.012	0.208	A58
5745	149	802.11a	OFDM	20	16.5	15.98	0.00	10 mm	1	1595F	6	front	98.8	0.145	-	1.127	1.012	-	
5745	149	802.11a	OFDM	20	16.5	15.98	0.10	10 mm	1	1595F	6	top	98.8	0.137	-	1.127	1.012	-	
5745	149	802.11a	OFDM	20	16.5	15.98	0.10	10 mm	1	1595F	6	left	98.8	0.020	-	1.127	1.012	-	
5785	157	802.11a	OFDM	20	16.5	16.23	0.04	10 mm	2	1595F	6	back	98.8	0.381	0.141	1.064	1.012	0.152	
5785	157	802.11a	OFDM	20	16.5	16.23	0.00	10 mm	2	1595F	6	front	98.8	0.092	-	1.064	1.012	-	
5785	157	802.11a	OFDM	20	16.5	16.23	-0.12	10 mm	2	1595F	6	top	98.8	0.103	-	1.064	1.012	-	
5785	157	802.11a	OFDM	20	16.5	16.23	0.19	10 mm	2	1595F	6	left	98.8	0.084	-	1.064	1.012	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT												Body							
Spatial Peak												1.6 W/kg (mW/g)							
Uncontrolled Exposure/General Population												averaged over 1 gram							

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Table 11-42
WLAN MIMO Hotspot SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Ant 1 Conducted Power [dBm]	Ant 2 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	802.11n	OFDM	20	16.5	16.37	16.33	-0.14	10 mm	MIMO	1593D	13	back	93.8	0.206	-	1.040	1.066	-	
2437	6	802.11n	OFDM	20	16.5	16.37	16.33	-0.19	10 mm	MIMO	1593D	13	front	93.8	0.195	-	1.040	1.066	-	
2437	6	802.11n	OFDM	20	16.5	16.37	16.33	0.10	10 mm	MIMO	1593D	13	top	93.8	0.229	0.186	1.040	1.066	0.206	
2437	6	802.11n	OFDM	20	16.5	16.37	16.33	0.05	10 mm	MIMO	1593D	13	left	93.8	0.130	-	1.040	1.066	-	
5775	155	802.11ac	OFDM	80	13.5	13.31	13.27	0.14	10 mm	MIMO	1595F	58.5	back	92.3	0.450	0.163	1.054	1.083	0.186	
5775	155	802.11ac	OFDM	80	13.5	13.31	13.27	0.00	10 mm	MIMO	1595F	58.5	front	92.3	0.084	-	1.054	1.083	-	
5775	155	802.11ac	OFDM	80	13.5	13.31	13.27	0.10	10 mm	MIMO	1595F	58.5	top	92.3	0.113	-	1.054	1.083	-	
5775	155	802.11ac	OFDM	80	13.5	13.31	13.27	0.00	10 mm	MIMO	1595F	58.5	left	92.3	0.028	-	1.054	1.083	-	
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 11-43
Bluetooth Hotspot SAR

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Duty Cycle (%)	Side	Data Rate (Mbps)	SAR (1g)	Scaling Factor (Cond. Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)			(W/kg)	
2441	39	Bluetooth	FHSS	15.5	15.05	0.03	10 mm	1593D	77.3	back	1	0.079	1.109	1.294	0.113	A60
2441	39	Bluetooth	FHSS	15.5	15.05	0.11	10 mm	1593D	77.3	front	1	0.076	1.109	1.294	0.109	
2441	39	Bluetooth	FHSS	15.5	15.05	0.08	10 mm	1593D	77.3	top	1	0.033	1.109	1.294	0.047	
2441	39	Bluetooth	FHSS	15.5	15.05	-0.14	10 mm	1593D	77.3	left	1	0.046	1.109	1.294	0.066	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT										Body						
Spatial Peak										1.6 W/kg (mW/g)						
Uncontrolled Exposure/General Population										averaged over 1 gram						

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11.4 Standalone Phablet SAR Data

Table 11-44
GPRS/UMTS/CDMA Phablet SAR Data

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maxium Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Ant State	Device Serial Number	# of GPRS Slots	Duty Cycle	Side	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.												(W/kg)		(W/kg)	
1880.00	600	PCS CDMA	EVDO Rev. 0	24.5	23.81	0.00	6 mm	15	155D4	N/A	1:1	back	1.000	1.172	1.172	
1880.00	600	PCS CDMA	EVDO Rev. 0	24.5	23.81	0.01	4 mm	15	155D4	N/A	1:1	front	1.340	1.172	1.570	
1880.00	600	PCS CDMA	EVDO Rev. 0	24.5	23.81	0.02	8 mm	15	155D4	N/A	1:1	bottom	1.310	1.172	1.535	
1880.00	600	PCS CDMA	EVDO Rev. 0	24.5	23.81	0.00	0 mm	15	155D4	N/A	1:1	right	0.367	1.172	0.430	
1880.00	600	PCS CDMA	EVDO Rev. 0	24.5	23.81	-0.05	0 mm	15	155D4	N/A	1:1	left	0.790	1.172	0.926	
1880.00	600	PCS CDMA	EVDO Rev. 0	21.5	20.84	0.07	0 mm	15	1574F	N/A	1:1	back	1.220	1.164	1.420	
1880.00	600	PCS CDMA	EVDO Rev. 0	21.5	20.84	0.01	0 mm	15	1574F	N/A	1:1	front	1.340	1.164	1.560	
1851.25	25	PCS CDMA	EVDO Rev. 0	21.5	20.83	-0.01	0 mm	15	1574F	N/A	1:1	bottom	1.990	1.167	2.322	A61
1880.00	600	PCS CDMA	EVDO Rev. 0	21.5	20.84	-0.03	0 mm	15	1574F	N/A	1:1	bottom	1.840	1.164	2.142	
1908.75	1175	PCS CDMA	EVDO Rev. 0	21.5	20.84	-0.01	0 mm	15	1574F	N/A	1:1	bottom	1.730	1.164	2.014	
1880.00	661	GSM 1900	GPRS	26.5	25.99	-0.01	6 mm	N/A	158C6	3	1:2.76	back	0.514	1.125	0.578	
1880.00	661	GSM 1900	GPRS	26.5	25.99	0.08	4 mm	N/A	158C6	3	1:2.76	front	0.727	1.125	0.818	
1880.00	661	GSM 1900	GPRS	26.5	25.99	-0.17	8 mm	N/A	158C6	3	1:2.76	bottom	0.708	1.125	0.797	
1880.00	661	GSM 1900	GPRS	26.5	25.99	-0.04	0 mm	N/A	158C6	3	1:2.76	right	0.177	1.125	0.199	
1880.00	661	GSM 1900	GPRS	26.5	25.99	-0.04	0 mm	N/A	158C6	3	1:2.76	left	0.364	1.125	0.410	
1880.00	661	GSM 1900	GPRS	26.0	25.35	0.00	0 mm	N/A	15EC2	3	1:2.76	back	1.600	1.161	1.858	
1880.00	661	GSM 1900	GPRS	26.0	25.35	0.01	0 mm	N/A	15EC2	3	1:2.76	front	1.600	1.161	1.858	
1850.20	512	GSM 1900	GPRS	26.0	25.48	-0.03	0 mm	N/A	15EC2	3	1:2.76	bottom	2.190	1.127	2.468	A62
1880.00	661	GSM 1900	GPRS	26.0	25.35	-0.09	0 mm	N/A	15EC2	3	1:2.76	bottom	2.000	1.161	2.322	
1909.80	810	GSM 1900	GPRS	26.0	25.44	-0.02	0 mm	N/A	15EC2	3	1:2.76	bottom	2.030	1.138	2.310	
1732.40	1412	UMTS 1750	RMC	25.0	23.90	-0.02	6 mm	31	06D58	N/A	1:1	back	1.070	1.288	1.378	
1732.40	1412	UMTS 1750	RMC	25.0	23.90	-0.05	4 mm	31	06D58	N/A	1:1	front	1.210	1.288	1.558	
1732.40	1412	UMTS 1750	RMC	25.0	23.90	0.00	8 mm	31	06D58	N/A	1:1	bottom	1.130	1.288	1.455	
1732.40	1412	UMTS 1750	RMC	25.0	23.90	-0.08	0 mm	31	06D58	N/A	1:1	right	0.312	1.288	0.402	
1732.40	1412	UMTS 1750	RMC	25.0	23.90	-0.05	0 mm	31	06D58	N/A	1:1	left	0.458	1.288	0.590	
1732.40	1412	UMTS 1750	RMC	21.0	20.77	-0.01	0 mm	31	15EC2	N/A	1:1	back	1.600	1.054	1.686	
1732.40	1412	UMTS 1750	RMC	21.0	20.77	-0.03	0 mm	31	15EC2	N/A	1:1	front	1.180	1.054	1.244	
1712.40	1312	UMTS 1750	RMC	21.0	20.84	-0.05	0 mm	31	15EC2	N/A	1:1	bottom	2.410	1.038	2.502	
1732.40	1412	UMTS 1750	RMC	21.0	20.77	-0.06	0 mm	31	15EC2	N/A	1:1	bottom	2.330	1.054	2.456	
1752.60	1513	UMTS 1750	RMC	21.0	20.84	-0.03	0 mm	31	15EC2	N/A	1:1	bottom	2.450	1.038	2.543	A63
1880.00	9400	UMTS 1900	RMC	24.5	23.08	0.01	6 mm	30	158C6	N/A	1:1	back	0.747	1.387	1.036	
1880.00	9400	UMTS 1900	RMC	24.5	23.08	0.00	4 mm	30	158C6	N/A	1:1	front	0.891	1.387	1.236	
1880.00	9400	UMTS 1900	RMC	24.5	23.08	-0.07	8 mm	30	158C6	N/A	1:1	bottom	1.130	1.387	1.567	
1880.00	9400	UMTS 1900	RMC	24.5	23.08	-0.01	0 mm	30	158C6	N/A	1:1	right	0.260	1.387	0.361	
1880.00	9400	UMTS 1900	RMC	24.5	23.08	-0.14	0 mm	30	158C6	N/A	1:1	left	0.561	1.387	0.778	
1880.00	9400	UMTS 1900	RMC	21.5	21.01	-0.02	0 mm	30	15EC2	N/A	1:1	back	1.460	1.119	1.634	
1880.00	9400	UMTS 1900	RMC	21.5	21.01	-0.01	0 mm	30	15EC2	N/A	1:1	front	1.470	1.119	1.645	
1852.40	9262	UMTS 1900	RMC	21.5	21.18	-0.12	0 mm	30	15EC2	N/A	1:1	bottom	2.540	1.076	2.733	
1880.00	9400	UMTS 1900	RMC	21.5	21.01	-0.02	0 mm	30	15EC2	N/A	1:1	bottom	2.360	1.119	2.641	
1907.60	9538	UMTS 1900	RMC	21.5	21.14	-0.13	0 mm	30	15EC2	N/A	1:1	bottom	2.220	1.086	2.411	
1852.40	9262	UMTS 1900	RMC	21.5	21.18	-0.02	0 mm	30	15EC2	N/A	1:1	bottom	2.780	1.076	2.991	A64
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak							Phablet 4.0 W/kg (mW/g) averaged over 10 grams									
Uncontrolled Exposure/General Population																

Blue entry represents variability data.

FCC ID: A3LSMN950U	 SAR EVALUATION REPORT 		Approved by: Quality Manager
Document S/N: 1M1705220174-01-R2.A3L	Test Dates: 06/05/17 – 07/04/17	DUT Type: Portable Handset	Page 132 of 165

Table 11-45
LTE Band 66 Phablet SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant State	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
1720.00	132072	Low	LTE Band 66 (AWS)	20	25.0	24.00	-0.04	0	31	06D58	QPSK	1	0	6 mm	back	1:1	1.010	1.259	1.272	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.0	22.94	-0.06	1	31	06D58	QPSK	50	0	6 mm	back	1:1	0.812	1.276	1.036	
1720.00	132072	Low	LTE Band 66 (AWS)	20	25.0	24.00	0.03	0	31	06D58	QPSK	1	0	4 mm	front	1:1	1.170	1.259	1.473	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.0	22.94	0.17	1	31	06D58	QPSK	50	0	4 mm	front	1:1	0.970	1.276	1.238	
1720.00	132072	Low	LTE Band 66 (AWS)	20	25.0	24.00	0.00	0	31	06D58	QPSK	1	0	8 mm	bottom	1:1	1.150	1.259	1.448	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.0	22.94	-0.14	1	31	06D58	QPSK	50	0	8 mm	bottom	1:1	0.914	1.276	1.166	
1720.00	132072	Low	LTE Band 66 (AWS)	20	25.0	24.00	-0.09	0	31	06D58	QPSK	1	0	0 mm	right	1:1	0.310	1.259	0.390	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.0	22.94	0.17	1	31	06D58	QPSK	50	0	0 mm	right	1:1	0.263	1.276	0.336	
1720.00	132072	Low	LTE Band 66 (AWS)	20	25.0	24.00	-0.08	0	31	06D58	QPSK	1	0	0 mm	left	1:1	0.474	1.259	0.597	
1720.00	132072	Low	LTE Band 66 (AWS)	20	24.0	22.94	-0.05	1	31	06D58	QPSK	50	0	0 mm	left	1:1	0.373	1.276	0.476	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	21.0	20.75	0.04	0	31	15DF4	QPSK	1	0	0 mm	back	1:1	1.850	1.059	1.959	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	21.0	20.67	0.02	0	31	15DF4	QPSK	50	0	0 mm	back	1:1	1.840	1.079	1.985	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	21.0	20.75	0.01	0	31	15DF4	QPSK	1	0	0 mm	front	1:1	1.460	1.059	1.546	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	21.0	20.67	0.01	0	31	15DF4	QPSK	50	0	0 mm	front	1:1	1.450	1.079	1.565	
1720.00	132072	Low	LTE Band 66 (AWS)	20	21.0	20.71	0.00	0	31	15DF4	QPSK	1	0	0 mm	bottom	1:1	2.920	1.069	3.121	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	21.0	20.75	-0.02	0	31	15DF4	QPSK	1	0	0 mm	bottom	1:1	2.920	1.059	3.092	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	20.62	-0.03	0	31	15DF4	QPSK	1	0	0 mm	bottom	1:1	2.830	1.091	3.088	
1720.00	132072	Low	LTE Band 66 (AWS)	20	21.0	20.64	0.02	0	31	15DF4	QPSK	50	0	0 mm	bottom	1:1	2.990	1.086	3.247	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	21.0	20.67	0.03	0	31	15DF4	QPSK	50	0	0 mm	bottom	1:1	2.930	1.079	3.161	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	20.52	0.00	0	31	15DF4	QPSK	50	0	0 mm	bottom	1:1	2.830	1.117	3.161	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	21.0	20.66	-0.01	0	31	15DF4	QPSK	100	0	0 mm	bottom	1:1	3.040	1.081	3.286	A65
1745.00	132322	Mid	LTE Band 66 (AWS)	20	21.0	20.66	0.00	0	31	15DF4	QPSK	100	0	0 mm	bottom	1:1	2.750	1.081	2.973	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT																				
Spatial Peak								Phablet												
Uncontrolled Exposure/General Population								4.0 W/kg (mW/g)												
								averaged over 10 grams												

Blue entry represents variability data.

Table 11-46
LTE Band 25 Phablet SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant State	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.75	-0.04	0	31	1593F	QPSK	1	0	6 mm	back	1:1	1.070	1.189	1.272	
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.70	0.00	1	31	1593F	QPSK	50	0	6 mm	back	1:1	0.840	1.202	1.010	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.75	0.01	0	31	1593F	QPSK	1	0	4 mm	front	1:1	1.300	1.189	1.546	
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.70	0.00	1	31	1593F	QPSK	50	0	4 mm	front	1:1	1.020	1.202	1.226	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.75	-0.04	0	31	1593F	QPSK	1	0	8 mm	bottom	1:1	1.610	1.189	1.914	
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.70	-0.06	1	31	1593F	QPSK	50	0	8 mm	bottom	1:1	1.260	1.202	1.515	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.75	0.04	0	31	1593F	QPSK	1	0	0 mm	right	1:1	0.305	1.189	0.363	
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.70	0.03	1	31	1593F	QPSK	50	0	0 mm	right	1:1	0.243	1.202	0.292	
1905.00	26590	High	LTE Band 25 (PCS)	20	24.5	23.75	0.00	0	31	1593F	QPSK	1	0	0 mm	left	1:1	0.784	1.189	0.932	
1905.00	26590	High	LTE Band 25 (PCS)	20	23.5	22.70	-0.02	1	31	1593F	QPSK	50	0	0 mm	left	1:1	0.645	1.202	0.775	
1860.00	26140	Low	LTE Band 25 (PCS)	20	21.5	21.04	0.05	0	31	15DF4	QPSK	1	0	0 mm	back	1:1	1.160	1.112	1.290	
1860.00	26140	Low	LTE Band 25 (PCS)	20	21.5	20.98	0.00	0	31	15DF4	QPSK	50	0	0 mm	back	1:1	1.140	1.127	1.285	
1860.00	26140	Low	LTE Band 25 (PCS)	20	21.5	21.04	-0.01	0	31	15DF4	QPSK	1	0	0 mm	front	1:1	1.060	1.112	1.179	
1860.00	26140	Low	LTE Band 25 (PCS)	20	21.5	20.98	-0.05	0	31	15DF4	QPSK	50	0	0 mm	front	1:1	1.030	1.127	1.161	
1860.00	26140	Low	LTE Band 25 (PCS)	20	21.5	21.04	-0.04	0	31	15DF4	QPSK	1	0	0 mm	bottom	1:1	1.750	1.112	1.946	
1860.00	26140	Low	LTE Band 25 (PCS)	20	21.5	20.98	-0.03	0	31	15DF4	QPSK	50	0	0 mm	bottom	1:1	1.840	1.127	2.074	A66
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.5	20.93	-0.06	0	31	15DF4	QPSK	50	0	0 mm	bottom	1:1	1.680	1.140	1.915	
1905.00	26590	High	LTE Band 25 (PCS)	20	21.5	20.85	-0.06	0	31	15DF4	QPSK	50	0	0 mm	bottom	1:1	1.550	1.161	1.800	
1860.00	26140	Low	LTE Band 25 (PCS)	20	21.5	20.90	-0.06	0	31	15DF4	QPSK	100	0	0 mm	bottom	1:1	1.790	1.148	2.055	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT								Phablet												
Spatial Peak								4.0 W/kg (mW/g)												
Uncontrolled Exposure/General Population								averaged over 10 grams												

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Document S/N: 1M1705220174-01-R2.A3L	Test Dates: 06/05/17 – 07/04/17	DUT Type: Portable Handset	Page 133 of 165	

Table 11-47
LTE Band 30 Phablet SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Bandwidth [MHz]	Maxim um Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device 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	24.0	23.07	-0.08	0	158DD	QPSK	1	0	6 mm	back	1:1	0.518	1.239	0.642	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.63	-0.05	1	158DD	QPSK	25	0	6 mm	back	1:1	0.411	1.089	0.448	
2310.00	27710	Mid	LTE Band 30	10	24.0	23.07	0.04	0	158DD	QPSK	1	0	4 mm	front	1:1	0.698	1.239	0.865	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.63	0.10	1	158DD	QPSK	25	0	4 mm	front	1:1	0.544	1.089	0.592	
2310.00	27710	Mid	LTE Band 30	10	24.0	23.07	-0.04	0	158DD	QPSK	1	0	8 mm	bottom	1:1	0.864	1.239	1.070	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.63	-0.03	1	158DD	QPSK	25	0	8 mm	bottom	1:1	0.708	1.089	0.771	
2310.00	27710	Mid	LTE Band 30	10	24.0	23.07	-0.18	0	158DD	QPSK	1	0	0 mm	left	1:1	1.150	1.239	1.425	
2310.00	27710	Mid	LTE Band 30	10	23.0	22.63	-0.15	1	158DD	QPSK	25	0	0 mm	left	1:1	0.945	1.089	1.029	
2310.00	27710	Mid	LTE Band 30	10	21.5	20.79	0.02	0	158D1	QPSK	1	0	0 mm	back	1:1	1.560	1.178	1.838	
2310.00	27710	Mid	LTE Band 30	10	21.5	20.83	0.03	0	158D1	QPSK	25	12	0 mm	back	1:1	1.590	1.167	1.856	
2310.00	27710	Mid	LTE Band 30	10	21.5	20.79	-0.12	0	158D1	QPSK	1	0	0 mm	front	1:1	1.530	1.178	1.802	
2310.00	27710	Mid	LTE Band 30	10	21.5	20.83	-0.07	0	158D1	QPSK	25	12	0 mm	front	1:1	1.570	1.167	1.832	
2310.00	27710	Mid	LTE Band 30	10	21.5	20.79	-0.06	0	158D1	QPSK	1	0	0 mm	bottom	1:1	1.890	1.178	2.226	
2310.00	27710	Mid	LTE Band 30	10	21.5	20.83	-0.02	0	158D1	QPSK	25	12	0 mm	bottom	1:1	1.920	1.167	2.241	
2310.00	27710	Mid	LTE Band 30	10	21.5	20.78	-0.09	0	158D1	QPSK	50	0	0 mm	bottom	1:1	1.920	1.180	2.266	A67
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 11-48
LTE Band 7 Phablet SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #	
MHz	Ch.														(W/kg)		(W/kg)		
2535.00	21100	Mid	LTE Band 7	20	24.0	23.90	-0.05	0	158DD	QPSK	1	0	6 mm	back	1:1	0.626	1.023	0.640	A68
2535.00	21100	Mid	LTE Band 7	20	23.0	22.80	-0.13	1	158DD	QPSK	50	0	6 mm	back	1:1	0.488	1.047	0.511	
2535.00	21100	Mid	LTE Band 7	20	24.0	23.90	-0.13	0	158DD	QPSK	1	0	4 mm	front	1:1	1.080	1.023	1.105	
2535.00	21100	Mid	LTE Band 7	20	23.0	22.80	0.00	1	158DD	QPSK	50	0	4 mm	front	1:1	0.664	1.047	0.695	
2535.00	21100	Mid	LTE Band 7	20	24.0	23.90	0.05	0	158DD	QPSK	1	0	8 mm	bottom	1:1	1.060	1.023	1.084	
2535.00	21100	Mid	LTE Band 7	20	23.0	22.80	0.00	1	158DD	QPSK	50	0	8 mm	bottom	1:1	0.839	1.047	0.878	
2535.00	21100	Mid	LTE Band 7	20	24.0	23.90	-0.09	0	158DD	QPSK	1	0	0 mm	left	1:1	0.875	1.023	0.895	
2535.00	21100	Mid	LTE Band 7	20	23.0	22.80	-0.13	1	158DD	QPSK	50	0	0 mm	left	1:1	0.703	1.047	0.736	
2510.00	20850	Low	LTE Band 7	20	21.0	20.19	-0.01	0	158D1	QPSK	1	0	0 mm	back	1:1	1.590	1.205	1.916	
2535.00	21100	Mid	LTE Band 7	20	21.0	20.52	0.03	0	158D1	QPSK	1	99	0 mm	back	1:1	1.830	1.117	2.044	
2560.00	21350	High	LTE Band 7	20	21.0	20.24	0.01	0	158D1	QPSK	1	0	0 mm	back	1:1	1.940	1.191	2.311	
2510.00	20850	Low	LTE Band 7	20	21.0	20.08	-0.01	0	158D1	QPSK	50	0	0 mm	back	1:1	1.580	1.236	1.953	
2535.00	21100	Mid	LTE Band 7	20	21.0	20.42	-0.01	0	158D1	QPSK	50	0	0 mm	back	1:1	1.950	1.143	2.229	
2560.00	21350	High	LTE Band 7	20	21.0	20.19	0.00	0	158D1	QPSK	50	0	0 mm	back	1:1	1.940	1.205	2.338	
2535.00	21100	Mid	LTE Band 7	20	21.0	20.40	0.02	0	158D1	QPSK	100	0	0 mm	back	1:1	1.940	1.148	2.227	
2535.00	21100	Mid	LTE Band 7	20	21.0	20.52	-0.07	0	158D1	QPSK	1	99	0 mm	front	1:1	1.380	1.117	1.541	
2535.00	21100	Mid	LTE Band 7	20	21.0	20.42	-0.08	0	158D1	QPSK	50	0	0 mm	front	1:1	1.440	1.143	1.646	
2510.00	20850	Low	LTE Band 7	20	21.0	20.19	-0.05	0	158D1	QPSK	1	0	0 mm	bottom	1:1	1.430	1.205	1.723	
2535.00	21100	Mid	LTE Band 7	20	21.0	20.52	0.00	0	158D1	QPSK	1	99	0 mm	bottom	1:1	2.140	1.117	2.390	
2560.00	21350	High	LTE Band 7	20	21.0	20.24	-0.01	0	158D1	QPSK	1	0	0 mm	bottom	1:1	2.170	1.191	2.584	
2510.00	20850	Low	LTE Band 7	20	21.0	20.08	-0.02	0	158D1	QPSK	50	0	0 mm	bottom	1:1	1.400	1.236	1.730	
2535.00	21100	Mid	LTE Band 7	20	21.0	20.42	-0.01	0	158D1	QPSK	50	0	0 mm	bottom	1:1	2.340	1.143	2.675	
2560.00	21350	High	LTE Band 7	20	21.0	20.19	0.01	0	158D1	QPSK	50	0	0 mm	bottom	1:1	2.170	1.205	2.615	
2535.00	21100	Mid	LTE Band 7	20	21.0	20.40	-0.01	0	158D1	QPSK	100	0	0 mm	bottom	1:1	2.290	1.148	2.629	
2535.00	21100	Mid	LTE Band 7	20	21.0	20.42	-0.08	0	158D1	QPSK	50	0	0 mm	bottom	1:1	2.190	1.143	2.503	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Phablet 4.0 W/kg (mW/g) averaged over 10 grams											

Blue entry represents variability data.

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Table 11-49
LTE Band 41 Phablet SAR

MEASUREMENT RESULTS																					
1 CC Uplink 2CC Uplink	Com ponent Carrier	FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR	Plot #	
		MHz	Ch.														(W/kg)		(W/kg)		
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.5	23.48	-0.13	0	15DE5	QPSK	1	0	6 mm	back	1:1.58	0.528	1.265	0.668	A69
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	22.38	-0.03	1	15DE5	QPSK	50	0	6 mm	back	1:1.58	0.415	1.294	0.537	
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.5	23.48	-0.02	0	15DE5	QPSK	1	0	4 mm	front	1:1.58	0.486	1.265	0.615	
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	22.38	-0.04	1	15DE5	QPSK	50	0	4 mm	front	1:1.58	0.382	1.294	0.494	
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.5	23.48	0.03	0	15DE5	QPSK	1	0	8 mm	bottom	1:1.58	0.630	1.265	0.797	
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	22.38	-0.06	1	15DE5	QPSK	50	0	8 mm	bottom	1:1.58	0.499	1.294	0.646	
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.5	23.48	-0.11	0	15DE5	QPSK	1	0	0 mm	left	1:1.58	0.598	1.265	0.756	
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	22.38	-0.09	1	15DE5	QPSK	50	0	0 mm	left	1:1.58	0.467	1.294	0.604	
1 CC Uplink, Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	23.5	22.46	-0.09	0	158D1	QPSK	1	0	0 mm	back	1:1.58	1.690	1.271	2.148	
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	22.55	-0.04	0	158D1	QPSK	1	0	0 mm	back	1:1.58	1.450	1.245	1.805	
1 CC Uplink, Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	23.5	22.66	-0.01	0	158D1	QPSK	1	0	0 mm	back	1:1.58	1.910	1.213	2.317	
1 CC Uplink, Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	23.5	22.55	0.10	0	158D1	QPSK	1	0	0 mm	back	1:1.58	1.940	1.245	2.415	
1 CC Uplink, Power Class 2	N/A	2636.50	41055	Mid-High	LTE Band 41	20	23.5	22.78	-0.04	0	15950	QPSK	1	0	0 mm	back	12.31	1.370	1.180	1.617	
2 CC Uplink, Power Class 3	PCC	2636.50	41055	Mid-High	LTE Band 41	20	23.5	23.32	-0.16	0	158D1	QPSK	1	0	0 mm	back	1:1.58	2.260	1.042	2.355	
	SCC	2616.7	40857	Mid-High	LTE Band 41	20						QPSK	1	99							
1 CC Uplink, Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	23.5	22.54	-0.02	0	158D1	QPSK	1	0	0 mm	back	1:1.58	1.880	1.247	2.344	
1 CC Uplink, Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	23.5	22.39	-0.02	0	158D1	QPSK	50	0	0 mm	back	1:1.58	1.640	1.291	2.117	
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	22.47	-0.19	0	158D1	QPSK	50	0	0 mm	back	1:1.58	1.340	1.268	1.699	
1 CC Uplink, Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	23.5	22.52	-0.11	0	158D1	QPSK	50	0	0 mm	back	1:1.58	1.700	1.253	2.130	
1 CC Uplink, Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	23.5	22.50	-0.11	0	158D1	QPSK	50	0	0 mm	back	1:1.58	1.900	1.259	2.392	
1 CC Uplink, Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	23.5	22.53	0.05	0	158D1	QPSK	50	0	0 mm	back	1:1.58	1.850	1.250	2.313	
1 CC Uplink, Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	23.5	22.51	0.08	0	158D1	QPSK	100	0	0 mm	back	1:1.58	1.670	1.256	2.098	
1 CC Uplink, Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	23.5	22.46	-0.15	0	158D1	QPSK	1	0	0 mm	front	1:1.58	1.080	1.271	1.373	
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	22.55	-0.11	0	158D1	QPSK	1	0	0 mm	front	1:1.58	0.928	1.245	1.155	
1 CC Uplink, Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	23.5	22.66	-0.13	0	158D1	QPSK	1	0	0 mm	front	1:1.58	1.270	1.213	1.541	
1 CC Uplink, Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	23.5	22.55	-0.13	0	158D1	QPSK	1	0	0 mm	front	1:1.58	1.240	1.245	1.544	
1 CC Uplink, Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	23.5	22.54	-0.10	0	158D1	QPSK	1	0	0 mm	front	1:1.58	1.290	1.247	1.609	
1 CC Uplink, Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	23.5	22.39	-0.10	0	158D1	QPSK	50	0	0 mm	front	1:1.58	1.040	1.291	1.343	
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	22.47	-0.08	0	158D1	QPSK	50	0	0 mm	front	1:1.58	0.894	1.268	1.134	
1 CC Uplink, Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	23.5	22.52	-0.12	0	158D1	QPSK	50	0	0 mm	front	1:1.58	1.250	1.253	1.566	
1 CC Uplink, Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	23.5	22.50	-0.10	0	158D1	QPSK	50	0	0 mm	front	1:1.58	1.210	1.259	1.523	
1 CC Uplink, Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	23.5	22.53	-0.12	0	158D1	QPSK	50	0	0 mm	front	1:1.58	1.260	1.250	1.575	
1 CC Uplink, Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	23.5	22.51	-0.16	0	158D1	QPSK	100	0	0 mm	front	1:1.58	1.130	1.256	1.419	
1 CC Uplink, Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	23.5	22.46	-0.08	0	158D1	QPSK	1	0	0 mm	bottom	1:1.58	1.400	1.271	1.779	
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	22.55	-0.08	0	158D1	QPSK	1	0	0 mm	bottom	1:1.58	1.220	1.245	1.519	
1 CC Uplink, Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	23.5	22.66	-0.03	0	158D1	QPSK	1	0	0 mm	bottom	1:1.58	1.850	1.213	2.244	
1 CC Uplink, Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	23.5	22.55	-0.02	0	158D1	QPSK	1	0	0 mm	bottom	1:1.58	1.720	1.245	2.141	
1 CC Uplink, Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	23.5	22.54	0.02	0	158D1	QPSK	1	0	0 mm	bottom	1:1.58	1.590	1.247	1.983	
1 CC Uplink, Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	23.5	22.39	0.17	0	158D1	QPSK	50	0	0 mm	bottom	1:1.58	1.350	1.291	1.743	
1 CC Uplink, Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	23.5	22.47	0.12	0	158D1	QPSK	50	0	0 mm	bottom	1:1.58	1.170	1.268	1.484	
1 CC Uplink, Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	23.5	22.52	-0.01	0	158D1	QPSK	50	0	0 mm	bottom	1:1.58	1.760	1.253	2.205	
1 CC Uplink, Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	23.5	22.50	-0.01	0	158D1	QPSK	50	0	0 mm	bottom	1:1.58	1.690	1.259	2.128	
1 CC Uplink, Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	23.5	22.53	0.00	0	158D1	QPSK	50	0	0 mm	bottom	1:1.58	1.550	1.250	1.938	
1 CC Uplink, Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	23.5	22.51	0.19	0	158D1	QPSK	100	0	0 mm	bottom	1:1.58	1.840	1.256	2.311	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT										Phablet											
Spatial Peak										4.0 W/kg (mW/g)											
Uncontrolled Exposure/General Population										averaged over 10 grams											

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**Table 11-50
WLAN Phablet SAR**

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (10g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (10g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5280	56	802.11a	OFDM	20	16.5	15.78	-0.18	0 mm	1	1595F	6	back	98.8	4.440	0.592	1.180	1.012	0.707	
5280	56	802.11a	OFDM	20	16.5	15.78	-0.13	0 mm	1	1595F	6	front	98.8	1.771	-	1.180	1.012	-	
5280	56	802.11a	OFDM	20	16.5	15.78	0.12	0 mm	1	1595F	6	top	98.8	4.154	-	1.180	1.012	-	
5280	56	802.11a	OFDM	20	16.5	15.78	-0.18	0 mm	1	1595F	6	left	98.8	0.350	-	1.180	1.012	-	
5260	52	802.11a	OFDM	20	16.5	16.13	0.04	0 mm	2	1595F	6	back	98.8	5.461	0.537	1.089	1.012	0.592	
5260	52	802.11a	OFDM	20	16.5	16.13	0.00	0 mm	2	1595F	6	front	98.8	0.609	-	1.089	1.012	-	
5260	52	802.11a	OFDM	20	16.5	16.13	0.17	0 mm	2	1595F	6	top	98.8	1.265	-	1.089	1.012	-	
5260	52	802.11a	OFDM	20	16.5	16.13	0.00	0 mm	2	1595F	6	left	98.8	0.216	-	1.089	1.012	-	
5620	124	802.11a	OFDM	20	16.5	16.12	-0.20	0 mm	1	1595F	6	back	98.8	8.076	0.789	1.091	1.012	0.871	A70
5620	124	802.11a	OFDM	20	16.5	16.12	-0.09	0 mm	1	1595F	6	front	98.8	3.986	-	1.091	1.012	-	
5620	124	802.11a	OFDM	20	16.5	16.12	0.00	0 mm	1	1595F	6	top	98.8	4.864	-	1.091	1.012	-	
5620	124	802.11a	OFDM	20	16.5	16.12	0.15	0 mm	1	1595F	6	left	98.8	0.359	-	1.091	1.012	-	
5720	144	802.11a	OFDM	20	16.5	16.34	0.03	0 mm	2	1595F	6	back	98.8	5.918	0.652	1.038	1.012	0.685	
5720	144	802.11a	OFDM	20	16.5	16.34	0.00	0 mm	2	1595F	6	front	98.8	1.211	-	1.038	1.012	-	
5720	144	802.11a	OFDM	20	16.5	16.34	0.10	0 mm	2	1595F	6	top	98.8	0.833	-	1.038	1.012	-	
5720	144	802.11a	OFDM	20	16.5	16.34	0.10	0 mm	2	1595F	6	left	98.8	0.427	-	1.038	1.012	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT								Phablet											
Spatial Peak								4.0 W/kg (mW/g)											
Uncontrolled Exposure/General Population								averaged over 10 grams											

11.5 SAR Test Notes

General Notes:

- The test data reported are the worst-case SAR values according to test procedures specified in IEEE 1528-2013, and FCC KDB Publication 447498 D01v06.
- Batteries are fully charged at the beginning of the SAR measurements.
- Liquid tissue depth was at least 15.0 cm for all frequencies.
- The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
- SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D01v06.
- Device was tested using a fixed spacing for body-worn accessory testing. A separation distance of 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.
- Per FCC KDB Publication 648474 D04v01r03, body-worn SAR was evaluated without a headset connected to the device. Since the standalone reported body-worn SAR was ≤ 1.2 W/kg, no additional body-worn SAR evaluations using a headset cable were required.
- Per FCC KDB 865664 D01v01r04, variability SAR tests were performed when the measured SAR results for a frequency band were greater than or equal to 0.8 W/kg. Repeated SAR measurements are highlighted in the tables above for clarity. Please see Section 13 for variability analysis.
- During SAR Testing for the Wireless Router conditions per FCC KDB Publication 941225 D06v02r01, the actual Portable Hotspot operation (with actual simultaneous transmission of a transmitter with WIFI) was not activated (See Section 6.7 for more details).
- Per FCC KDB Publication 648474 D04v01r03, this device is considered a "phablet" since the diagonal dimension is > 160 mm and < 200 mm. Therefore, phablet SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR > 1.2 W/kg.
- This device supports dynamic antenna tuning for some bands. Per FCC Guidance, SAR was measured according to the normally required SAR measurement configurations with tuner active. The auto-tune

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state determined by the device was verified before and after each SAR measurement and is listed in tables above. Please see Section 14 for supplemental data.

12. 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.
13. Additional SAR tests for phablet SAR were evaluated per KDB 616217 Section 6 (See Section 6.9 for more information).

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 then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the required test channels is $> \frac{1}{2}$ dB, instead of the middle channel, the highest output power channel was used.

CDMA Notes:

1. Head SAR for CDMA2000 mode was tested under RC3/SO55 per FCC KDB Publication 941225 D01v03r01.
2. Body-Worn SAR was tested with 1x RTT with TDSO / SO32 FCH Only. EVDO Rev0 and RevA and TDSO / SO32 FCH+SCH SAR tests were not required per the 3G SAR Test Reduction Procedure in FCC KDB Publication 941225 D01v03r01.
3. CDMA Wireless Router SAR is measured using Subtype 0/1 Physical Layer configurations for Rev. 0 according to KDB 941225 D01v03r01 procedures for data devices. Wireless Router SAR tests for Subtype 2 of Rev.A and 1x RTT configurations were not required per the 3G SAR Test Reduction Policy in KDB Publication 941225 D01v03r01.
4. Head SAR was additionally evaluated using EVDO Rev. A to determine compliance for VoIP operations.
5. Per FCC KDB Publication 447498 D01v06, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the required test channels is $> \frac{1}{2}$ dB, instead of the middle channel, the highest output power channel was used.
6. CDMA 1X Advanced technology was not required for SAR since the maximum allowed output powers for 1X Advanced was not more than 0.25 dB higher than the maximum powers for 1X.

UMTS Notes:

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

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LTE Notes:

1. LTE Considerations: LTE test configurations are determined according to SAR Evaluation Considerations for LTE Devices in FCC KDB Publication 941225 D05v02r04. The general test procedures used for testing can be found in Section 8.6.4.
2. MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.
3. A-MPR was disabled for all SAR tests by setting NS=01 and MCC=001 on the base station simulator. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).
4. Per FCC KDB Publication 447498 D01v06, when the reported (scaled) for LTE Band 41 SAR measured at the highest output power channel in a given a test configuration was > 0.6 W/kg, 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 downlink only LTE CA mode was not >0.25 dB higher than the maximum output power when downlink carrier aggregation was inactive.
7. For LTE Band 41, per FCC guidance, SAR was first measured with only a single carrier active in the uplink (carrier aggregation not active). For each exposure condition, the uplink CA scenario with two component carriers was additionally tested for the configuration with the highest SAR when carrier aggregation was not active. The SCC was configured with the closest available contiguous channel. The two component carriers were configured so the resource blocks are physically allocated side by side to achieve the maximum output power.
8. 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.

WLAN Notes:

1. For held-to-ear and hotspot 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, no additional testing for the remaining test positions was required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is ≤ 0.8 W/kg or all test positions are measured.
2. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 2.4 GHz WIFI single transmission chain operations, the highest measured maximum output power channel for DSSS was selected for SAR measurement. SAR for OFDM modes (2.4 GHz 802.11g/n) was not required due to the maximum allowed powers and the highest reported DSSS SAR. See Section 8.7.5 for more information.
3. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 5 GHz WIFI single transmission chain operations, the initial test configuration was selected according to the transmission mode with the highest maximum allowed powers. Other transmission modes were not investigated since the highest reported SAR for initial test configuration adjusted by the ratio of maximum output powers is less than 1.2 W/kg. See Section 8.7.6 for more information.
4. Per KDB Publication 248227 D01v02r02, SAR for MIMO was evaluated by following the simultaneous SAR provisions from KDB Publication 447498 D01v06 by either evaluating the sum of the 1g SAR values of each antenna transmitting independently or making a SAR measurement with both antennas transmitting simultaneously. Please see Section 12 for complete analysis.

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5. When the maximum reported 1g averaged SAR is ≤ 0.8 W/kg, SAR testing on additional channels was not required. Otherwise, SAR for the next highest output power channel was required until the reported SAR result was ≤ 1.20 W/kg or all test channels were measured.
6. When 10-g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.
7. The device was configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools. The reported SAR was scaled to the 100% transmission duty factor to determine compliance. Procedures used to measure the duty factor are identical to that in the associated EMC test reports.

Bluetooth Notes:

1. Bluetooth SAR was measured with the device connected to a call box with hopping disabled with DH5 operation and Tx Tests test mode type. Per October 2016 TCB Workshop Notes, the reported SAR was scaled to the 100% transmission duty factor to determine compliance. See Section 9.6 for the time-domain plot and calculation for the duty factor of the device.
2. Head and hotspot Bluetooth SAR was 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 1-g SAR for all the simultaneous transmitting antennas in a specific physical test configuration is ≤ 1.6 W/kg. The different test positions in an exposure condition may be considered collectively to determine SAR test exclusion according to the sum of 1-g or 10-g SAR.

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

Per FCC KDB Publication 648474 D04 Handset SAR v01r01, the devices edges with antennas more than 2.5 cm from edge are not required to be evaluated for SAR (“-”).

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12.3 Head SAR Simultaneous Transmission Analysis

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Head SAR	CDMA/EVDO BC10 (§90S)	0.208	0.501	0.701	0.709	0.909
	CDMA/EVDO BC0 (§22H)	0.161	0.501	0.701	0.662	0.862
	PCS CDMA/EVDO	0.125	0.501	0.701	0.626	0.826
	GSM 850	0.155	0.501	0.701	0.656	0.856
	GSM 1900	0.058	0.501	0.701	0.559	0.759
	UMTS 850	0.189	0.501	0.701	0.690	0.890
	UMTS 1750	0.072	0.501	0.701	0.573	0.773
	UMTS 1900	0.104	0.501	0.701	0.605	0.805
	LTE Band 12	0.130	0.501	0.701	0.631	0.831
	LTE Band 13	0.203	0.501	0.701	0.704	0.904
	LTE Band 26 (Cell)	0.187	0.501	0.701	0.688	0.888
	LTE Band 5 (Cell)	0.170	0.501	0.701	0.671	0.871
	LTE Band 66 (AWS)	0.128	0.501	0.701	0.629	0.829
	LTE Band 25 (PCS)	0.174	0.501	0.701	0.675	0.875
	LTE Band 30	0.157	0.501	0.701	0.658	0.858
	LTE Band 7	0.093	0.501	0.701	0.594	0.794
	LTE Band 41	0.097	0.501	0.701	0.598	0.798

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN MIMO at 13 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Head SAR	CDMA/EVDO BC10 (§90S)	0.208	0.604	0.812
	CDMA/EVDO BC0 (§22H)	0.161	0.604	0.765
	PCS CDMA/EVDO	0.125	0.604	0.729
	GSM 850	0.155	0.604	0.759
	GSM 1900	0.058	0.604	0.662
	UMTS 850	0.189	0.604	0.793
	UMTS 1750	0.072	0.604	0.676
	UMTS 1900	0.104	0.604	0.708
	LTE Band 12	0.130	0.604	0.734
	LTE Band 13	0.203	0.604	0.807
	LTE Band 26 (Cell)	0.187	0.604	0.791
	LTE Band 5 (Cell)	0.170	0.604	0.774
	LTE Band 66 (AWS)	0.128	0.604	0.732
	LTE Band 25 (PCS)	0.174	0.604	0.778
	LTE Band 30	0.157	0.604	0.761
	LTE Band 7	0.093	0.604	0.697
	LTE Band 41	0.097	0.604	0.701

To achieve the 16.5 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 13.5 dBm.

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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	CDMA/EVDO BC10 (§90S)	0.208	0.306	0.109	0.514	0.317	0.623
	CDMA/EVDO BC0 (§22H)	0.161	0.306	0.109	0.467	0.270	0.576
	PCS CDMA/EVDO	0.125	0.306	0.109	0.431	0.234	0.540
	GSM 850	0.155	0.306	0.109	0.461	0.264	0.570
	GSM 1900	0.058	0.306	0.109	0.364	0.167	0.473
	UMTS 850	0.189	0.306	0.109	0.495	0.298	0.604
	UMTS 1750	0.072	0.306	0.109	0.378	0.181	0.487
	UMTS 1900	0.104	0.306	0.109	0.410	0.213	0.519
	LTE Band 12	0.130	0.306	0.109	0.436	0.239	0.545
	LTE Band 13	0.203	0.306	0.109	0.509	0.312	0.618
	LTE Band 26 (Cell)	0.187	0.306	0.109	0.493	0.296	0.602
	LTE Band 5 (Cell)	0.170	0.306	0.109	0.476	0.279	0.585
	LTE Band 66 (AWS)	0.128	0.306	0.109	0.434	0.237	0.543
	LTE Band 25 (PCS)	0.174	0.306	0.109	0.480	0.283	0.589
	LTE Band 30	0.157	0.306	0.109	0.463	0.266	0.572
	LTE Band 7	0.093	0.306	0.109	0.399	0.202	0.508
	LTE Band 41	0.097	0.306	0.109	0.403	0.206	0.512

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN MIMO at 12 dBm SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	CDMA/EVDO BC10 (§90S)	0.208	0.422	0.306	0.109	1.045
	CDMA/EVDO BC0 (§22H)	0.161	0.422	0.306	0.109	0.998
	PCS CDMA/EVDO	0.125	0.422	0.306	0.109	0.962
	GSM 850	0.155	0.422	0.306	0.109	0.992
	GSM 1900	0.058	0.422	0.306	0.109	0.895
	UMTS 850	0.189	0.422	0.306	0.109	1.026
	UMTS 1750	0.072	0.422	0.306	0.109	0.909
	UMTS 1900	0.104	0.422	0.306	0.109	0.941
	LTE Band 12	0.130	0.422	0.306	0.109	0.967
	LTE Band 13	0.203	0.422	0.306	0.109	1.040
	LTE Band 26 (Cell)	0.187	0.422	0.306	0.109	1.024
	LTE Band 5 (Cell)	0.170	0.422	0.306	0.109	1.007
	LTE Band 66 (AWS)	0.128	0.422	0.306	0.109	0.965
	LTE Band 25 (PCS)	0.174	0.422	0.306	0.109	1.011
	LTE Band 30	0.157	0.422	0.306	0.109	0.994
	LTE Band 7	0.093	0.422	0.306	0.109	0.930
	LTE Band 41	0.097	0.422	0.306	0.109	0.934

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Head SAR	CDMA/EVDO BC10 (§90S)	0.208	0.725	0.933
	CDMA/EVDO BC0 (§22H)	0.161	0.725	0.886
	PCS CDMA/EVDO	0.125	0.725	0.850
	GSM 850	0.155	0.725	0.880
	GSM 1900	0.058	0.725	0.783
	UMTS 850	0.189	0.725	0.914
	UMTS 1750	0.072	0.725	0.797
	UMTS 1900	0.104	0.725	0.829
	LTE Band 12	0.130	0.725	0.855
	LTE Band 13	0.203	0.725	0.928
	LTE Band 26 (Cell)	0.187	0.725	0.912
	LTE Band 5 (Cell)	0.170	0.725	0.895
	LTE Band 66 (AWS)	0.128	0.725	0.853
	LTE Band 25 (PCS)	0.174	0.725	0.899
	LTE Band 30	0.157	0.725	0.882
	LTE Band 7	0.093	0.725	0.818
	LTE Band 41	0.097	0.725	0.822

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12.4 Body-Worn Simultaneous Transmission Analysis

Table 12-5
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	CDMA BC10 (§90S)	0.476	0.138	0.110	0.614	0.586	0.724
	CDMA BC0 (§22H)	0.378	0.138	0.110	0.516	0.488	0.626
	PCS CDMA	0.641	0.138	0.110	0.779	0.751	0.889
	GSM 850	0.363	0.138	0.110	0.501	0.473	0.611
	GSM 1900	0.325	0.138	0.110	0.463	0.435	0.573
	UMTS 850	0.453	0.138	0.110	0.591	0.563	0.701
	UMTS 1750	0.884	0.138	0.110	1.022	0.994	1.132
	UMTS 1900	0.773	0.138	0.110	0.911	0.883	1.021
	LTE Band 12	0.261	0.138	0.110	0.399	0.371	0.509
	LTE Band 13	0.440	0.138	0.110	0.578	0.550	0.688
	LTE Band 26 (Cell)	0.420	0.138	0.110	0.558	0.530	0.668
	LTE Band 5 (Cell)	0.440	0.138	0.110	0.578	0.550	0.688
	LTE Band 66 (AWS)	0.932	0.138	0.110	1.070	1.042	1.180
	LTE Band 25 (PCS)	0.615	0.138	0.110	0.753	0.725	0.863
	LTE Band 30	0.411	0.138	0.110	0.549	0.521	0.659
	LTE Band 7	0.389	0.138	0.110	0.527	0.499	0.637
	LTE Band 41	0.428	0.138	0.110	0.566	0.538	0.676

Table 12-6
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	CDMA BC10 (§90S)	0.476	0.127	0.107	0.603	0.583	0.710
	CDMA BC0 (§22H)	0.378	0.127	0.107	0.505	0.485	0.612
	PCS CDMA	0.641	0.127	0.107	0.768	0.748	0.875
	GSM 850	0.363	0.127	0.107	0.490	0.470	0.597
	GSM 1900	0.325	0.127	0.107	0.452	0.432	0.559
	UMTS 850	0.453	0.127	0.107	0.580	0.560	0.687
	UMTS 1750	0.884	0.127	0.107	1.011	0.991	1.118
	UMTS 1900	0.773	0.127	0.107	0.900	0.880	1.007
	LTE Band 12	0.261	0.127	0.107	0.388	0.368	0.495
	LTE Band 13	0.440	0.127	0.107	0.567	0.547	0.674
	LTE Band 26 (Cell)	0.420	0.127	0.107	0.547	0.527	0.654
	LTE Band 5 (Cell)	0.440	0.127	0.107	0.567	0.547	0.674
	LTE Band 66 (AWS)	0.932	0.127	0.107	1.059	1.039	1.166
	LTE Band 25 (PCS)	0.615	0.127	0.107	0.742	0.722	0.849
	LTE Band 30	0.411	0.127	0.107	0.538	0.518	0.645
	LTE Band 7	0.389	0.127	0.107	0.516	0.496	0.623
	LTE Band 41	0.428	0.127	0.107	0.555	0.535	0.662

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Table 12-7
Simultaneous Transmission Scenario with 2.4 GHz MIMO and 5 GHz MIMO WLAN (Body-Worn at 1.5 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body-Worn	CDMA BC10 (§90S)	0.476	0.102	0.107	0.685
	CDMA BC0 (§22H)	0.378	0.102	0.107	0.587
	PCS CDMA	0.641	0.102	0.107	0.850
	GSM 850	0.363	0.102	0.107	0.572
	GSM 1900	0.325	0.102	0.107	0.534
	UMTS 850	0.453	0.102	0.107	0.662
	UMTS 1750	0.884	0.102	0.107	1.093
	UMTS 1900	0.773	0.102	0.107	0.982
	LTE Band 12	0.261	0.102	0.107	0.470
	LTE Band 13	0.440	0.102	0.107	0.649
	LTE Band 26 (Cell)	0.420	0.102	0.107	0.629
	LTE Band 5 (Cell)	0.440	0.102	0.107	0.649
	LTE Band 66 (AWS)	0.932	0.102	0.107	1.141
	LTE Band 25 (PCS)	0.615	0.102	0.107	0.824
	LTE Band 30	0.411	0.102	0.107	0.620
	LTE Band 7	0.389	0.102	0.107	0.598
	LTE Band 41	0.428	0.102	0.107	0.637

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	CDMA BC10 (§90S)	0.476	0.055	0.531
	CDMA BC0 (§22H)	0.378	0.055	0.433
	PCS CDMA	0.641	0.055	0.696
	GSM 850	0.363	0.055	0.418
	GSM 1900	0.325	0.055	0.380
	UMTS 850	0.453	0.055	0.508
	UMTS 1750	0.884	0.055	0.939
	UMTS 1900	0.773	0.055	0.828
	LTE Band 12	0.261	0.055	0.316
	LTE Band 13	0.440	0.055	0.495
	LTE Band 26 (Cell)	0.420	0.055	0.475
	LTE Band 5 (Cell)	0.440	0.055	0.495
	LTE Band 66 (AWS)	0.932	0.055	0.987
	LTE Band 25 (PCS)	0.615	0.055	0.670
	LTE Band 30	0.411	0.055	0.466
	LTE Band 7	0.389	0.055	0.444
	LTE Band 41	0.428	0.055	0.483

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12.5 Hotspot SAR Simultaneous Transmission Analysis

Table 12-9
Simultaneous Transmission Scenario (2.4 GHz Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	EVDO BC10 (§90S)	0.795	0.362	0.222	1.157	1.017	1.379
	EVDO BC0 (§22H)	0.630	0.362	0.222	0.992	0.852	1.214
	PCS EVDO	1.006	0.362	0.222	1.368	1.228	1.590
	GPRS 850	0.630	0.362	0.222	0.992	0.852	1.214
	GPRS 1900	0.581	0.362	0.222	0.943	0.803	1.165
	UMTS 850	0.719	0.362	0.222	1.081	0.941	1.303
	UMTS 1750	0.769	0.362	0.222	1.131	0.991	1.353
	UMTS 1900	0.697	0.362	0.222	1.059	0.919	1.281
	LTE Band 12	0.541	0.362	0.222	0.903	0.763	1.125
	LTE Band 13	0.699	0.362	0.222	1.061	0.921	1.283
	LTE Band 26 (Cell)	0.778	0.362	0.222	1.140	1.000	1.362
	LTE Band 5 (Cell)	0.806	0.362	0.222	1.168	1.028	1.390
	LTE Band 66 (AWS)	0.591	0.362	0.222	0.953	0.813	1.175
	LTE Band 25 (PCS)	1.015	0.362	0.222	1.377	1.237	See Table Below
	LTE Band 30	0.512	0.362	0.222	0.874	0.734	1.096
	LTE Band 7	0.384	0.362	0.222	0.746	0.606	0.968
	LTE Band 41	0.852	0.362	0.222	1.214	1.074	1.436
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	0.485	0.362*	0.222	0.847	0.707	1.069
	Front	0.394	0.362*	0.222*	0.756	0.616	0.978
	Top	-	0.362	0.222*	0.362	0.222	0.584
	Bottom	1.015	-	-	1.015	1.015	1.015
	Right	0.082	-	-	0.082	0.082	0.082
	Left	0.114	0.362*	0.222*	0.476	0.336	0.698

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Table 12-10
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	EVDO BC10 (§90S)	0.795	0.208	0.152	1.003	0.947	1.155
	EVDO BC0 (§22H)	0.630	0.208	0.152	0.838	0.782	0.990
	PCS EVDO	1.006	0.208	0.152	1.214	1.158	1.366
	GPRS 850	0.630	0.208	0.152	0.838	0.782	0.990
	GPRS 1900	0.581	0.208	0.152	0.789	0.733	0.941
	UMTS 850	0.719	0.208	0.152	0.927	0.871	1.079
	UMTS 1750	0.769	0.208	0.152	0.977	0.921	1.129
	UMTS 1900	0.697	0.208	0.152	0.905	0.849	1.057
	LTE Band 12	0.541	0.208	0.152	0.749	0.693	0.901
	LTE Band 13	0.699	0.208	0.152	0.907	0.851	1.059
	LTE Band 26 (Cell)	0.778	0.208	0.152	0.986	0.930	1.138
	LTE Band 5 (Cell)	0.806	0.208	0.152	1.014	0.958	1.166
	LTE Band 66 (AWS)	0.591	0.208	0.152	0.799	0.743	0.951
	LTE Band 25 (PCS)	1.015	0.208	0.152	1.223	1.167	1.375
	LTE Band 30	0.512	0.208	0.152	0.720	0.664	0.872
	LTE Band 7	0.384	0.208	0.152	0.592	0.536	0.744
	LTE Band 41	0.852	0.208	0.152	1.060	1.004	1.212

Table 12-11
Simultaneous Transmission Scenario with 2.4 GHz MIMO and 5 GHz MIMO WLAN (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	EVDO BC10 (§90S)	0.795	0.206	0.186	1.187
	EVDO BC0 (§22H)	0.630	0.206	0.186	1.022
	PCS EVDO	1.006	0.206	0.186	1.398
	GPRS 850	0.630	0.206	0.186	1.022
	GPRS 1900	0.581	0.206	0.186	0.973
	UMTS 850	0.719	0.206	0.186	1.111
	UMTS 1750	0.769	0.206	0.186	1.161
	UMTS 1900	0.697	0.206	0.186	1.089
	LTE Band 12	0.541	0.206	0.186	0.933
	LTE Band 13	0.699	0.206	0.186	1.091
	LTE Band 26 (Cell)	0.778	0.206	0.186	1.170
	LTE Band 5 (Cell)	0.806	0.206	0.186	1.198
	LTE Band 66 (AWS)	0.591	0.206	0.186	0.983
	LTE Band 25 (PCS)	1.015	0.206	0.186	1.407
	LTE Band 30	0.512	0.206	0.186	0.904
	LTE Band 7	0.384	0.206	0.186	0.776
	LTE Band 41	0.852	0.206	0.186	1.244

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	EVDO BC10 (§90S)	0.795	0.113	0.908
	EVDO BC0 (§22H)	0.630	0.113	0.743
	PCS EVDO	1.006	0.113	1.119
	GPRS 850	0.630	0.113	0.743
	GPRS 1900	0.581	0.113	0.694
	UMTS 850	0.719	0.113	0.832
	UMTS 1750	0.769	0.113	0.882
	UMTS 1900	0.697	0.113	0.810
	LTE Band 12	0.541	0.113	0.654
	LTE Band 13	0.699	0.113	0.812
	LTE Band 26 (Cell)	0.778	0.113	0.891
	LTE Band 5 (Cell)	0.806	0.113	0.919
	LTE Band 66 (AWS)	0.591	0.113	0.704
	LTE Band 25 (PCS)	1.015	0.113	1.128
	LTE Band 30	0.512	0.113	0.625
	LTE Band 7	0.384	0.113	0.497
	LTE Band 41	0.852	0.113	0.965

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12.1 Phablet SAR Simultaneous Transmission Analysis

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

Table 12-13
Simultaneous Transmission Scenario – 5 GHz WLAN MIMO (Phablet)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Phablet SAR	PCS CDMA	2.322	0.871	0.685	3.193	3.007	3.878
	GSM 1900	2.468	0.871	0.685	3.339	3.153	See Table Below
	UMTS 1750	2.543	0.871	0.685	3.414	3.228	See Table Below
	UMTS 1900	2.991	0.871	0.685	3.862	3.676	See Table Below
	LTE Band 66 (AWS)	3.286	0.871	0.685	See Table Below	3.971	See Table Below
	LTE Band 25 (PCS)	2.074	0.871	0.685	2.945	2.759	3.630
	LTE Band 30	2.266	0.871	0.685	3.137	2.951	3.822
	LTE Band 7	2.675	0.871	0.685	3.546	3.360	See Table Below
	LTE Band 41	2.415	0.871	0.685	3.286	3.100	3.971

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
Phablet SAR	Back	1.858	0.871	0.685	2.729	2.543	3.414
	Front	1.858	0.871*	0.685*	2.729	2.543	3.414
	Top	-	0.871*	0.685*	0.871	0.685	1.556
	Bottom	2.468	-	-	2.468	2.468	2.468
	Right	0.199	-	-	0.199	0.199	0.199
	Left	0.410	0.871*	0.685*	1.281	1.095	1.966
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
Phablet SAR	Back	1.686	0.871	0.685	2.557	2.371	3.242
	Front	1.558	0.871*	0.685*	2.429	2.243	3.114
	Top	-	0.871*	0.685*	0.871	0.685	1.556
	Bottom	2.543	-	-	2.543	2.543	2.543
	Right	0.402	-	-	0.402	0.402	0.402
	Left	0.590	0.871*	0.685*	1.461	1.275	2.146
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
Phablet SAR	Back	1.634	0.871	0.685	2.505	2.319	3.190
	Front	1.645	0.871*	0.685*	2.516	2.330	3.201
	Top	-	0.871*	0.685*	0.871	0.685	1.556
	Bottom	2.991	-	-	2.991	2.991	2.991
	Right	0.361	-	-	0.361	0.361	0.361
	Left	0.778	0.871*	0.685*	1.649	1.463	2.334

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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
Phablet SAR	Back	1.985	0.871	0.685	2.856	2.670	3.541
	Front	1.565	0.871*	0.685*	2.436	2.250	3.121
	Top	-	0.871*	0.685*	0.871	0.685	1.556
	Bottom	3.286	-	-	3.286	3.286	3.286
	Right	0.390	-	-	0.390	0.390	0.390
	Left	0.597	0.871*	0.685*	1.468	1.282	2.153
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
Phablet SAR	Back	2.338	0.871	0.685	3.209	3.023	3.894
	Front	1.646	0.871*	0.685*	2.517	2.331	3.202
	Top	-	0.871*	0.685*	0.871	0.685	1.556
	Bottom	2.675	-	-	2.675	2.675	2.675
	Right	-	-	-	0.000	0.000	0.000
	Left	0.895	0.871*	0.685*	1.766	1.580	2.451

Notes:

1. For Phablet 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.

12.2 Simultaneous Transmission Conclusion

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

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13 SAR MEASUREMENT VARIABILITY

13.1 Measurement Variability

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

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

- 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.
- 2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg ($\sim 10\%$ from the 1-g 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 10-g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

Table 13-1
Body SAR Measurement Variability Results

BODY VARIABILITY RESULTS												
Band	FREQUENCY		Mode	Service	Side	Spacing	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	Ratio	3rd Repeated SAR (1g)
	MHz	Ch.					(W/kg)	(W/kg)		(W/kg)		(W/kg)
1900	1880.00	600	PCS CDMA	EVDO Rev. 0	bottom	10 mm	0.889	0.808	1.10	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT						Body						
Spatial Peak						1.6 W/kg (mW/g)						
Uncontrolled Exposure/General Population						averaged over 1 gram						

Table 13-2
Phablet SAR Measurement Variability Results

PHABLET VARIABILITY RESULTS												
Band	FREQUENCY		Mode	Service	Side	Spacing	Measured SAR (10g)	1st Repeated SAR (10g)	Ratio	2nd Repeated SAR (10g)	Ratio	3rd Repeated SAR (10g)
	MHz	Ch.					(W/kg)	(W/kg)		(W/kg)		(W/kg)
1900	1852.40	9262	UMTS 1900	RMC	bottom	0 mm	2.540	2.780	1.09	N/A	N/A	N/A
1750	1745.00	132322	LTE Band 66 (AWS), 20 MHz Bandwidth	QPSK, 100 RB, 0 RB Offset	bottom	0 mm	3.040	2.750	1.11	N/A	N/A	N/A
2600	2535.00	21100	LTE Band 7, 20 MHz Bandwidth	QPSK, 50 RB, 0 RB Offset	bottom	0 mm	2.340	2.190	1.07	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT						Phablet						
Spatial Peak						4.0 W/kg (mW/g)						
Uncontrolled Exposure/General Population						averaged over 10 grams						

13.2 Measurement Uncertainty

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

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14 ADDITIONAL TESTING PER FCC GUIDANCE

14.1 Tuner Testing

The following test procedures were followed to demonstrate that the SAR results in Section 11 represented the appropriate SAR test conditions. For bands with dynamic tuning implemented, SAR was measured according to the required FCC SAR test procedures with the dynamic tuner active to allow the device to automatically tune to the antenna state for the respective RF exposure test configurations. Additional single point SAR time-sweep measurements were evaluated for other tuner states to determine that the other tuner configurations would result in equivalent or lower SAR values. The additional tuner hardware has no influence to the antenna characteristics, other than impedance matching.

To evaluate all of the tuner states, the 80 tuner states were divided among the aggregate band, mode and exposure combinations so that each combination was evaluated for at least 20 tuner states and also so that at least 3 single point SAR measurements were made for every available tuner state. Single point time-sweep measurements were performed at the peak SAR location determined by the zoom scan of the configuration with the highest reported SAR for each combination. The tuner state was able to be established remotely so that the device was not moved for the entire series of single point SAR for the tuner states in each combination. The SAR probe remained stationary at the same position throughout the entire series of single point measurements for each combination. When the single point SAR or 1g SAR was > 1.2 W/kg for a particular band/mode/exposure condition, point SAR measurements were made for all 80 states.

Per FCC Guidance, several bands/modes were combined to be treated as a single aggregate band. For CDMA BC0 and BC10, the highest reported SAR configuration per exposure condition was considered for point SAR measurements. For the LTE Band 5 and 26 pair, the highest reported SAR configuration per exposure condition was evaluated. Additionally, LTE bands 12/17 and 13 was considered as an aggregated band to select single point measurement configurations. The wireless configuration and exposure condition combinations were divided evenly among the three bands (i.e., the number of required single point measurements (at least 20) apply to the aggregated band). All other bands were treated independently.

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

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Table 14-1
UMTS/CDMA Supplemental Head SAR Data

Supplemental Head SAR Data									
UMTS 850		UMTS 1750		UMTS 1900		CDMA BC10		CDMA BC1	
RMC		RMC		RMC		RC3/SO55		EVDO Rev. A	
Test Position	Right Cheek	Test Position	Left Cheek	Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Right Cheek
Frequency (MHz)	836.6	Frequency (MHz)	1732.4	Frequency (MHz)	1880	Frequency (MHz)	820.1	Frequency (MHz)	1880
Channel	4183	Channel	1412	Channel	9400	Channel	564	Channel	600
Measured 1g SAR (W/kg)	0.149	Measured 1g SAR (W/kg)	0.056	Measured 1g SAR (W/kg)	0.075	Measured 1g SAR (W/kg)	0.184	Measured 1g SAR (W/kg)	0.102
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 32)	0.186	Auto-tune (State 30)	0.088	Auto-tune (State 15)	0.089	Auto-tune (State 47)	0.218	Auto-tune (State 15)	0.140
Default (State 15)	0.171	Default (State 15)	0.071	Default (State 15)	0.089	Default (State 15)	0.219	Default (State 15)	0.141
State 1	0.021	State 4	0.024	State 4	0.053	State 3	0.053	State 0	0.134
State 5	0.082	State 7	0.040	State 6	0.071	State 6	0.123	State 2	0.062
State 11	0.167	State 10	0.048	State 9	0.080	State 10	0.185	State 5	0.105
State 12	0.169	State 13	0.055	State 14	0.087	State 13	0.208	State 15	0.141
State 15	0.171	State 15	0.071	State 15	0.089	State 15	0.219	State 21	0.115
State 18	0.013	State 18	0.034	State 24	0.083	State 19	0.028	State 22	0.124
State 25	0.080	State 24	0.077	State 26	0.083	State 23	0.094	State 25	0.133
State 31	0.092	State 27	0.083	State 29	0.090	State 26	0.117	State 28	0.138
State 32	0.186	State 30	0.092	State 33	0.011	State 30	0.109	State 33	0.019
State 36	0.065	State 36	0.006	State 42	0.048	State 37	0.087	State 35	0.035
State 43	0.167	State 42	0.017	State 44	0.052	State 38	0.110	State 40	0.073
State 49	0.011	State 45	0.020	State 47	0.061	State 41	0.163	State 43	0.078
State 50	0.017	State 48	0.035	State 52	0.037	State 44	0.188	State 48	0.107
State 53	0.048	State 52	0.013	State 54	0.053	State 47	0.217	State 49	0.028
State 59	0.109	State 55	0.023	State 57	0.062	State 51	0.035	State 53	0.068
State 60	0.111	State 58	0.028	State 61	0.068	State 58	0.141	State 63	0.109
State 64	0.168	State 64	0.061	State 66	0.044	State 65	0.109	State 68	0.146
State 71	0.111	State 70	0.032	State 70	0.059	State 69	0.110	State 71	0.109
State 77	0.092	State 73	0.088	State 72	0.084	State 72	0.214	State 74	0.076
State 78	0.192	State 76	0.071	State 75	0.066	State 79	0.136	State 76	0.139

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Table 14-2
LTE Supplemental Head SAR Data

Supplemental Head SAR Data									
LTE Band 12		LTE Band 13		LTE Band 26		LTE Band 66		LTE Band 25	
QPSK, 10MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 10MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 15MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 20MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 20MHz Bandwidth, 1 RB, 0 RB Offsets	
Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Left Cheek	Test Position	Right Cheek
Frequency (MHz)	707.5	Frequency (MHz)	782	Frequency (MHz)	831.5	Frequency (MHz)	1720	Frequency (MHz)	1905
Channel	23095	Channel	23230	Channel	26865	Channel	132075	Channel	26590
Measured 1g SAR (W/kg)	0.115	Measured 1g SAR (W/kg)	0.166	Measured 1g SAR (W/kg)	0.155	Measured 1g SAR (W/kg)	0.102	Measured 1g SAR (W/kg)	0.146
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 78)	0.145	Auto-tune (State 15)	0.190	Auto-tune (State 47)	0.197	Auto-tune (State 31)	0.111	Auto-tune (State 27)	0.163
Default (State 15)	0.139	Default (State 15)	0.196	Default (State 15)	0.190	Default (State 15)	0.109	Default (State 15)	0.152
State 1	0.009	State 2	0.030	State 2	0.035	State 1	0.023	State 3	0.087
State 8	0.086	State 14	0.197	State 6	0.113	State 5	0.058	State 8	0.140
State 15	0.139	State 15	0.196	State 9	0.166	State 11	0.090	State 10	0.145
State 16	0.088	State 22	0.065	State 12	0.185	State 15	0.109	State 14	0.151
State 24	0.064	State 34	0.021	State 15	0.190	State 19	0.065	State 15	0.152
State 32	0.104	State 40	0.112	State 17	0.010	State 20	0.074	State 16	0.152
State 48	0.101	State 54	0.081	State 22	0.065	State 21	0.084	State 20	0.102
State 55	0.058	State 62	0.139	State 29	0.120	State 25	0.105	State 23	0.136
State 67	0.081	State 68	0.196	State 32	0.180	State 31	0.111	State 27	0.145
State 78	0.130	State 79	0.138	State 35	0.044	State 37	0.021	State 28	0.145
				State 40	0.146	State 39	0.032	State 34	0.024
				State 47	0.195	State 43	0.044	State 38	0.061
				State 50	0.021	State 49	0.011	State 41	0.073
				State 57	0.121	State 53	0.037	State 46	0.089
				State 60	0.137	State 56	0.058	State 51	0.054
				State 62	0.130	State 59	0.064	State 56	0.105
				State 63	0.132	State 65	0.099	State 64	0.134
				State 68	0.188	State 67	0.067	State 69	0.150
				State 75	0.130	State 71	0.078	State 74	0.081
				State 78	0.194	State 77	0.110	State 79	0.124

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Table 14-3
UMTS/CDMA Supplemental Body SAR Data

Supplemental Body SAR Data									
UMTS 850		UMTS 1750		UMTS 1900		CDMA BC10		CDMA BC1	
RMC		RMC		RMC		EVDO Rev. 0		EVDO Rev. 0	
Test Position	Back Side	Test Position	Back Side	Test Position	Back Side	Test Position	Back Side	Test Position	Bottom Edge
Spacing	10 mm	Spacing	15 mm	Spacing	15 mm	Spacing	10 mm	Spacing	10 mm
Frequency (MHz)	836.6	Frequency (MHz)	1752.6	Frequency (MHz)	1880	Frequency (MHz)	820.1	Frequency (MHz)	1880
Channel	4183	Channel	1513	Channel	9400	Channel	564	Channel	600
Measured 1g SAR (W/kg)	0.567	Measured 1g SAR (W/kg)	0.699	Measured 1g SAR (W/kg)	0.557	Measured 1g SAR (W/kg)	0.705	Measured 1g SAR (W/kg)	0.889
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 47)	0.781	Auto-tune (State 31)	0.856	Auto-tune (State 30)	0.699	Auto-tune (State 15)	0.921	Auto-tune (State 15)	1.078
Default (State 15)	0.715	Default (State 15)	0.783	Default (State 15)	0.656	Default (State 15)	0.931	Default (State 15)	1.071
State 0	0.735	State 3	0.253	State 1	0.096	State 1	0.135	State 4	0.680
State 3	0.213	State 7	0.508	State 5	0.287	State 8	0.812	State 7	0.909
State 12	0.719	State 15	0.783	State 10	0.527	State 9	0.831	State 11	1.008
State 15	0.718	State 17	0.287	State 15	0.656	State 12	0.913	State 14	1.063
State 17	0.037	State 23	0.704	State 17	0.116	State 15	0.931	State 15	1.071
State 20	0.108	State 27	0.791	State 18	0.162	State 18	0.081	State 16	1.066
State 23	0.267	State 29	0.804	State 21	0.343	State 20	0.154	State 24	1.049
State 27	0.375	State 31	0.857	State 25	0.587	State 29	0.457	State 27	1.062
State 32	0.750	State 35	0.082	State 30	0.705	State 32	0.864	State 31	1.047
State 35	0.229	State 41	0.242	State 36	0.113	State 36	0.306	State 34	0.139
State 38	0.478	State 43	0.285	State 38	0.194	State 46	0.933	State 42	0.401
State 41	0.658	State 45	0.299	State 39	0.229	State 47	0.934	State 45	0.445
State 47	0.779	State 51	0.147	State 42	0.293	State 50	0.109	State 49	0.177
State 50	0.079	State 52	0.180	State 48	0.477	State 56	0.551	State 52	0.348
State 51	0.111	State 55	0.328	State 53	0.205	State 57	0.552	State 55	0.531
State 63	0.453	State 57	0.374	State 58	0.381	State 60	0.567	State 59	0.626
State 66	0.776	State 63	0.550	State 64	0.505	State 64	0.915	State 62	0.715
State 69	0.366	State 69	0.850	State 67	0.389	State 67	0.517	State 70	0.511
State 72	0.717	State 73	0.821	State 71	0.507	State 75	0.517	State 73	0.964
State 78	0.782	State 75	0.502	State 76	0.652	State 78	0.935	State 77	1.042

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Table 14-4
LTE Supplemental Body SAR Data

Supplemental Body SAR Data									
LTE Band 12		LTE Band 13		LTE Band 5		LTE Band 66		LTE Band 25	
QPSK, 10MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 10MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 10MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 20MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 20MHz Bandwidth, 50 RB, 0 RB Offsets	
Test Position	Back Side	Test Position	Back Side	Test Position	Back Side	Test Position	Back Side	Test Position	Bottom Edge
Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	15 mm	Spacing	10 mm
Frequency (MHz)	707.5	Frequency (MHz)	782	Frequency (MHz)	836.5	Frequency (MHz)	1745	Frequency (MHz)	1882.5
Channel	23095	Channel	23230	Channel	20525	Channel	132322	Channel	26365
Measured 1g SAR (W/kg)	0.480	Measured 1g SAR (W/kg)	0.572	Measured 1g SAR (W/kg)	0.683	Measured 1g SAR (W/kg)	0.707	Measured 1g SAR (W/kg)	0.856
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 15)	0.633	Auto-tune (State 15)	0.821	Auto-tune (State 47)	0.816	Auto-tune (State 31)	0.883	Auto-tune (State 31)	1.04
Default (State 15)	0.635	Default (State 15)	0.823	Default (State 15)	0.785	Default (State 15)	0.726	Default (State 15)	0.960
State 0	0.577	State 0	0.793	State 4	0.295	State 0	0.575	State 11	0.851
State 7	0.357	State 6	0.459	State 8	0.694	State 2	0.147	State 13	0.873
State 15	0.635	State 15	0.823	State 13	0.786	State 8	0.464	State 15	0.960
State 23	0.194	State 19	0.086	State 15	0.785	State 15	0.726	State 16	0.989
State 31	0.278	State 21	0.177	State 16	0.478	State 19	0.365	State 19	0.570
State 39	0.298	State 26	0.441	State 21	0.203	State 20	0.423	State 26	0.947
State 47	0.614	State 33	0.080	State 28	0.468	State 22	0.584	State 30	1.017
State 54	0.172	State 44	0.649	State 33	0.102	State 28	0.772	State 31	1.035
State 59	0.387	State 61	0.568	State 34	0.154	State 31	0.877	State 33	0.082
State 66	0.606	State 72	0.811	State 39	0.533	State 37	0.099	State 37	0.245
				State 45	0.731	State 38	0.127	State 44	0.406
				State 46	0.792	State 40	0.194	State 46	0.475
				State 47	0.798	State 46	0.400	State 49	0.141
				State 56	0.488	State 56	0.305	State 54	0.427
				State 61	0.558	State 65	0.779	State 58	0.525
				State 62	0.515	State 66	0.299	State 61	0.577
				State 67	0.509	State 68	0.717	State 65	0.858
				State 70	0.800	State 71	0.528	State 72	0.893
				State 73	0.434	State 74	0.358	State 74	0.416
				State 76	0.782	State 79	0.532	State 77	1.028

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14.2 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 as < 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 14-5
LTE Band 41 Head Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	24.5	28.0
Measured Output Power (dBm)	23.48	26.90
Measured SAR (W/kg)	0.0556	0.0753
Measured Power (mW)	222.84	489.78
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	141.06	212.07
% deviation from expected linearity		-9.92%

LTE Band 41 SAR for PC2 and PC3 Operations

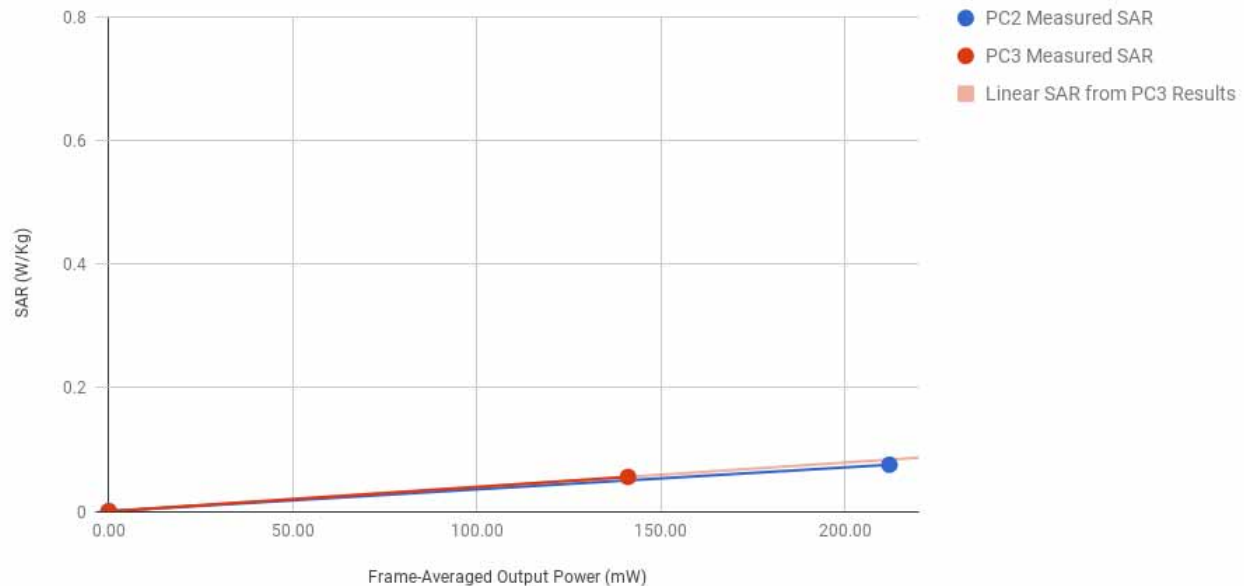


Figure 14-1
LTE Band 41 Head Linearity

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Table 14-6
LTE Band 41 Body-Worn Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	24.5	28.0
Measured Output Power (dBm)	23.48	26.90
Measured SAR (W/kg)	0.234	0.332
Measured Power (mW)	222.84	489.78
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	141.06	212.07
% deviation from expected linearity		-5.63%

LTE Band 41 SAR for PC2 and PC3 Operations

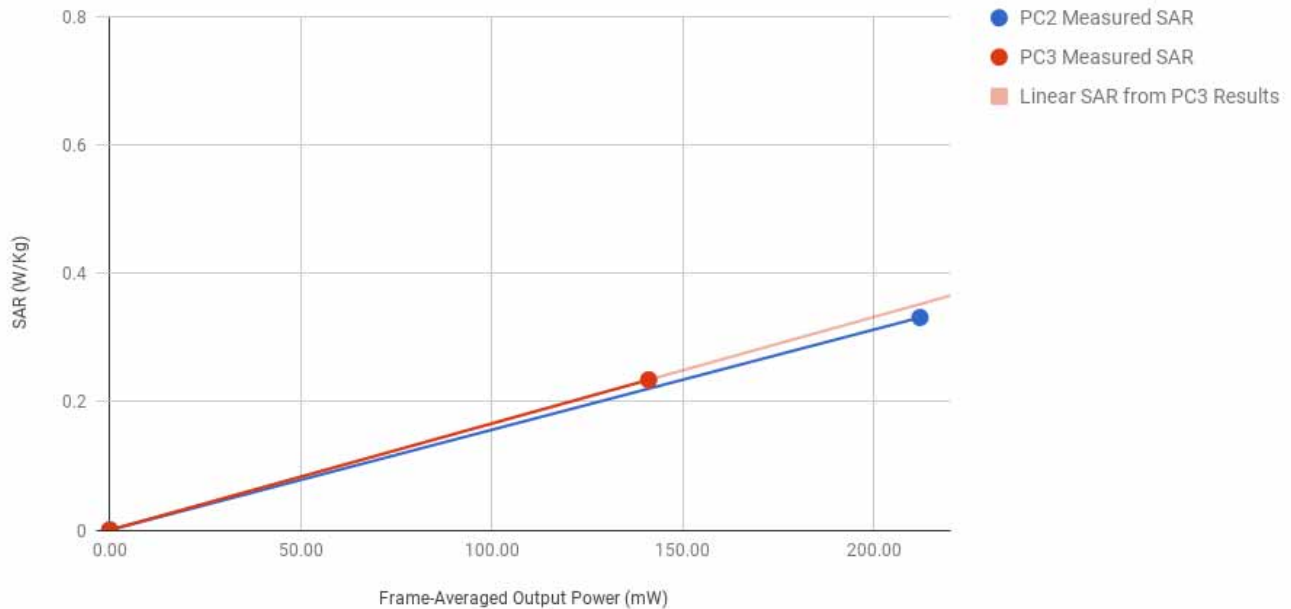


Figure 14-2
LTE Band 41 Body-Worn Linearity

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Table 14-7
LTE Band 41 Hotspot Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	22.5	22.5
Measured Output Power (dBm)	21.39	21.88
Measured SAR (W/kg)	0.643	0.444
Measured Power (mW)	137.72	154.17
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	87.18	66.76
% deviation from expected linearity		-9.82%

LTE Band 41 SAR for PC2 and PC3 Operations

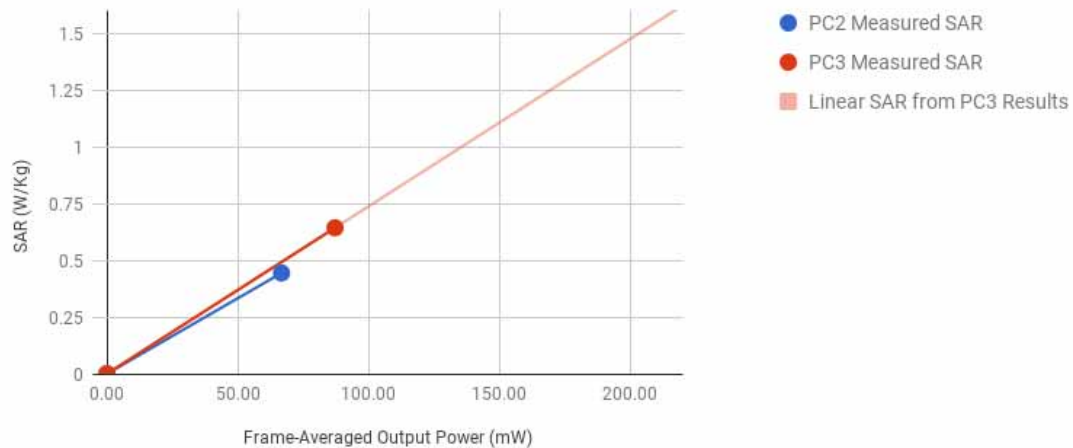


Figure 14-3
LTE Band 41 Hotspot Linearity

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Table 14-8
LTE Band 41 Phablet Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	23.5	23.5
Measured Output Power (dBm)	22.55	22.78
Measured SAR (W/kg)	1.94	1.37
Measured Power (mW)	179.89	189.67
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	113.87	82.13
% deviation from expected linearity		-2.09%

LTE Band 41 SAR for PC2 and PC3 Operations

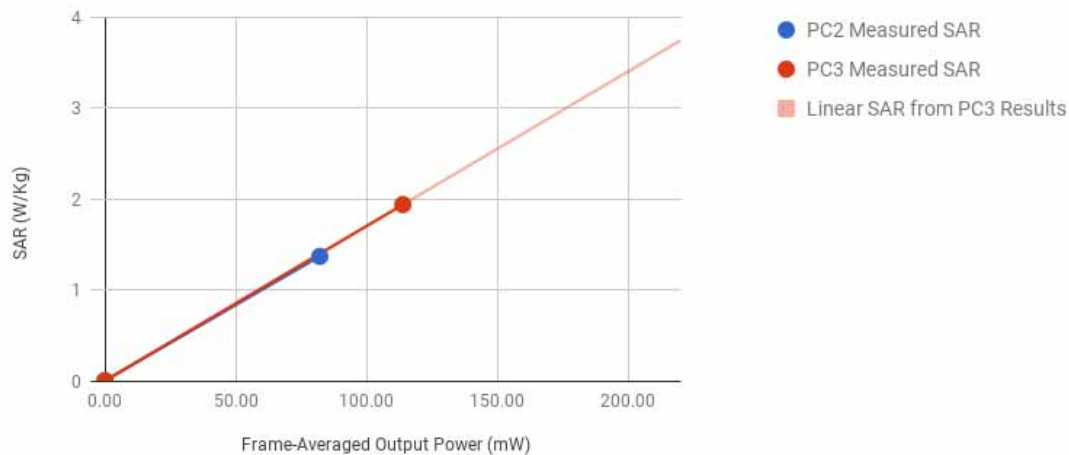


Figure 14-4
LTE Band 41 Phablet Linearity

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15 EQUIPMENT LIST

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	E8257D	(250kHz-20GHz) Signal Generator	3/22/2017	Annual	3/22/2018	MY45470194
Agilent	8594A	(9kHz-2.9GHz) Spectrum Analyzer	N/A	N/A	N/A	3051A00187
Agilent	E5155C	8960 Series 30 Wireless Communications Test Set	10/5/2016	Annual	10/5/2017	GB42230325
Agilent	E4438C	ESG Vector Signal Generator	3/23/2017	Annual	3/23/2018	MY47270002
Agilent	E4438C	ESG Vector Signal Generator	3/24/2017	Annual	3/24/2018	MY45091346
Agilent	E4432B	ESG-D Series Signal Generator	3/24/2017	Annual	3/24/2018	U540053896
Agilent	N9020A	MXA Signal Analyzer	10/28/2016	Annual	10/28/2017	U546470561
Agilent	N5182A	MIX Vector Signal Generator	10/27/2016	Annual	10/27/2017	MY47420603
Agilent	N5182A	MIX Vector Signal Generator	2/28/2017	Annual	2/28/2018	MY47420603
Agilent	8753ES	S-Parameter Network Analyzer	10/26/2016	Annual	10/26/2017	US39120118
Agilent	8753ES	S-Parameter Vector Network Analyzer	8/19/2016	Annual	8/19/2017	MY40003841
Agilent	E5155C	Wireless Communications Test Set	10/23/2015	Biennial	10/23/2017	GB43195563
Agilent	E5155C	Wireless Communications Test Set	12/12/2016	Annual	12/12/2017	GB44400860
Amplifier Research	1551G6	Amplifier	CBT	N/A	CBT	433971
Amplifier Research	1551G6	Amplifier	CBT	N/A	CBT	433972
Anritsu	ML2495A	Power Meter	10/16/2015	Biennial	10/16/2017	941001
Anritsu	ML2496A	Power Meter	3/28/2017	Annual	3/28/2018	1351001
Anritsu	MA2411B	Pulse Power Sensor	8/18/2016	Annual	8/18/2017	1126066
Anritsu	MA2411B	Pulse Power Sensor	8/18/2016	Annual	8/18/2017	1207470
Anritsu	MT8820C	Radio Communication Analyzer	9/13/2016	Annual	9/13/2017	6201144419
Anritsu	MT8820C	Radio Communication Analyzer	9/15/2016	Annual	9/15/2017	6200901190
Anritsu	MA24106A	USB Power Sensor	10/27/2016	Annual	10/27/2017	1344545
Anritsu	MA24106A	USB Power Sensor	10/27/2016	Annual	10/27/2017	1344559
COMTECH	AR85729-S/57598	Solid State Amplifier	CBT	N/A	CBT	M3W1A00-1002
COMTECH	AR85729-S	Solid State Amplifier	CBT	N/A	CBT	M155A00-009
Control Company	4352	Ultra Long Stem Thermometer	3/8/2016	Biennial	3/8/2018	160261729
Control Company	4352	Ultra Long Stem Thermometer	3/8/2016	Biennial	3/8/2018	160261732
Keysight	772D	Dual Directional Coupler	CBT	N/A	CBT	MY52180215
MCL	BW-NW5+	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-1200+	Low Pass Filter DC to 1000 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	BW-N20W5	Power Attenuator	CBT	N/A	CBT	1226
Mitsutoyo	CD-6°CSX	Digital Calliper	3/2/2016	Biennial	3/2/2018	13264162
Narda	4014C-6	4 - 8 GHz SMA 6 dB Directional Coupler	CBT	N/A	CBT	N/A
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Narda	BW-S3W2	Attenuator (3dB)	CBT	N/A	CBT	120
Pasternack	PE2208-6	Bidirectional Coupler	CBT	N/A	CBT	N/A
Pasternack	PE2209-10	Bidirectional Coupler	CBT	N/A	CBT	N/A
Pasternack	NC-100	Torque Wrench	11/6/2015	Biennial	11/6/2017	N/A
Rohde & Schwarz	CMU200	Base Station Simulator	12/12/2016	Annual	12/12/2017	833855/0010
Rohde & Schwarz	CMU200	Base Station Simulator	4/11/2017	Annual	4/11/2018	836371/0079
Rohde & Schwarz	CMW500	Radio Communication Tester	8/1/2016	Annual	8/1/2017	116743
Rohde & Schwarz	CMW500	Radio Communication Tester	6/6/2017	Annual	6/6/2018	108843
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	7/20/2016	Annual	7/20/2017	132885
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	2/10/2017	Annual	2/10/2018	162125
Seakonk	NC-100	Torque Wrench	11/6/2015	Biennial	11/6/2017	22313
Seakonk	NC-100	Torque Wrench (8" lb)	8/30/2016	Biennial	8/30/2018	N/A
Seakonk	NC-100	Torque Wrench 5/16", 8" lbs	3/2/2016	Biennial	3/2/2018	N/A
SPEAG	D1750V2	1750 MHz SAR Dipole	4/12/2017	Annual	4/12/2018	1051
SPEAG	D1750V2	1750 MHz SAR Dipole	5/9/2017	Annual	5/9/2018	1092
SPEAG	D1750V2	1750 MHz SAR Dipole	5/9/2017	Annual	5/9/2018	1148
SPEAG	D1900V2	1900 MHz SAR Dipole	7/8/2016	Annual	7/8/2017	50800
SPEAG	D1900V2	1900 MHz SAR Dipole	7/15/2016	Annual	7/15/2017	50149
SPEAG	D1900V2	1900 MHz SAR Dipole	2/9/2017	Annual	2/9/2018	56148
SPEAG	D1900V2	1900 MHz SAR Dipole	5/10/2017	Annual	5/10/2018	54026
SPEAG	D2300V2	2300 MHz SAR Dipole	3/7/2017	Annual	3/7/2018	1038
SPEAG	D2450V2	2450 MHz SAR Dipole	7/25/2016	Annual	7/25/2017	981
SPEAG	D2450V2	2450 MHz SAR Dipole	9/13/2016	Annual	9/13/2017	797
SPEAG	D2600V2	2600 MHz SAR Dipole	7/25/2016	Annual	7/25/2017	1126
SPEAG	D2600V2	2600 MHz SAR Dipole	9/13/2016	Annual	9/13/2017	1071
SPEAG	D2600V2	2600 MHz SAR Dipole	4/13/2017	Annual	4/13/2018	1004
SPEAG	D5GHZV2	5 GHz SAR Dipole	8/2/2016	Annual	8/2/2017	1237
SPEAG	D5GHZV2	5 GHz SAR Dipole	9/21/2016	Annual	9/21/2017	1191
SPEAG	D750V3	750 MHz Dipole	3/7/2017	Annual	3/7/2018	1054
SPEAG	D750V3	750 MHz SAR Dipole	1/11/2017	Annual	1/11/2018	1003
SPEAG	D835V2	835 MHz SAR Dipole	7/13/2016	Annual	7/13/2017	44947
SPEAG	D835V2	835 MHz SAR Dipole	5/11/2017	Annual	5/11/2018	44180
SPEAG	DAE4	Dasy Data Acquisition Electronics	9/15/2016	Annual	9/15/2017	1333
SPEAG	DAE4	Dasy Data Acquisition Electronics	9/14/2016	Annual	9/14/2017	1408
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/16/2017	Annual	1/16/2018	1466
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/9/2017	Annual	2/9/2018	665
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/9/2017	Annual	2/9/2018	1272
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/8/2017	Annual	3/8/2018	1368
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/13/2017	Annual	3/13/2018	1415
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/11/2017	Annual	4/11/2018	1407
SPEAG	DAK-3.5	Dielectric Assessment Kit	9/13/2016	Annual	9/13/2017	1091
SPEAG	ES3DV3	SAR Probe	8/25/2016	Annual	8/25/2017	3332
SPEAG	ES3DV3	SAR Probe	9/19/2016	Annual	9/19/2017	3287
SPEAG	EX3DV4	SAR Probe	1/13/2017	Annual	1/13/2018	3589
SPEAG	ES3DV3	SAR Probe	2/10/2017	Annual	2/10/2018	3213
SPEAG	ES3DV3	SAR Probe	2/10/2017	Annual	2/10/2018	3318
SPEAG	EX3DV4	SAR Probe	4/20/2017	Annual	4/20/2018	7357
SPEAG	ES3DV3	SAR Probe	3/14/2017	Annual	3/14/2018	3209
SPEAG	ES3DV3	SAR Probe	3/14/2017	Annual	3/14/2018	3319
SPEAG	EX3DV4	SAR Probe	4/18/2017	Annual	4/18/2018	7406
Anritsu	MT8821C	Base Station Simulator	N/A	N/A	N/A	6200901190
Anritsu	MT8821C	Base Station Simulator	N/A	N/A	N/A	6201664756

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

2. Each equipment item was used solely within its respective calibration period.

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16 MEASUREMENT UNCERTAINTIES

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

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17 CONCLUSION

17.1 Measurement Conclusion

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

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

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APPENDIX A: SAR TEST DATA

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 155D4

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; $\sigma = 0.894$ S/m; $\epsilon_r = 41.669$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Test Date: 06-05-2017; Ambient Temp: 22.3°C; Tissue Temp: 20.6°C

Probe: EX3DV4 - SN7406; ConvF(9.97, 9.97, 9.97); Calibrated: 4/18/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/11/2017

Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375

Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: BC10 Cell. CDMA, Rule Part 90S, Right Head, Cheek, Mid.ch

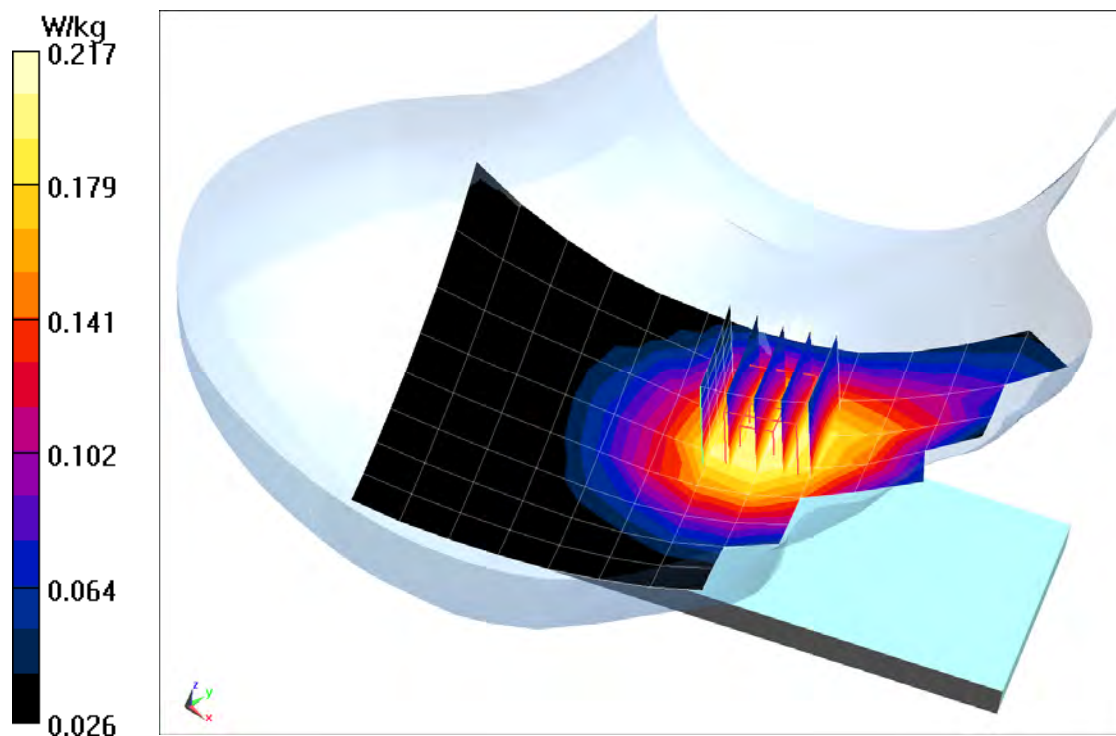
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 14.56 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.236 W/kg

SAR(1 g) = 0.184 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 155D4

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

Medium: 835 Head Medium parameters used (interpolated):

$f = 836.52$ MHz; $\sigma = 0.910$ S/m; $\epsilon_r = 41.415$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Test Date: 06-05-2017; Ambient Temp: 22.3°C; Tissue Temp: 20.6°C

Probe: EX3DV4 - SN7406; ConvF(9.97, 9.97, 9.97); Calibrated: 4/18/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/11/2017

Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375

Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: BC0 Cell. CDMA, Rule Part 22H, Right Head, Cheek, Mid.ch

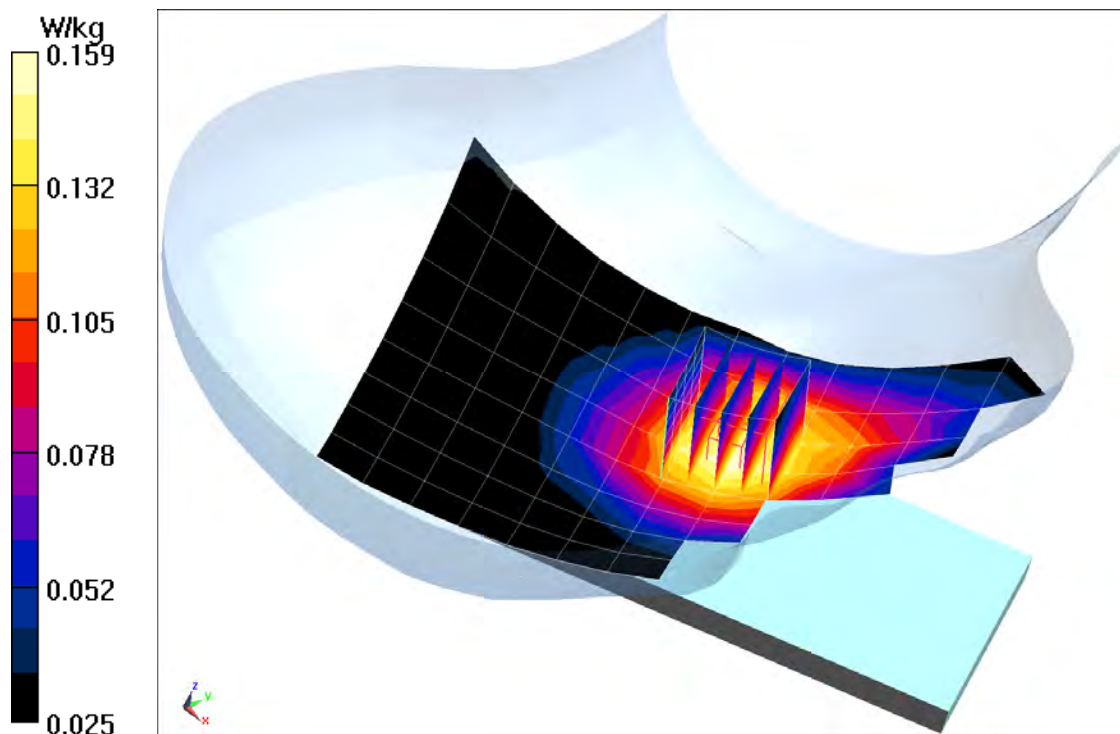
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 12.78 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 0.170 W/kg

SAR(1 g) = 0.137 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 155D4

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

Medium: 1900 Head Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.431 \text{ S/m}$; $\epsilon_r = 39.060$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 06-12-2017; Ambient Temp: 19.2°C; Tissue Temp: 22.0°C

Probe: ES3DV3 - SN3209; ConvF(5.31, 5.31, 5.31); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1415; Calibrated: 3/13/2017

Phantom: SAM with CRP v4.0; Type: QD000P40CD; Serial: TP:1800

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

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

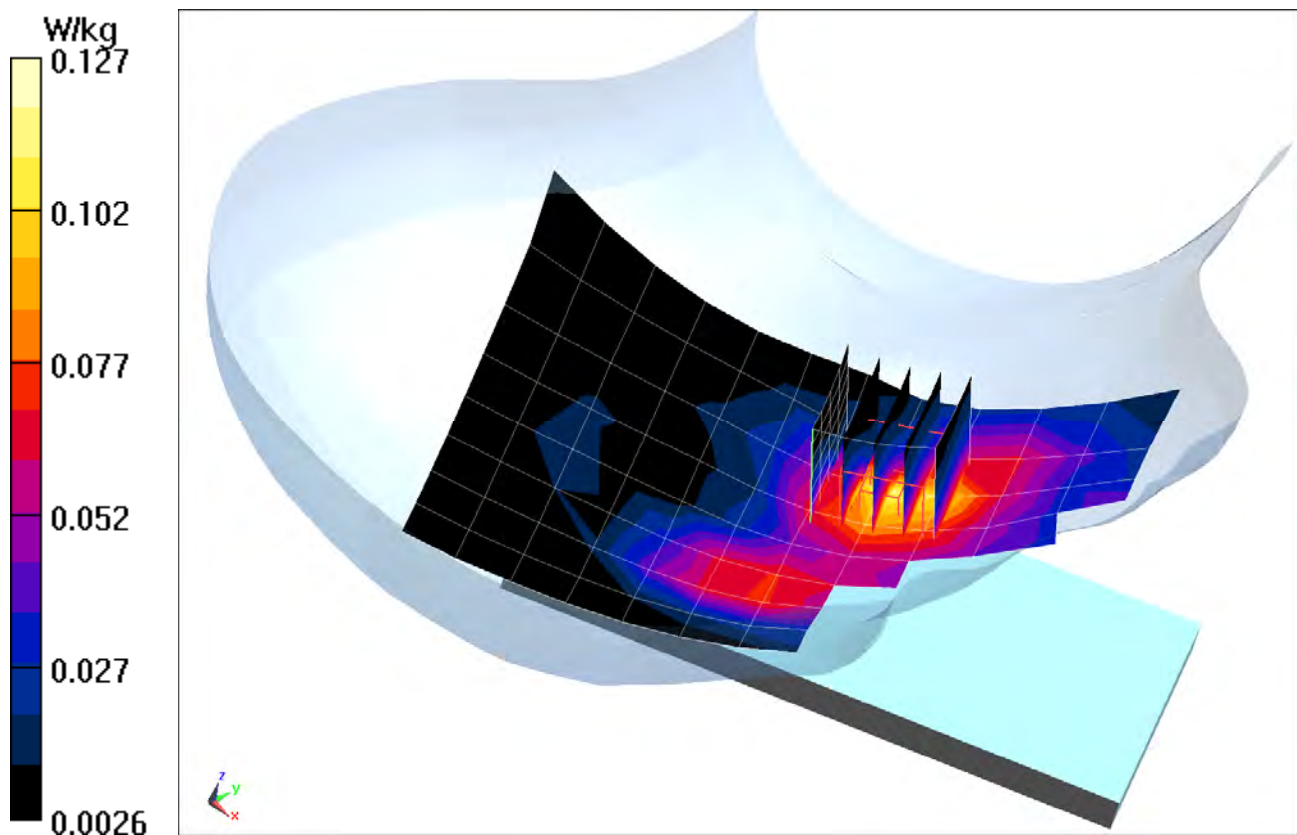
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 9.174 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.178 W/kg

SAR(1 g) = 0.104 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 158C6

Communication System: UID 0, GSM; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: 835 Head Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$; $\sigma = 0.910 \text{ S/m}$; $\epsilon_r = 41.414$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 06-05-2017; Ambient Temp: 22.3°C; Tissue Temp: 20.6°C

Probe: EX3DV4 - SN7406; ConvF(9.97, 9.97, 9.97); Calibrated: 4/18/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/11/2017

Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375

Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: GSM 850, Right Head, Cheek, Mid.ch

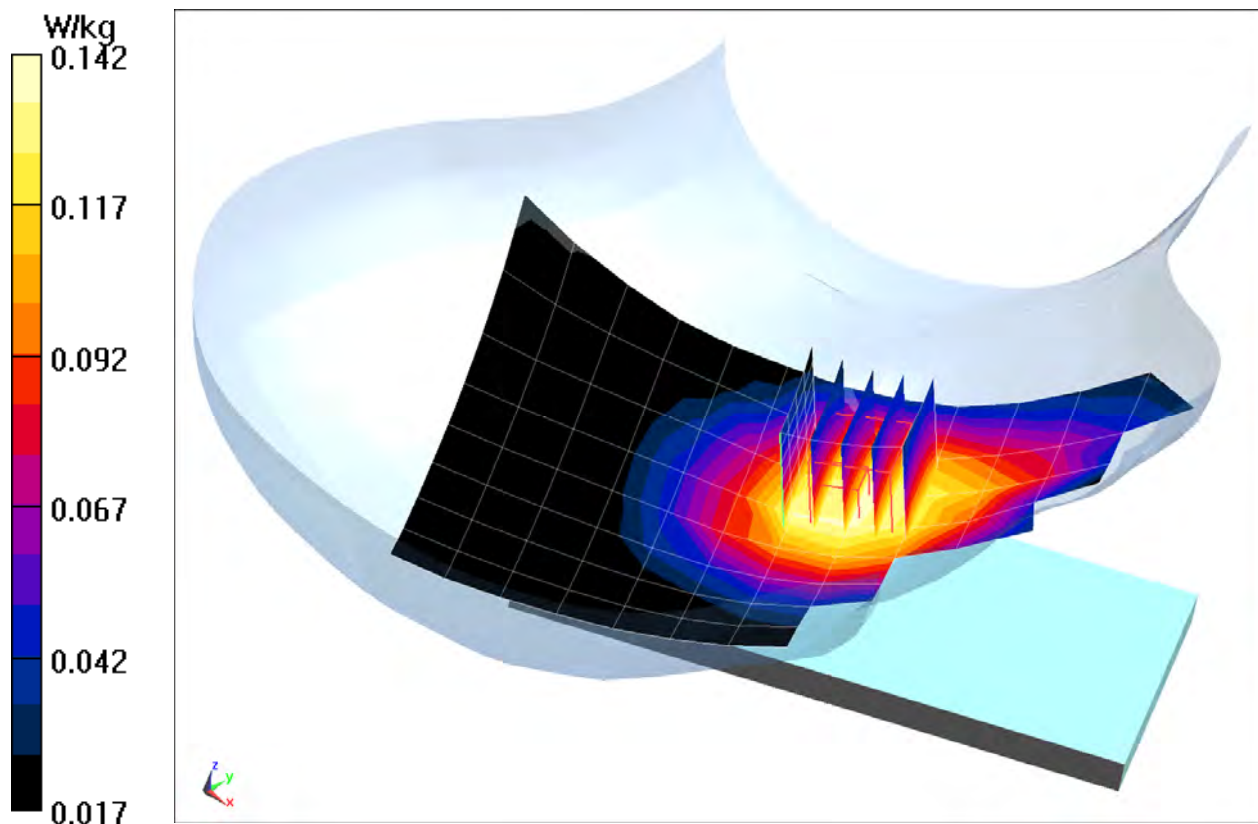
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 11.77 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.157 W/kg

SAR(1 g) = 0.121 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 158C6

Communication System: UID 0, GSM; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: 1900 Head Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.431 \text{ S/m}$; $\epsilon_r = 39.060$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 06-12-2017; Ambient Temp: 19.2°C; Tissue Temp: 22.0°C

Probe: ES3DV3 - SN3209; ConvF(5.31, 5.31, 5.31); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1415; Calibrated: 3/13/2017

Phantom: SAM with CRP v4.0; Type: QD000P40CD; Serial: TP:1800

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

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

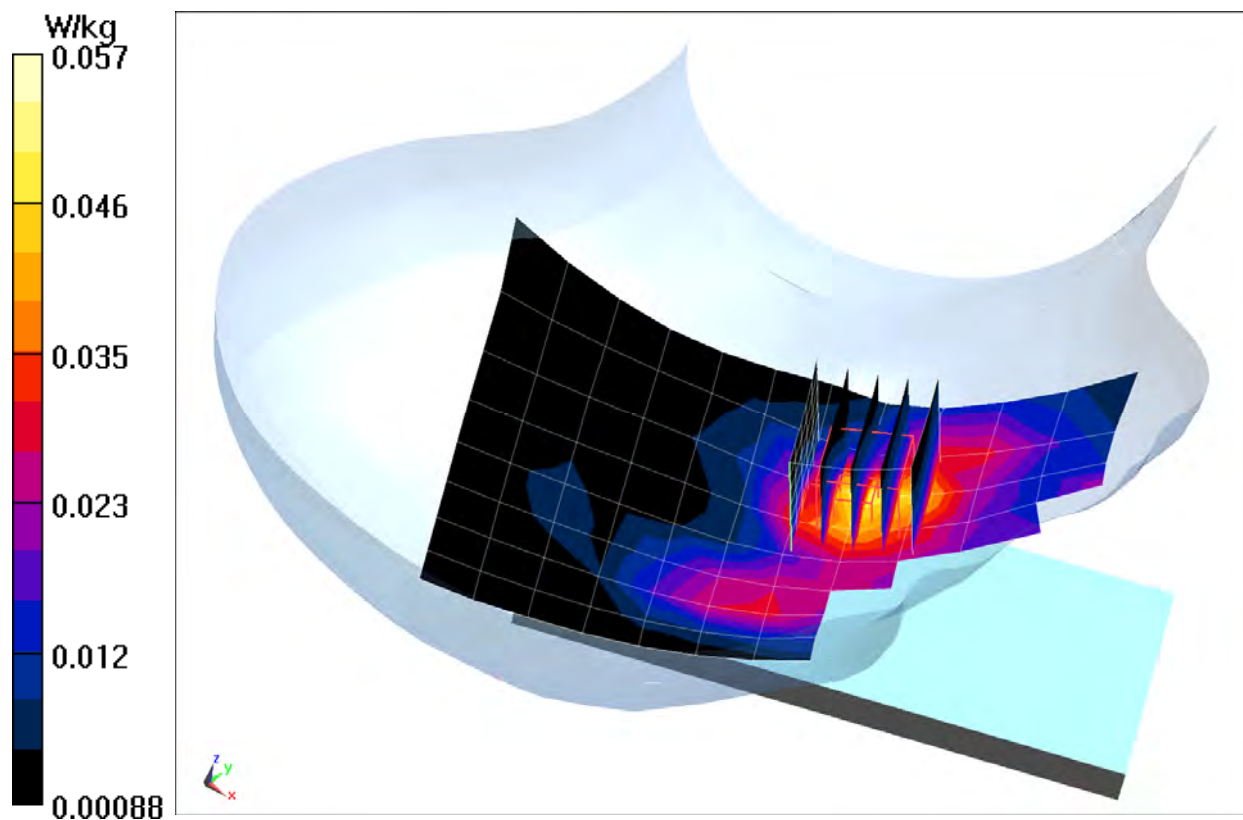
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 6.164 V/m; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 0.0840 W/kg

SAR(1 g) = 0.048 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 158C6

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

Medium: 835 Head Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$; $\sigma = 0.910 \text{ S/m}$; $\epsilon_r = 41.414$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 06-05-2017; Ambient Temp: 22.3°C; Tissue Temp: 20.6°C

Probe: EX3DV4 - SN7406; ConvF(9.97, 9.97, 9.97); Calibrated: 4/18/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/11/2017

Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

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

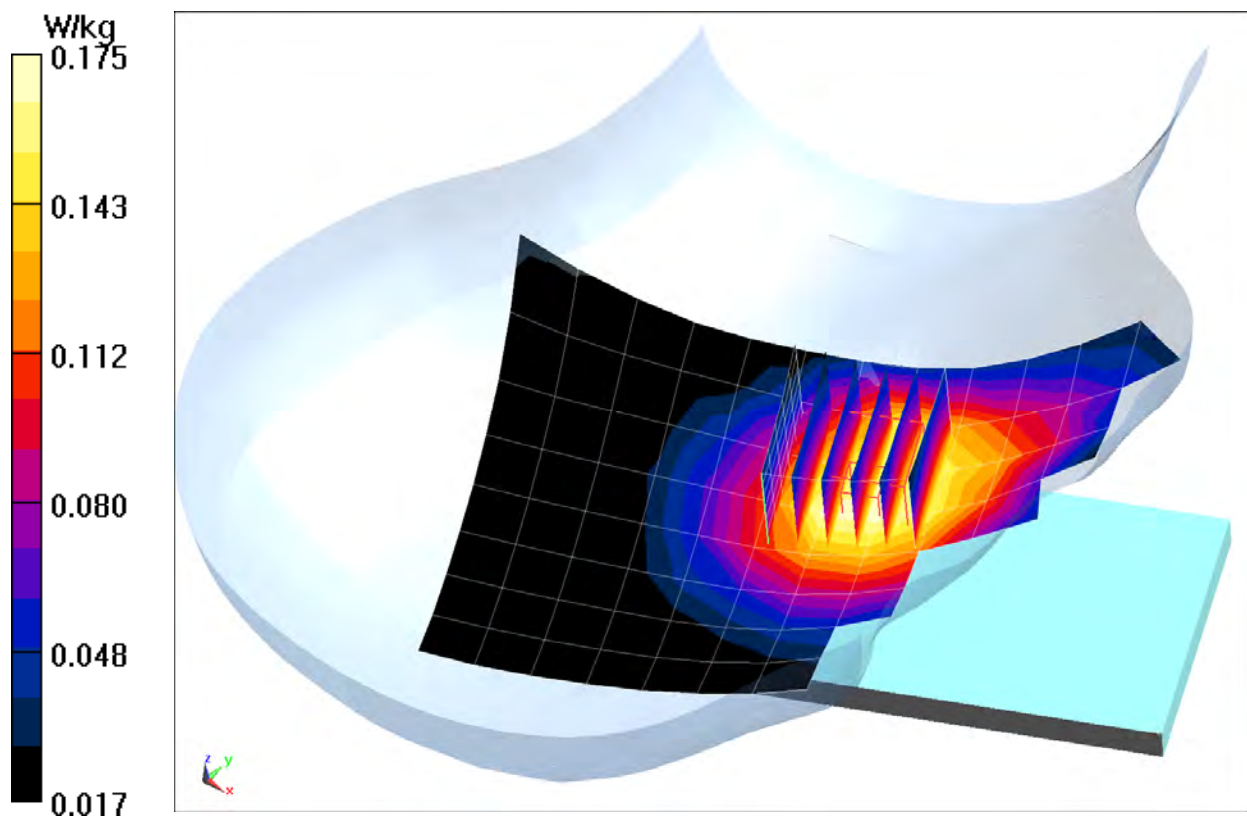
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 12.98 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.191 W/kg

SAR(1 g) = 0.149 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 158C6

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

Medium: 1750 Head Medium parameters used (interpolated):

$f = 1732.4 \text{ MHz}$; $\sigma = 1.395 \text{ S/m}$; $\epsilon_r = 39.963$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 06-10-2017; Ambient Temp: 20.4°C; Tissue Temp: 21.7°C

Probe: ES3DV3 - SN3332; ConvF(5.72, 5.72, 5.72); Calibrated: 8/25/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1333; Calibrated: 9/15/2016

Phantom: SAM Left; Type: SAM; Serial: 1688

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

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

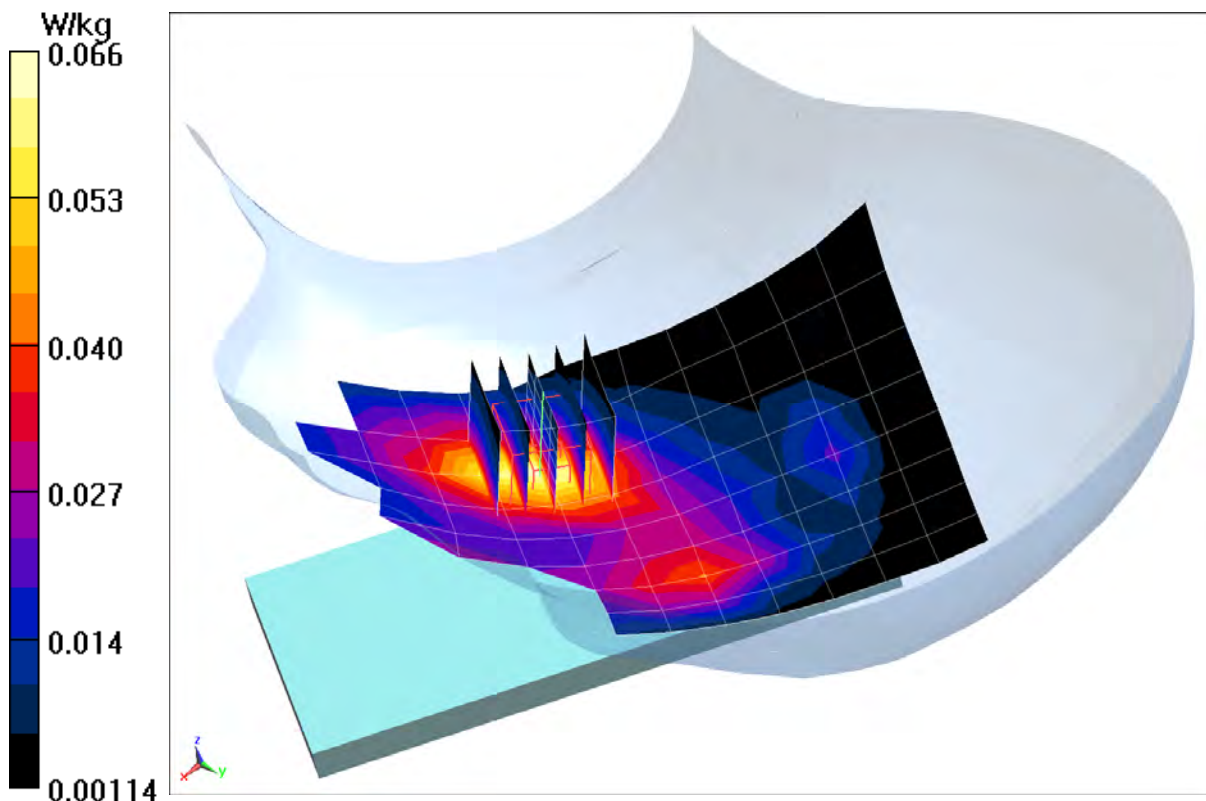
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 6.675 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.0840 W/kg

SAR(1 g) = 0.056 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 158C6

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

Medium: 1900 Head Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.431 \text{ S/m}$; $\epsilon_r = 39.060$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 06-12-2017; Ambient Temp: 19.2°C; Tissue Temp: 22.0°C

Probe: ES3DV3 - SN3209; ConvF(5.31, 5.31, 5.31); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1415; Calibrated: 3/13/2017

Phantom: SAM with CRP v4.0; Type: QD000P40CD; Serial: TP:1800

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

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

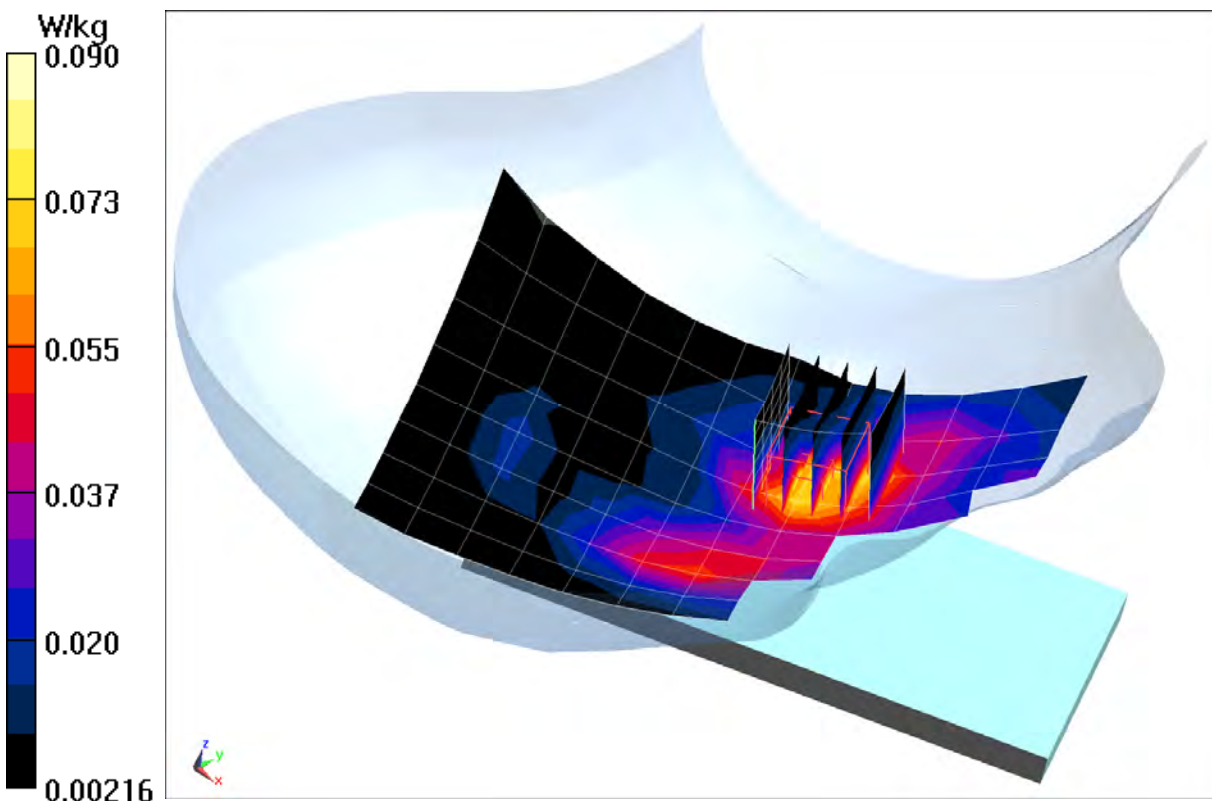
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 7.671 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.129 W/kg

SAR(1 g) = 0.075 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 15DDA

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

Medium: 750 Head Medium parameters used (interpolated):

$f = 707.5 \text{ MHz}$; $\sigma = 0.859 \text{ S/m}$; $\epsilon_r = 42.220$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 06-08-2017; Ambient Temp: 22.7°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7406; ConvF(10.26, 10.26, 10.26); Calibrated: 4/18/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/11/2017

Phantom: SAM Right; Type: QD000P40CD; Serial: TP:7535

Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

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

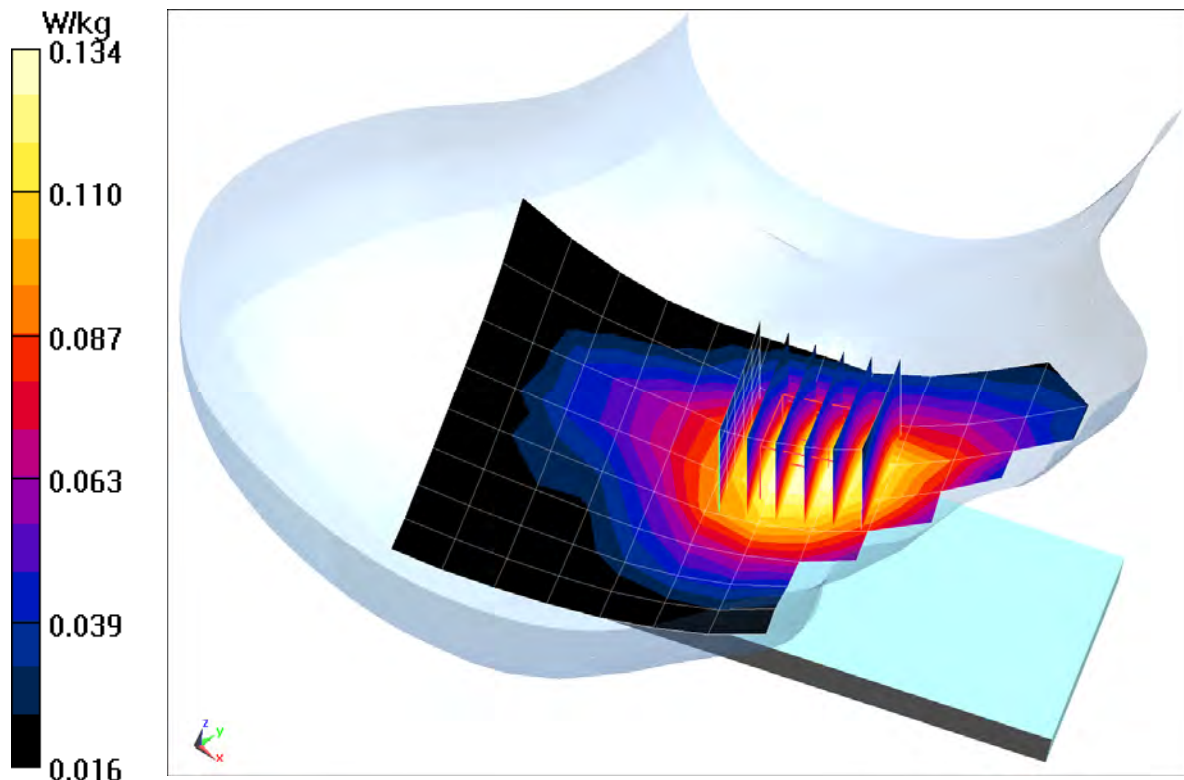
Area Scan (9x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 12.18 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.145 W/kg

SAR(1 g) = 0.115 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 15DDA

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

Medium: 750 Head Medium parameters used (interpolated):

$f = 782 \text{ MHz}$; $\sigma = 0.926 \text{ S/m}$; $\epsilon_r = 41.231$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 06-08-2017; Ambient Temp: 22.7°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7406; ConvF(10.26, 10.26, 10.26); Calibrated: 4/18/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/11/2017

Phantom: SAM Right; Type: QD000P40CD; Serial: TP:7535

Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

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

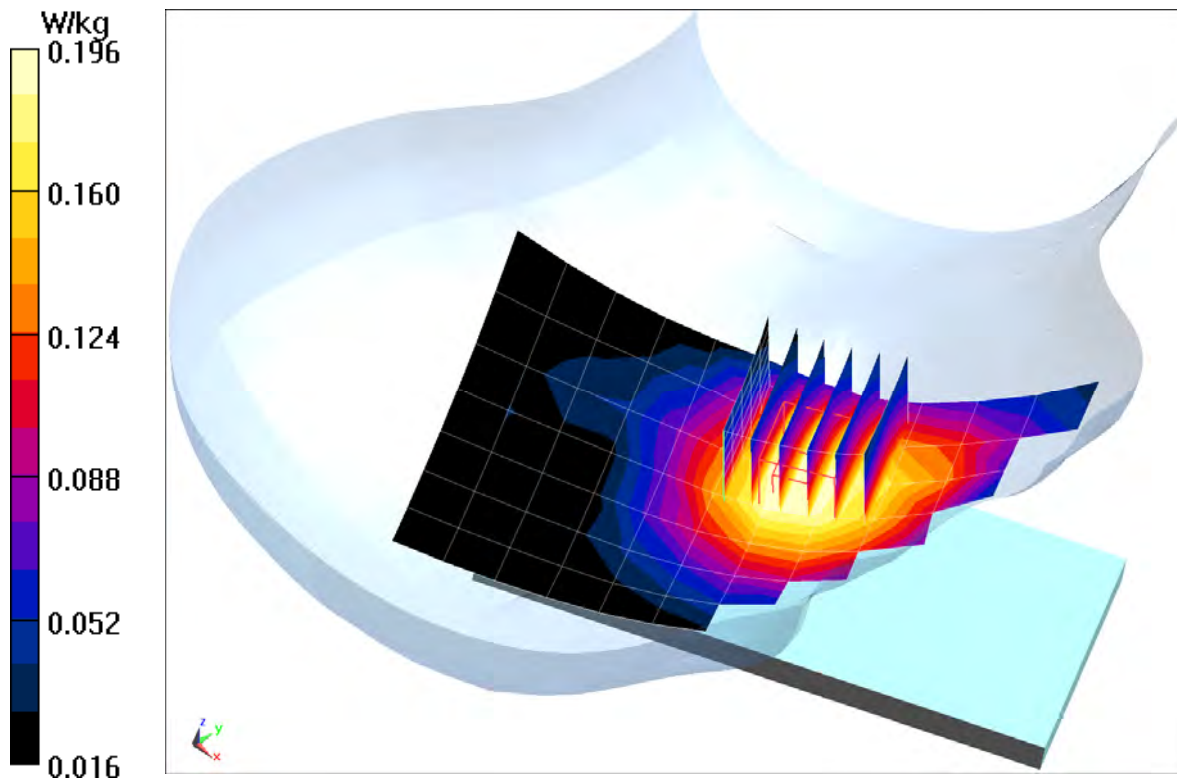
Area Scan (8x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 13.91 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.217 W/kg

SAR(1 g) = 0.166 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 15DDA

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

Medium: 835 Head Medium parameters used (interpolated):

$f = 831.5 \text{ MHz}$; $\sigma = 0.874 \text{ S/m}$; $\epsilon_r = 40.122$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 06-08-2017; Ambient Temp: 21.3°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7406; ConvF(9.97, 9.97, 9.97); Calibrated: 4/18/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/11/2017

Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

Mode: LTE Band 26 (Cell.), Right Head, Cheek, Mid.ch
15 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

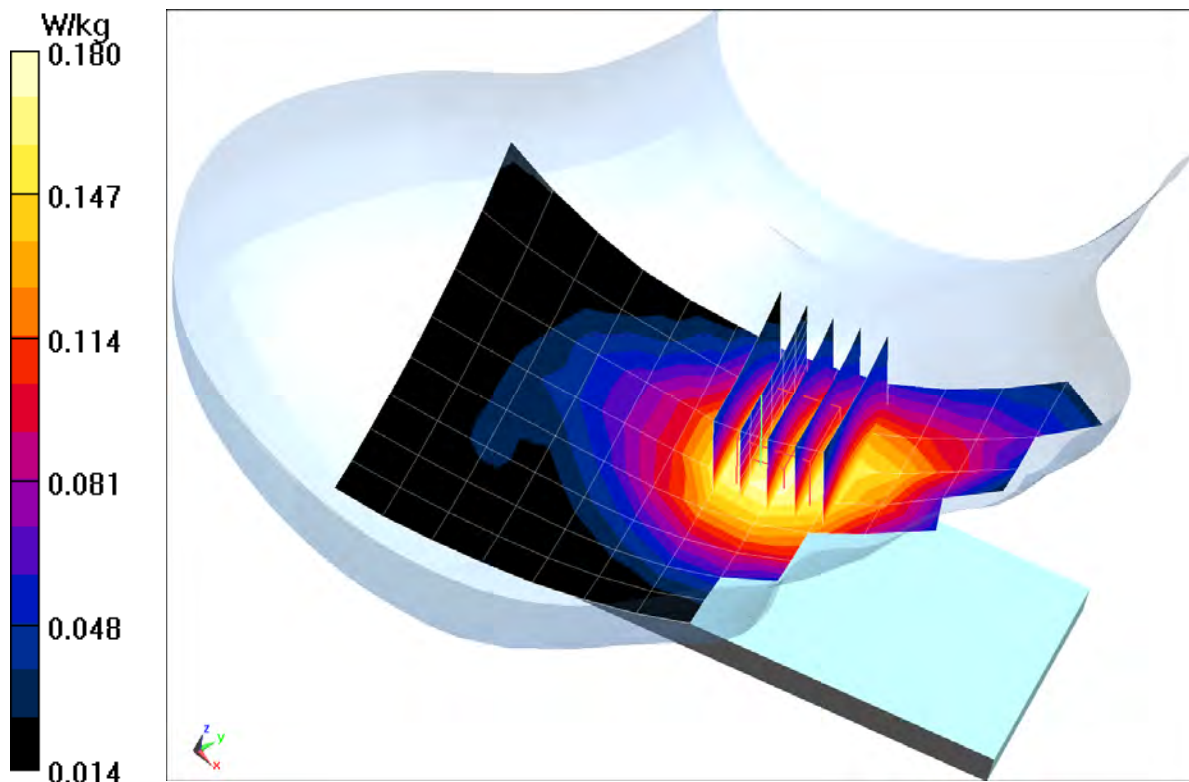
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (7x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 13.47 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.200 W/kg

SAR(1 g) = 0.155 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 15DDA

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; $\sigma = 0.877$ S/m; $\epsilon_r = 40.061$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Test Date: 06-08-2017; Ambient Temp: 21.3°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7406; ConvF(9.97, 9.97, 9.97); Calibrated: 4/18/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/11/2017

Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375

Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: LTE Band 5 (Cell.), Right Head, Cheek, Mid.ch
10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

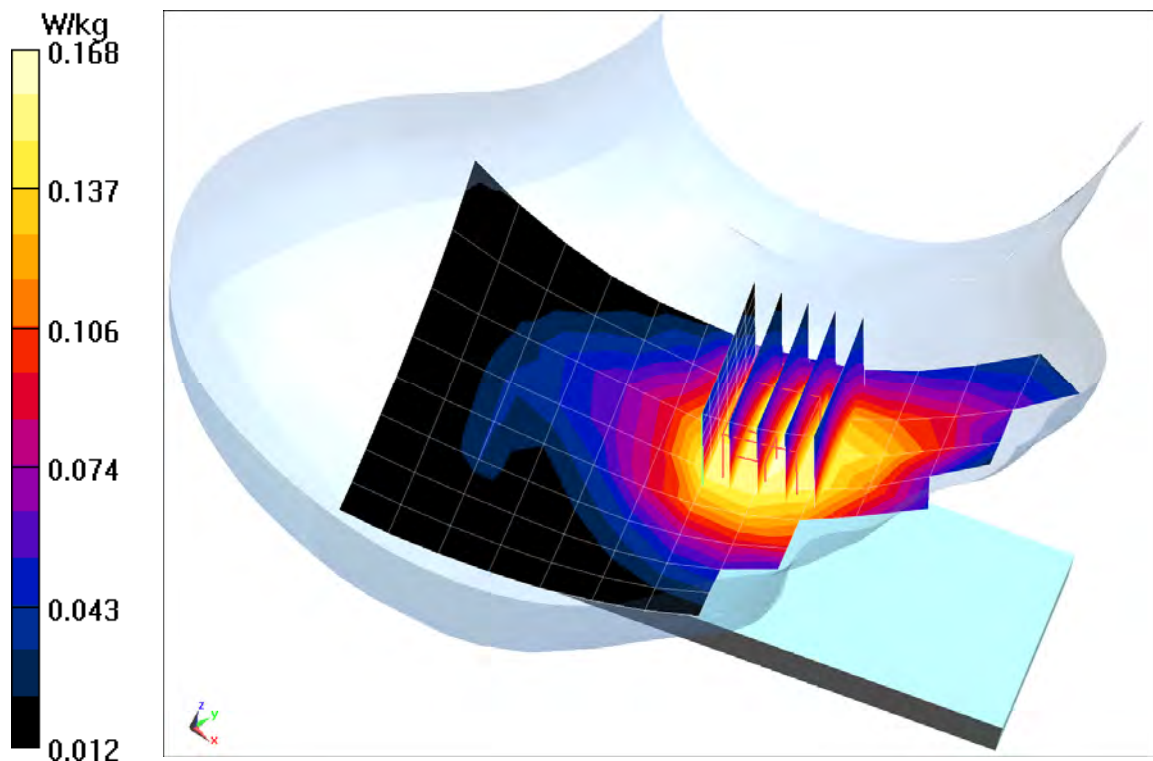
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (7x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.98 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.184 W/kg

SAR(1 g) = 0.144 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 1593F

Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1720 MHz; Duty Cycle: 1:1

Medium: 1750 Head Medium parameters used (interpolated):

$f = 1720 \text{ MHz}$; $\sigma = 1.381 \text{ S/m}$; $\epsilon_r = 40.018$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 06-10-2017; Ambient Temp: 20.4°C; Tissue Temp: 21.7°C

Probe: ES3DV3 - SN3332; ConvF(5.72, 5.72, 5.72); Calibrated: 8/25/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1333; Calibrated: 9/15/2016

Phantom: SAM Left; Type: SAM; Serial: 1688

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

Mode: LTE Band 66 (AWS), Left Head, Cheek, Low.ch
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

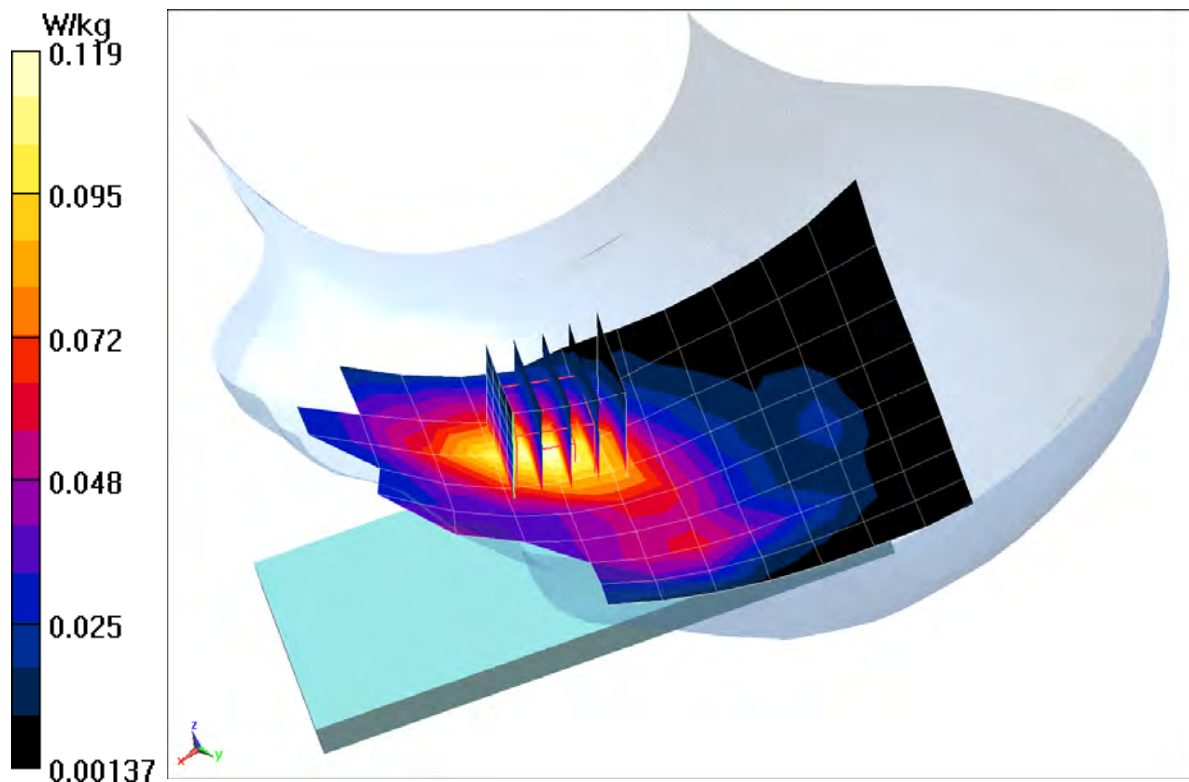
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 9.657 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.151 W/kg

SAR(1 g) = 0.102 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 1593F

Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1905 MHz; Duty Cycle: 1:1

Medium: 1900 Head Medium parameters used (interpolated):

$f = 1905 \text{ MHz}$; $\sigma = 1.457 \text{ S/m}$; $\epsilon_r = 38.968$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 06-12-2017; Ambient Temp: 19.2°C; Tissue Temp: 22.0°C

Probe: ES3DV3 - SN3209; ConvF(5.31, 5.31, 5.31); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1415; Calibrated: 3/13/2017

Phantom: SAM with CRP v4.0; Type: QD000P40CD; Serial: TP:1800

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

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

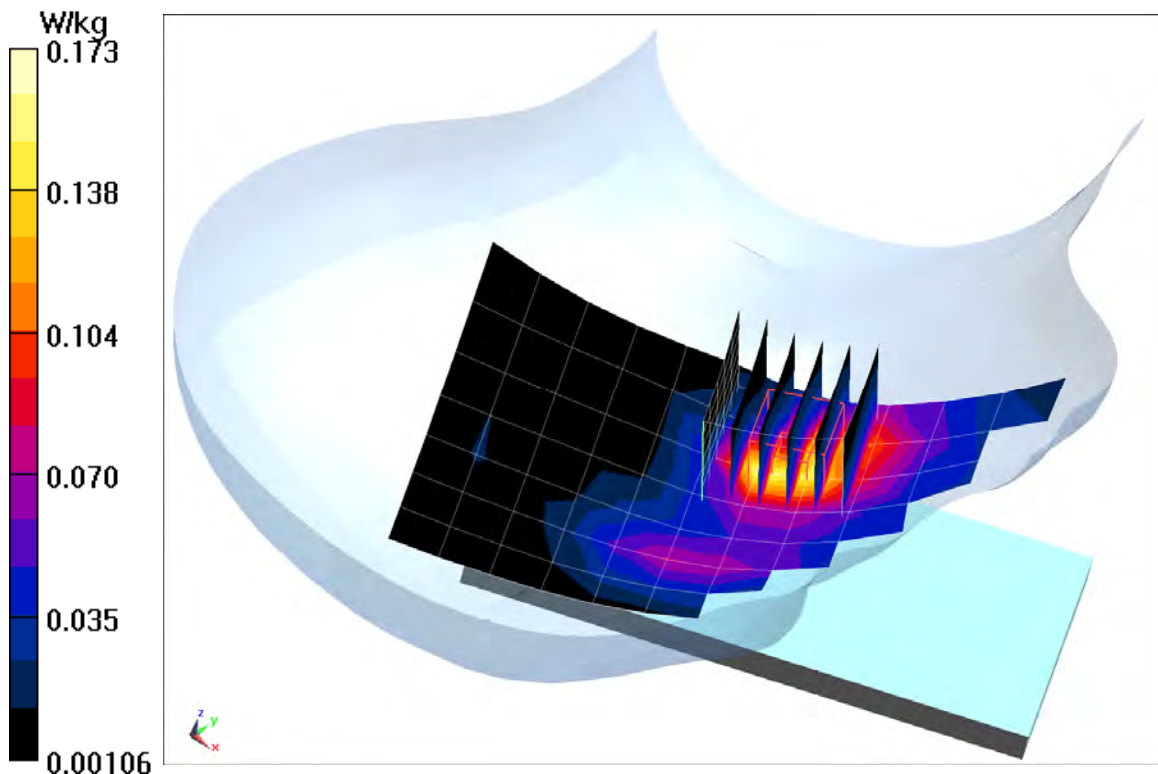
Area Scan (8x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 10.42 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.255 W/kg

SAR(1 g) = 0.146 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 158DD

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

Medium: 2300 Head Medium parameters used:

$f = 2310 \text{ MHz}$; $\sigma = 1.720 \text{ S/m}$; $\epsilon_r = 38.527$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 06-07-2017; Ambient Temp: 19.3°C; Tissue Temp: 21.2°C

Probe: ES3DV3 - SN3213; ConvF(4.95, 4.95, 4.95); Calibrated: 2/10/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 2/9/2017

Phantom: SAM Right; Type: SAM; Serial: 1757

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

Mode: LTE Band 30, Left Head, Cheek, Mid.ch
10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

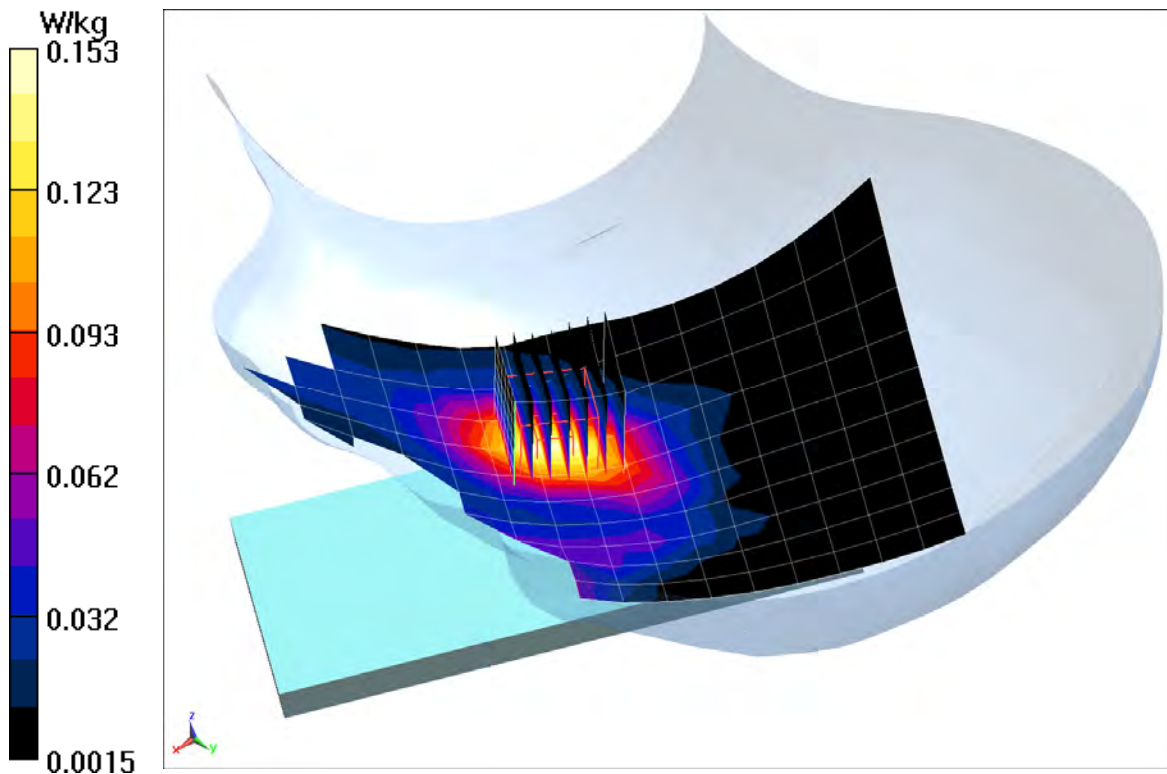
Area Scan (11x18x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 9.758 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.224 W/kg

SAR(1 g) = 0.127 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 158DD

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

Medium: 2600 Head Medium parameters used (interpolated):

$f = 2535 \text{ MHz}$; $\sigma = 1.964 \text{ S/m}$; $\epsilon_r = 37.591$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 06-07-2017; Ambient Temp: 19.3°C; Tissue Temp: 21.2°C

Probe: ES3DV3 - SN3213; ConvF(4.52, 4.52, 4.52); Calibrated: 2/10/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 2/9/2017

Phantom: SAM Right; Type: SAM; Serial: 1757

Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: LTE Band 7, Right Head, Cheek, Mid.ch
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

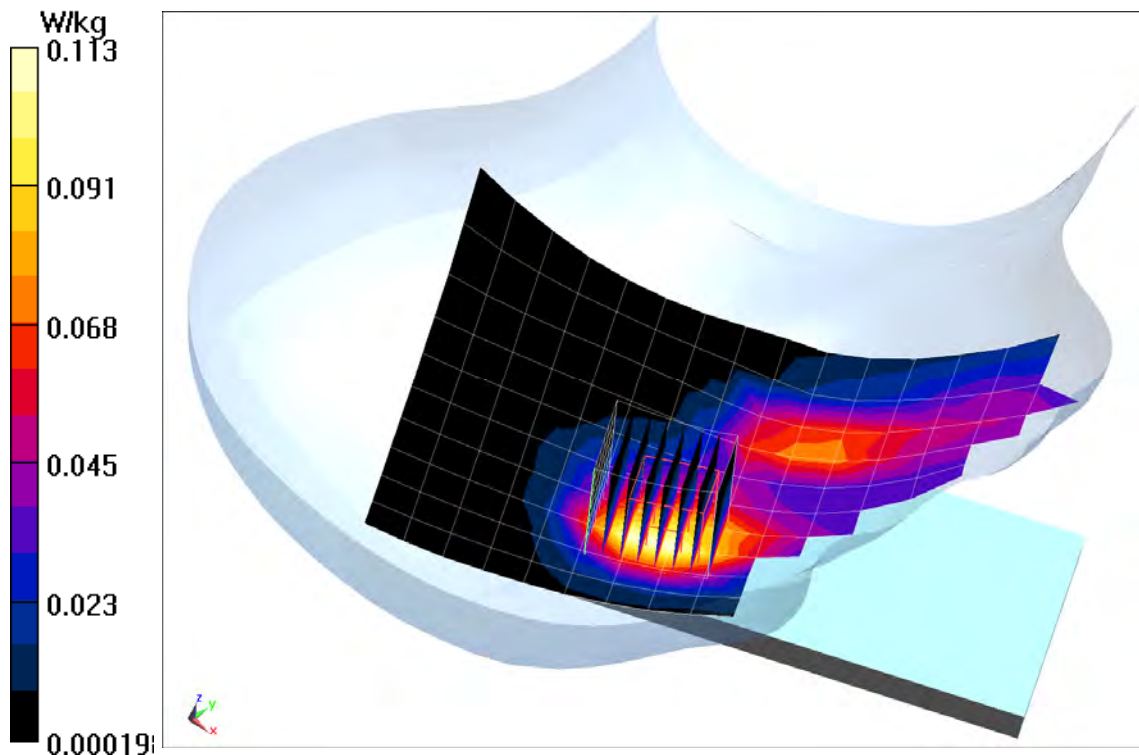
Area Scan (11x18x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

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

Reference Value = 7.832 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.167 W/kg

SAR(1 g) = 0.091 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 15DE5

Communication System: UID 0, LTE Band 41 (Class 2); Frequency: 2549.5 MHz; Duty Cycle: 1:2.31

Medium: 2600 Head Medium parameters used:

$f = 2550 \text{ MHz}$; $\sigma = 1.985 \text{ S/m}$; $\epsilon_r = 37.838$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 06-12-2017; Ambient Temp: 22.7°C; Tissue Temp: 23.5°C

Probe: EX3DV4 - SN7406; ConvF(7.44, 7.44, 7.44); Calibrated: 4/18/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/11/2017

Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375

Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

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

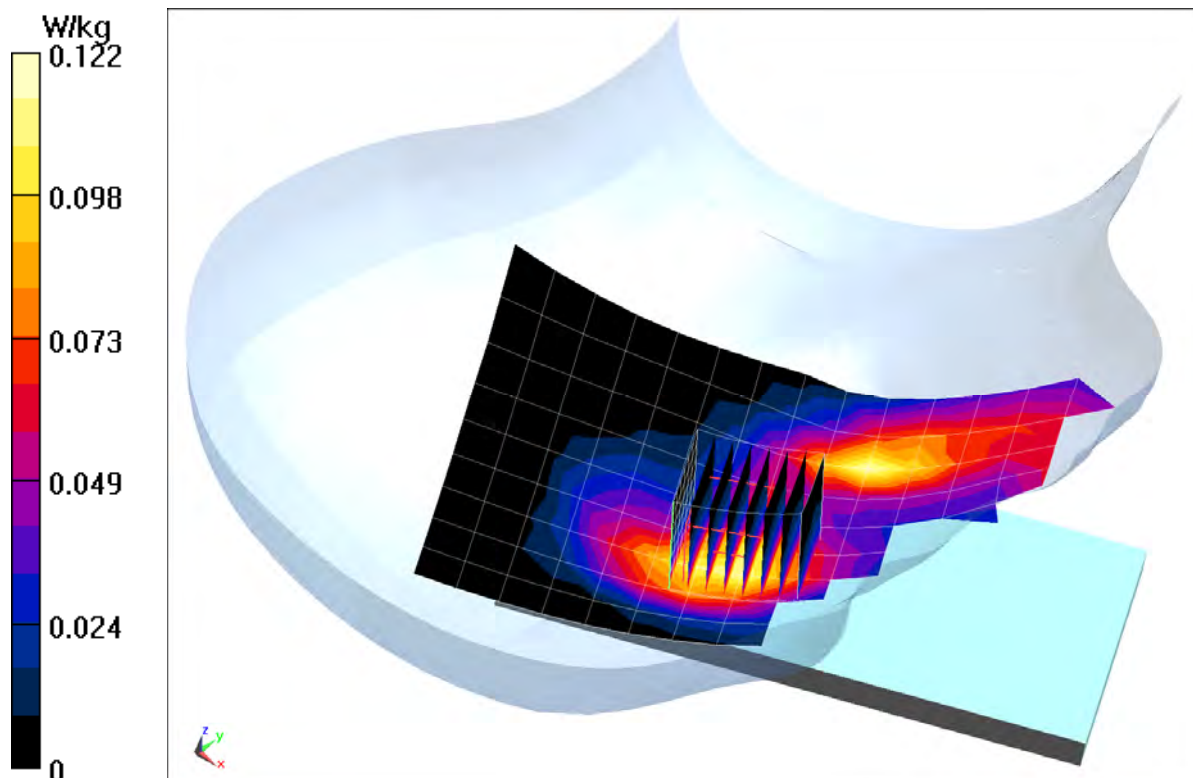
Area Scan (10x17x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (7x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.949 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.144 W/kg

SAR(1 g) = 0.075 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 1593D

Communication System: UID 0, IEEE 802.11b; Frequency: 2412 MHz; Duty Cycle: 1:1

Medium: 2450 Head Medium parameters used (interpolated):

$f = 2412 \text{ MHz}$; $\sigma = 1.821 \text{ S/m}$; $\epsilon_r = 38.414$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 06-12-2017; Ambient Temp: 22.7°C; Tissue Temp: 23.5°C

Probe: EX3DV4 - SN7406; ConvF(7.68, 7.68, 7.68); Calibrated: 4/18/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/11/2017

Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

**Mode: IEEE 802.11b, 22 MHz Bandwidth,
Right Head, Cheek, Ch 01, 1 Mbps, Antenna 2**

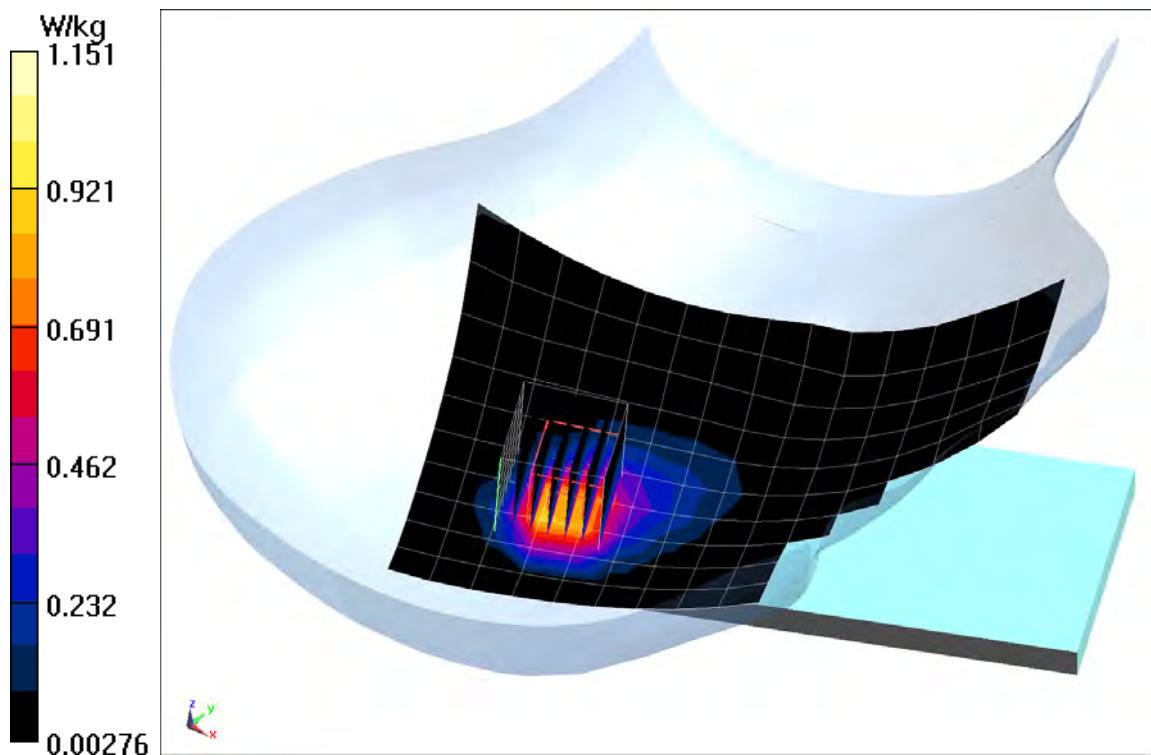
Area Scan (11x18x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 9.949 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 1.47 W/kg

SAR(1 g) = 0.684 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 1593D

Communication System: UID 0, 802.11ac 5.2-5.8 GHz Band; Frequency: 5690 MHz; Duty Cycle: 1:1

Medium: 5GHz Head Medium parameters used (interpolated):

$f = 5690 \text{ MHz}$; $\sigma = 5.042 \text{ S/m}$; $\epsilon_r = 35.248$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 06-06-2017; Ambient Temp: 20.1°C; Tissue Temp: 19.8°C

Probe: EX3DV4 - SN7357; ConvF(5.3, 5.3, 5.3); Calibrated: 4/20/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1415; Calibrated: 3/13/2017

Phantom: SAM with CRP v4.0; Type: QD000P40CD; Serial: TP:1800

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

**Mode: IEEE 802.11ac, U-NII-2C, 80 MHz Bandwidth, Right Head, Tilt,
Ch 138, 29.3 Mbps, Antenna 1**

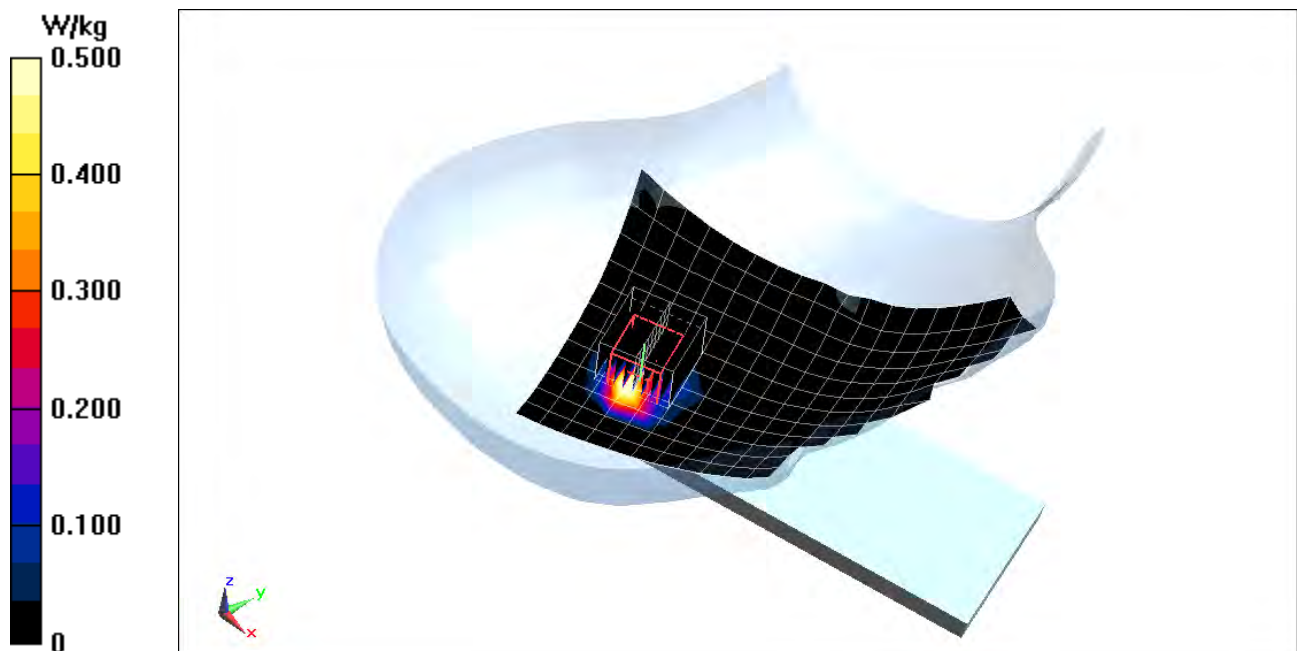
Area Scan (13x22x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Zoom Scan (9x9x7)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=1.4\text{mm}$; Graded Ratio: 1.4

Reference Value = 6.335 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 1.18 W/kg

SAR(1 g) = 0.259 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 1593D

Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.294

Medium: 2450 Head Medium parameters used (interpolated):

$f = 2441 \text{ MHz}$; $\sigma = 1.793 \text{ S/m}$; $\epsilon_r = 38.390$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 06-19-2017; Ambient Temp: 23.0°C; Tissue Temp: 23.0°C

Probe: ES3DV3 - SN3213; ConvF(4.70, 4.70, 4.70); Calibrated: 2/10/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 2/9/2017

Phantom: SAM Right; Type: SAM; Serial: 1757

Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

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

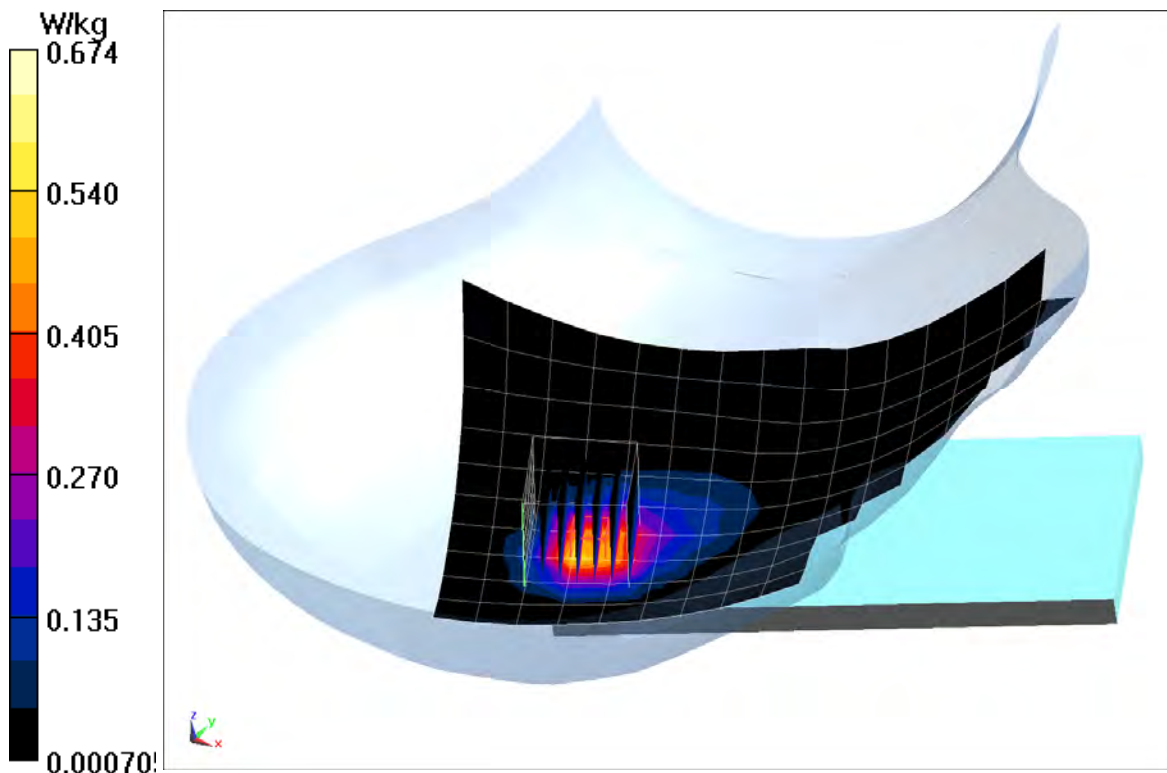
Area Scan (11x19x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 16.86 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 1.03 W/kg

SAR(1 g) = 0.505 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 155D4

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

Medium: 835 Body Medium parameters used (interpolated):

$f = 820.1 \text{ MHz}$; $\sigma = 0.951 \text{ S/m}$; $\epsilon_r = 53.652$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-06-2017; Ambient Temp: 21.6°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3319; ConvF(6.29, 6.29, 6.29); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/8/2017

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

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

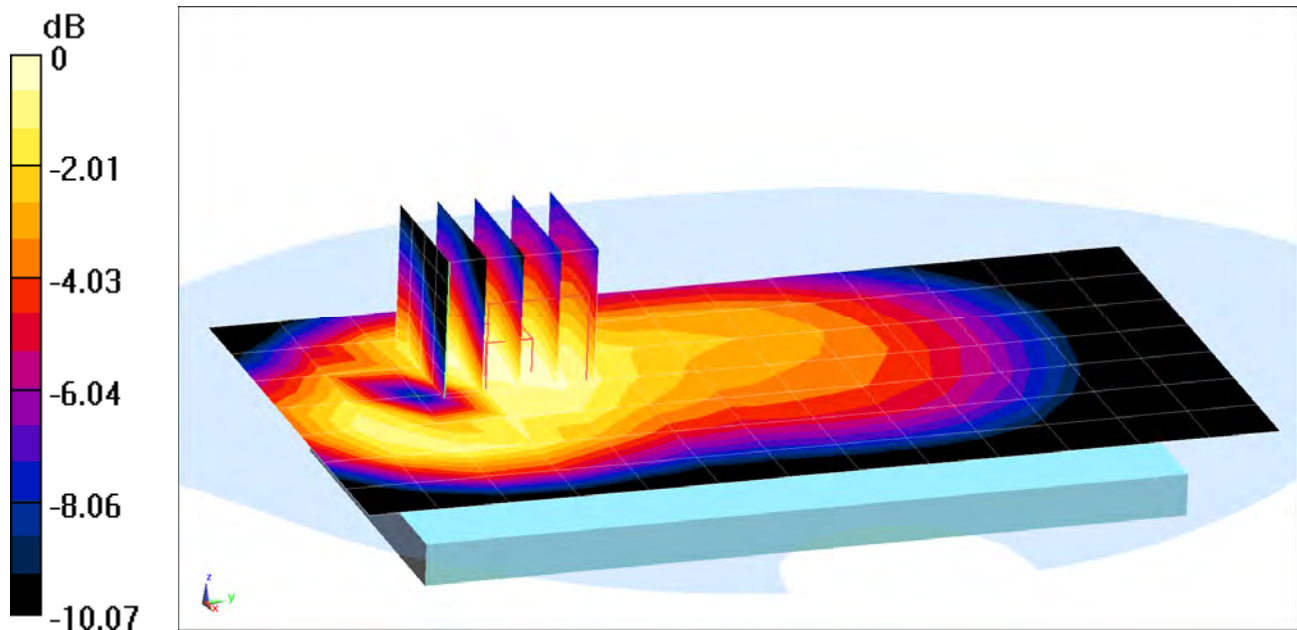
Area Scan (8x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 21.54 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.569 W/kg

SAR(1 g) = 0.423 W/kg



0 dB = 0.458 W/kg = -3.39 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 155D4

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

Medium: 835 Body Medium parameters used (interpolated):

$f = 820.1 \text{ MHz}$; $\sigma = 0.951 \text{ S/m}$; $\epsilon_r = 53.652$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-06-2017; Ambient Temp: 21.6°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3319; ConvF(6.29, 6.29, 6.29); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/8/2017

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

Mode: Cell. EVDO Rev.0, Rule Part 90S, Body SAR, Back side, Mid.ch

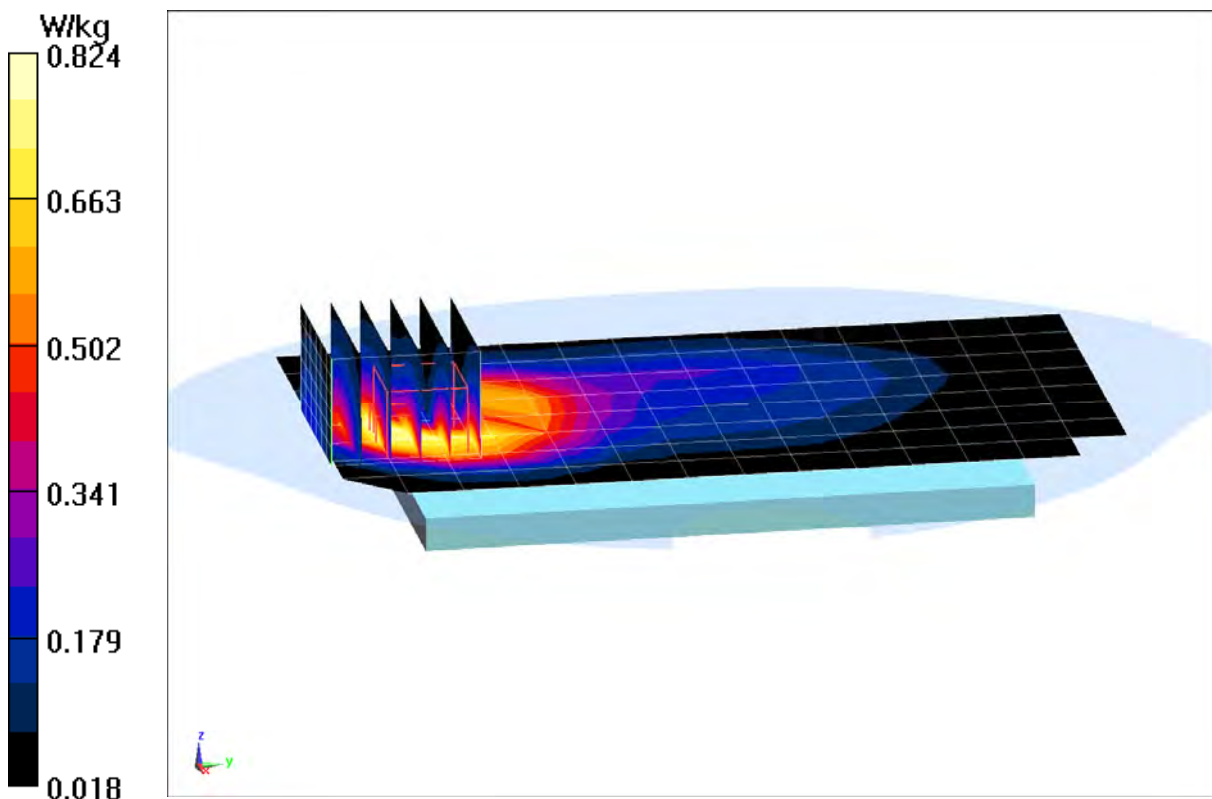
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (7x6x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 27.99 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 1.17 W/kg

SAR(1 g) = 0.705 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 155D4

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

Medium: 835 Body Medium parameters used (interpolated):

$f = 836.52$ MHz; $\sigma = 0.968$ S/m; $\epsilon_r = 53.484$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-06-2017; Ambient Temp: 21.6°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3319; ConvF(6.29, 6.29, 6.29); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/8/2017

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

Mode: Cell. CDMA, Rule Part 22H, Body SAR, Back side, Mid.ch

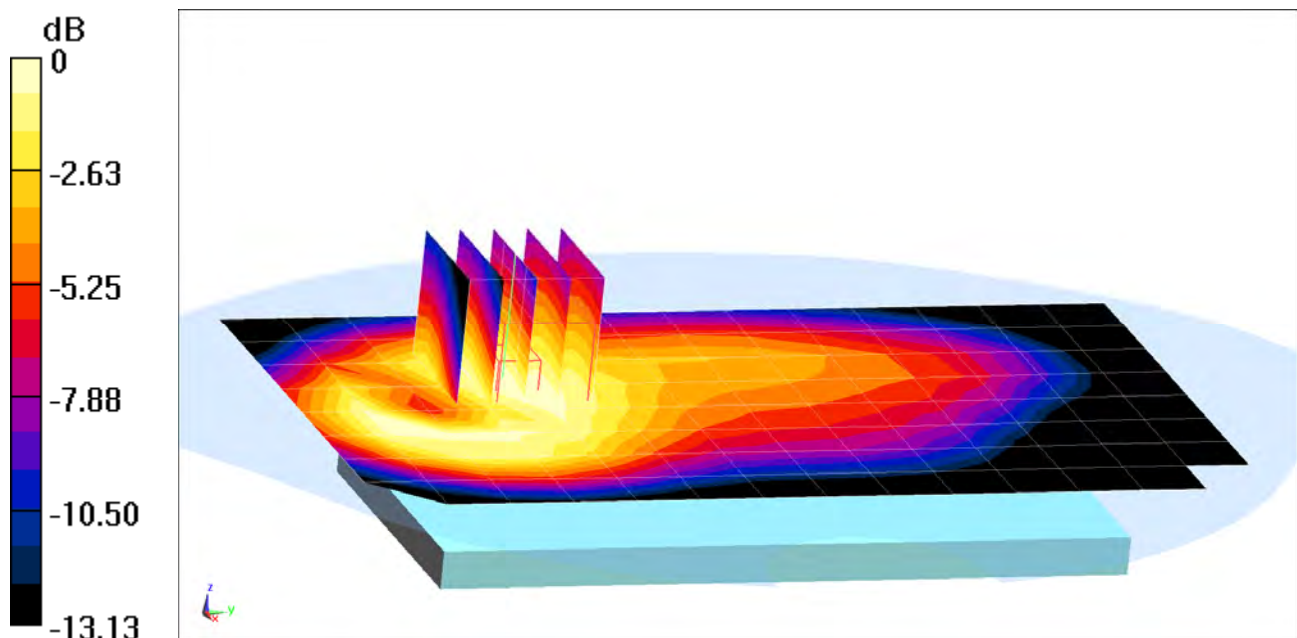
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 18.92 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.433 W/kg

SAR(1 g) = 0.317 W/kg



0 dB = 0.360 W/kg = -4.44 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 155D4

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

Medium: 835 Body Medium parameters used (interpolated):

$f = 836.52$ MHz; $\sigma = 0.968$ S/m; $\epsilon_r = 53.484$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-06-2017; Ambient Temp: 21.6°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3319; ConvF(6.29, 6.29, 6.29); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/8/2017

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

Mode: Cell. EVDO Rev.0, Rule Part 22H, Body SAR, Back side, Mid.ch

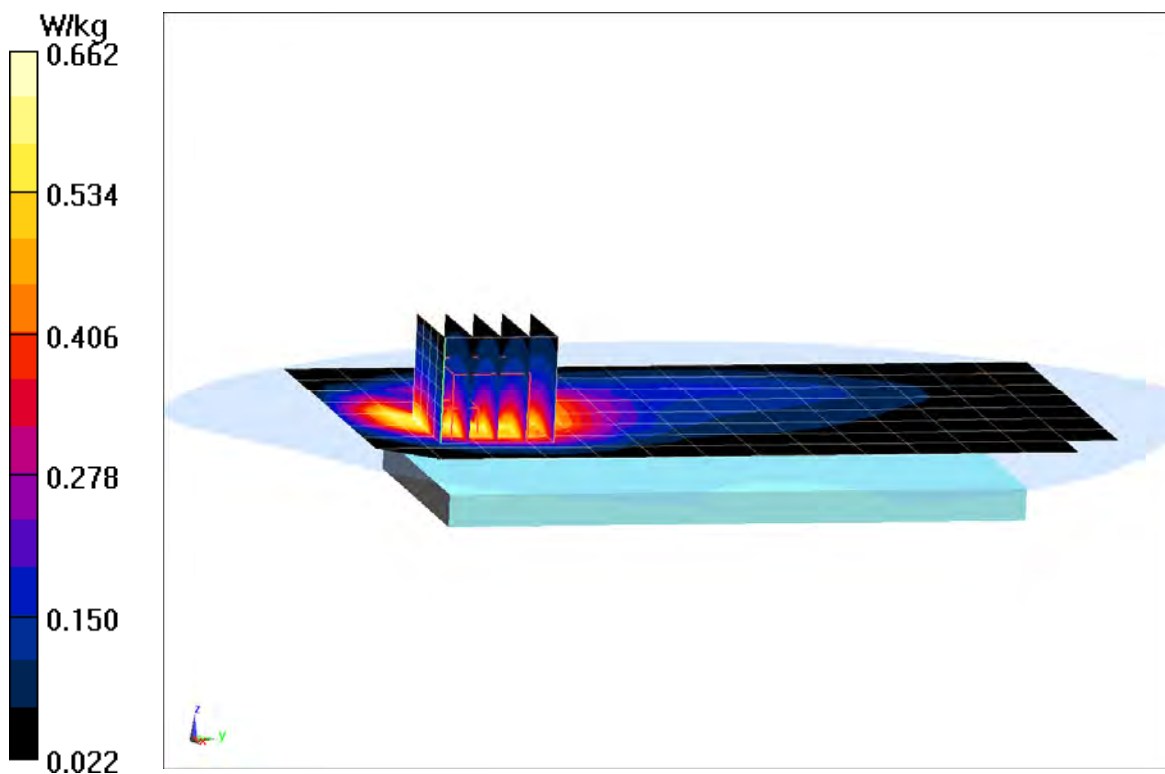
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 24.80 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.921 W/kg

SAR(1 g) = 0.541 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 155D4

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

Medium: 1900 Body Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.553 \text{ S/m}$; $\epsilon_r = 51.81$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-10-2017; Ambient Temp: 22.1°C; Tissue Temp: 21.9°C

Probe: ES3DV3 - SN3318; ConvF(4.96, 4.96, 4.96); Calibrated: 2/10/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/9/2017

Phantom: SAM with CRP v5.0 (Right); Type: QD000P40CD; Serial: TP:1759

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

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

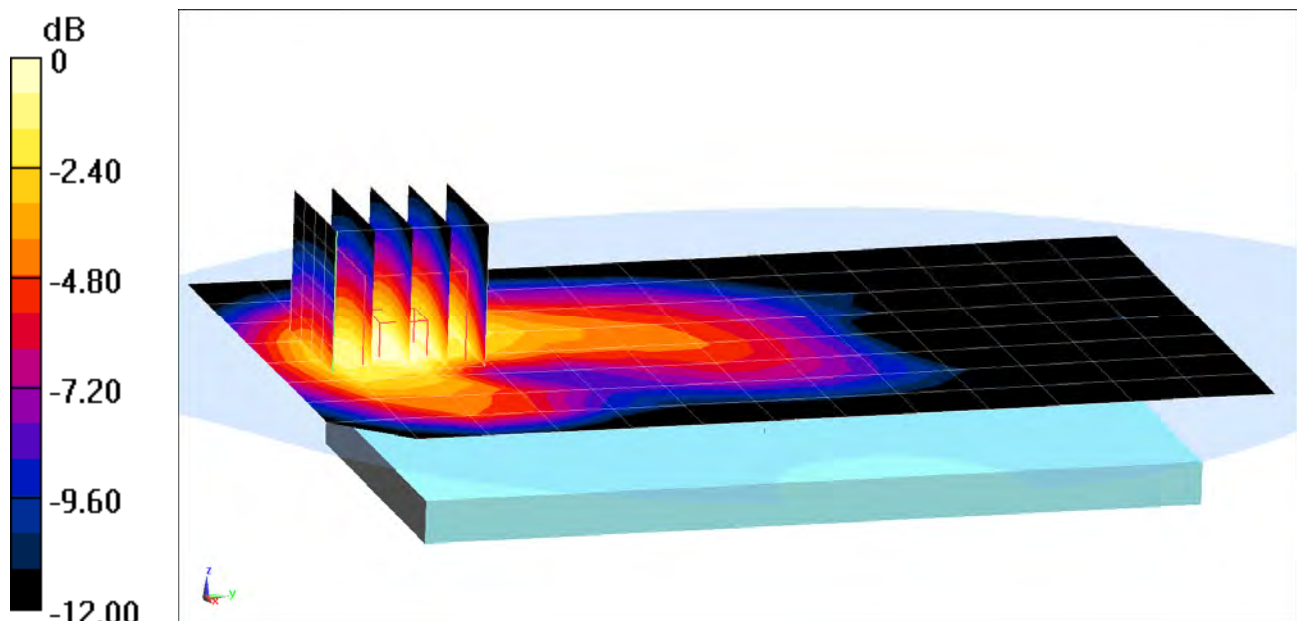
Area Scan (9x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 19.75 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.862 W/kg

SAR(1 g) = 0.542 W/kg



0 dB = 0.586 W/kg = -2.32 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 1522F

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

Medium: 1900 Body Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.553 \text{ S/m}$; $\epsilon_r = 51.810$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-10-2017; Ambient Temp: 22.1°C; Tissue Temp: 21.9°C

Probe: ES3DV3 - SN3318; ConvF(4.96, 4.96, 4.96); Calibrated: 2/10/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/9/2017

Phantom: SAM with CRP v5.0 (Right); Type: QD000P40CD; Serial: TP:1759

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

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

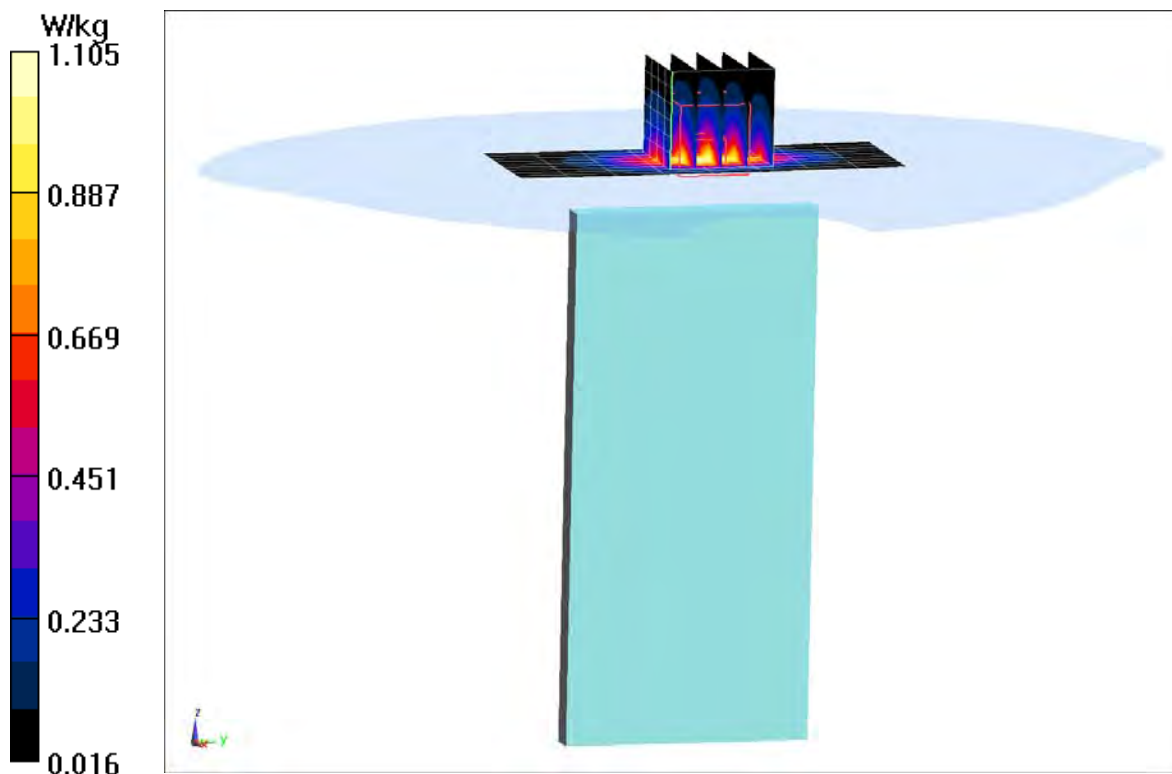
Area Scan (10x9x1): Measurement grid: $dx=5\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 25.87 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.52 W/kg

SAR(1 g) = 0.889 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 158C6

Communication System: UID 0, GSM; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: 835 Body Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$; $\sigma = 0.968 \text{ S/m}$; $\epsilon_r = 53.483$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-06-2017; Ambient Temp: 21.6°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3319; ConvF(6.29, 6.29, 6.29); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/8/2017

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

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

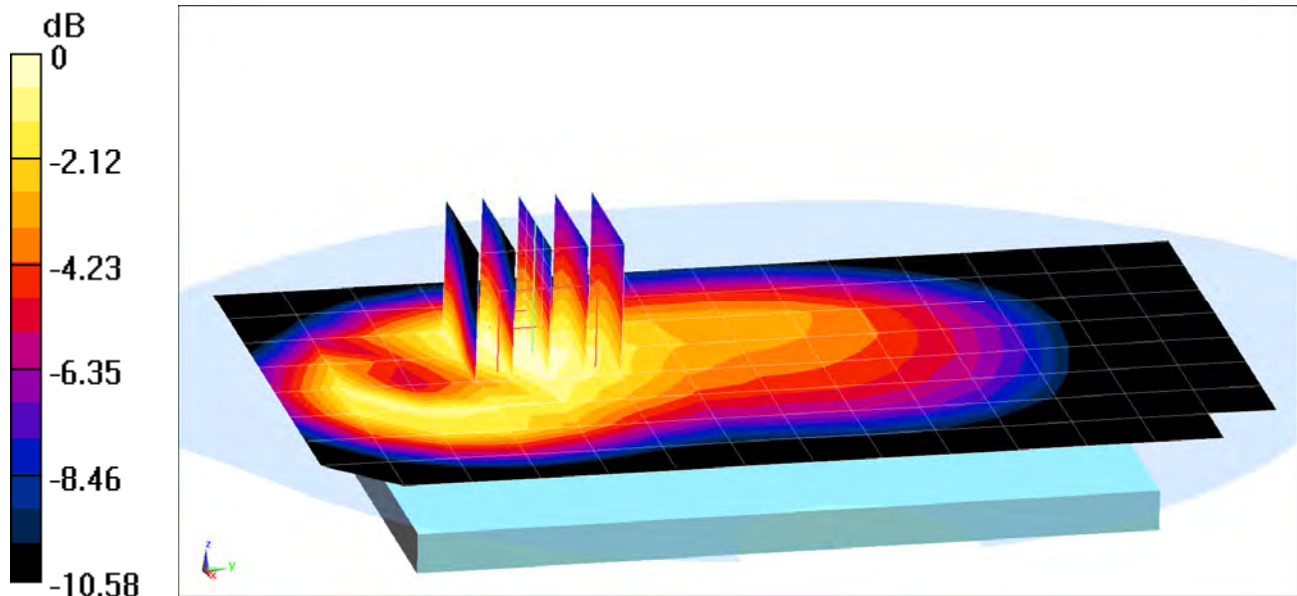
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 17.77 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.388 W/kg

SAR(1 g) = 0.284 W/kg



0 dB = 0.316 W/kg = -5.00 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 158C6

Communication System: UID 0, GSM GPRS; 3 Tx slots; Frequency: 836.6 MHz; Duty Cycle: 1:2.76

Medium: 835 Body Medium parameters used (interpolated):

$f = 836.6$ MHz; $\sigma = 0.968$ S/m; $\epsilon_r = 53.483$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-06-2017; Ambient Temp: 21.6°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3319; ConvF(6.29, 6.29, 6.29); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/8/2017

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

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

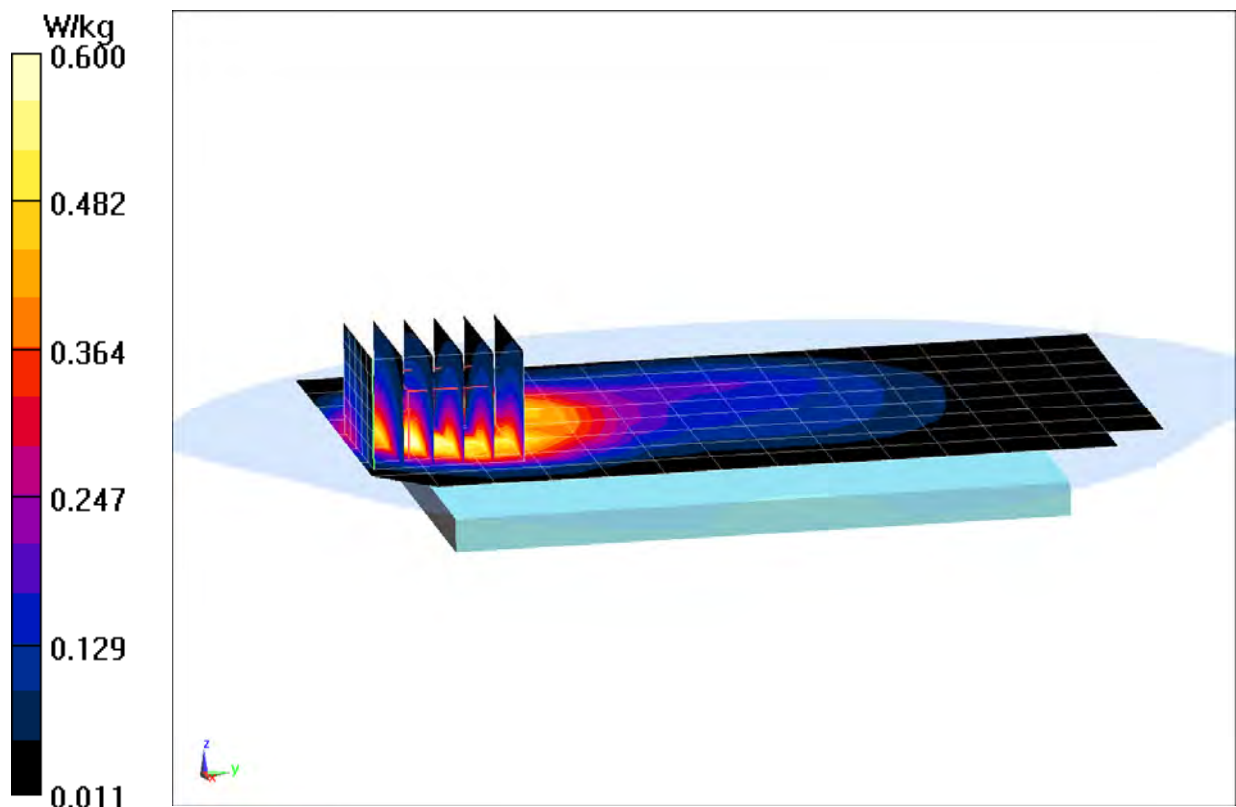
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 24.27 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.833 W/kg

SAR(1 g) = 0.504 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 158C6

Communication System: UID 0, GSM; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: 1900 Body Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.555 \text{ S/m}$; $\epsilon_r = 51.859$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-06-2017; Ambient Temp: 20.8°C; Tissue Temp: 21.5°C

Probe: ES3DV3 - SN3318; ConvF(4.96, 4.96, 4.96); Calibrated: 2/10/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/9/2017

Phantom: SAM with CRP v5.0 (Right); Type: QD000P40CD; Serial: TP:1759

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

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

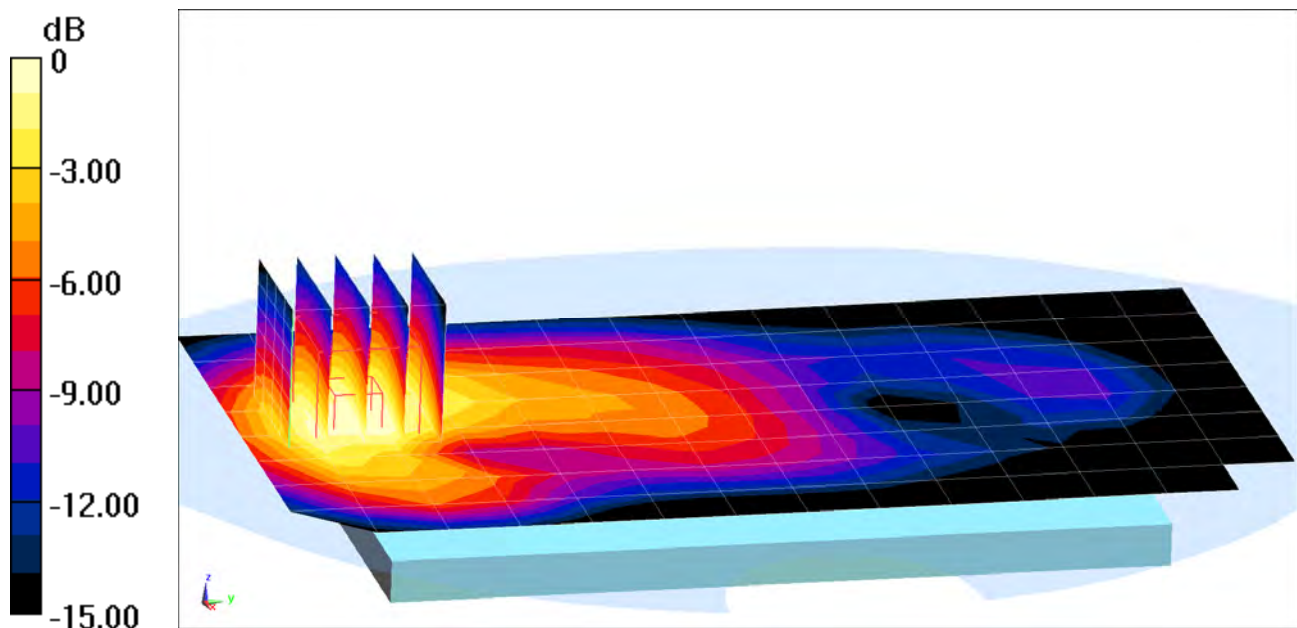
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 13.90 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.430 W/kg

SAR(1 g) = 0.267 W/kg



0 dB = 0.284 W/kg = -5.47 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 1521E

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

Medium: 1900 Body Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.545 \text{ S/m}$; $\epsilon_r = 51.183$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-20-2017; Ambient Temp: 23.3°C; Tissue Temp: 21.3°C

Probe: ES3DV3 - SN3319; ConvF(4.88, 4.88, 4.88); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/8/2017

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: GPRS 1900, Body SAR, Bottom Edge, Mid.ch, 3 Tx Slots

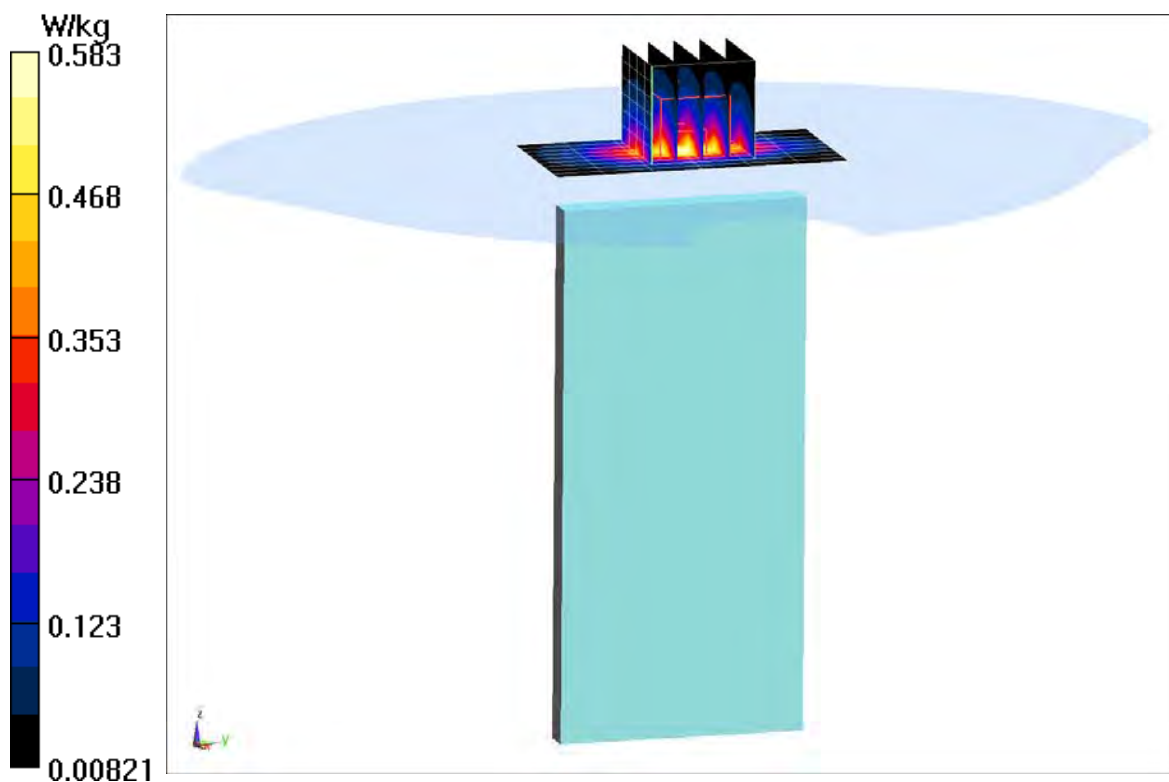
Area Scan (10x7x1): Measurement grid: $dx=5\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 19.01 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 0.783 W/kg

SAR(1 g) = 0.469 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 158C6

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

Medium: 835 Body Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$; $\sigma = 0.968 \text{ S/m}$; $\epsilon_r = 53.483$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-06-2017; Ambient Temp: 21.6°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3319; ConvF(6.29, 6.29, 6.29); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/8/2017

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

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

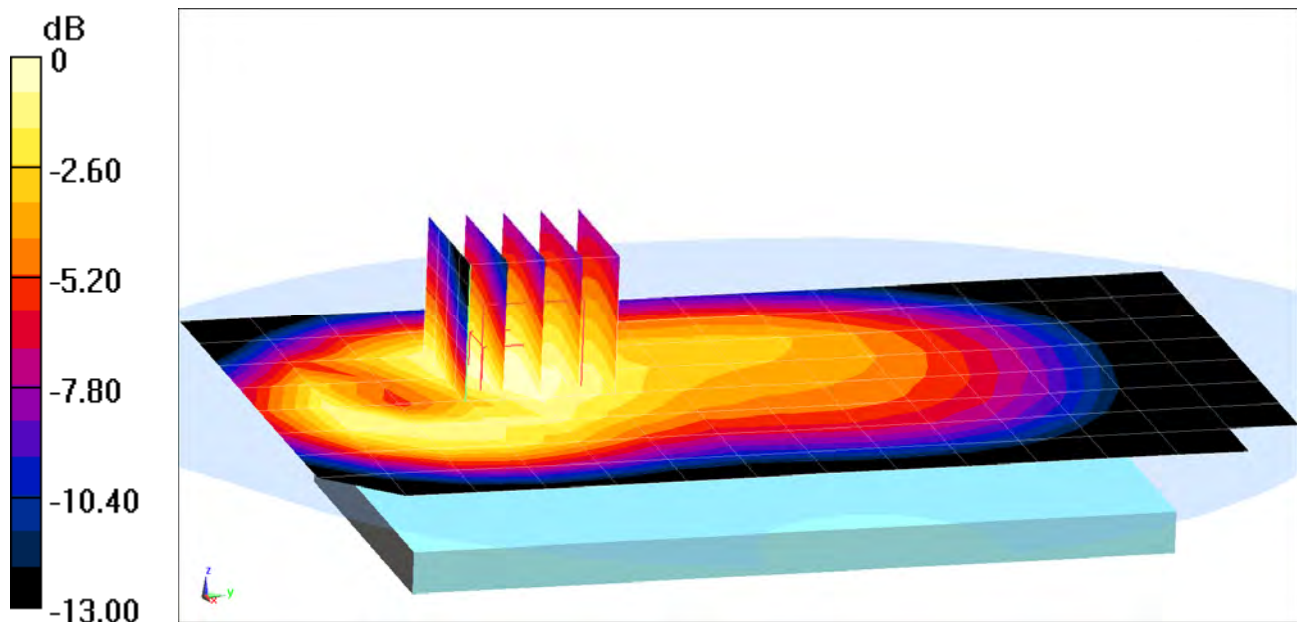
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 19.91 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.489 W/kg

SAR(1 g) = 0.357 W/kg



0 dB = 0.396 W/kg = -4.02 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 158C6

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

Medium: 835 Body Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$; $\sigma = 0.968 \text{ S/m}$; $\epsilon_r = 53.483$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-06-2017; Ambient Temp: 21.6°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3319; ConvF(6.29, 6.29, 6.29); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/8/2017

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

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

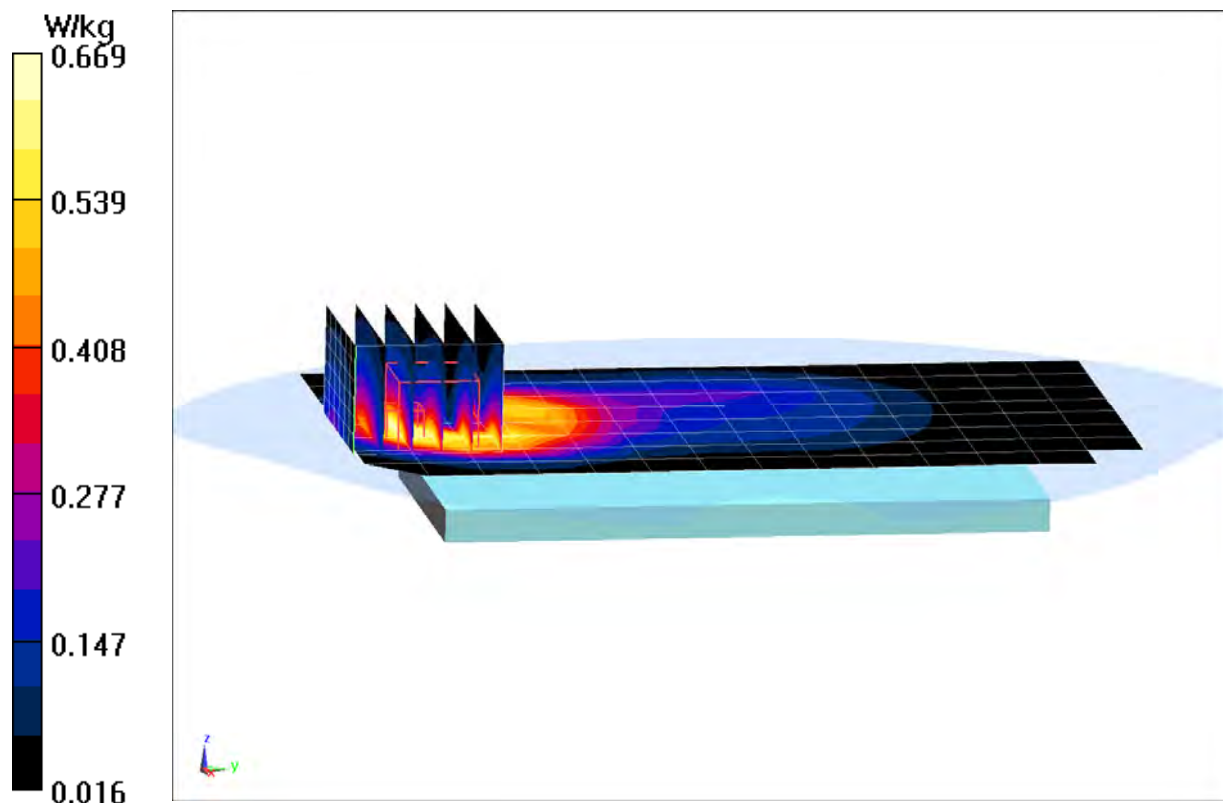
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (7x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 25.33 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.934 W/kg

SAR(1 g) = 0.567 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 06D58

Communication System: UID 0, UMTS; Frequency: 1752.6 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used (interpolated):

$f = 1752.6$ MHz; $\sigma = 1.503$ S/m; $\epsilon_r = 51.434$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 07-03-2017; Ambient Temp: 22.1°C; Tissue Temp: 21.4°C

Probe: ES3DV3 - SN3319; ConvF(5.07, 5.07, 5.07); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/8/2017

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

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

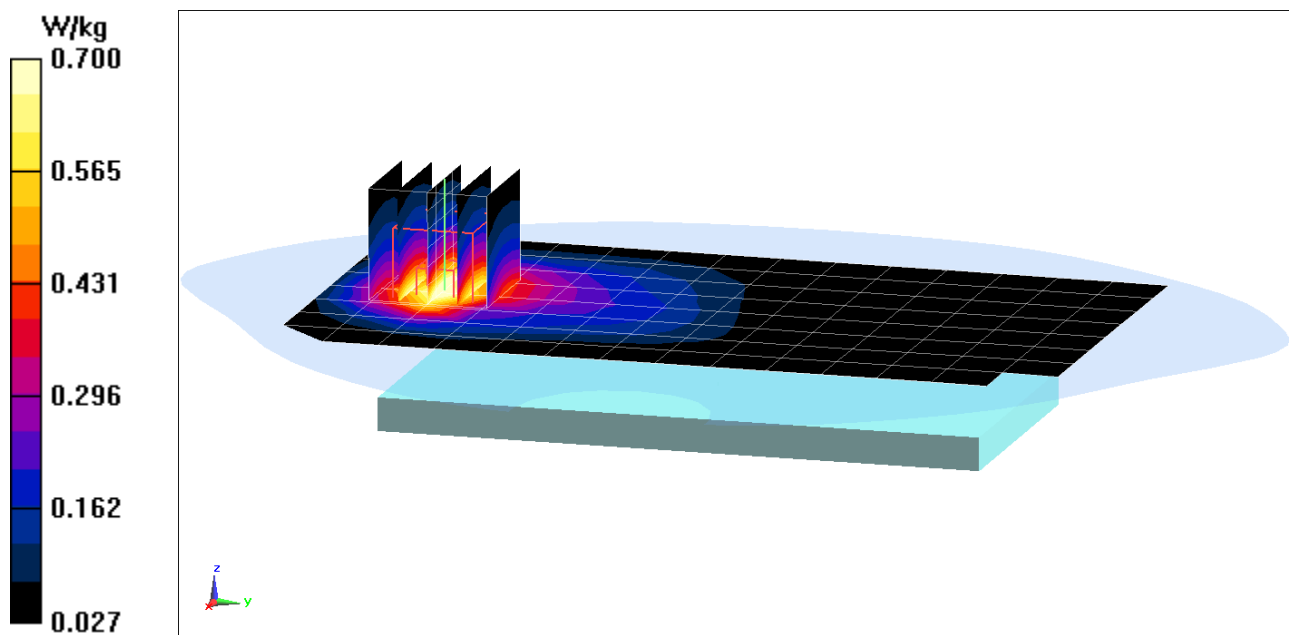
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 22.97 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.08 W/kg

SAR(1 g) = 0.699 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 1521E

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

Medium: 1750 Body Medium parameters used (interpolated):

$f = 1732.4 \text{ MHz}$; $\sigma = 1.422 \text{ S/m}$; $\epsilon_r = 52.612$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-19-2017; Ambient Temp: 24.6°C; Tissue Temp: 22.4°C

Probe: ES3DV3 - SN3318; ConvF(5.12, 5.12, 5.12); Calibrated: 2/10/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/9/2017

Phantom: SAM with CRP v5.0 (Right); Type: QD000P40CD; Serial: TP:1759

Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: UMTS 1750, Body SAR, Bottom Edge, Mid.ch

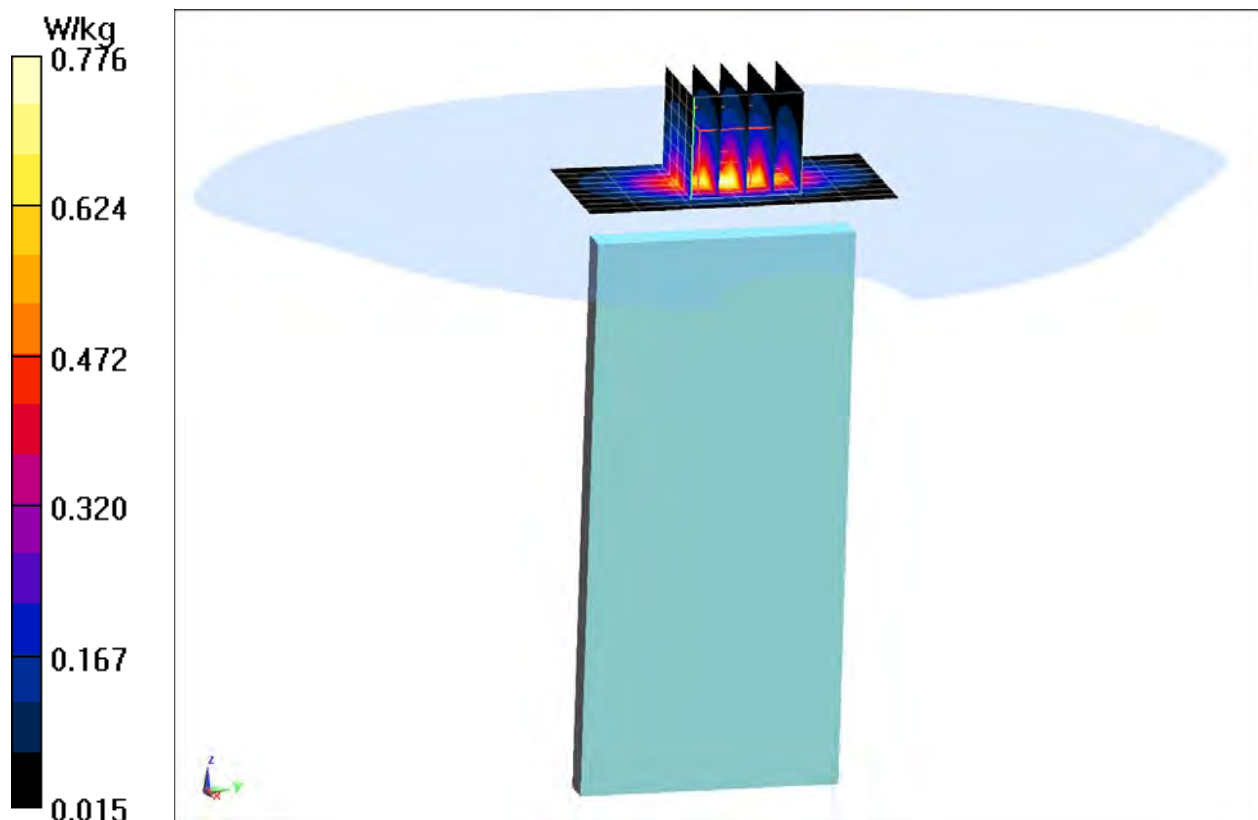
Area Scan (10x7x1): Measurement grid: $dx=5\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 22.64 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 1.04 W/kg

SAR(1 g) = 0.629 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 06D58

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

Medium: 1900 Body Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.512 \text{ S/m}$; $\epsilon_r = 51.971$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 07-04-2017; Ambient Temp: 21.1°C; Tissue Temp: 21.7°C

Probe: ES3DV3 - SN3209; ConvF(4.93, 4.93, 4.93); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1415; Calibrated: 3/13/2017

Phantom: SAM with CRP v4.0 Left; Type: QD000P40CD; Serial: TP:1692

Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

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

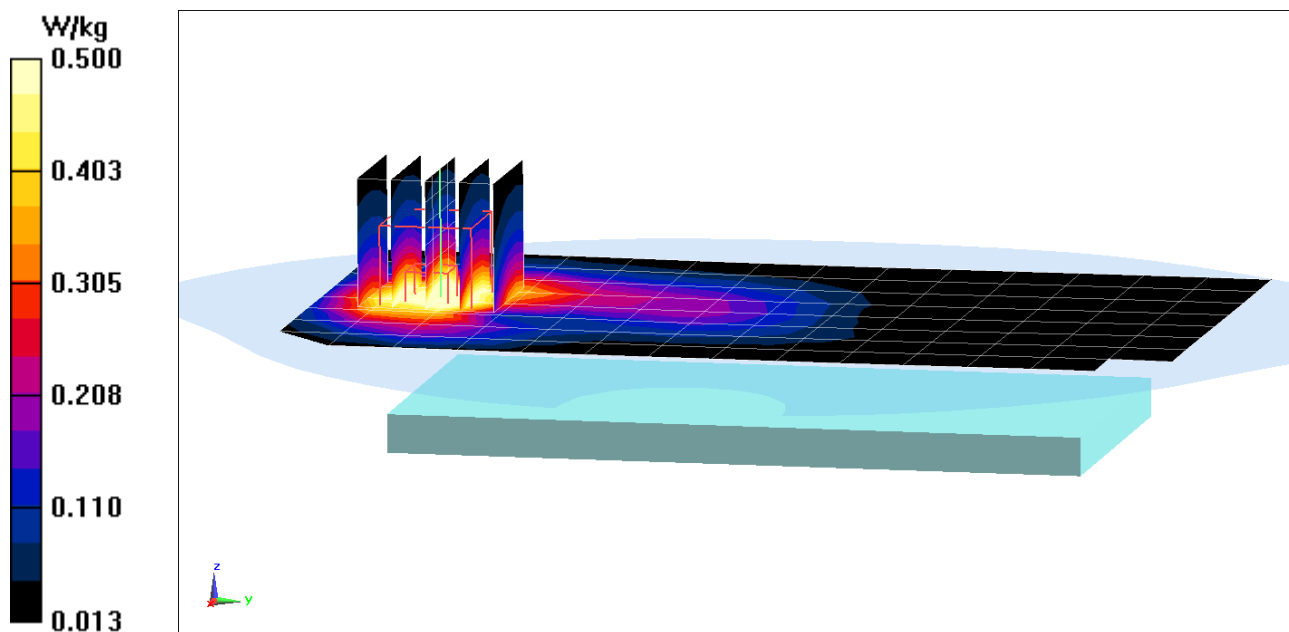
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 20.45 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.885 W/kg

SAR(1 g) = 0.557 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 1521E

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

Medium: 1900 Body Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.545 \text{ S/m}$; $\epsilon_r = 51.183$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-20-2017; Ambient Temp: 23.3°C; Tissue Temp: 21.3°C

Probe: ES3DV3 - SN3319; ConvF(4.88, 4.88, 4.88); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/8/2017

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

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

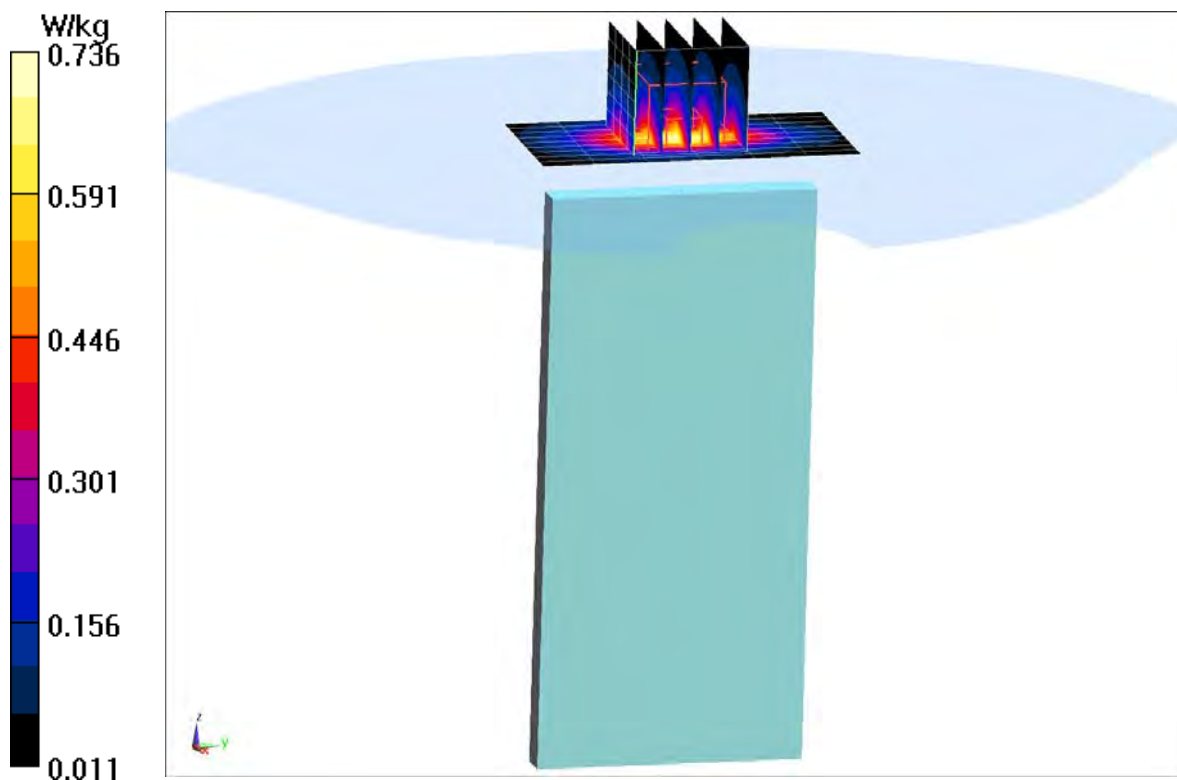
Area Scan (10x7x1): Measurement grid: $dx=5\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 21.14 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 1.01 W/kg

SAR(1 g) = 0.593 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 15DDA

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

Medium: 750 Body Medium parameters used (interpolated):

$f = 707.5 \text{ MHz}$; $\sigma = 0.932 \text{ S/m}$; $\epsilon_r = 57.38$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-05-2017; Ambient Temp: 21.7°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN7406; ConvF(9.9, 9.9, 9.9); Calibrated: 4/18/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/11/2017

Phantom: SAM Right; Type: QD000P40CD; Serial: TP:7535

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

Mode: LTE Band 12, Body SAR, Back side, Mid.ch
10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

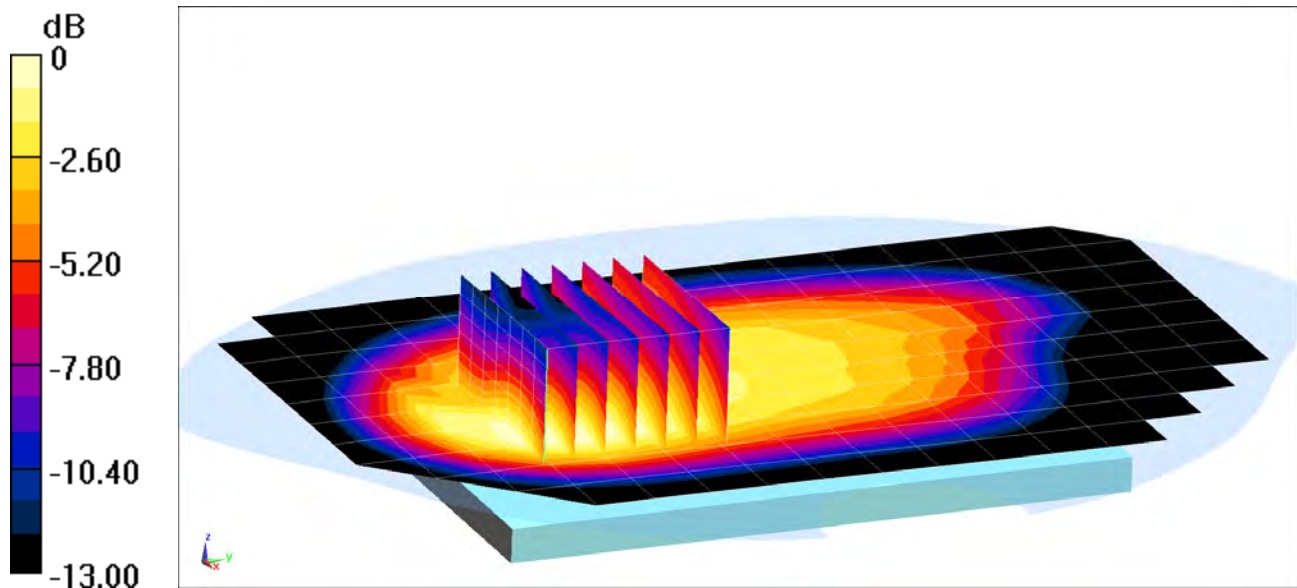
Area Scan (11x17x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Zoom Scan (8x7x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 15.95 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.358 W/kg

SAR(1 g) = 0.232 W/kg



0 dB = 0.293 W/kg = -5.33 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 15DDA

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; $\sigma = 0.932$ S/m; $\epsilon_r = 57.380$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-05-2017; Ambient Temp: 21.7°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN7406; ConvF(9.9, 9.9, 9.9); Calibrated: 4/18/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/11/2017

Phantom: SAM Right; Type: QD000P40CD; Serial: TP:7535

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

Mode: LTE Band 12, Body SAR, Back side, Mid.ch
10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

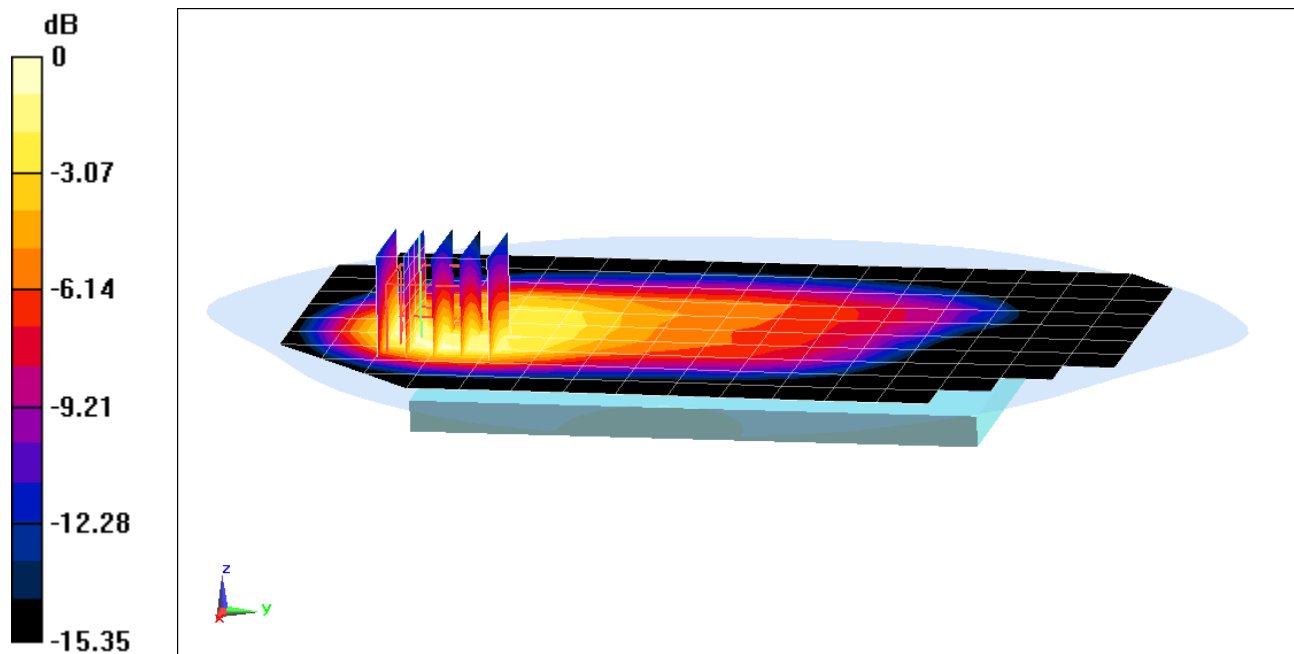
Area Scan (11x17x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 23.37 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.851 W/kg

SAR(1 g) = 0.480 W/kg



0 dB = 0.706 W/kg = -1.51 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 15DDA

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

Medium: 750 Body Medium parameters used (interpolated):

$f = 782 \text{ MHz}$; $\sigma = 1.008 \text{ S/m}$; $\epsilon_r = 56.611$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-05-2017; Ambient Temp: 21.7°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN7406; ConvF(9.9, 9.9, 9.9); Calibrated: 4/18/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/11/2017

Phantom: SAM Right; Type: QD000P40CD; Serial: TP:7535

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

Mode: LTE Band 13, Body SAR, Back side, Mid.ch
10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

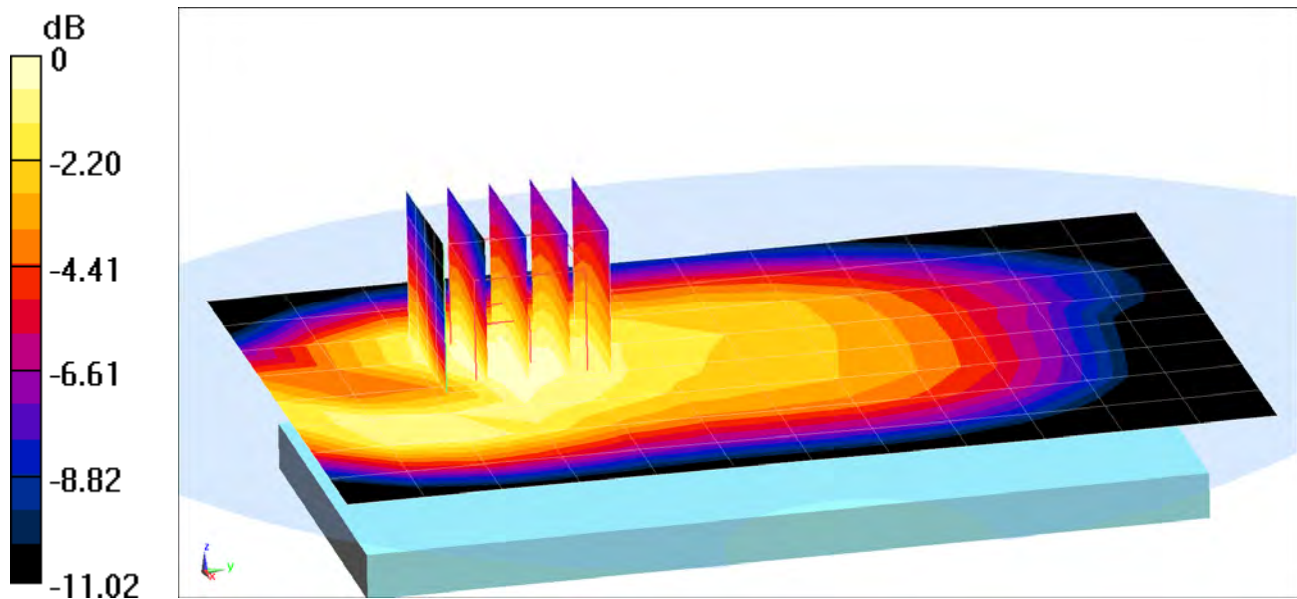
Area Scan (9x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 19.33 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.492 W/kg

SAR(1 g) = 0.360 W/kg



0 dB = 0.445 W/kg = -3.52 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 15DDA

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

Medium: 750 Body Medium parameters used (interpolated):

$f = 782 \text{ MHz}$; $\sigma = 1.008 \text{ S/m}$; $\epsilon_r = 56.611$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-05-2017; Ambient Temp: 21.7°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN7406; ConvF(9.9, 9.9, 9.9); Calibrated: 4/18/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/11/2017

Phantom: SAM Right; Type: QD000P40CD; Serial: TP:7535

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

Mode: LTE Band 13, Body SAR, Back side, Mid.ch
10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

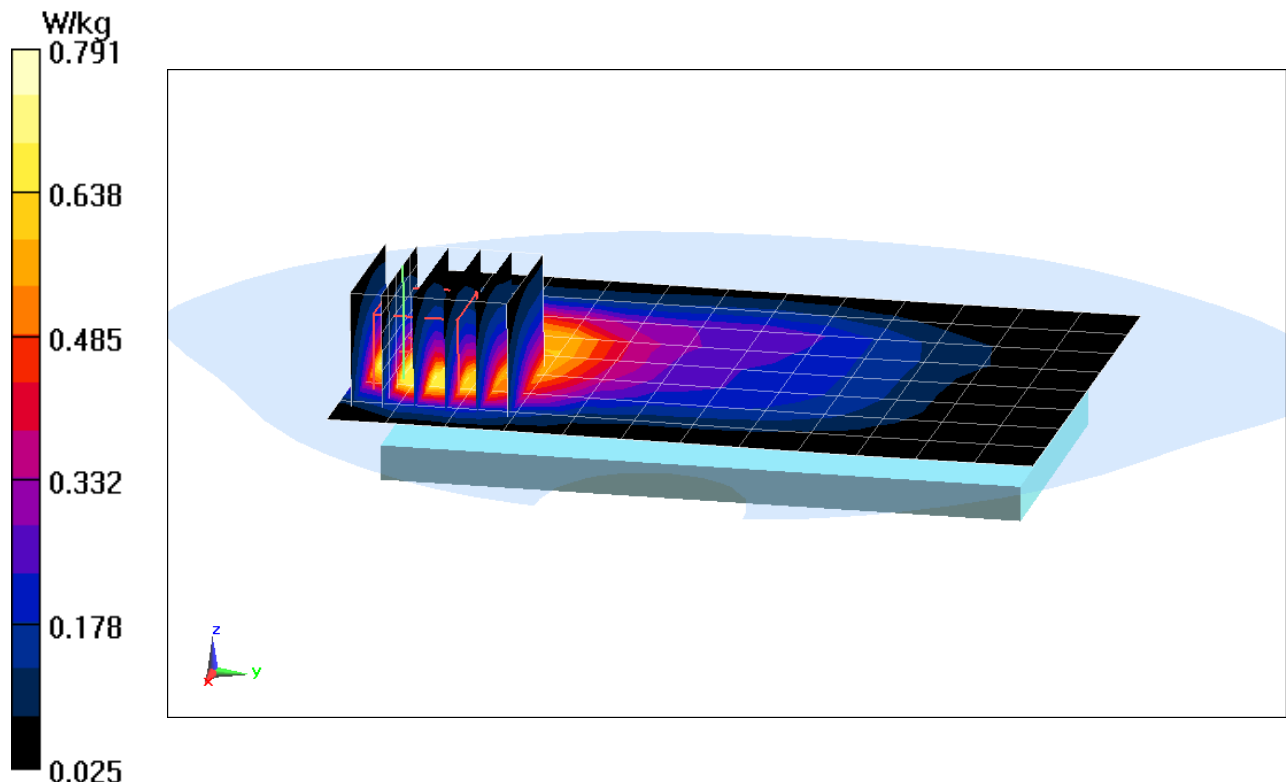
Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 24.72 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.963 W/kg

SAR(1 g) = 0.572 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 15DDA

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

Medium: 835 Body Medium parameters used (interpolated):

$f = 831.5 \text{ MHz}$; $\sigma = 0.963 \text{ S/m}$; $\epsilon_r = 53.536$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-06-2017; Ambient Temp: 21.6°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3319; ConvF(6.29, 6.29, 6.29); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/8/2017

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

**Mode: LTE Band 26 (Cell.), Body SAR, Back side, Mid.ch,
15 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

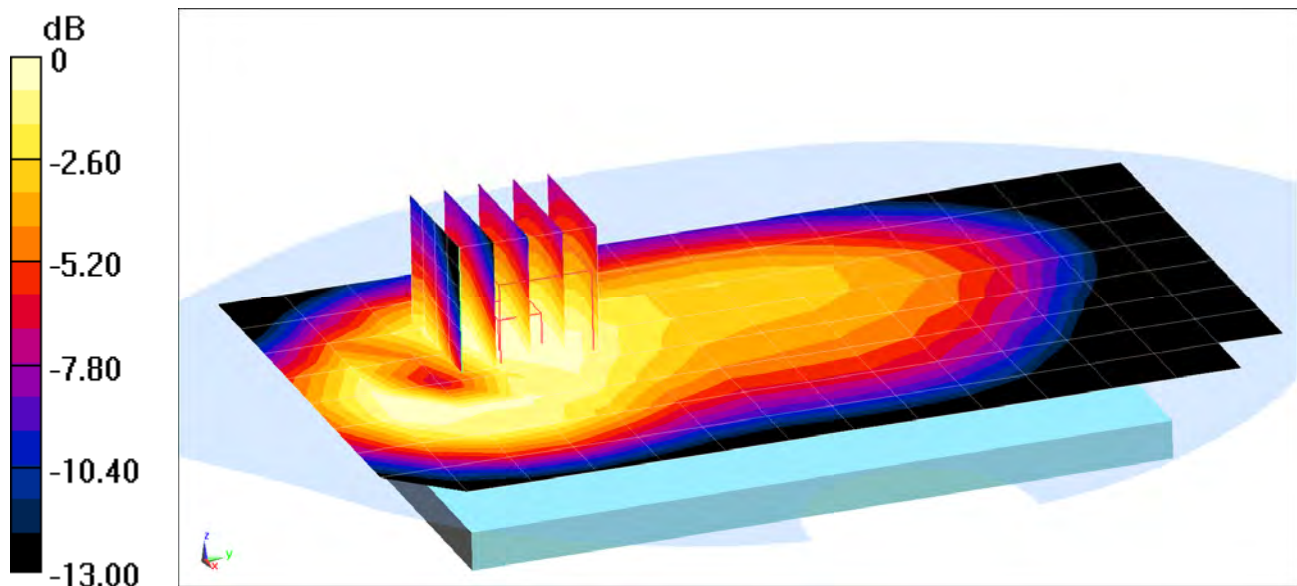
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 19.92 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.474 W/kg

SAR(1 g) = 0.348 W/kg



0 dB = 0.373 W/kg = -4.28 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 15DDA

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; $\sigma = 0.963$ S/m; $\epsilon_r = 53.536$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-06-2017; Ambient Temp: 21.6°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3319; ConvF(6.29, 6.29, 6.29); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/8/2017

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

Mode: LTE Band 26 (Cell.), Body SAR, Back side, Mid.ch
15 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

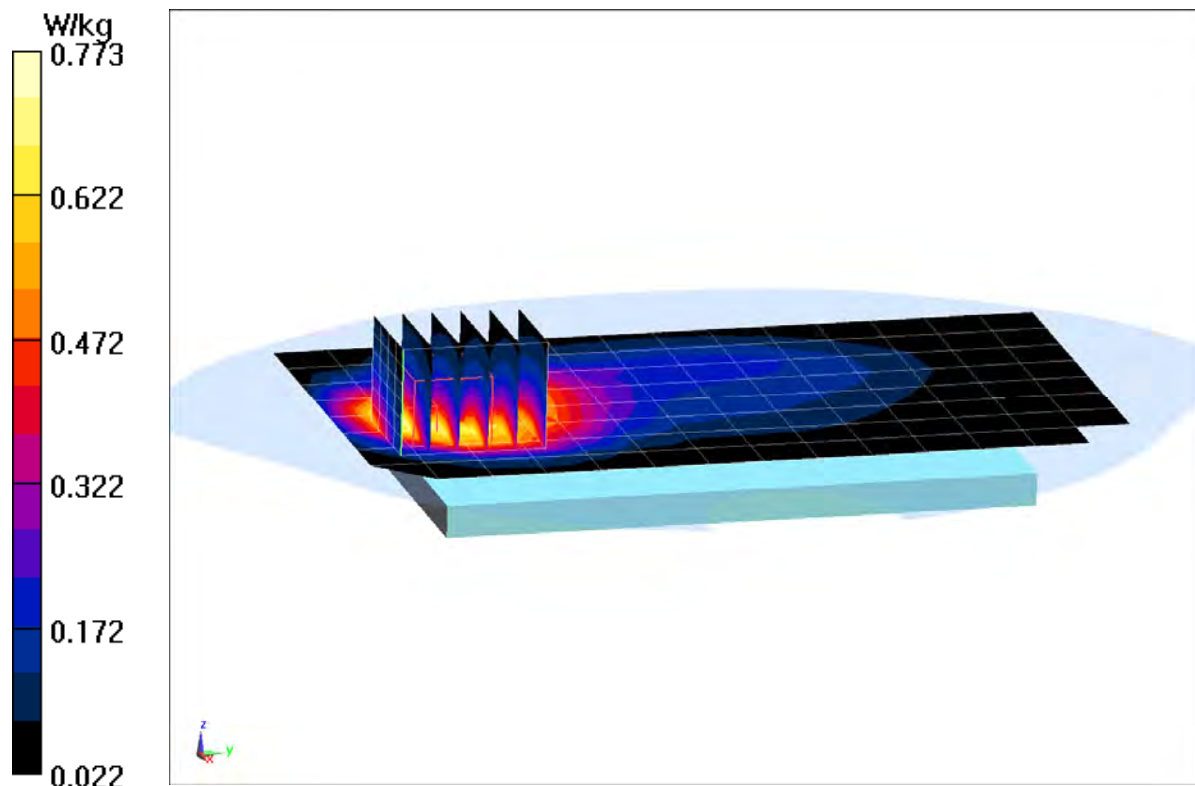
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 26.62 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 1.05 W/kg

SAR(1 g) = 0.644 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 15DDA

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; $\sigma = 0.968$ S/m; $\epsilon_r = 53.484$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-06-2017; Ambient Temp: 21.6°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3319; ConvF(6.29, 6.29, 6.29); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/8/2017

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

**Mode: LTE Band 5 (Cell.), Body SAR, Back side, Mid.ch,
10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

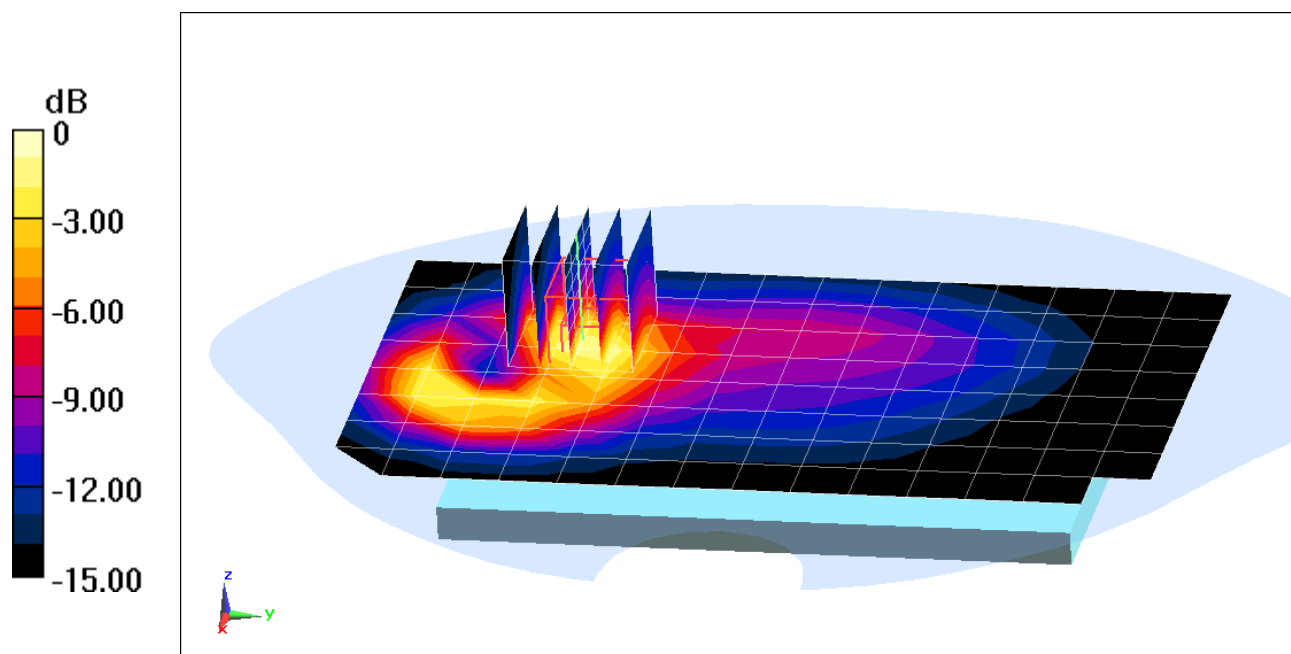
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 20.59 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.513 W/kg

SAR(1 g) = 0.373 W/kg



0 dB = 0.425 W/kg = -3.72 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 15DDA

Communication System: UID 0, LTE Band 5 (Cell.); Frequency: 836.5 MHz; Duty Cycle: 1:1

Medium: 835 Body Medium parameters used (interpolated):

$f = 836.5$ MHz; $\sigma = 0.968$ S/m; $\epsilon_r = 53.484$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-06-2017; Ambient Temp: 21.6°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3319; ConvF(6.29, 6.29, 6.29); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/8/2017

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

**Mode: LTE Band 5 (Cell.), Body SAR, Back side, Mid.ch,
10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

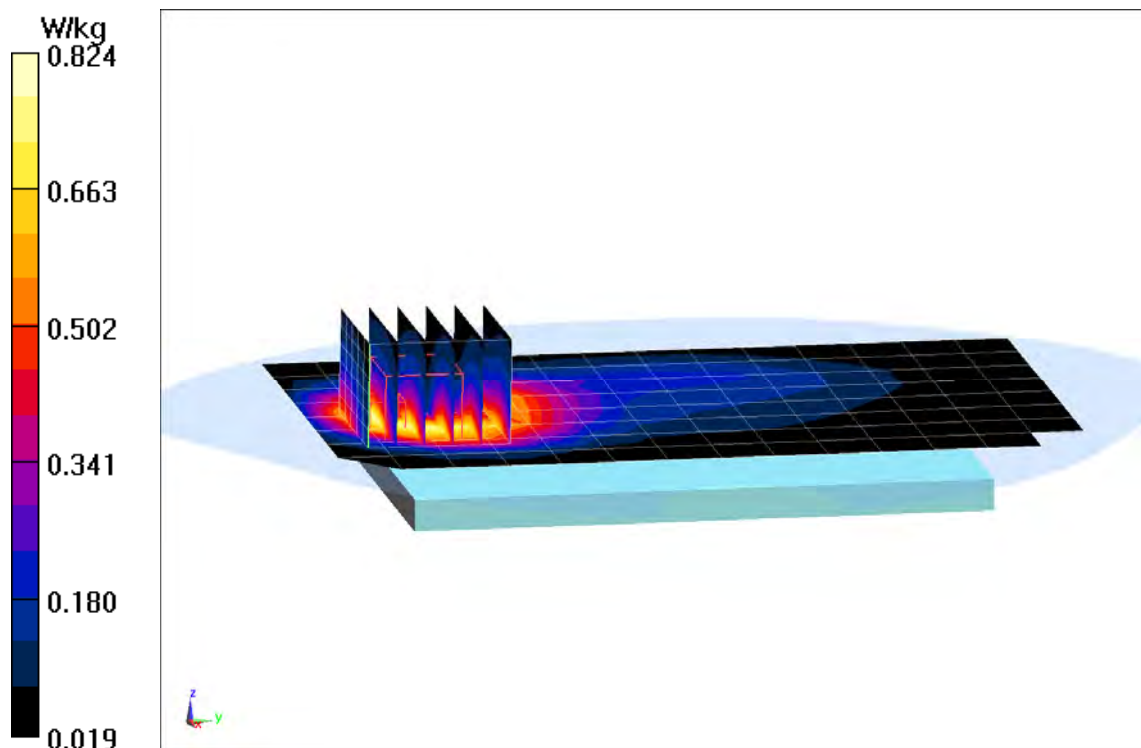
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 27.14 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.13 W/kg

SAR(1 g) = 0.683 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 06D58

Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1770 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used (interpolated):

$f = 1770 \text{ MHz}$; $\sigma = 1.523 \text{ S/m}$; $\epsilon_r = 51.37$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 07-03-2017; Ambient Temp: 22.1°C; Tissue Temp: 21.4°C

Probe: ES3DV3 - SN3319; ConvF(5.07, 5.07, 5.07); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/8/2017

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

**Mode: LTE Band 66 (AWS), Body SAR, Back side, High.ch,
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

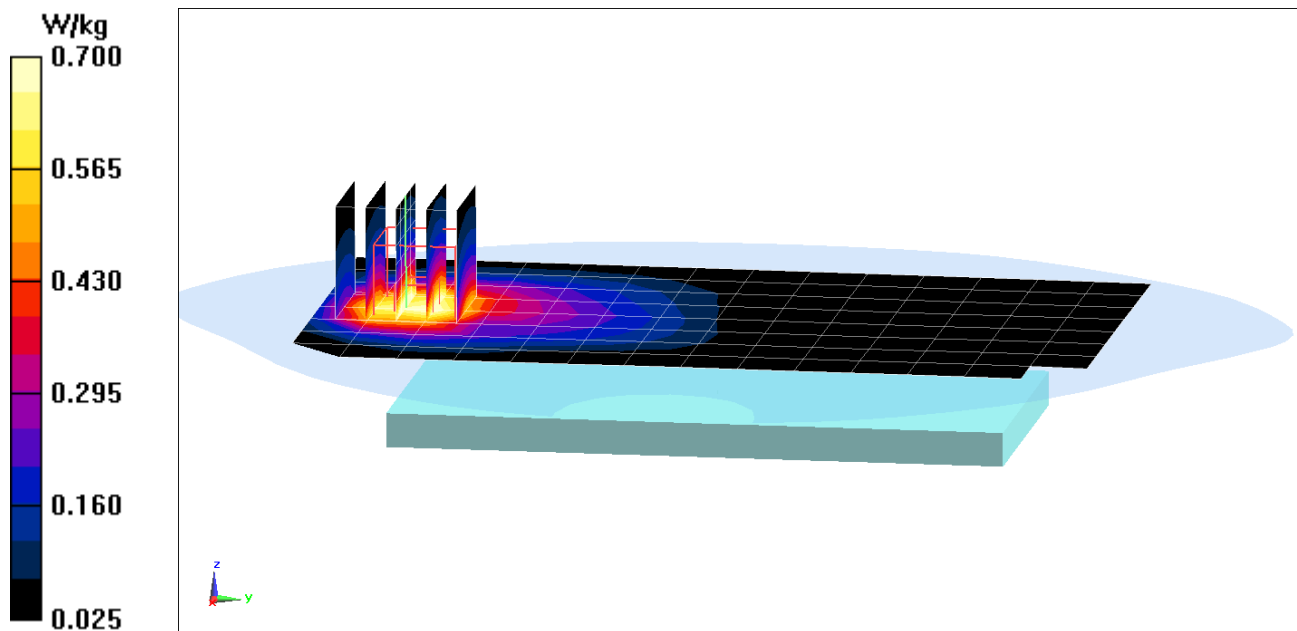
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 23.14 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 1.09 W/kg

SAR(1 g) = 0.713 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 155CD

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

Medium: 1750 Body Medium parameters used (interpolated):

$f = 1745 \text{ MHz}$; $\sigma = 1.524 \text{ S/m}$; $\epsilon_r = 51.322$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-07-2017; Ambient Temp: 24.3°C; Tissue Temp: 20.8°C

Probe: ES3DV3 - SN3319; ConvF(5.07, 5.07, 5.07); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/8/2017

Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

**Mode: LTE Band 66 (AWS), Body SAR, Bottom Edge, Mid.ch,
20 MHz Bandwidth, QPSK, 50 RB, 0 RB Offset**

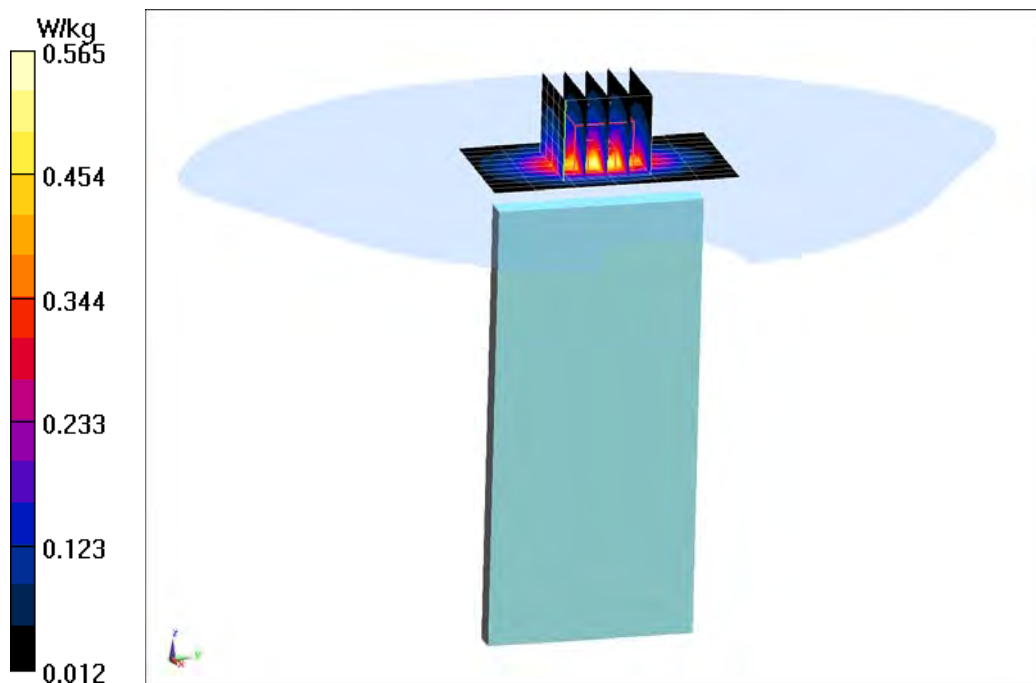
Area Scan (11x7x1): Measurement grid: $dx=5\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 18.73 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.754 W/kg

SAR(1 g) = 0.459 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 1593F

Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1905 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1905 \text{ MHz}$; $\sigma = 1.58 \text{ S/m}$; $\epsilon_r = 52.386$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-08-2017; Ambient Temp: 20.9°C; Tissue Temp: 21.1°C

Probe: ES3DV3 - SN3318; ConvF(4.96, 4.96, 4.96); Calibrated: 2/10/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/9/2017

Phantom: SAM with CRP v5.0 (Right); Type: QD000P40CD; Serial: TP:1759

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

**Mode: LTE Band 25 (PCS), Body SAR, Back side, High.ch,
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

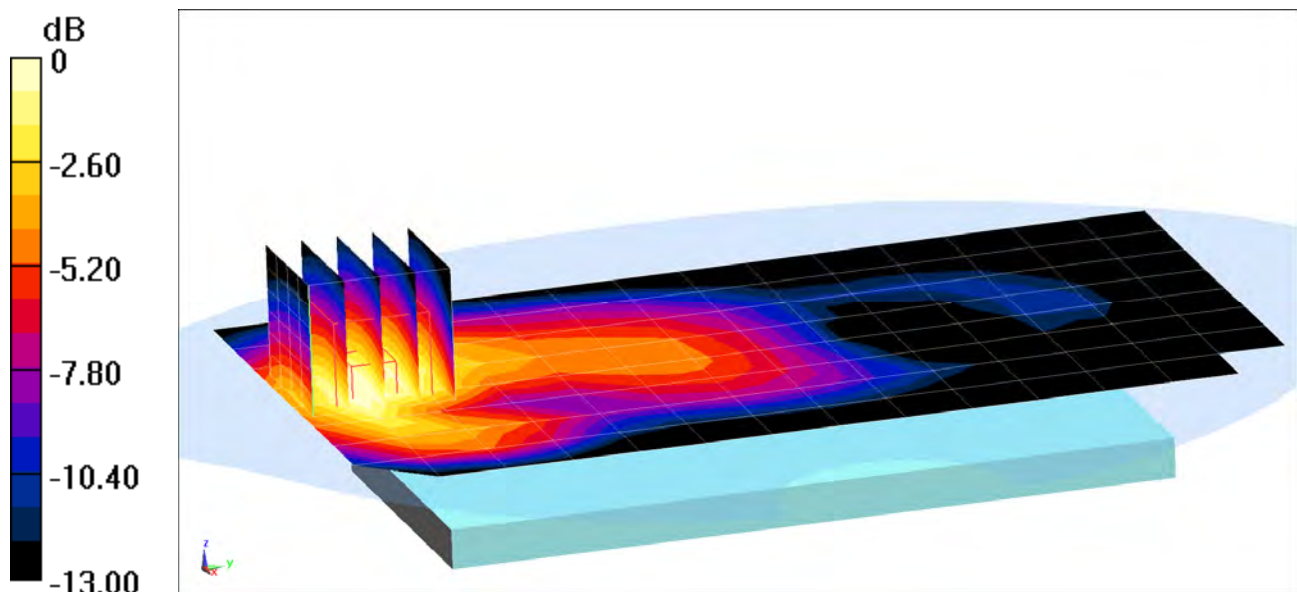
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 19.34 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.824 W/kg

SAR(1 g) = 0.517 W/kg



0 dB = 0.571 W/kg = -2.43 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 155CD

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

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1882.5 \text{ MHz}$; $\sigma = 1.556 \text{ S/m}$; $\epsilon_r = 52.468$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-08-2017; Ambient Temp: 20.9°C; Tissue Temp: 21.1°C

Probe: ES3DV3 - SN3318; ConvF(4.96, 4.96, 4.96); Calibrated: 2/10/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/9/2017

Phantom: SAM with CRP v5.0 (Right); Type: QD000P40CD; Serial: TP:1759

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

**Mode: LTE Band 25 (PCS), Body SAR, Bottom Edge, Mid.ch,
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

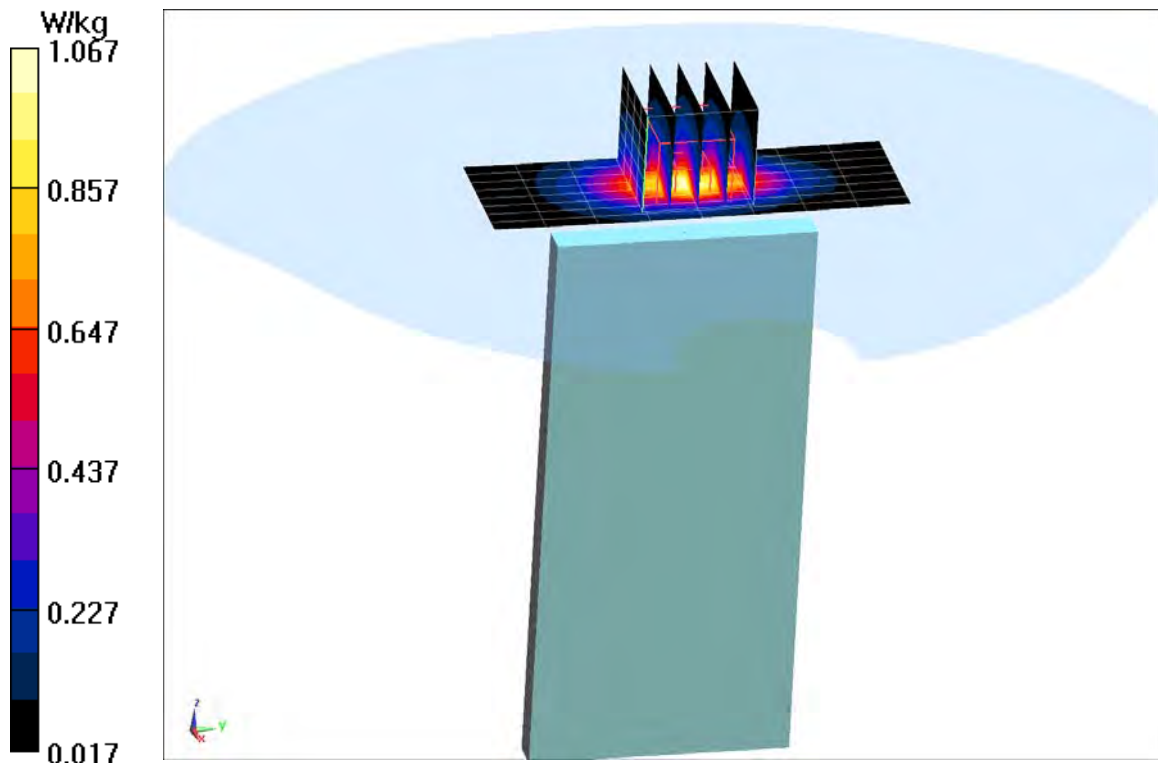
Area Scan (9x9x1): Measurement grid: dx=5mm, dy=15mm

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

Reference Value = 25.44 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.46 W/kg

SAR(1 g) = 0.858 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 158DD

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

Medium: 2300 Body Medium parameters used:

$f = 2310 \text{ MHz}$; $\sigma = 1.834 \text{ S/m}$; $\epsilon_r = 52.798$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-05-2017; Ambient Temp: 22.5°C; Tissue Temp: 22.1°C

Probe: ES3DV3 - SN3287; ConvF(4.55, 4.55, 4.55); Calibrated: 9/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1408; Calibrated: 9/14/2016

Phantom: SAM Front; Type: SAM; Serial: 1686

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

Mode: LTE Band 30, Body SAR, Back side, Mid.ch
10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

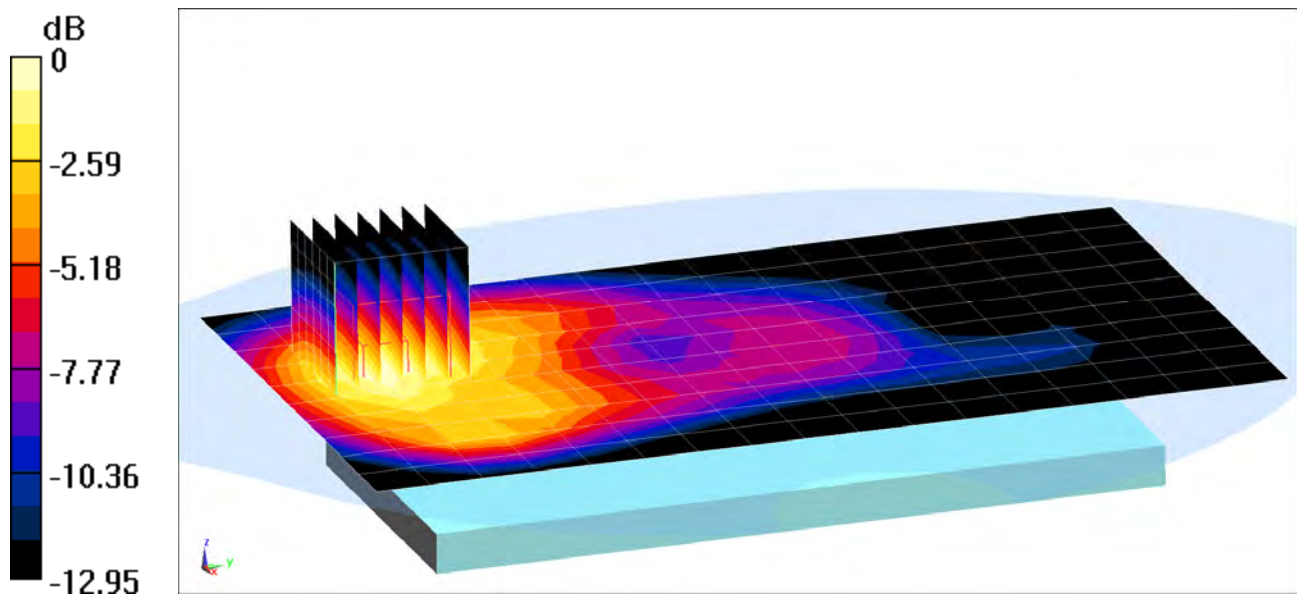
Area Scan (11x18x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 14.32 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.572 W/kg

SAR(1 g) = 0.332 W/kg



0 dB = 0.398 W/kg = -4.00 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 15EC3

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

Medium: 2300 Body Medium parameters used:

$f = 2310 \text{ MHz}$; $\sigma = 1.834 \text{ S/m}$; $\epsilon_r = 52.798$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-05-2017; Ambient Temp: 22.5°C; Tissue Temp: 22.1°C

Probe: ES3DV3 - SN3287; ConvF(4.55, 4.55, 4.55); Calibrated: 9/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1408; Calibrated: 9/14/2016

Phantom: SAM Front; Type: SAM; Serial: 1686

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

**Mode: LTE Band 30, Body SAR, Bottom Edge, Mid.ch,
10 MHz Bandwidth, QPSK, 25 RB, 12 RB Offset**

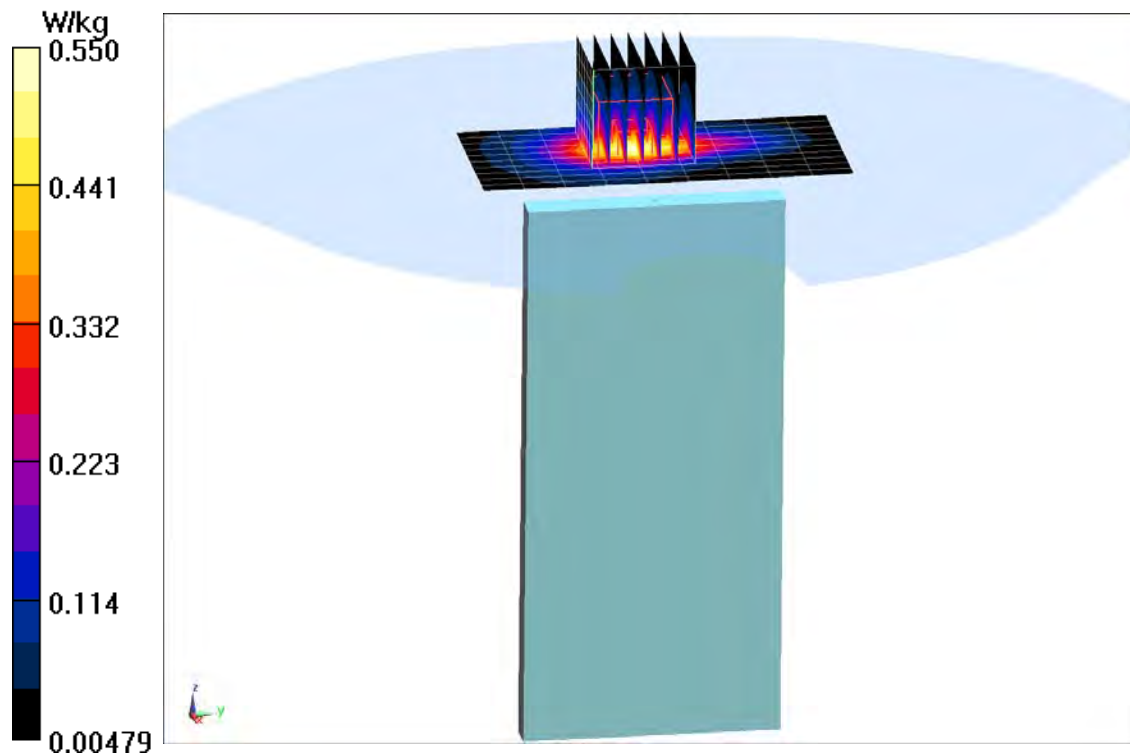
Area Scan (11x10x1): Measurement grid: $dx=5\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 16.82 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 0.786 W/kg

SAR(1 g) = 0.438 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 158DD

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

Medium: 2600 Body Medium parameters used (interpolated):

$f = 2535 \text{ MHz}$; $\sigma = 2.048 \text{ S/m}$; $\epsilon_r = 50.607$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-07-2017; Ambient Temp: 22.5°C; Tissue Temp: 23.4°C

Probe: ES3DV3 - SN3287; ConvF(4.12, 4.12, 4.12); Calibrated: 9/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1408; Calibrated: 9/14/2016

Phantom: SAM Front; Type: SAM; Serial: 1686

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

**Mode: LTE Band 7, Body SAR, Back side, Mid.ch,
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

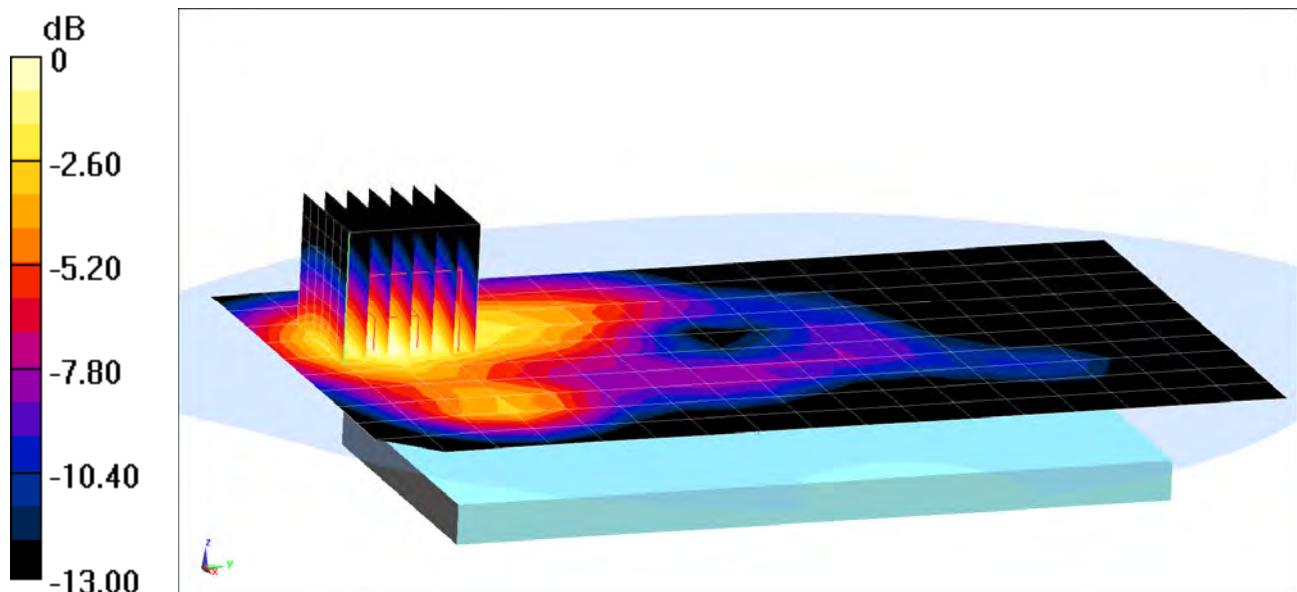
Area Scan (11x18x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 14.48 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 0.679 W/kg

SAR(1 g) = 0.380 W/kg



0 dB = 0.443 W/kg = -3.54 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 15EC3

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

Medium: 2600 Body Medium parameters used (interpolated):

$f = 2535 \text{ MHz}$; $\sigma = 2.048 \text{ S/m}$; $\epsilon_r = 50.607$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-07-2017; Ambient Temp: 22.5°C; Tissue Temp: 23.4°C

Probe: ES3DV3 - SN3287; ConvF(4.12, 4.12, 4.12); Calibrated: 9/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1408; Calibrated: 9/14/2016

Phantom: SAM Front; Type: SAM; Serial: 1686

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

**Mode: LTE Band 7, Body SAR, Bottom Edge, Mid.ch,
20 MHz Bandwidth, QPSK, 50 RB, 0 RB Offset**

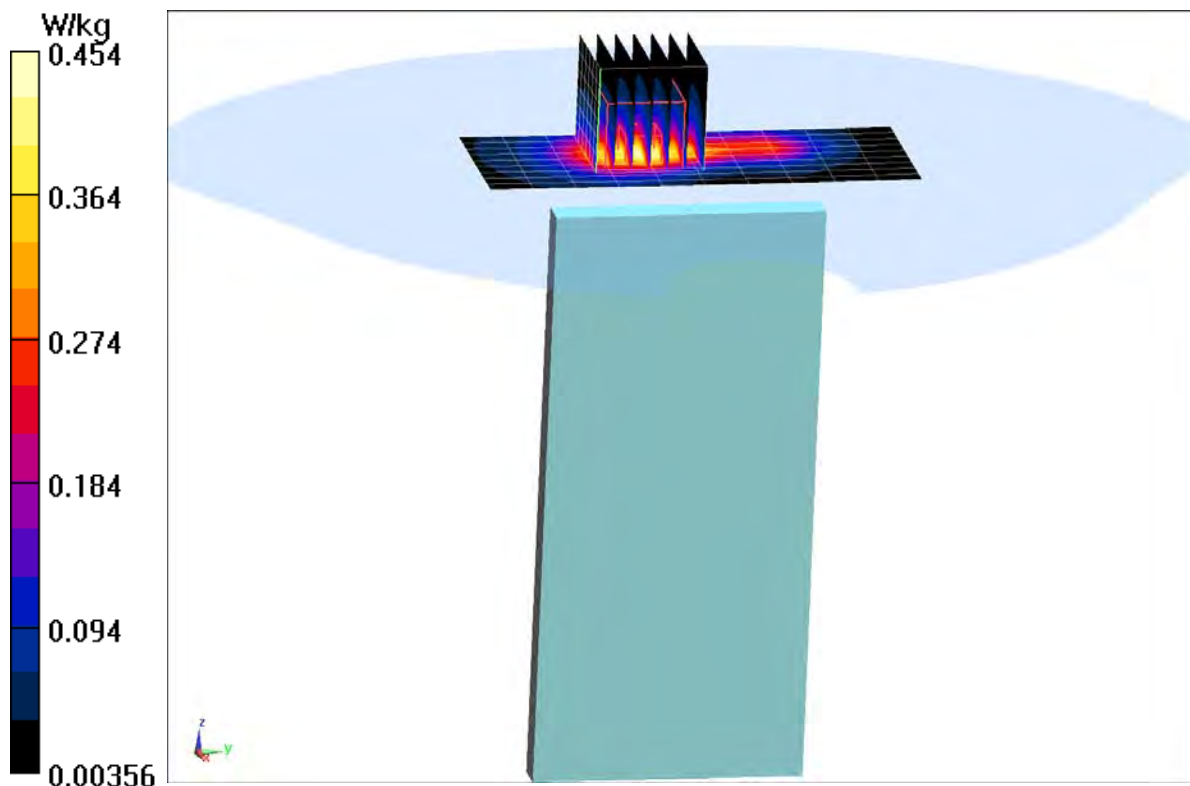
Area Scan (10x11x1): Measurement grid: dx=5mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 14.15 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.687 W/kg

SAR(1 g) = 0.359 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 15DE5

Communication System: UID 0, LTE Band 41 (Class 2); Frequency: 2549.5 MHz; Duty Cycle: 1:2.31

Medium: 2600 Body Medium parameters used:

$f = 2550 \text{ MHz}$; $\sigma = 2.127 \text{ S/m}$; $\epsilon_r = 51.555$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-27-2017; Ambient Temp: 21.1°C; Tissue Temp: 22.6°C

Probe: ES3DV3 - SN3287; ConvF(4.12, 4.12, 4.12); Calibrated: 9/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1408; Calibrated: 9/14/2016

Phantom: SAM Front; Type: SAM; Serial: 1686

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

**Mode: LTE Band 41 PC2, Body SAR, Back side, Low-Mid.ch,
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

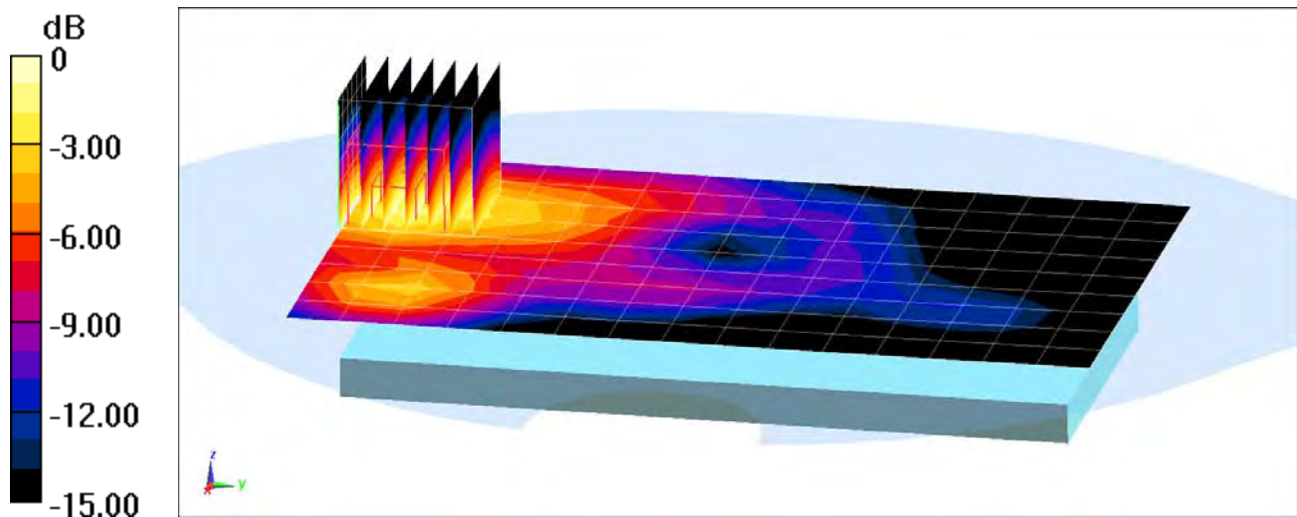
Area Scan (10x16x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.91 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.650 W/kg

SAR(1 g) = 0.332 W/kg



0 dB = 0.416 W/kg = -3.81 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 15EC3

Communication System: UID 0, LTE Band 41; Frequency: 2506 MHz; Duty Cycle: 1:1.58

Medium: 2450 Body Medium parameters used (interpolated):

$f = 2506 \text{ MHz}$; $\sigma = 2.065 \text{ S/m}$; $\epsilon_r = 51.704$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-27-2017; Ambient Temp: 21.1°C; Tissue Temp: 22.6°C

Probe: ES3DV3 - SN3287; ConvF(4.35, 4.35, 4.35); Calibrated: 9/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1408; Calibrated: 9/14/2016

Phantom: SAM Front; Type: SAM; Serial: 1686

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

Mode: LTE Band 41 PC3 ULCA, Body SAR, Bottom Edge

PCC: 20 MHz Bandwidth, QPSK, Ch 39750, 50 RB, 50 RB Offset

SCC: 20 MHz Bandwidth, QPSK, Ch 39948, 50 RB, 0 RB Offset

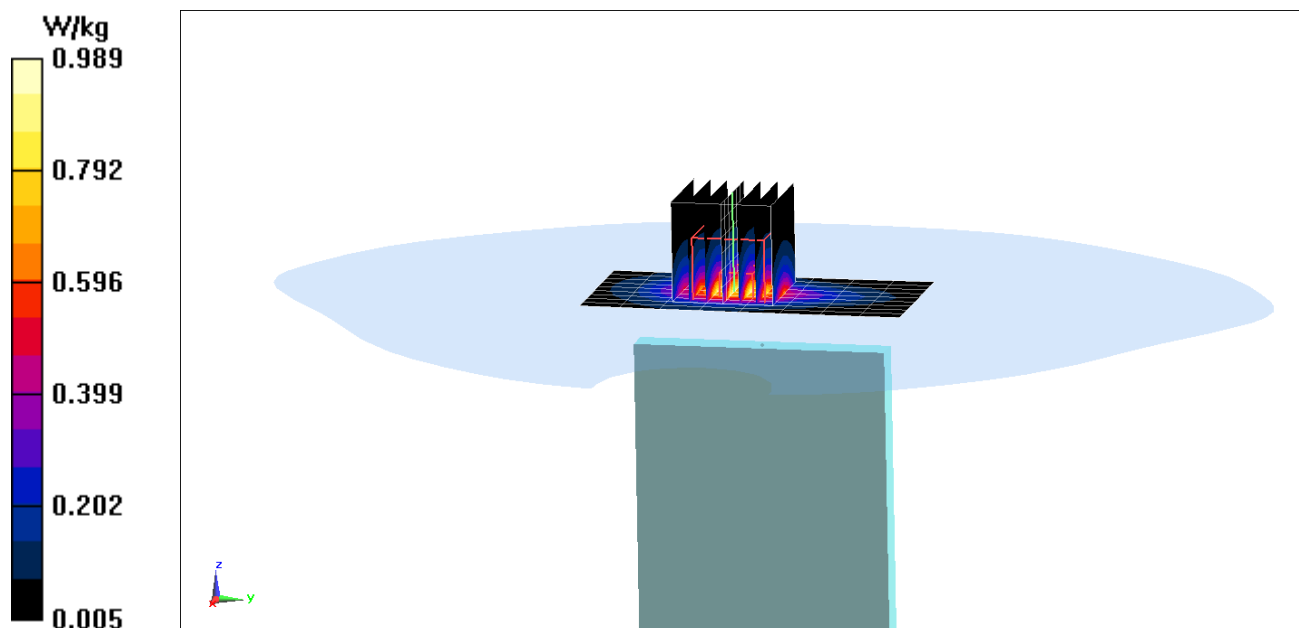
Area Scan (10x9x1): Measurement grid: $dx=5\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 20.73 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.59 W/kg

SAR(1 g) = 0.763 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 1593D

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

Medium: 2450 Body Medium parameters used (interpolated):

$f = 2437 \text{ MHz}$; $\sigma = 1.954 \text{ S/m}$; $\epsilon_r = 51.612$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-10-2017; Ambient Temp: 22.0°C; Tissue Temp: 22.6°C

Probe: ES3DV3 - SN3287; ConvF(4.35, 4.35, 4.35); Calibrated: 9/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1408; Calibrated: 9/14/2016

Phantom: SAM Front; Type: SAM; Serial: 1686

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

Mode: IEEE 802.11b, 22 MHz Bandwidth, Body SAR, Ch 6, 1 Mbps, Back Side, Antenna 1

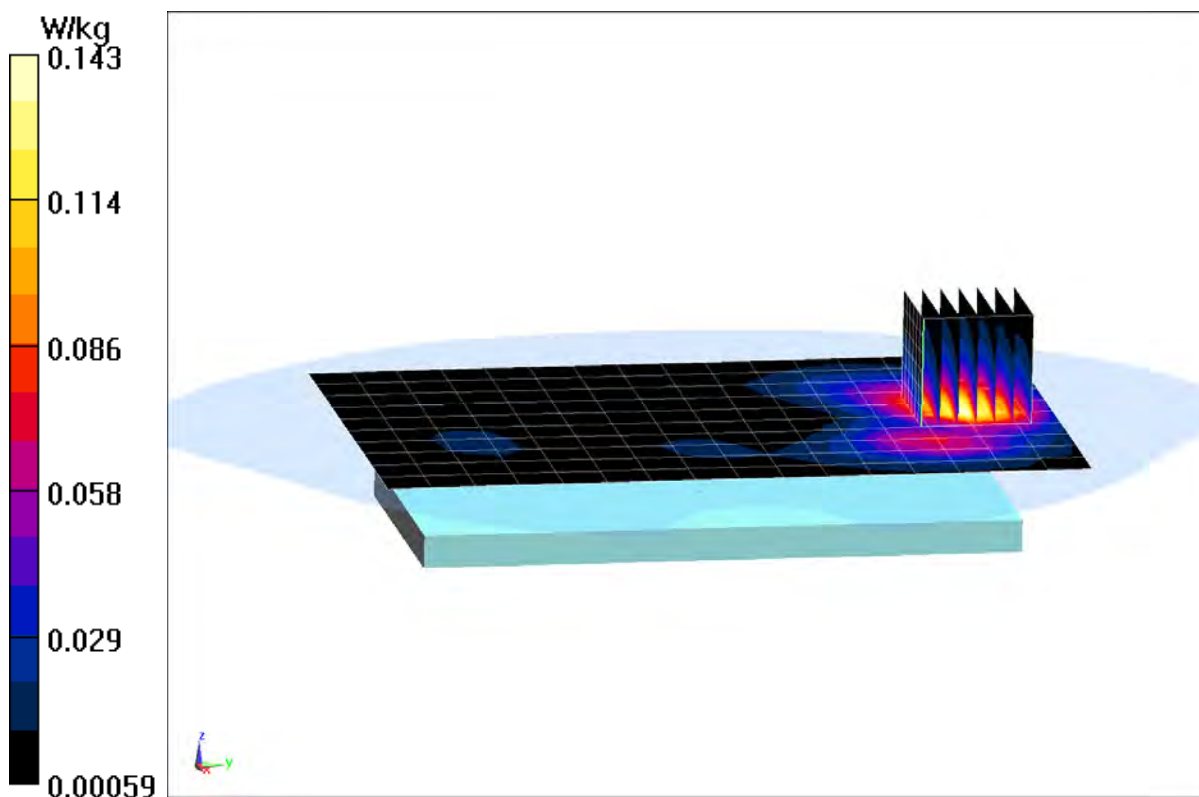
Area Scan (11x17x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 8.207 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.206 W/kg

SAR(1 g) = 0.117 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 1593D

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

Medium: 2450 Body Medium parameters used (interpolated):

$f = 2437 \text{ MHz}$; $\sigma = 1.954 \text{ S/m}$; $\epsilon_r = 51.612$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-10-2017; Ambient Temp: 22.0°C; Tissue Temp: 22.6°C

Probe: ES3DV3 - SN3287; ConvF(4.35, 4.35, 4.35); Calibrated: 9/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1408; Calibrated: 9/14/2016

Phantom: SAM Front; Type: SAM; Serial: 1686

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

Mode: IEEE 802.11b, 22 MHz Bandwidth, Body SAR, Ch 6, 1 Mbps, Top Edge, Antenna 1

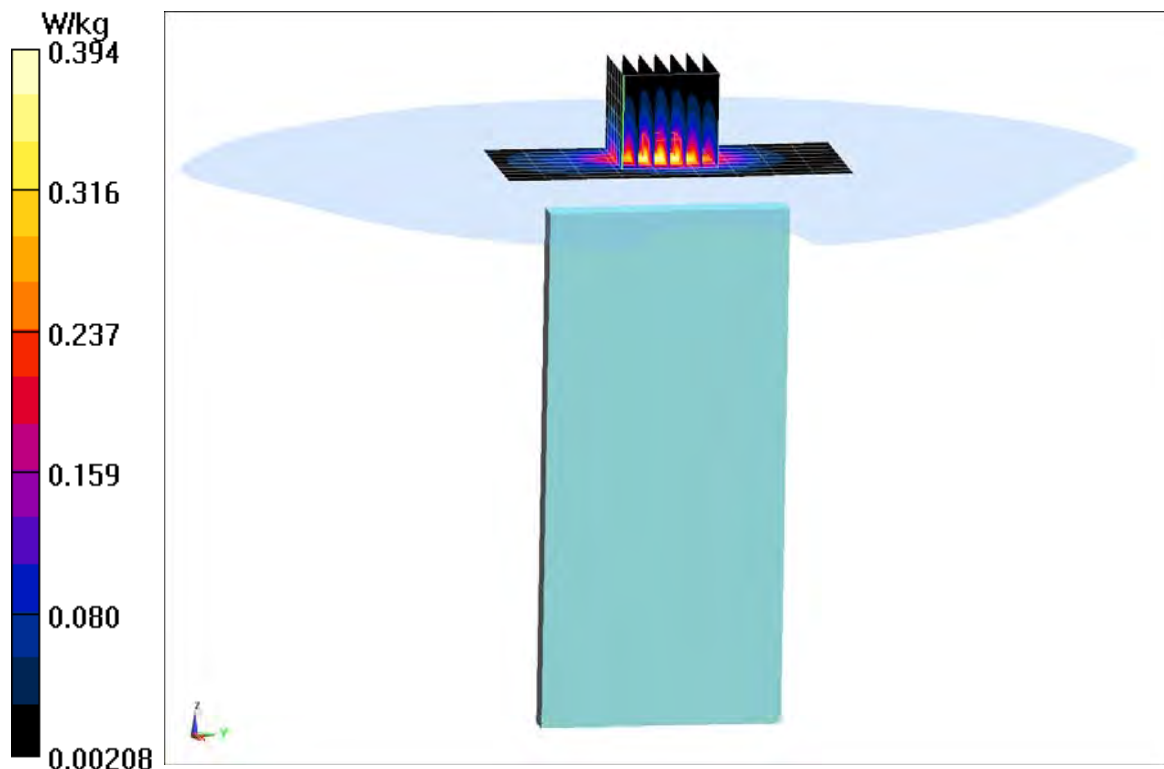
Area Scan (10x10x1): Measurement grid: dx=5mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.42 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.599 W/kg

SAR(1 g) = 0.307 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 1595F

Communication System: UID 0, 802.11a 5.2-5.8 GHz Band; Frequency: 5745 MHz; Duty Cycle: 1:1

Medium: 5 GHz Body Medium parameters used:

$f = 5745 \text{ MHz}$; $\sigma = 6.083 \text{ S/m}$; $\epsilon_r = 48.081$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-05-2017; Ambient Temp: 22.6°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN3589; ConvF(3.83, 3.83, 3.83); Calibrated: 1/13/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1466; Calibrated: 1/16/2017

Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: 1646

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

**Mode: IEEE 802.11a, UNII-3, 20 MHz Bandwidth, Body SAR, Ch 149,
6 Mbps, Back Side, Antenna 1**

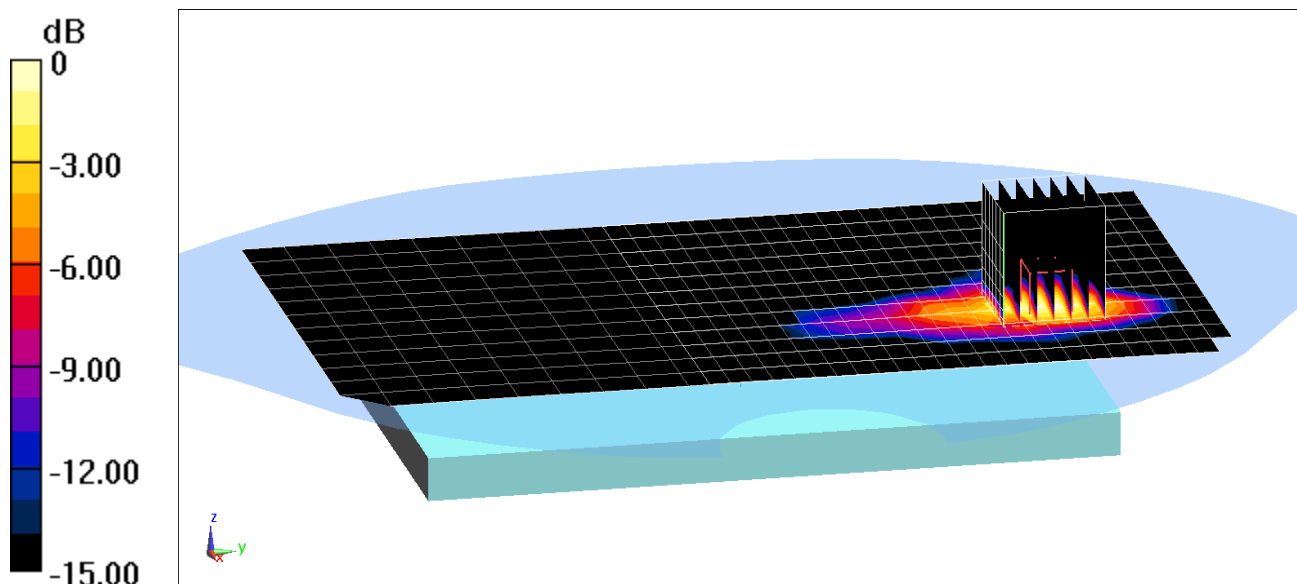
Area Scan (13x13x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

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

Reference Value = 4.185 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 0.501 W/kg

SAR(1 g) = 0.111 W/kg



0 dB = 0.318 W/kg = -4.98 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 1595F

Communication System: UID 0, 802.11a 5.2-5.8 GHz Band; Frequency: 5745 MHz; Duty Cycle: 1:1

Medium: 5 GHz Body Medium parameters used:

$f = 5745 \text{ MHz}$; $\sigma = 6.083 \text{ S/m}$; $\epsilon_r = 48.081$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-05-2017; Ambient Temp: 22.6°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN3589; ConvF(3.83, 3.83, 3.83); Calibrated: 1/13/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1466; Calibrated: 1/16/2017

Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: 1646

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

**Mode: IEEE 802.11a, UNII-3, 20 MHz Bandwidth, Body SAR, Ch 149,
6 Mbps, Back Side, Antenna 1**

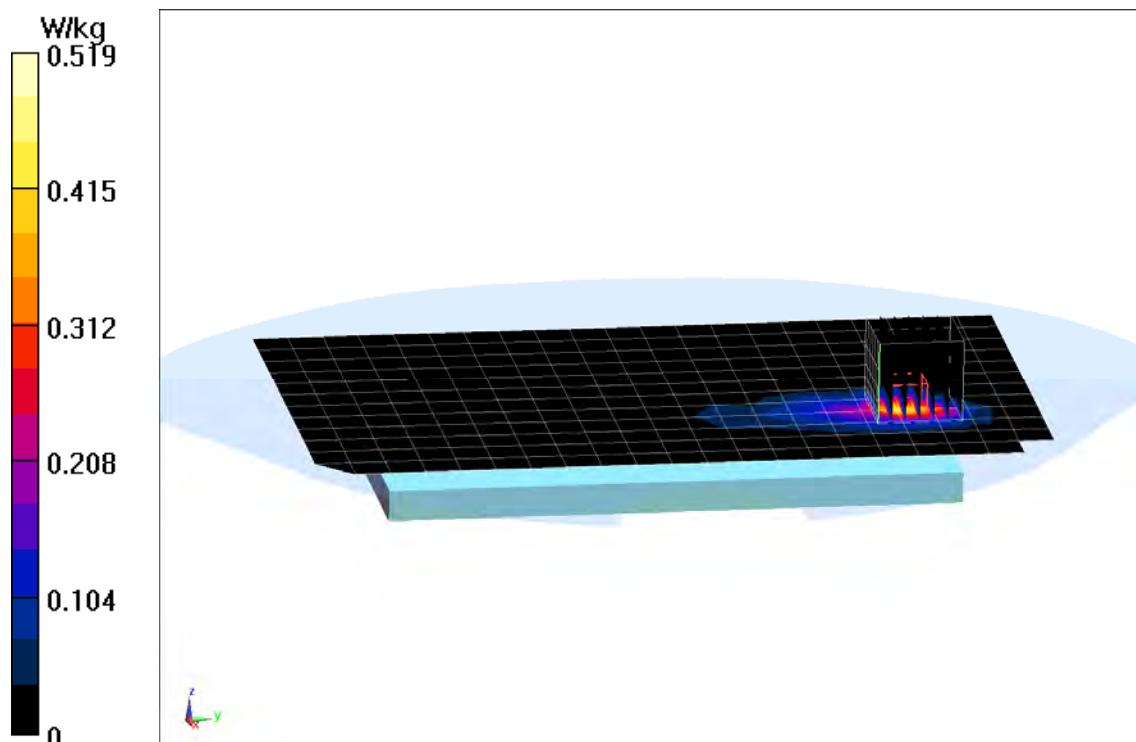
Area Scan (13x22x1): Measurement grid: dx=10mm, dy=10mm

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

Reference Value = 5.962 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.824 W/kg

SAR(1 g) = 0.182 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 1593D

Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.294

Medium: 2450 Body Medium parameters used (interpolated):

$f = 2441 \text{ MHz}$; $\sigma = 2.007 \text{ S/m}$; $\epsilon_r = 51.324$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-19-2017; Ambient Temp: 22.1°C; Tissue Temp: 22.6°C

Probe: EX3DV4 - SN7406; ConvF(7.60, 7.60, 7.60); Calibrated: 4/18/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/11/2017

Phantom: SAM Right; Type: QD000P40CD; Serial: TP:7535

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

Mode: Bluetooth, Body SAR, Ch 39, 1 Mbps, Back Side

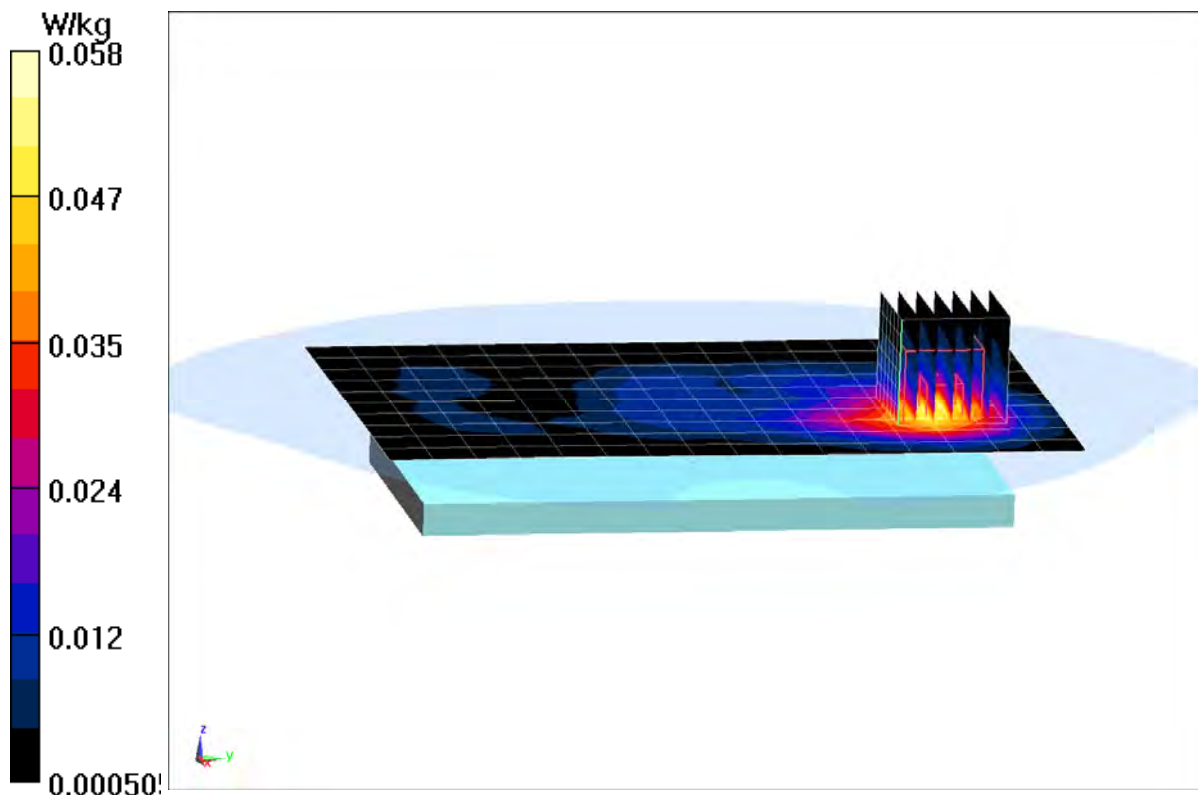
Area Scan (11x17x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 4.523 V/m; Power Drift = 0.20 dB

Peak SAR (extrapolated) = 0.0710 W/kg

SAR(1 g) = 0.038 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 1593D

Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.294

Medium: 2450 Body Medium parameters used (interpolated):

$f = 2441 \text{ MHz}$; $\sigma = 2.007 \text{ S/m}$; $\epsilon_r = 51.324$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-19-2017; Ambient Temp: 22.1°C; Tissue Temp: 22.6°C

Probe: EX3DV4 - SN7406; ConvF(7.60, 7.60, 7.60); Calibrated: 4/18/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/11/2017

Phantom: SAM Right; Type: QD000P40CD; Serial: TP:7535

Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

Mode: Bluetooth, Body SAR, Ch 39, 1 Mbps, Back Side

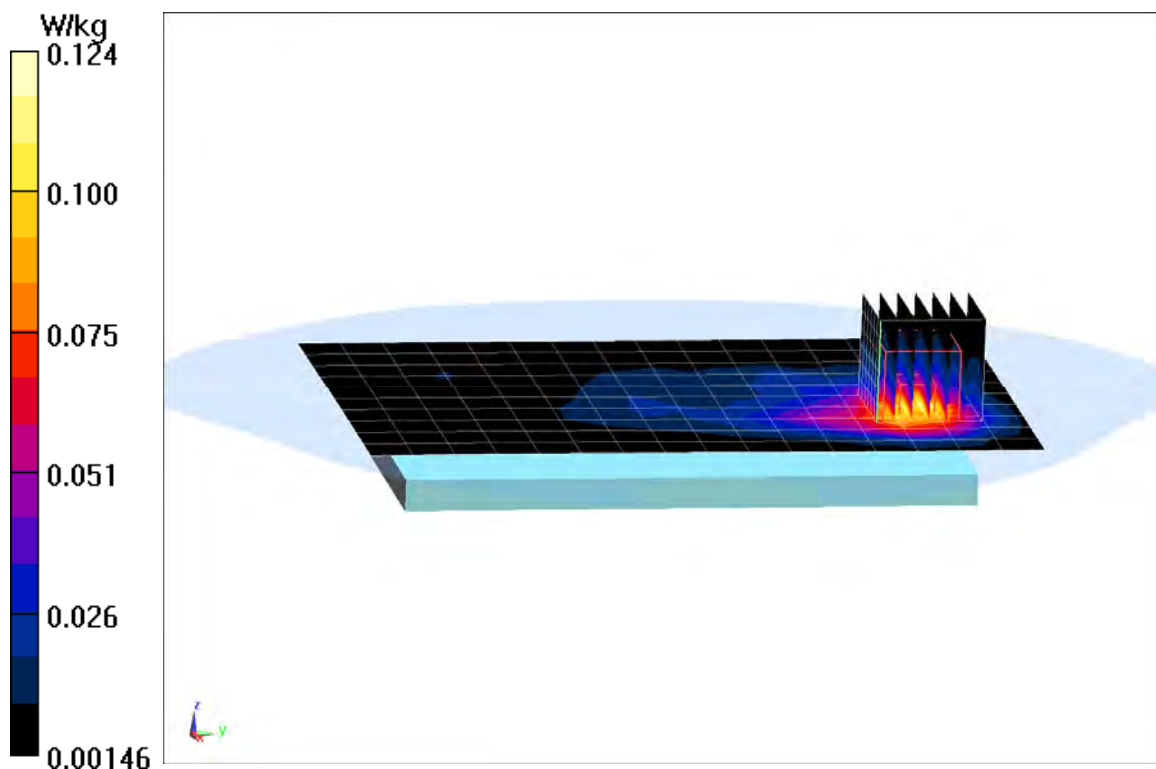
Area Scan (11x17x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.656 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.153 W/kg

SAR(1 g) = 0.079 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 1574F

Communication System: UID 0, CDMA; Frequency: 1851.25 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1851.25$ MHz; $\sigma = 1.528$ S/m; $\epsilon_r = 51.898$; $\rho = 1000$ kg/m³,

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 06-10-2017; Ambient Temp: 22.1°C; Tissue Temp: 21.9°C

Probe: ES3DV3 - SN3318; ConvF(4.96, 4.96, 4.96); Calibrated: 2/10/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/9/2017

Phantom: SAM with CRP v5.0 (Right); Type: QD000P40CD; Serial: TP:1759

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

Mode: PCS EVDO Rev.0, Phablet SAR, Bottom Edge, Low.ch

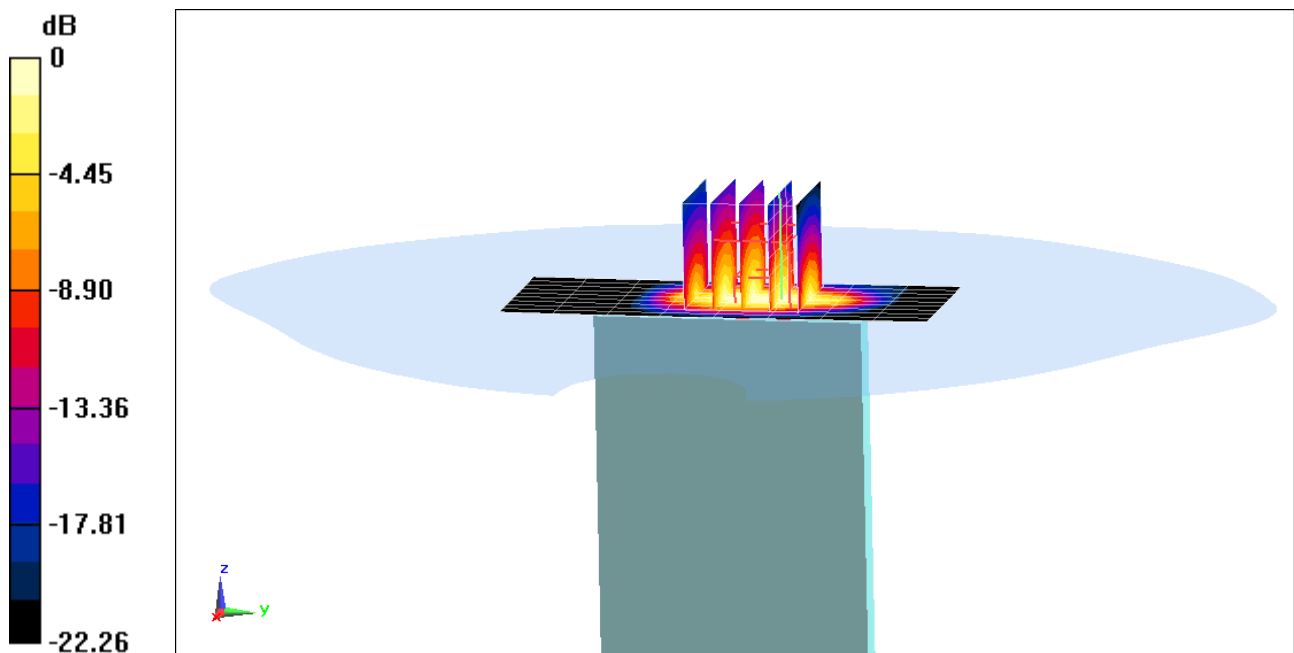
Area Scan (10x9x1): Measurement grid: dx=5mm, dy=15mm

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

Reference Value = 57.15 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 8.63 W/kg

SAR(10 g) = 1.99 W/kg



0 dB = 5.55 W/kg = 7.44 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 15EC2

Communication System: UID 0, GSM GPRS; 3 Tx slots; Frequency: 1850.2 MHz; Duty Cycle: 1:2.76

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1850.2 \text{ MHz}$; $\sigma = 1.519 \text{ S/m}$; $\epsilon_r = 52.554$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 06-08-2017; Ambient Temp: 20.9°C; Tissue Temp: 21.1°C

Probe: ES3DV3 - SN3318; ConvF(4.96, 4.96, 4.96); Calibrated: 2/10/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/9/2017

Phantom: SAM with CRP v5.0 (Right); Type: QD000P40CD; Serial: TP:1759

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

Mode: GPRS 1900, Phablet SAR, Bottom Edge, Low.ch, 3 Tx Slots

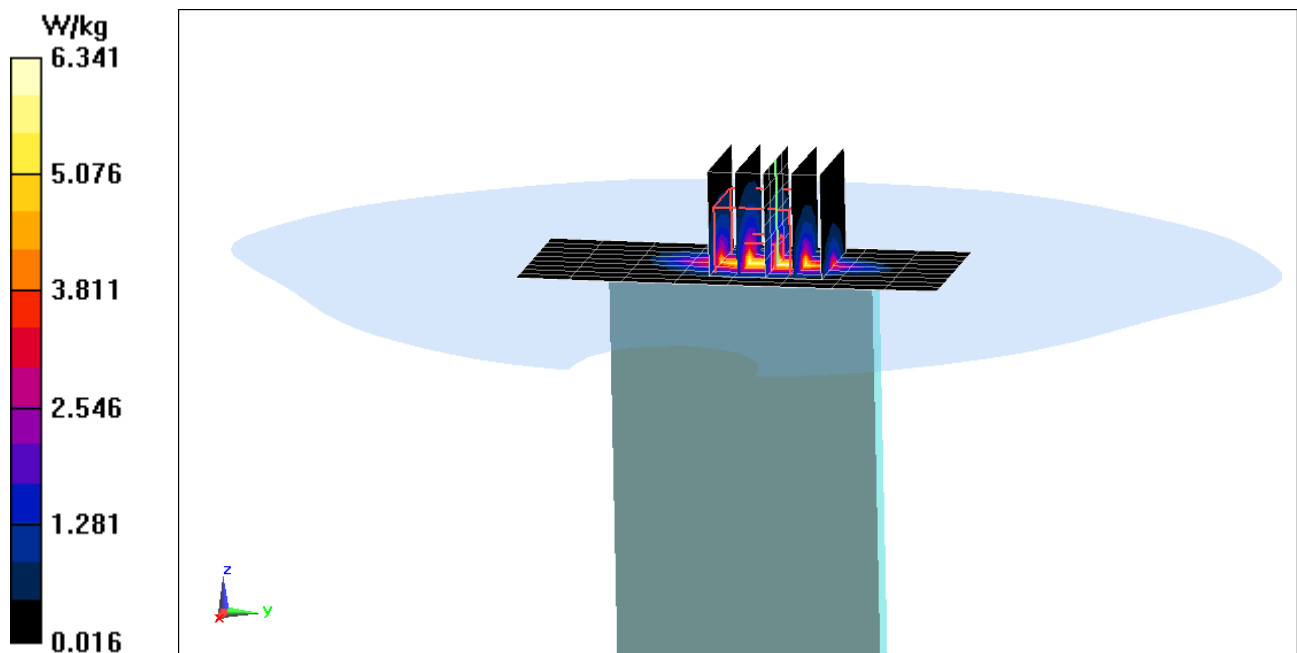
Area Scan (10x9x1): Measurement grid: dx=5mm, dy=15mm

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

Reference Value = 60.30 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 9.46 W/kg

SAR(10 g) = 2.19 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 15EC2

Communication System: UID 0, UMTS; Frequency: 1752.6 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used (interpolated):

$f = 1752.6$ MHz; $\sigma = 1.464$ S/m; $\epsilon_r = 52.935$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 06-11-2017; Ambient Temp: 23.0°C; Tissue Temp: 22.5°C

Probe: ES3DV3 - SN3319; ConvF(5.07, 5.07, 5.07); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/8/2017

Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

Mode: UMTS 1750, Phablet SAR, Bottom Edge, High.ch

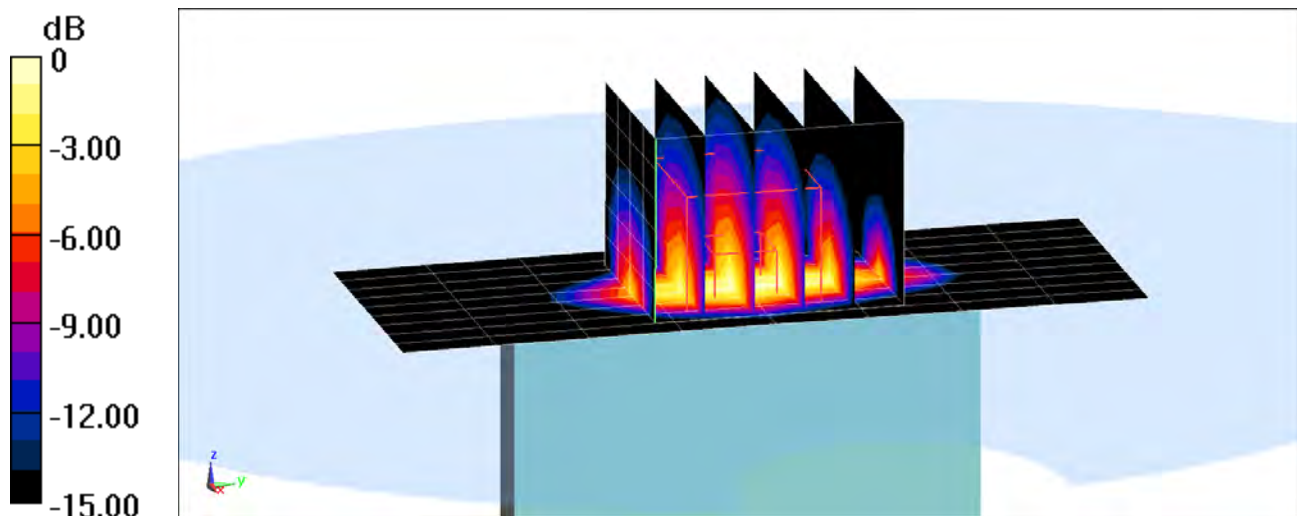
Area Scan (10x9x1): Measurement grid: dx=5mm, dy=15mm

Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 65.09 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 10.5 W/kg

SAR(10 g) = 2.45 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 15EC2

Communication System: UID 0, UMTS; Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1852.4 \text{ MHz}$; $\sigma = 1.529 \text{ S/m}$; $\epsilon_r = 51.895$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 06-10-2017; Ambient Temp: 22.1°C; Tissue Temp: 21.9°C

Probe: ES3DV3 - SN3318; ConvF(4.96, 4.96, 4.96); Calibrated: 2/10/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/9/2017

Phantom: SAM with CRP v5.0 (Right); Type: QD000P40CD; Serial: TP:1759

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

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

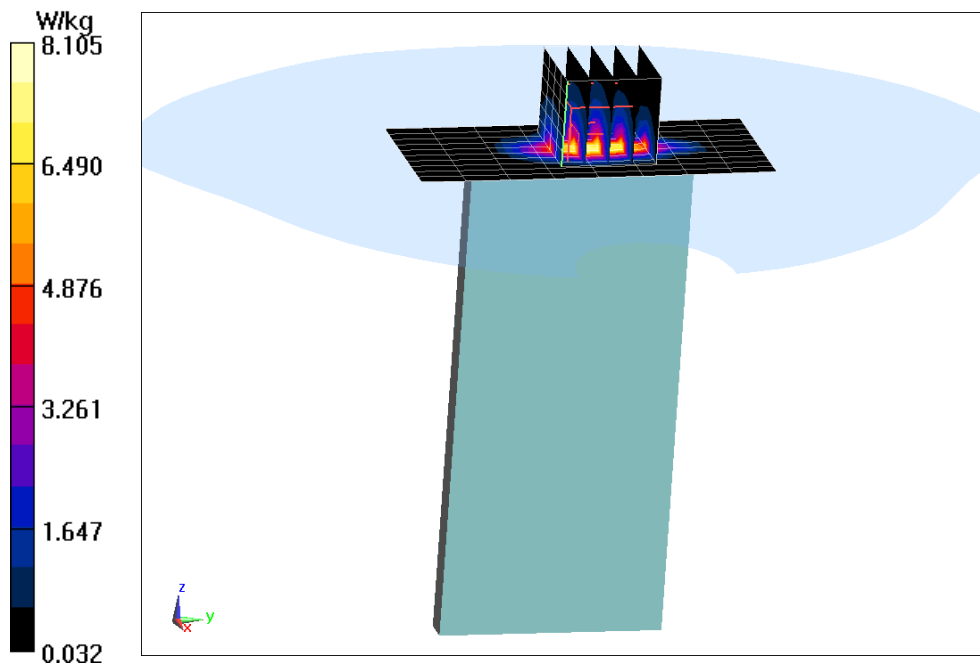
Area Scan (11x9x1): Measurement grid: $dx=5\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 68.71 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 12.1 W/kg

SAR(10 g) = 2.78 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 15DF4

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

Medium: 1750 Body Medium parameters used (interpolated):

$f = 1745 \text{ MHz}$; $\sigma = 1.524 \text{ S/m}$; $\epsilon_r = 51.322$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 06-07-2017; Ambient Temp: 24.3°C; Tissue Temp: 20.8°C

Probe: ES3DV3 - SN3319; ConvF(5.07, 5.07, 5.07); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/8/2017

Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

**Mode: LTE Band 66 (AWS), Phablet SAR, Bottom Edge, Mid.ch,
20 MHz Bandwidth, QPSK, 100 RB, 0 RB Offset**

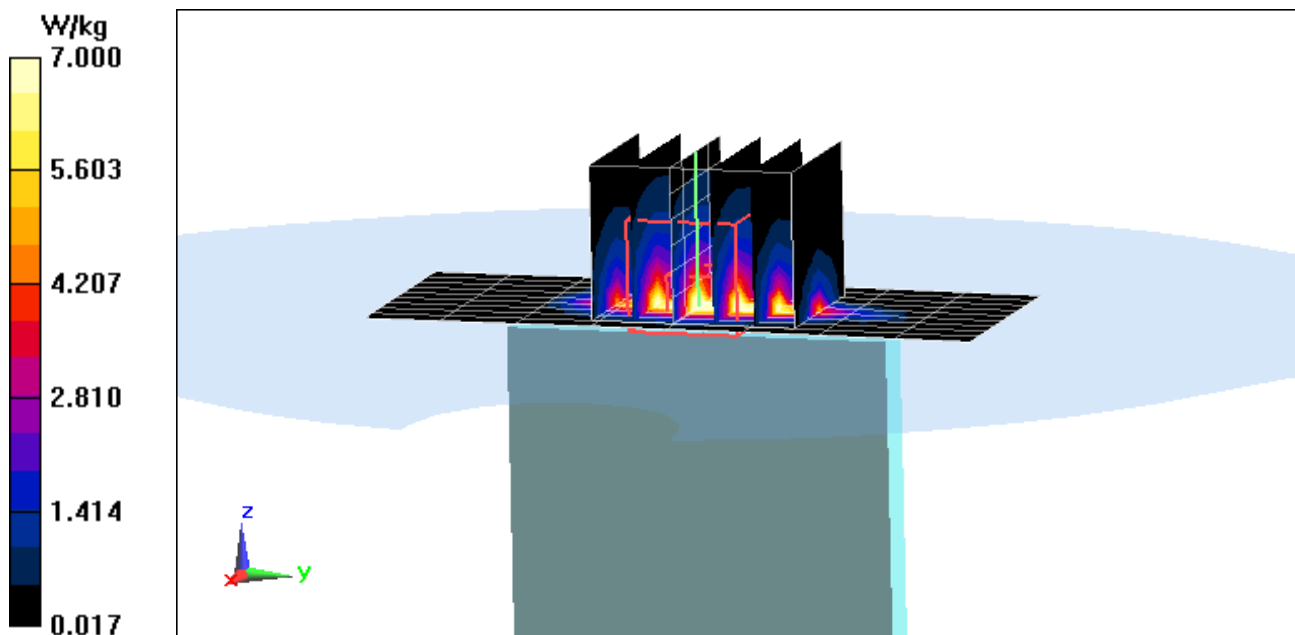
Area Scan (10x9x1): Measurement grid: $dx=5\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 70.38 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 12.9 W/kg

SAR(10 g) = 3.04 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 15DF4

Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1860 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1860 \text{ MHz}$; $\sigma = 1.536 \text{ S/m}$; $\epsilon_r = 51.871$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 06-10-2017; Ambient Temp: 22.1°C; Tissue Temp: 21.9°C

Probe: ES3DV3 - SN3318; ConvF(4.96, 4.96, 4.96); Calibrated: 2/10/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/9/2017

Phantom: SAM with CRP v5.0 (Right); Type: QD000P40CD; Serial: TP:1759

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

**Mode: LTE Band 25 (PCS), Phablet SAR, Bottom Edge,
Low.ch, 20 MHz Bandwidth, QPSK, 50 RB, 0 RB Offset**

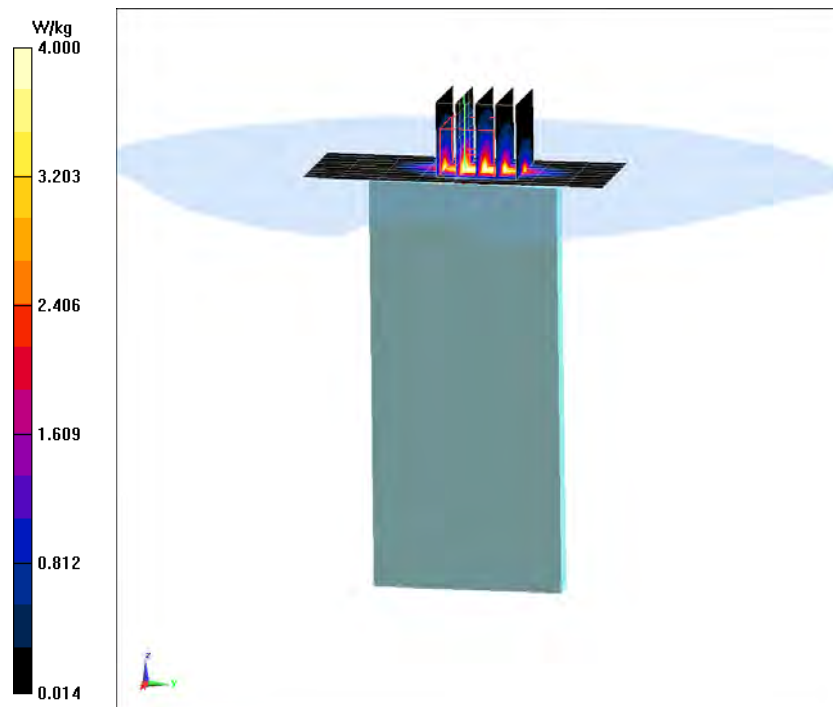
Area Scan (10x9x1): Measurement grid: dx=5mm, dy=15mm

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

Reference Value = 53.77 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 8.24 W/kg

SAR(10 g) = 1.84 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 158D1

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

Medium: 2300 Body Medium parameters used:

$f = 2310$ MHz; $\sigma = 1.834$ S/m; $\epsilon_r = 52.798$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 06-05-2017; Ambient Temp: 22.5°C; Tissue Temp: 22.1°C

Probe: ES3DV3 - SN3287; ConvF(4.55, 4.55, 4.55); Calibrated: 9/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1408; Calibrated: 9/14/2016

Phantom: SAM Front; Type: SAM; Serial: 1686

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

**Mode: LTE Band 30, Phablet SAR, Bottom Edge, Mid.ch,
10 MHz Bandwidth, QPSK, 50 RB, 0 RB Offset**

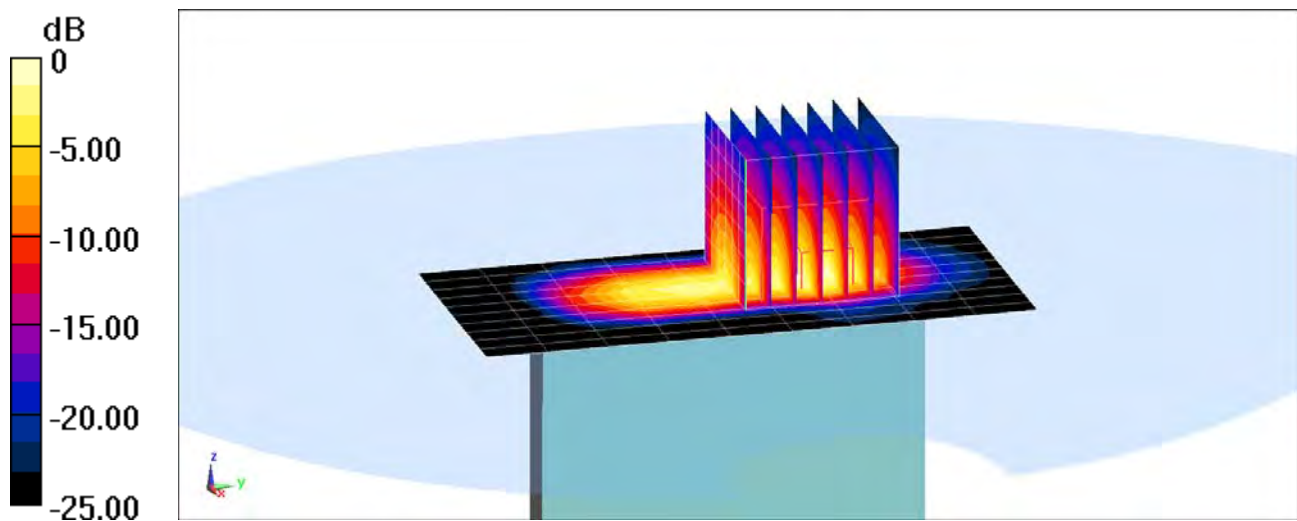
Area Scan (11x10x1): Measurement grid: dx=5mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 58.89 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 16.2 W/kg

SAR(10 g) = 1.92 W/kg



0 dB = 8.54 W/kg = 9.31 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 158D1

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

Medium: 2600 Body Medium parameters used (interpolated):

$f = 2535 \text{ MHz}$; $\sigma = 2.048 \text{ S/m}$; $\epsilon_r = 50.607$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 06-07-2017; Ambient Temp: 22.5°C; Tissue Temp: 23.4°C

Probe: ES3DV3 - SN3287; ConvF(4.12, 4.12, 4.12); Calibrated: 9/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1408; Calibrated: 9/14/2016

Phantom: SAM Front; Type: SAM; Serial: 1686

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

Mode: LTE Band 7, Phablet SAR, Bottom Edge, Mid.ch

20 MHz Bandwidth, QPSK, 50 RB, 0 RB Offset

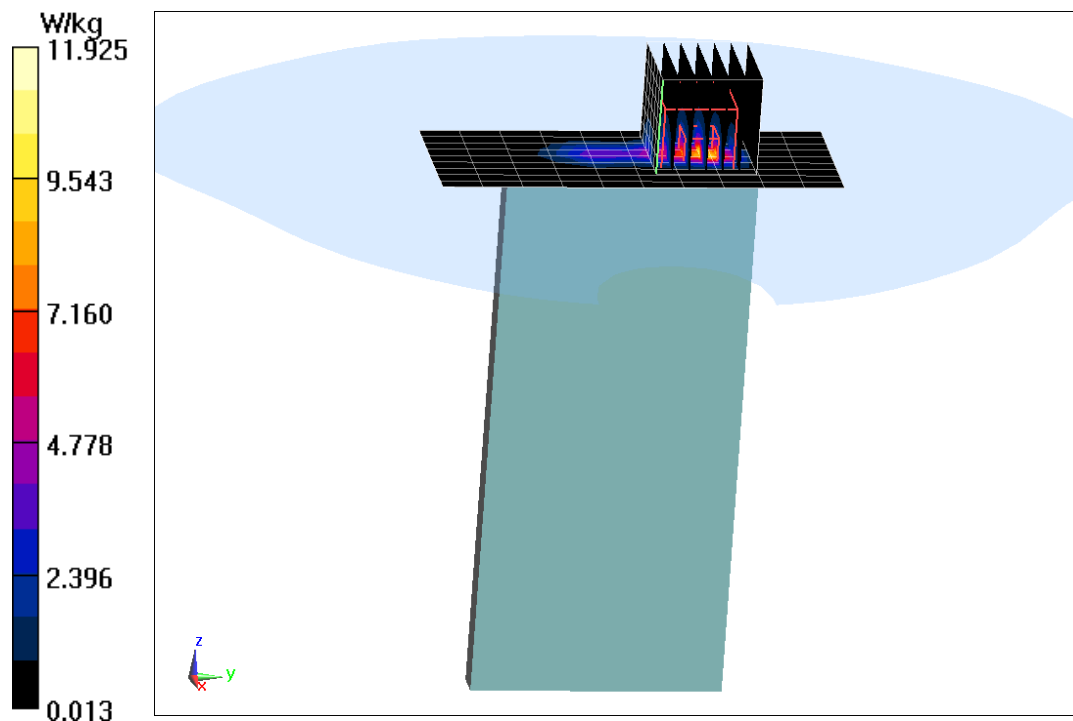
Area Scan (10x11x1): Measurement grid: $dx=5\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 69.19 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 25.9 W/kg

SAR(10 g) = 2.34 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 158D1

Communication System: UID 0, LTE Band 41; Frequency: 2636.5 MHz; Duty Cycle: 1:1.58

Medium: 2600 Body Medium parameters used (interpolated):

$f = 2636.5$ MHz; $\sigma = 2.247$ S/m; $\epsilon_r = 51.217$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 06-27-2017; Ambient Temp: 21.1°C; Tissue Temp: 22.6°C

Probe: ES3DV3 - SN3287; ConvF(4.12, 4.12, 4.12); Calibrated: 9/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1408; Calibrated: 9/14/2016

Phantom: SAM Front; Type: SAM; Serial: 1686

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

Mode: LTE Band 41 PC3 ULCA, Phablet SAR, Back side, Mid-High.ch,

PCC: 20 MHz Bandwidth, QPSK, Ch 41055, 1 RB, 0 RB Offset

SCC: 20 MHz Bandwidth, QPSK, Ch 40857, 1 RB, 99 RB Offset

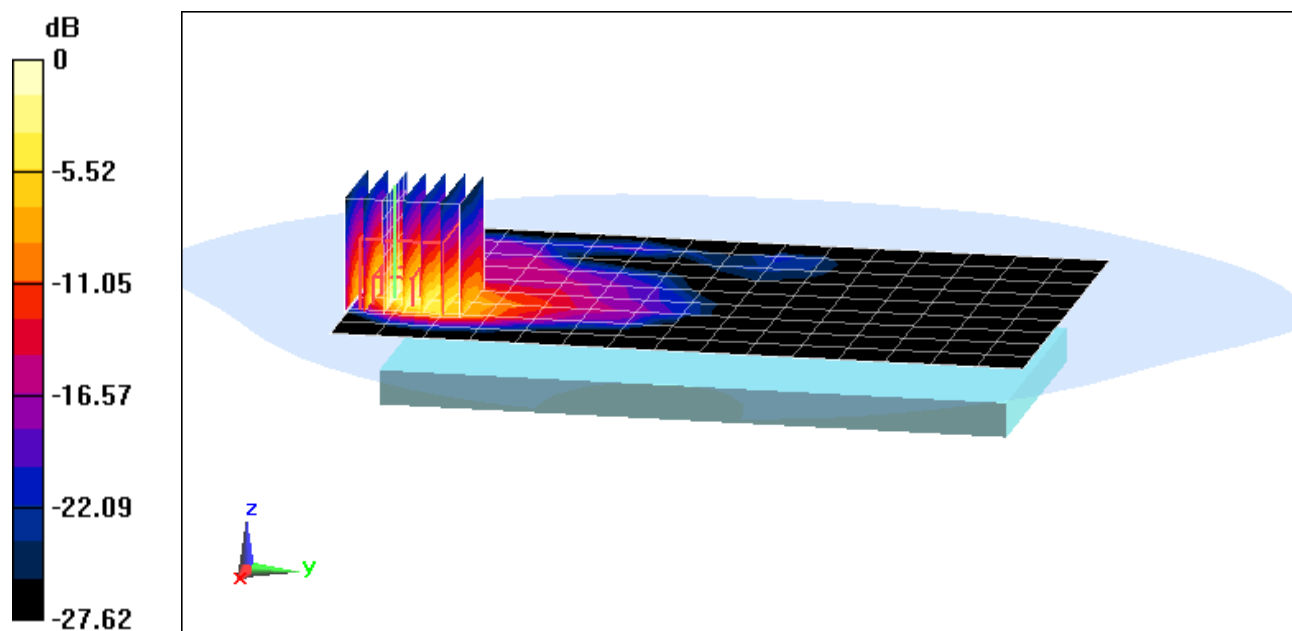
Area Scan (10x16x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 44.99 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 16.0 W/kg

SAR(10 g) = 2.26 W/kg



0 dB = 8.37 W/kg = 9.23 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN950U; Type: Portable Handset; Serial: 1595F

Communication System: UID 0, 802.11a 5.2-5.8 GHz Band; Frequency: 5620 MHz; Duty Cycle: 1:1

Medium: 5 GHz Body Medium parameters used:

$f = 5620 \text{ MHz}$; $\sigma = 5.919 \text{ S/m}$; $\epsilon_r = 48.284$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 06-05-2017; Ambient Temp: 22.6°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN3589; ConvF(3.82, 3.82, 3.82); Calibrated: 1/13/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1466; Calibrated: 1/16/2017

Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: 1646

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

**Mode: IEEE 802.11a, U-NII-2C, 20 MHz Bandwidth, Phablet SAR, Ch 124,
6 Mbps, Back Side, Antenna 1**

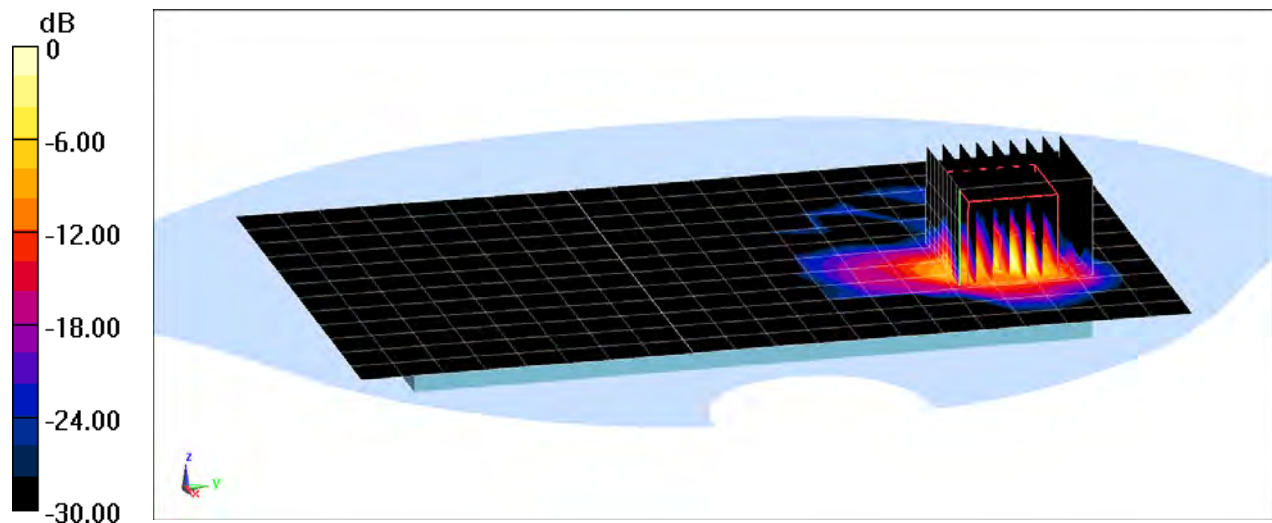
Area Scan (13x13x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Zoom Scan (9x9x7)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=1.4\text{mm}$; Graded Ratio: 1.4

Reference Value = 28.03 V/m; Power Drift = -0.20 dB

Peak SAR (extrapolated) = 35.6 W/kg

SAR(10 g) = 0.789 W/kg



0 dB = 12.5 W/kg = 10.97 dBW/kg

APPENDIX B: SYSTEM VERIFICATION

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1003

Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: 750 Head Medium parameters used (interpolated):

$f = 750 \text{ MHz}$; $\sigma = 0.896 \text{ S/m}$; $\epsilon_r = 41.54$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-08-2017; Ambient Temp: 22.7°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7406; ConvF(10.26, 10.26, 10.26); Calibrated: 4/18/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/11/2017

Phantom: SAM Right; Type: QD000P40CD; Serial: TP:7535

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

750 MHz System Verification at 23.0 dBm (200 mW)

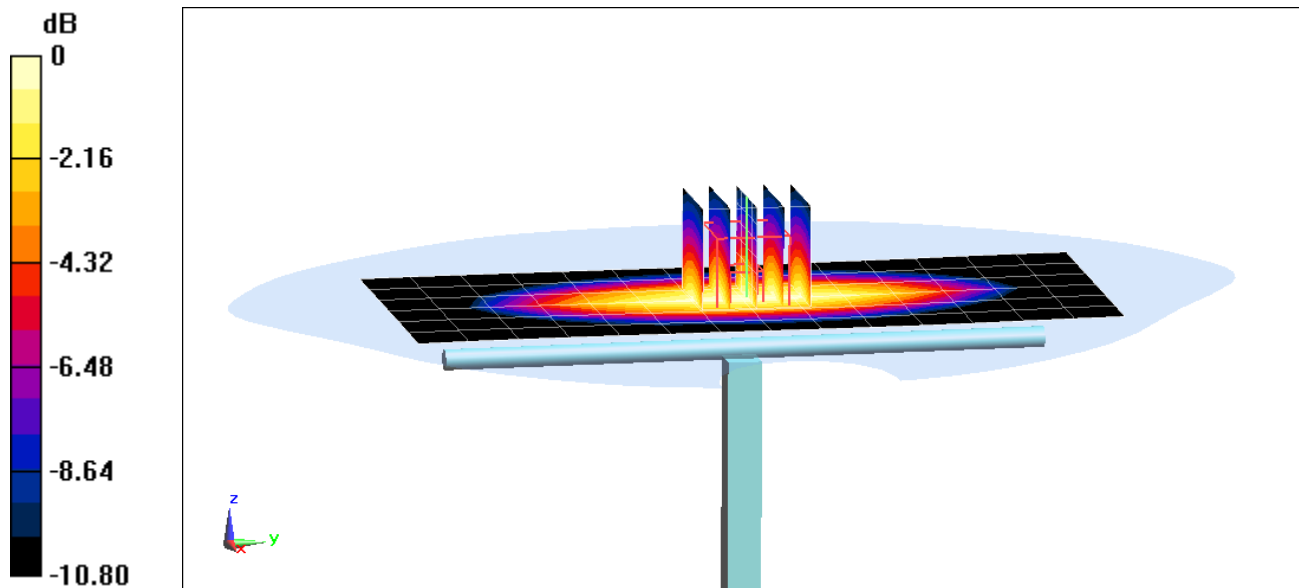
Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 2.79 W/kg

SAR(1 g) = 1.79 W/kg

Deviation(1 g) = 6.67%



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d180

Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: 835 Head Medium parameters used:

$f = 835 \text{ MHz}$; $\sigma = 0.875 \text{ S/m}$; $\epsilon_r = 40.085$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-08-2017; Ambient Temp: 21.3°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7406; ConvF(9.97, 9.97, 9.97); Calibrated: 4/18/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/11/2017

Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

835 MHz System Verification at 23.0 dBm (200 mW)

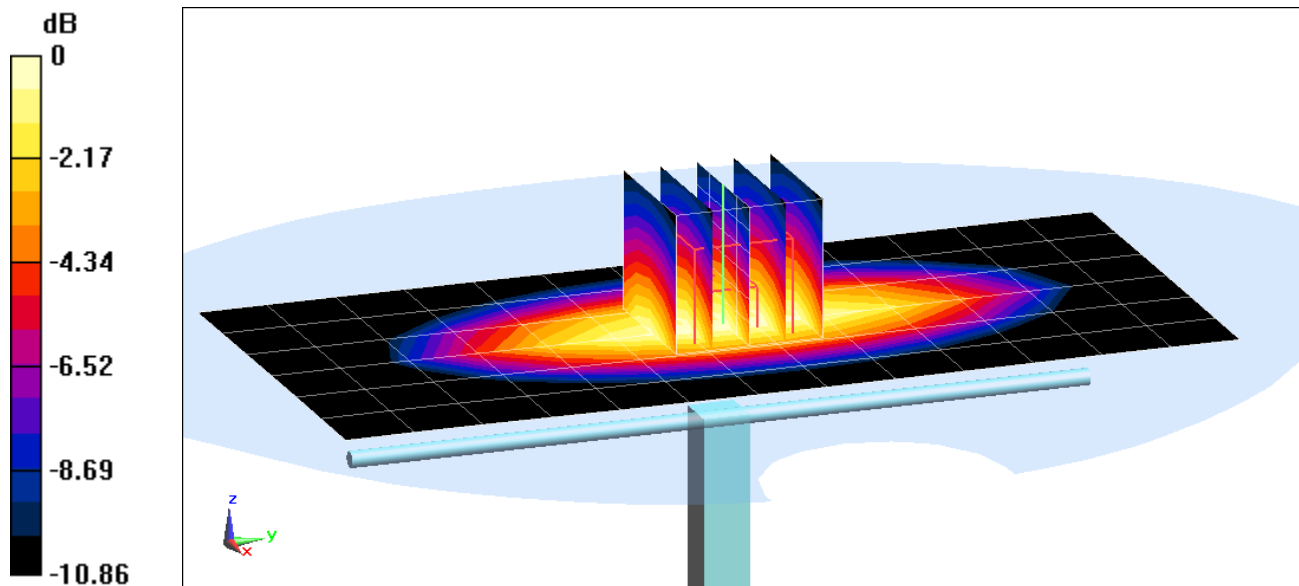
Area Scan (7x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Peak SAR (extrapolated) = 2.81 W/kg

SAR(1 g) = 1.86 W/kg

Deviation(1 g) = 0.43%



0 dB = 2.49 W/kg = 3.96 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1092

Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: 1750 Head; Medium parameters used:

$f = 1750 \text{ MHz}$; $\sigma = 1.415 \text{ S/m}$; $\epsilon_r = 39.886$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-10-2017; Ambient Temp: 20.4°C; Tissue Temp: 21.7°C

Probe: ES3DV3 - SN3332; ConvF(5.72, 5.72, 5.72); Calibrated: 08/25/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1333; Calibrated: 09/15/2016

Phantom: SAM Left; Type: SAM; Serial: 1688

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

1750 MHz System Verification at 20.0 dBm (100 mW)

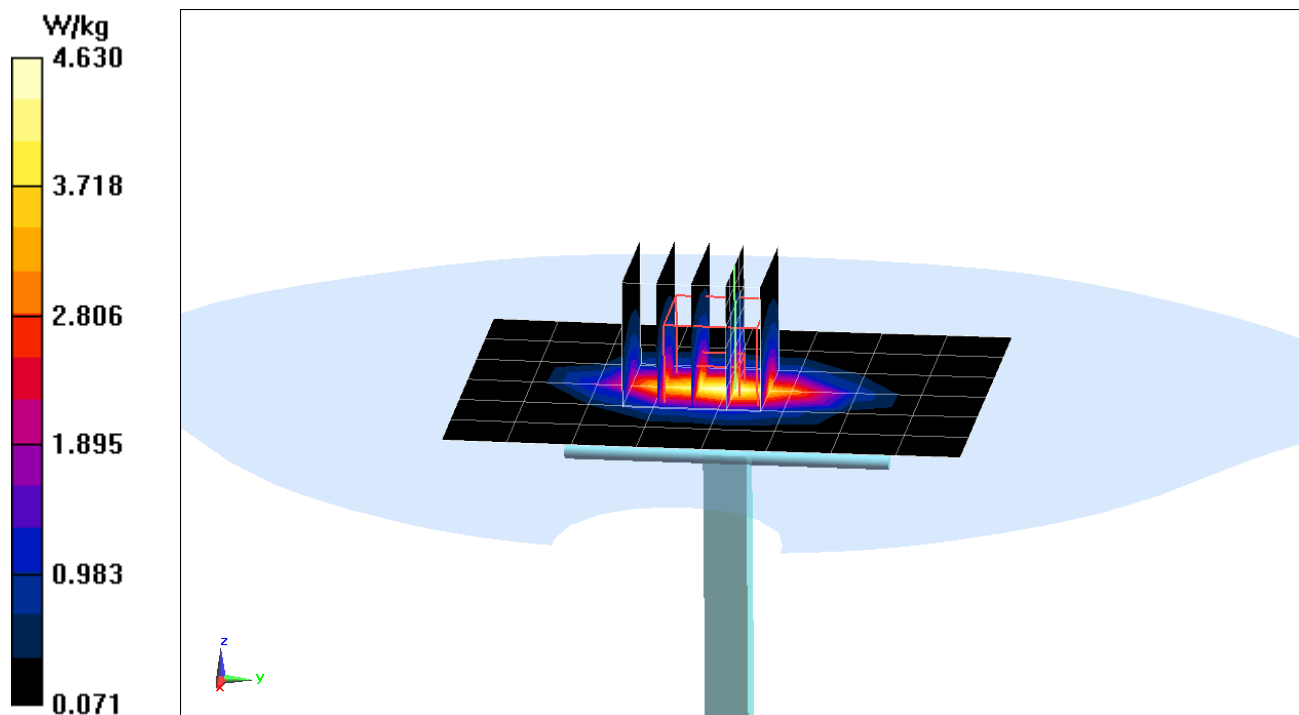
Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 6.73 W/kg

SAR(1 g) = 3.70 W/kg

Deviation(1 g) = 1.65%



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d080

Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: 1900 Head Medium parameters used (interpolated):

$f = 1900 \text{ MHz}$; $\sigma = 1.452 \text{ S/m}$; $\epsilon_r = 38.987$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-12-2017; Ambient Temp: 19.2°C; Tissue Temp: 22.0°C

Probe: ES3DV3 - SN3209; ConvF(5.31, 5.31, 5.31); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1415; Calibrated: 3/13/2017

Phantom: SAM with CRP v4.0; Type: QD000P40CD; Serial: TP:1800

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

1900 MHz System Verification at 20.0 dBm (100 mW)

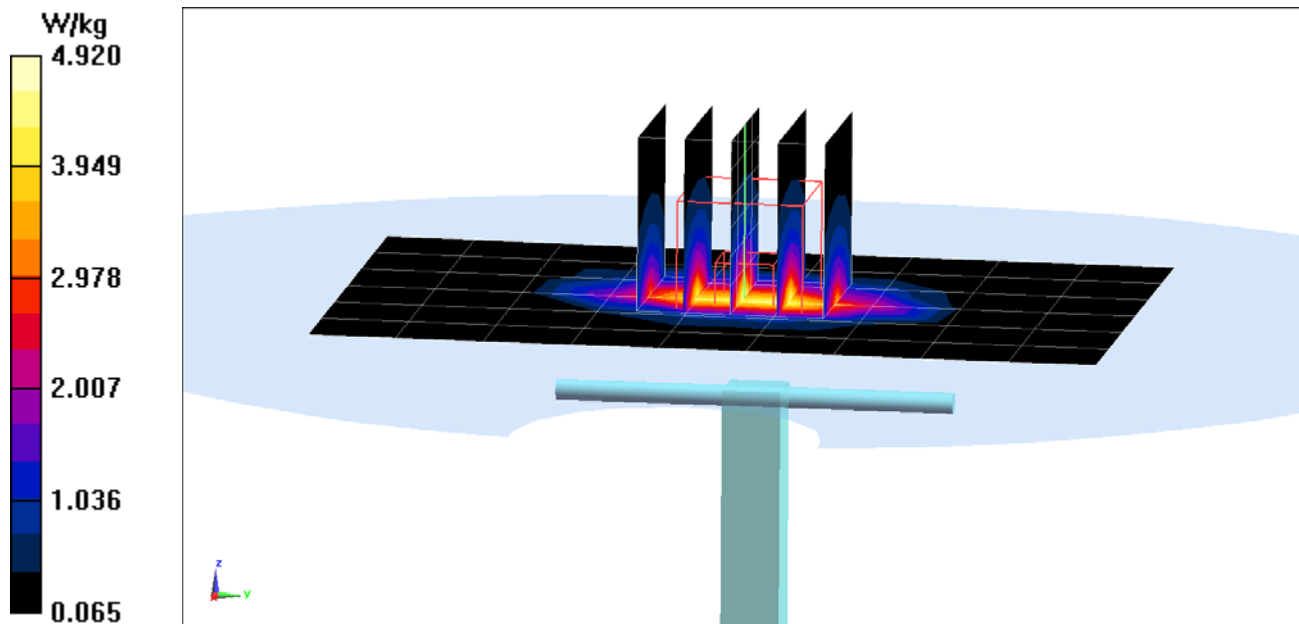
Area Scan (7x10x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Peak SAR (extrapolated) = 7.22 W/kg

SAR(1 g) = 3.86 W/kg

Deviation(1 g) = -1.78%



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 2300 MHz; Type: D2300V2; Serial: 1038

Communication System: UID 0, CW; Frequency: 2300 MHz; Duty Cycle: 1:1

Medium: 2300 Head Medium parameters used:

$f = 2300 \text{ MHz}$; $\sigma = 1.706 \text{ S/m}$; $\epsilon_r = 38.519$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-07-2017; Ambient Temp: 19.3°C; Tissue Temp: 21.2°C

Probe: ES3DV3 - SN3213; ConvF(4.95, 4.95, 4.95); Calibrated: 2/10/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 2/9/2017

Phantom: SAM Right; Type: SAM; Serial: 1757

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

2300 MHz System Verification at 20.0 dBm (100 mW)

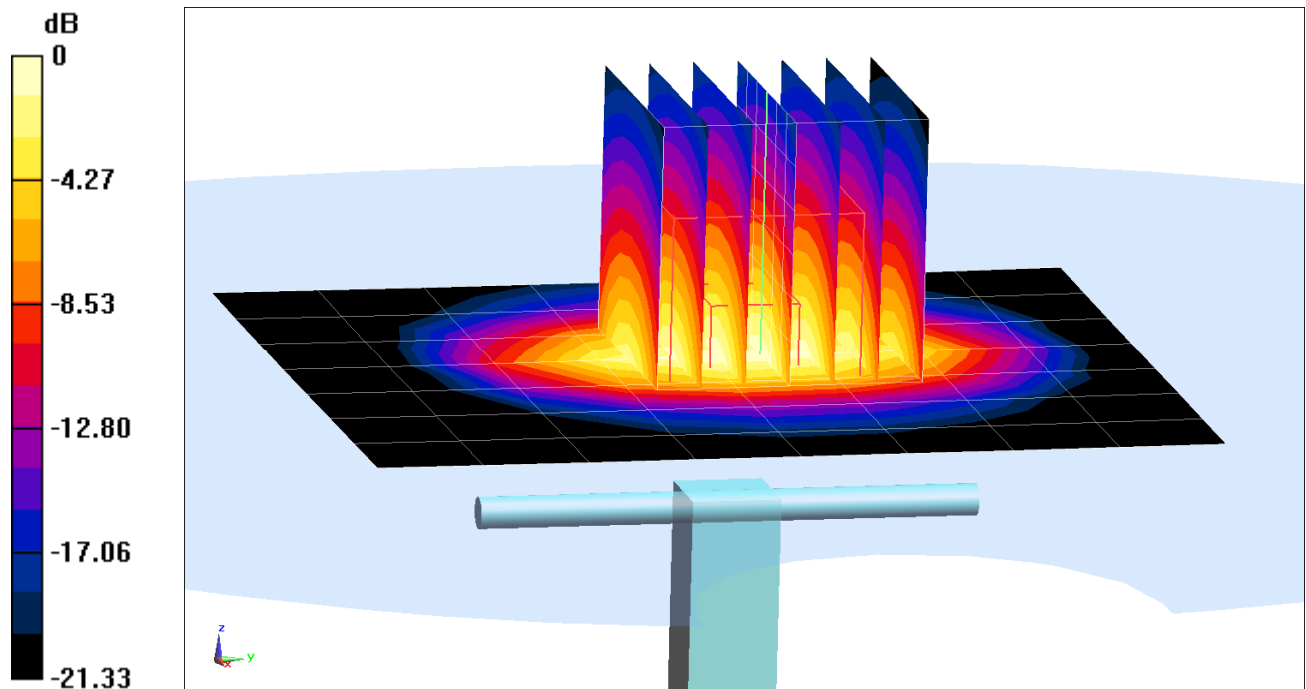
Area Scan (8x9x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Peak SAR (extrapolated) = 9.57 W/kg

SAR(1 g) = 4.73 W/kg

Deviation(1 g) = -0.42%



0 dB = 6.20 W/kg = 7.92 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 981

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: 2450 Head Medium parameters used:

$f = 2450 \text{ MHz}$; $\sigma = 1.867 \text{ S/m}$; $\epsilon_r = 38.251$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-12-2017; Ambient Temp: 22.7°C; Tissue Temp: 23.5°C

Probe: EX3DV4 - SN7406; ConvF(7.68, 7.68, 7.68); Calibrated: 4/18/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/11/2017

Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

2450 MHz System Verification at 20.0 dBm (100 mW)

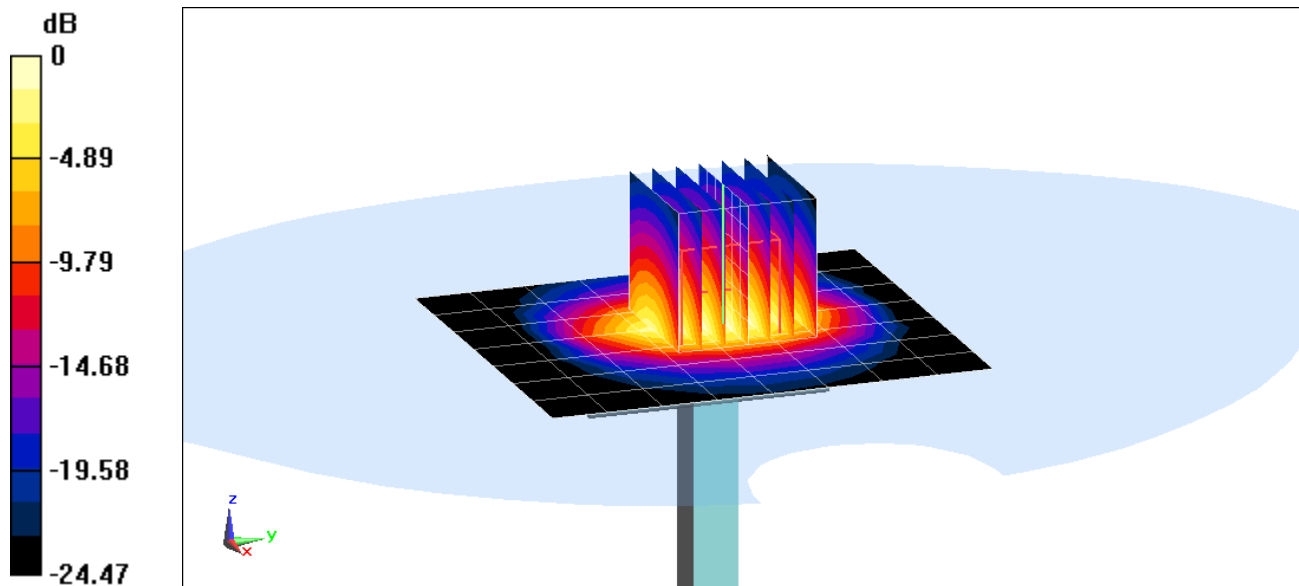
Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Peak SAR (extrapolated) = 11.8 W/kg

SAR(1 g) = 5.35 W/kg

Deviation(1 g) = 1.33%



0 dB = 9.25 W/kg = 9.66 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 797

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: 2450 Head Medium parameters used:

$f = 2450 \text{ MHz}$; $\sigma = 1.803 \text{ S/m}$; $\epsilon_r = 38.36$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-19-2017; Ambient Temp: 23.0°C; Tissue Temp: 23.0°C

Probe: ES3DV3 - SN3213; ConvF(4.7, 4.7, 4.7); Calibrated: 2/10/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 2/9/2017

Phantom: SAM Right; Type: SAM; Serial: 1757

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

2450 MHz System Verification at 20.0 dBm (100 mW)

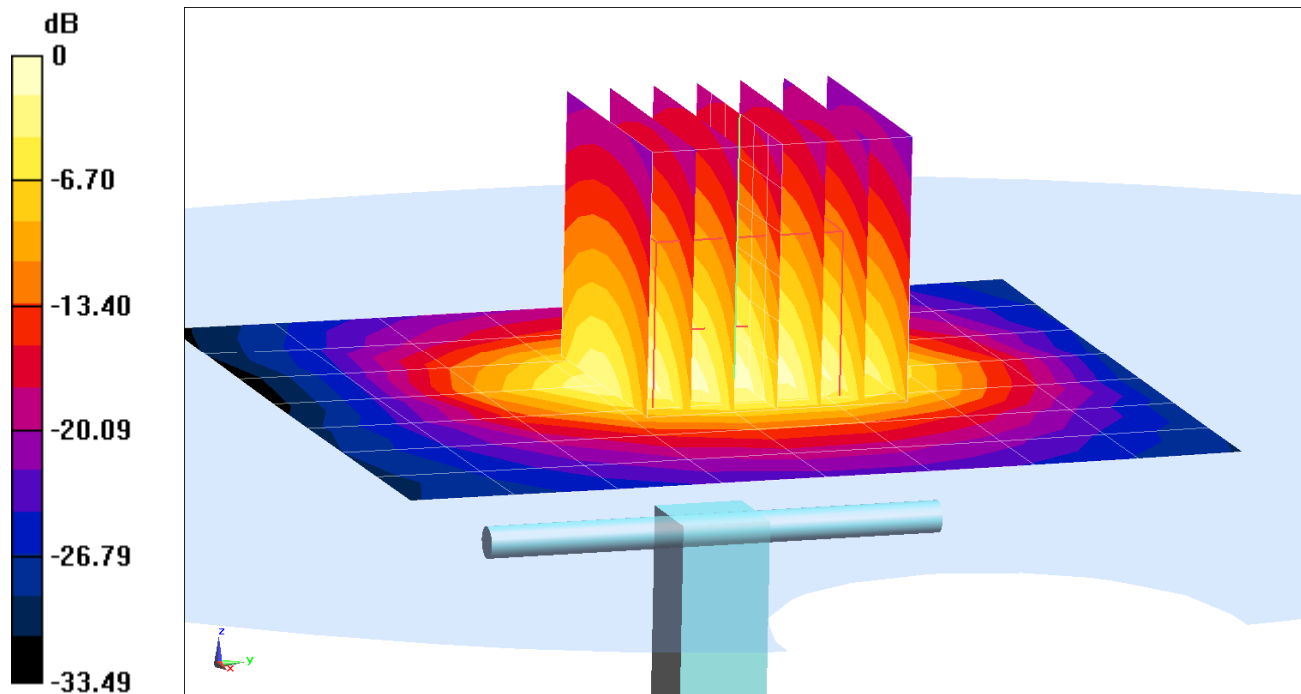
Area Scan (8x9x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Peak SAR (extrapolated) = 11.1 W/kg

SAR(1 g) = 5.33 W/kg

Deviation(1 g) = 2.30%



0 dB = 7.26 W/kg = 8.61 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1126

Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: 2600 Head Medium parameters used:

$f = 2600 \text{ MHz}$; $\sigma = 2.035 \text{ S/m}$; $\epsilon_r = 37.37$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-07-2017; Ambient Temp: 19.3°C; Tissue Temp: 21.2°C

Probe: ES3DV3 - SN3213; ConvF(4.52, 4.52, 4.52); Calibrated: 2/10/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 2/9/2017

Phantom: SAM Right; Type: SAM; Serial: 1757

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

2600 MHz System Verification at 20.0 dBm (100 mW)

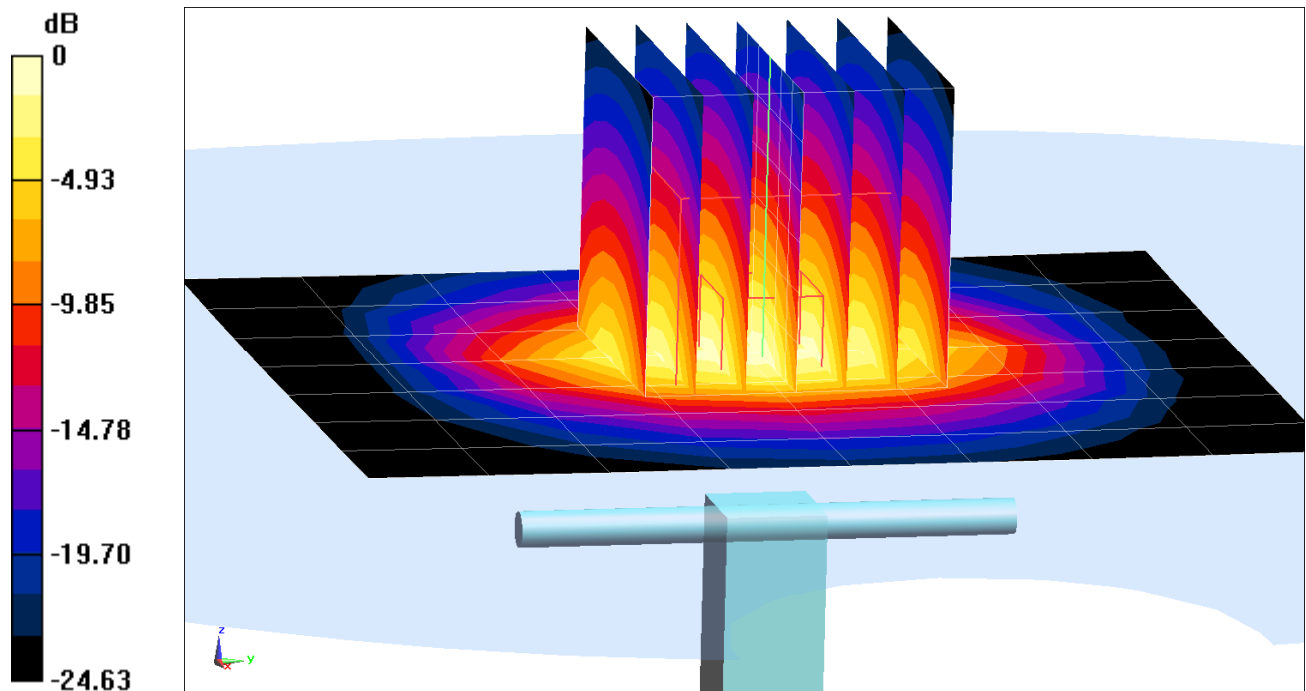
Area Scan (8x9x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Peak SAR (extrapolated) = 12.5 W/kg

SAR(1 g) = 5.57 W/kg

Deviation(1 g) = -1.07%



0 dB = 7.50 W/kg = 8.75 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1004

Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: 2600 Head Medium parameters used:

$f = 2600 \text{ MHz}$; $\sigma = 2.04 \text{ S/m}$; $\epsilon_r = 37.64$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-12-2017; Ambient Temp: 22.7°C; Tissue Temp: 23.5°C

Probe: EX3DV4 - SN7406; ConvF(7.44, 7.44, 7.44); Calibrated: 4/18/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/11/2017

Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

2600 MHz System Verification at 20.0 dBm (100 mW)

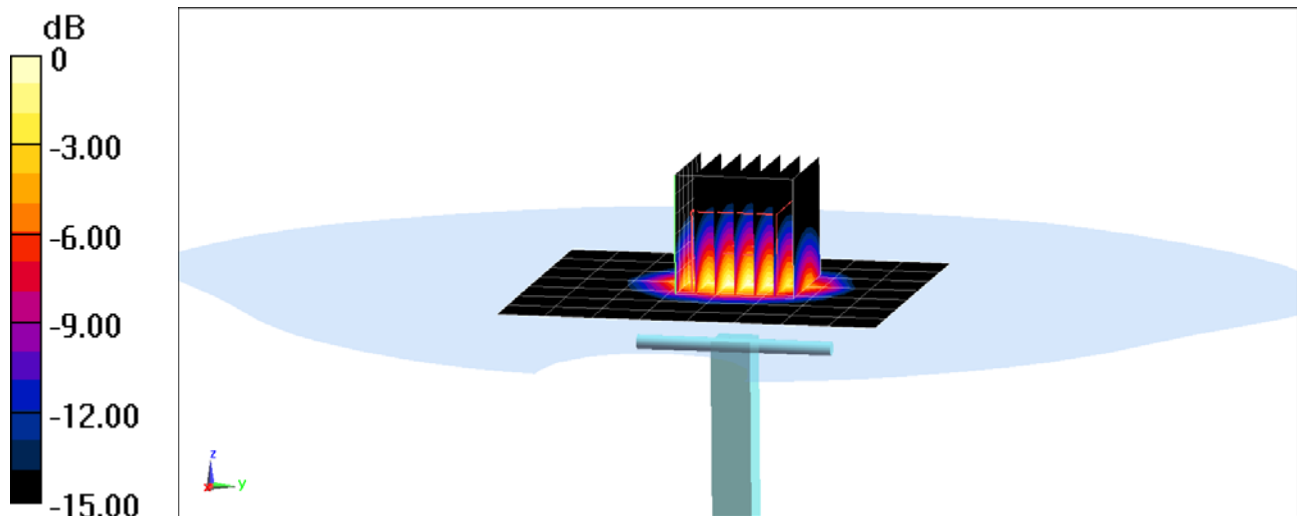
Area Scan (8x9x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Peak SAR (extrapolated) = 13.3 W/kg

SAR(1 g) = 5.79 W/kg

Deviation(1 g) = 0.52%



0 dB = 10.3 W/kg = 10.13 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1191

Communication System: UID 0, CW; Frequency: 5250 MHz; Duty Cycle: 1:1

Medium: 5GHz Head Medium parameters used (interpolated):

$f = 5250 \text{ MHz}$; $\sigma = 4.578 \text{ S/m}$; $\epsilon_r = 35.826$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-06-2017; Ambient Temp: 20.1°C; Tissue Temp: 19.8°C

Probe: EX3DV4 - SN7357; ConvF(5.76, 5.76, 5.76); Calibrated: 4/20/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1415; Calibrated: 3/13/2017

Phantom: SAM with CRP v4.0; Type: QD000P40CD; Serial: TP:1800

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

5250 MHz System Verification at 17.0 dBm (50 mW)

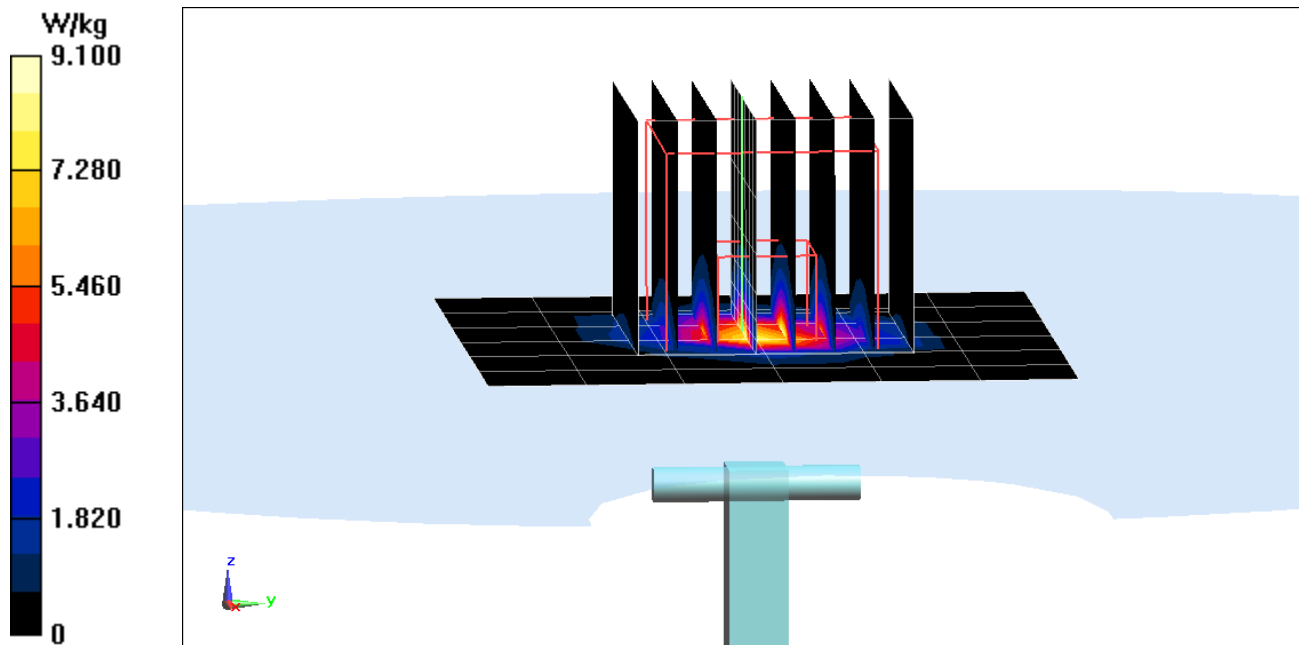
Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm

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) = 3.79 W/kg

Deviation(1 g) = -3.93%



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1191

Communication System: UID 0, CW; Frequency: 5600 MHz; Duty Cycle: 1:1

Medium: 5GHz Head Medium parameters used:

$f = 5600$ MHz; $\sigma = 4.936$ S/m; $\epsilon_r = 35.317$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-06-2017; Ambient Temp: 20.1°C; Tissue Temp: 19.8°C

Probe: EX3DV4 - SN7357; ConvF(5.02, 5.02, 5.02); Calibrated: 4/20/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1415; Calibrated: 3/13/2017

Phantom: SAM with CRP v4.0; Type: QD000P40CD; Serial: TP:1800

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

5600 MHz System Verification at 17.0 dBm (50 mW)

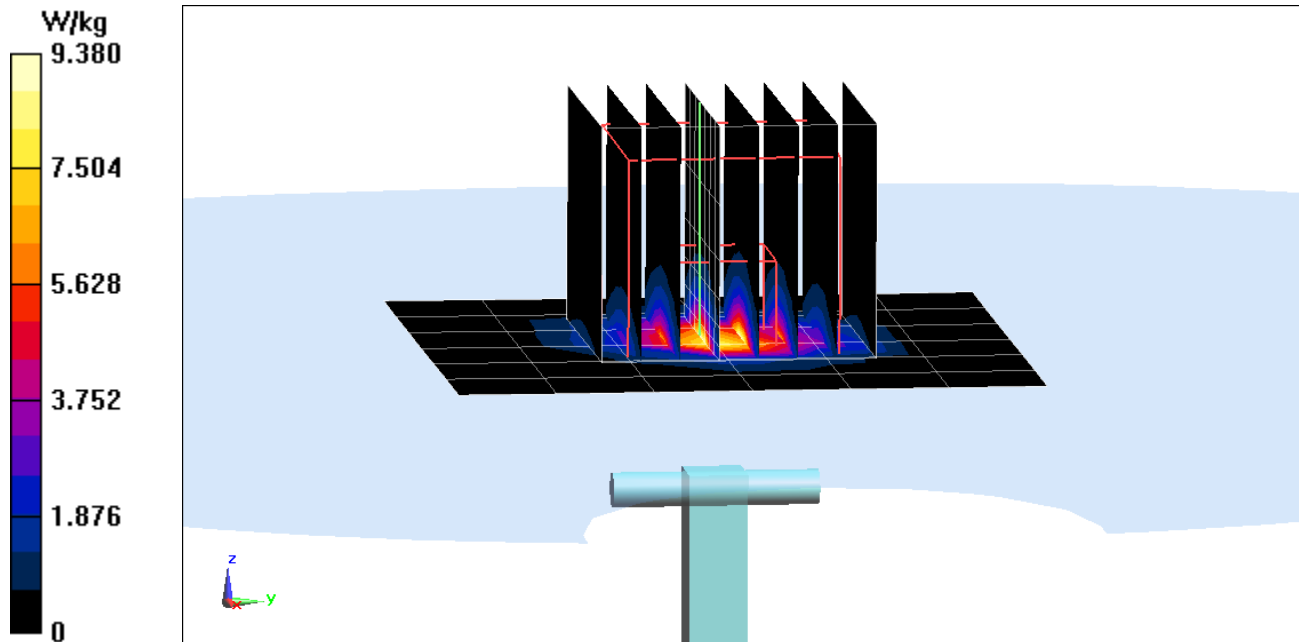
Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm

Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 17.1 W/kg

SAR(1 g) = 3.83 W/kg

Deviation(1 g) = -8.37%



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1191

Communication System: UID 0, CW; Frequency: 5750 MHz; Duty Cycle: 1:1

Medium: 5GHz Head Medium parameters used (interpolated):

$f = 5750 \text{ MHz}$; $\sigma = 5.096 \text{ S/m}$; $\epsilon_r = 35.179$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-06-2017; Ambient Temp: 20.1°C; Tissue Temp: 19.8°C

Probe: EX3DV4 - SN7357; ConvF(5.3, 5.3, 5.3); Calibrated: 4/20/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1415; Calibrated: 3/13/2017

Phantom: SAM with CRP v4.0; Type: QD000P40CD; Serial: TP:1800

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

5750 MHz System Verification at 17.0 dBm (50 mW)

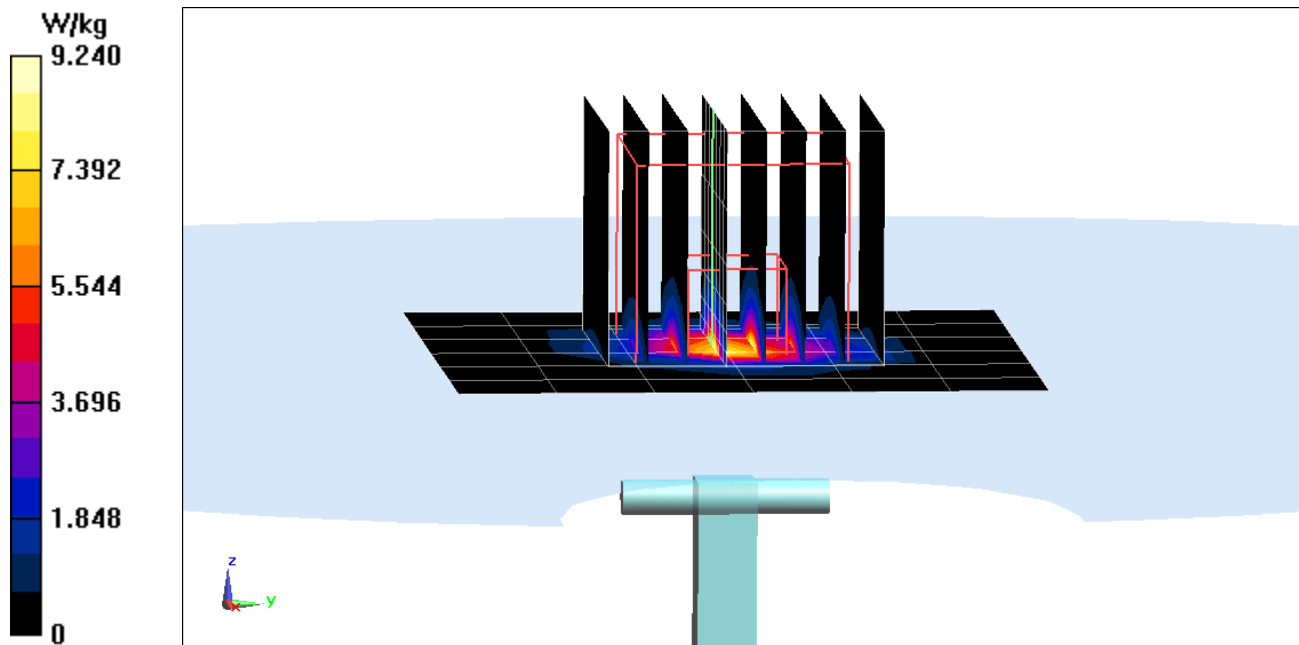
Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm

Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 17.1 W/kg

SAR(1 g) = 3.69 W/kg

Deviation(1 g) = -6.70%



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1054

Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: 750 Body Medium parameters used (interpolated):

$f = 750 \text{ MHz}$; $\sigma = 0.976 \text{ S/m}$; $\epsilon_r = 56.938$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-05-2017; Ambient Temp: 21.7°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN7406; ConvF(9.9, 9.9, 9.9); Calibrated: 4/18/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/11/2017

Phantom: SAM Right; Type: QD000P40CD; Serial: TP:7535

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

750 MHz System Verification at 23.0 dBm (200 mW)

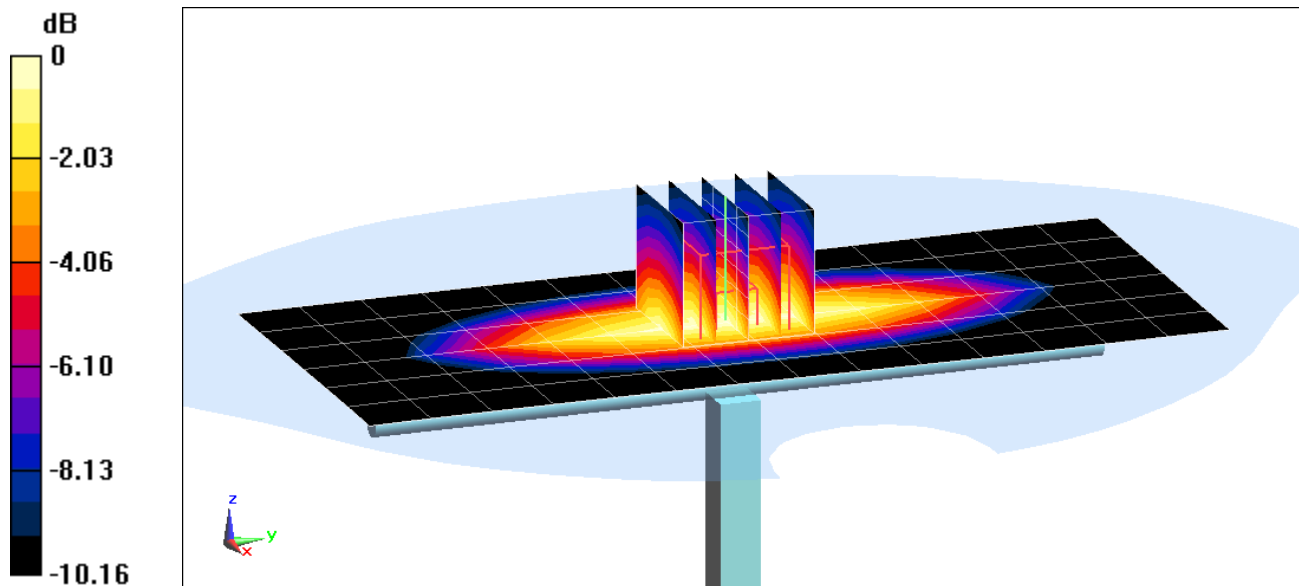
Area Scan (7x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Peak SAR (extrapolated) = 2.73 W/kg

SAR(1 g) = 1.83 W/kg

Deviation(1 g) = 6.27%



0 dB = 2.44 W/kg = 3.87 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d047

Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: 835 Body Medium parameters used:

$f = 835 \text{ MHz}$; $\sigma = 0.966 \text{ S/m}$; $\epsilon_r = 53.5$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-06-2017; Ambient Temp: 21.6°C; Tissue Temp: 22.2°C

Probe: ES3DV3 - SN3319; ConvF(6.29, 6.29, 6.29); Calibrated: 03/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/8/2017

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

835 MHz System Verification at 23.0 dBm (200 mW)

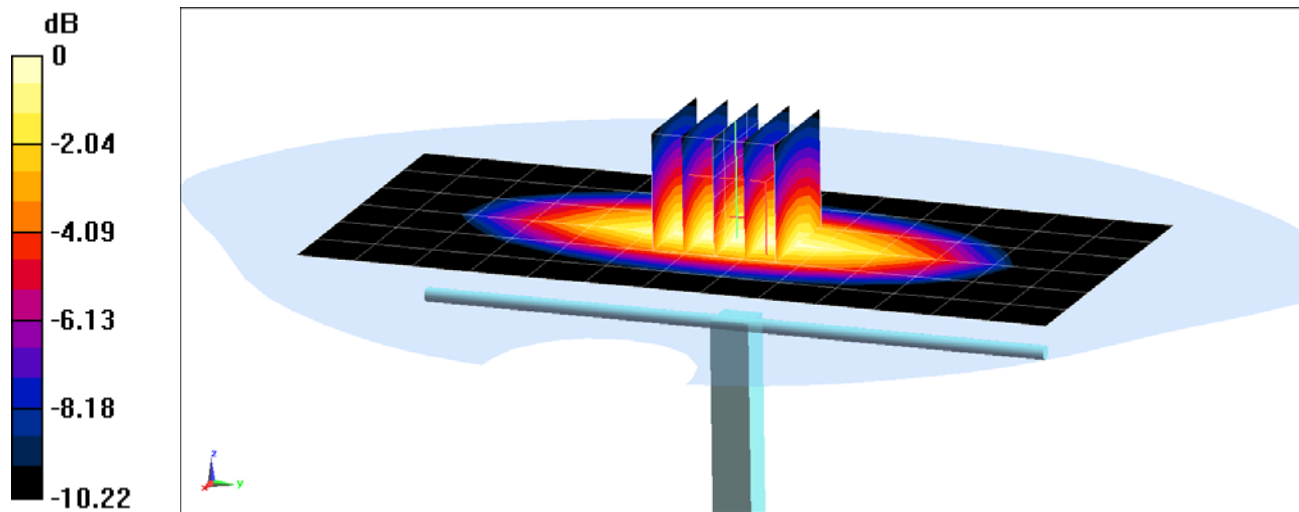
Area Scan (7x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Peak SAR (extrapolated) = 2.86 W/kg

SAR(1 g) = 1.96 W/kg

Deviation(1 g) = 2.40%



0 dB = 2.28 W/kg = 3.58 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1051

Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used:

$f = 1750 \text{ MHz}$; $\sigma = 1.529 \text{ S/m}$; $\epsilon_r = 51.296$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-07-2017; Ambient Temp: 24.3°C; Tissue Temp: 20.8°C

Probe: ES3DV3 - SN3319; ConvF(5.07, 5.07, 5.07); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/8/2017

Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

1750 MHz System Verification at 20.0 dBm (100 mW)

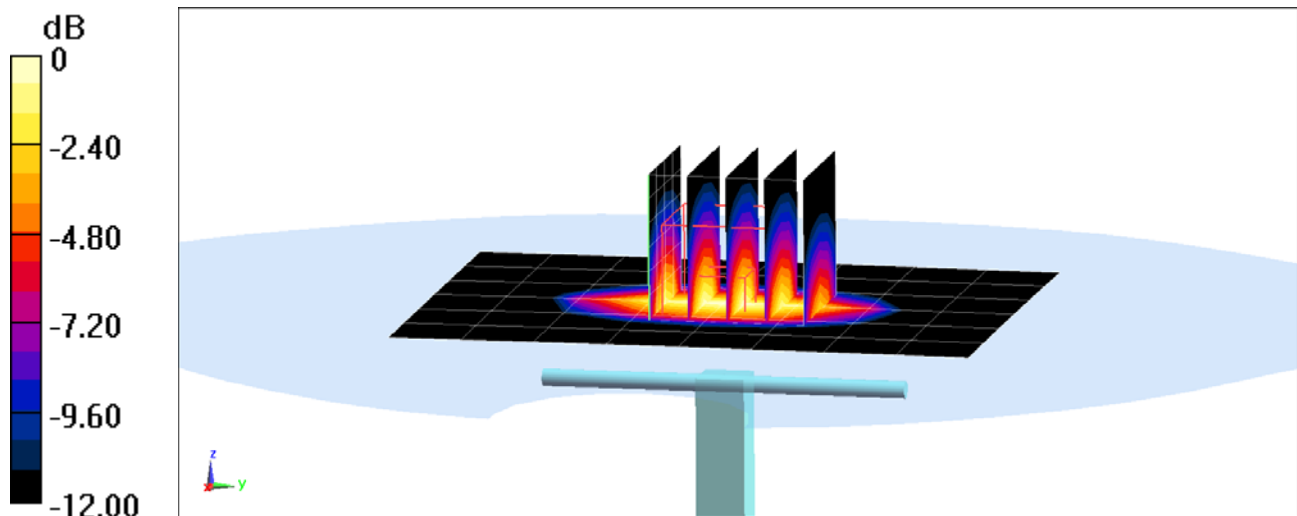
Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 6.62 W/kg

SAR(1 g) = 3.82 W/kg; SAR(10 g) = 2.03 W/kg

Deviation(1 g) = 2.96%; Deviation(10 g) = 2.01%



0 dB = 4.70 W/kg = 6.72 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1148

Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used:

$f = 1750 \text{ MHz}$; $\sigma = 1.461 \text{ S/m}$; $\epsilon_r = 52.944$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-11-2017; Ambient Temp: 23.0°C; Tissue Temp: 22.5°C

Probe: ES3DV3 - SN3319; ConvF(5.07, 5.07, 5.07); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/8/2017

Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

1750 MHz System Verification at 20.0 dBm (100 mW)

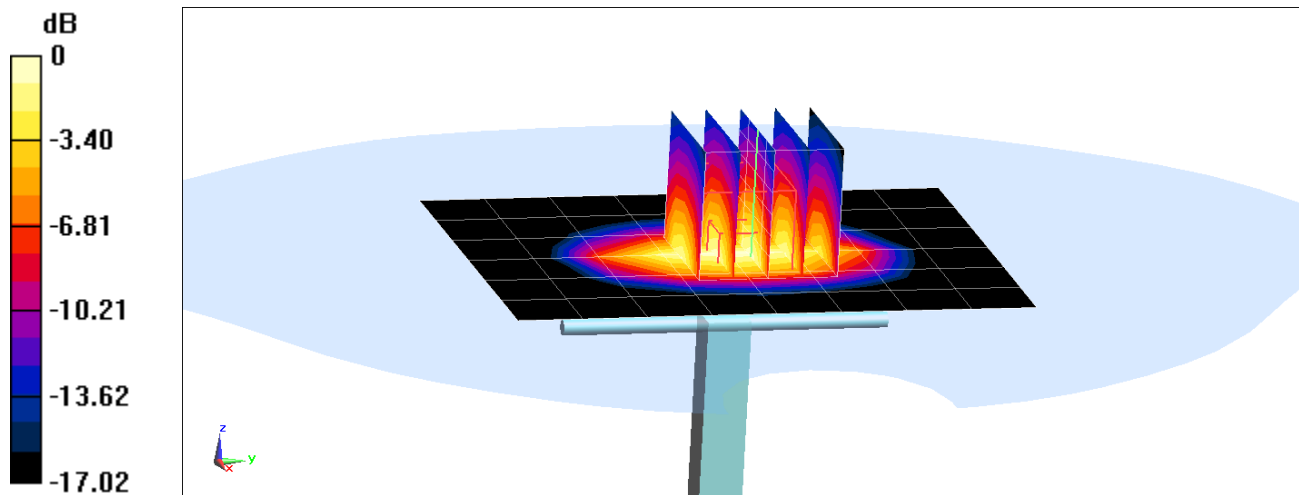
Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 6.43 W/kg

SAR(10 g) = 2.00 W/kg

Deviation(10 g) = 1.01%



0 dB = 4.60 W/kg = 6.63 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1148

Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used:

$f = 1750 \text{ MHz}$; $\sigma = 1.44 \text{ S/m}$; $\epsilon_r = 52.565$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-19-2017; Ambient Temp: 24.6°C; Tissue Temp: 22.4°C

Probe: ES3DV3 - SN3318; ConvF(5.12, 5.12, 5.12); Calibrated: 2/10/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/9/2017

Phantom: SAM with CRP v5.0 (Right); Type: QD000P40CD; Serial: TP:1759

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

1750 MHz System Verification at 20.0 dBm (100 mW)

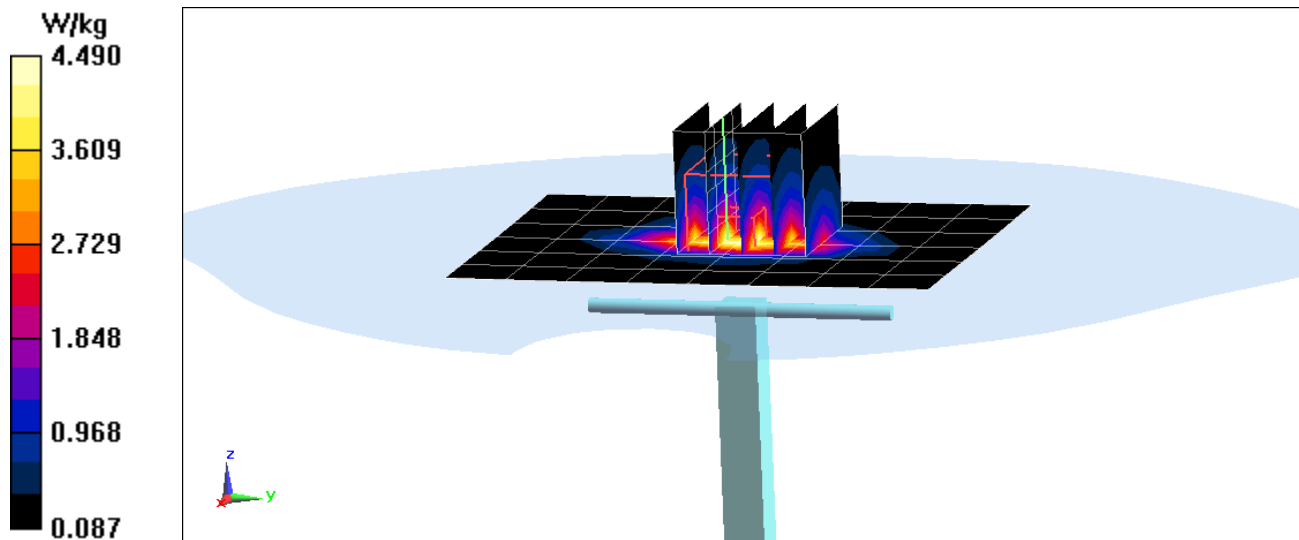
Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 6.37 W/kg

SAR(1 g) = 3.66 W/kg

Deviation(1 g) = -1.08%



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1148

Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used:

$f = 1750$ MHz; $\sigma = 1.5$ S/m; $\epsilon_r = 51.443$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-03-2017; Ambient Temp: 22.1°C; Tissue Temp: 21.4°C

Probe: ES3DV3 - SN3319; ConvF(5.07, 5.07, 5.07); Calibrated: 03/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 03/08/2017

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

1750 MHz System Verification at 20.0 dBm (100 mW)

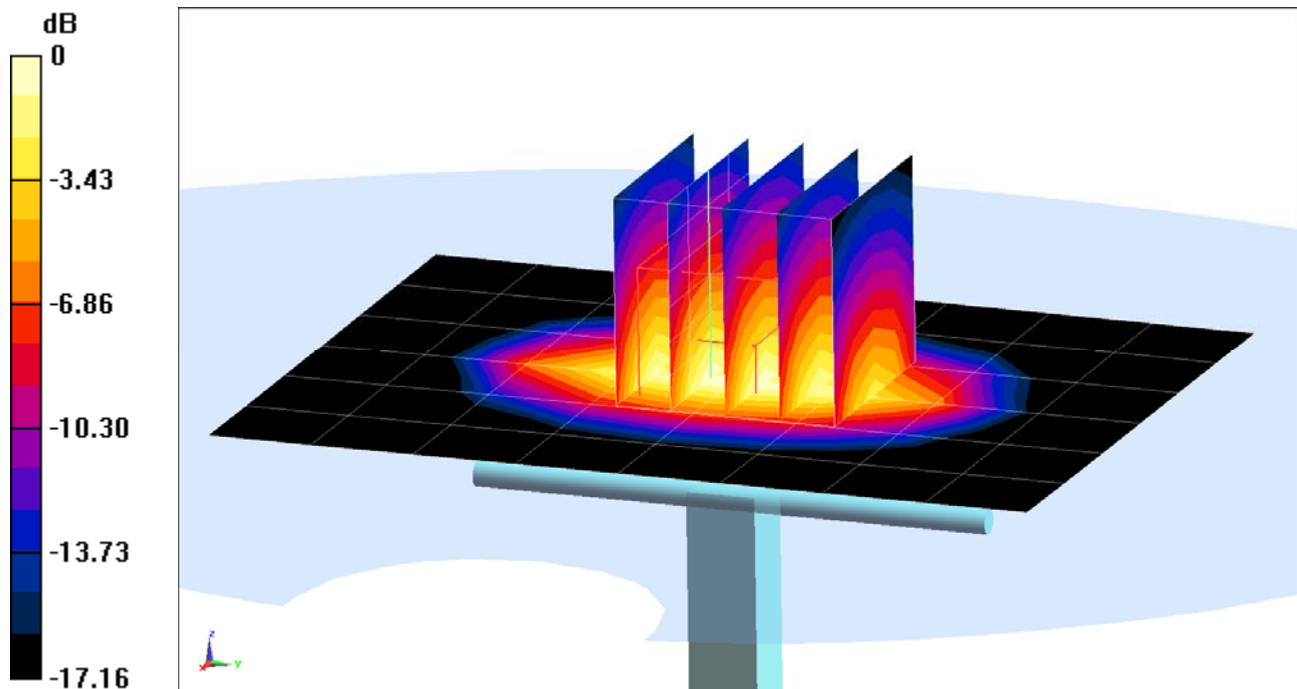
Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 6.56 W/kg

SAR(1 g) = 3.79 W/kg

Deviation(1 g) = 2.43%



0 dB = 4.69 W/kg = 6.71 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d026

Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1900 \text{ MHz}$; $\sigma = 1.578 \text{ S/m}$; $\epsilon_r = 51.764$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-10-2017; Ambient Temp: 22.1°C; Tissue Temp: 21.9°C

Probe: ES3DV3 - SN3318; ConvF(4.96, 4.96, 4.96); Calibrated: 2/10/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/9/2017

Phantom: SAM with CRP v5.0 (Right); Type: QD000P40CD; Serial: TP:1759

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

1900 MHz System Verification at 20.0 dBm (100 mW)

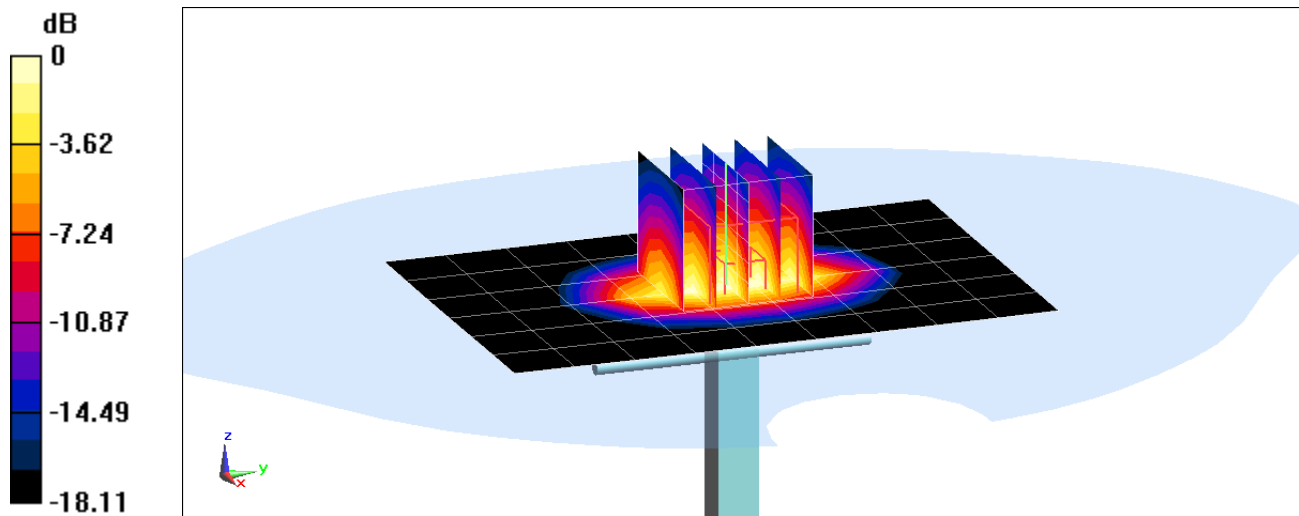
Area Scan (7x10x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Peak SAR (extrapolated) = 7.66 W/kg

SAR(1 g) = 4.26 W/kg; SAR(10 g) = 2.2 W/kg

Deviation(1 g) = 5.71%; Deviation(10 g) = 2.33%



0 dB = 5.34 W/kg = 7.28 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

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 (interpolated):

$f = 1900 \text{ MHz}$; $\sigma = 1.57 \text{ S/m}$; $\epsilon_r = 51.143$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-20-2017; Ambient Temp: 23.3°C; Tissue Temp: 21.3°C

Probe: ES3DV3 - SN3319; ConvF(4.88, 4.88, 4.88); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1368; Calibrated: 3/8/2017

Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: TP:-1648

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

1900 MHz System Verification at 20.0 dBm (100 mW)

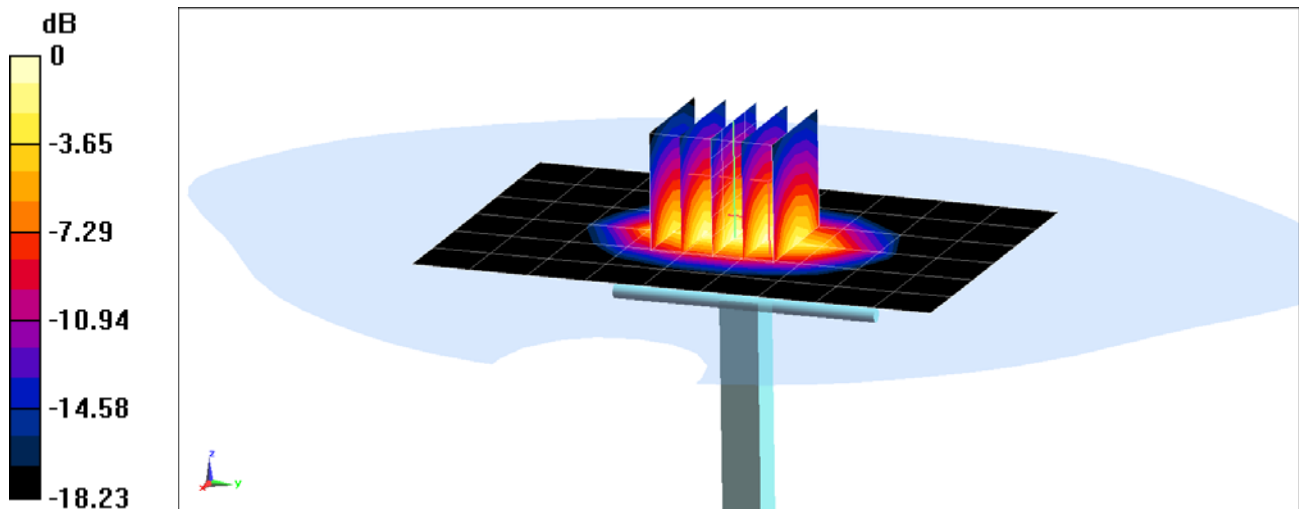
Area Scan (7x10x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Peak SAR (extrapolated) = 7.32 W/kg

SAR(1 g) = 4.06 W/kg

Deviation(1 g) = 1.75%



0 dB = 5.15 W/kg = 7.12 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

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 (interpolated):

$f = 1900 \text{ MHz}$; $\sigma = 1.544 \text{ S/m}$; $\epsilon_r = 51.971$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 07-04-2017; Ambient Temp: 21.1°C; Tissue Temp: 21.7°C

Probe: ES3DV3 - SN3209; ConvF(4.93, 4.93, 4.93); Calibrated: 3/14/2017;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1415; Calibrated: 3/13/2017

Phantom: SAM with CRP v4.0 Left; Type: QD000P40CD; Serial: TP:1692

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

1900 MHz System Verification at 20.0 dBm (100 mW)

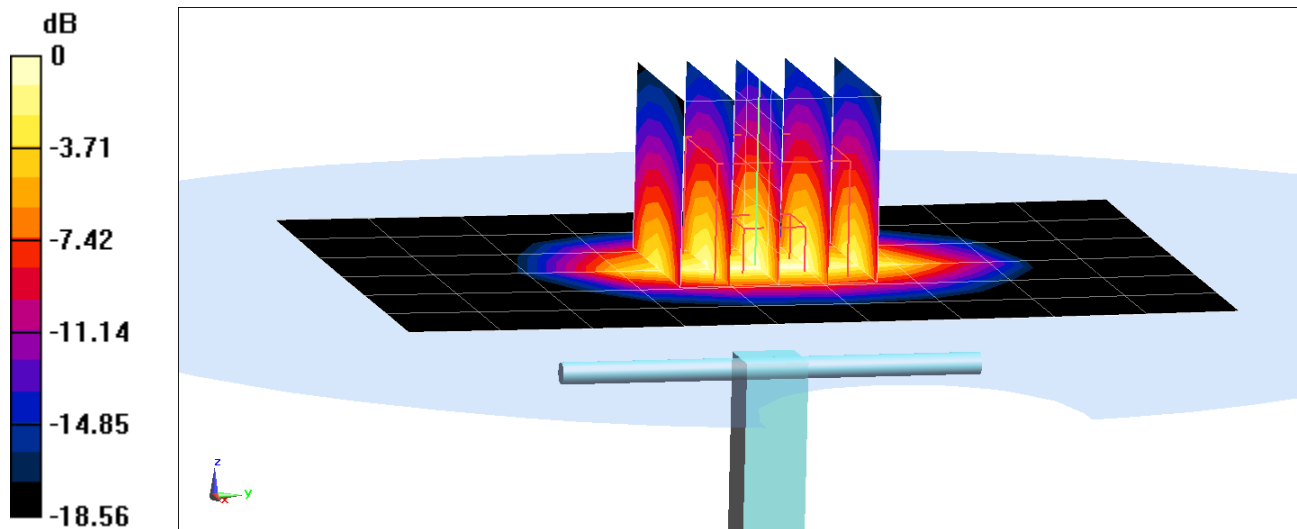
Area Scan (7x10x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Peak SAR (extrapolated) = 7.10 W/kg

SAR(1 g) = 3.92 W/kg

Deviation(1 g) = -4.16%



0 dB = 5.00 W/kg = 6.99 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 2300 MHz; Type: D2300V2; Serial: 1038

Communication System: UID 0, CW; Frequency: 2300 MHz; Duty Cycle: 1:1

Medium: 2300 Body Medium parameters used:

$f = 2300 \text{ MHz}$; $\sigma = 1.82 \text{ S/m}$; $\epsilon_r = 52.839$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-05-2017; Ambient Temp: 22.5°C; Tissue Temp: 22.1°C

Probe: ES3DV3 - SN3287; ConvF(4.55, 4.55, 4.55); Calibrated: 9/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1408; Calibrated: 9/14/2016

Phantom: SAM Front; Type: SAM; Serial: 1686

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

2300 MHz System Verification at 20.0 dBm (100 mW)

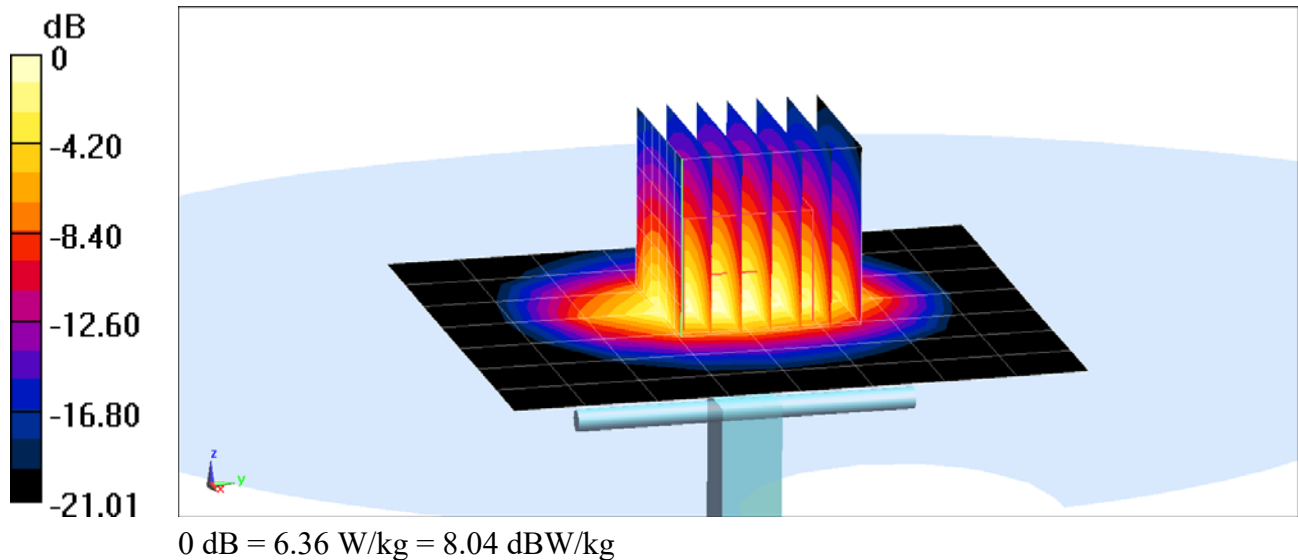
Area Scan (8x9x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Peak SAR (extrapolated) = 9.61 W/kg

SAR(1 g) = 4.92 W/kg; SAR(10 g) = 2.36 W/kg

Deviation(1 g) = 3.58%; Deviation(10 g) = 2.61%



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 981

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: 2450 Body Medium parameters used:

$f = 2450 \text{ MHz}$; $\sigma = 1.937 \text{ S/m}$; $\epsilon_r = 50.961$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-07-2017; Ambient Temp: 22.5°C; Tissue Temp: 23.4°C

Probe: ES3DV3 - SN3287; ConvF(4.35, 4.35, 4.35); Calibrated: 9/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1408; Calibrated: 9/14/2016

Phantom: SAM Front; Type: SAM; Serial: 1686

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

2450 MHz System Verification at 20.0 dBm (100 mW)

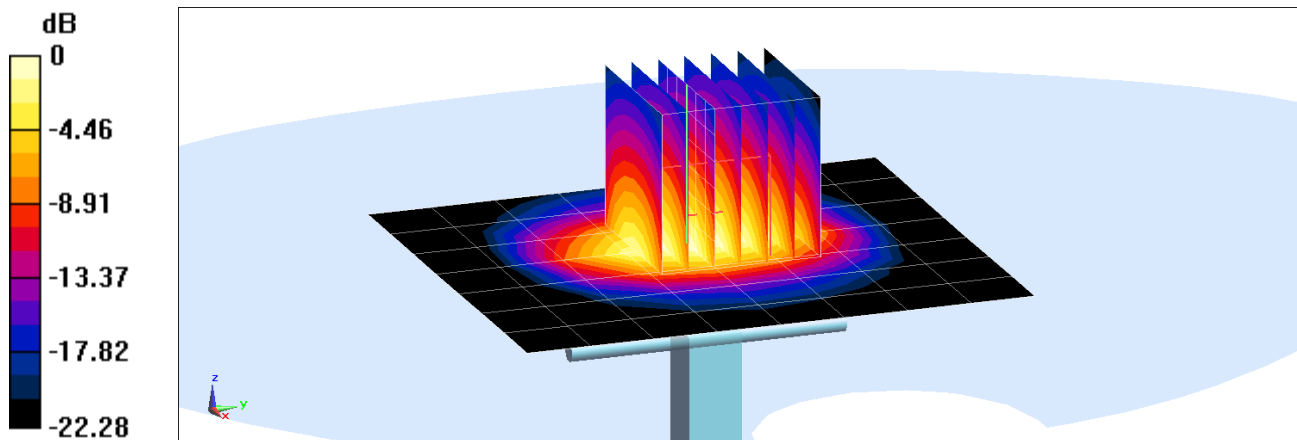
Area Scan (8x9x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Peak SAR (extrapolated) = 11.0 W/kg

SAR(10 g) = 2.5 W/kg

Deviation(10 g) = 5.04%



0 dB = 7.01 W/kg = 8.46 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 981

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: 2450 Body Medium parameters used:

$f = 2450 \text{ MHz}$; $\sigma = 1.971 \text{ S/m}$; $\epsilon_r = 51.563$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-10-2017; Ambient Temp: 22.0°C; Tissue Temp: 22.6°C

Probe: ES3DV3 - SN3287; ConvF(4.35, 4.35, 4.35); Calibrated: 9/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1408; Calibrated: 9/14/2016

Phantom: SAM Front; Type: SAM; Serial: 1686

Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.10 (7417)

2450 MHz System Verification at 20.0 dBm (100 mW)

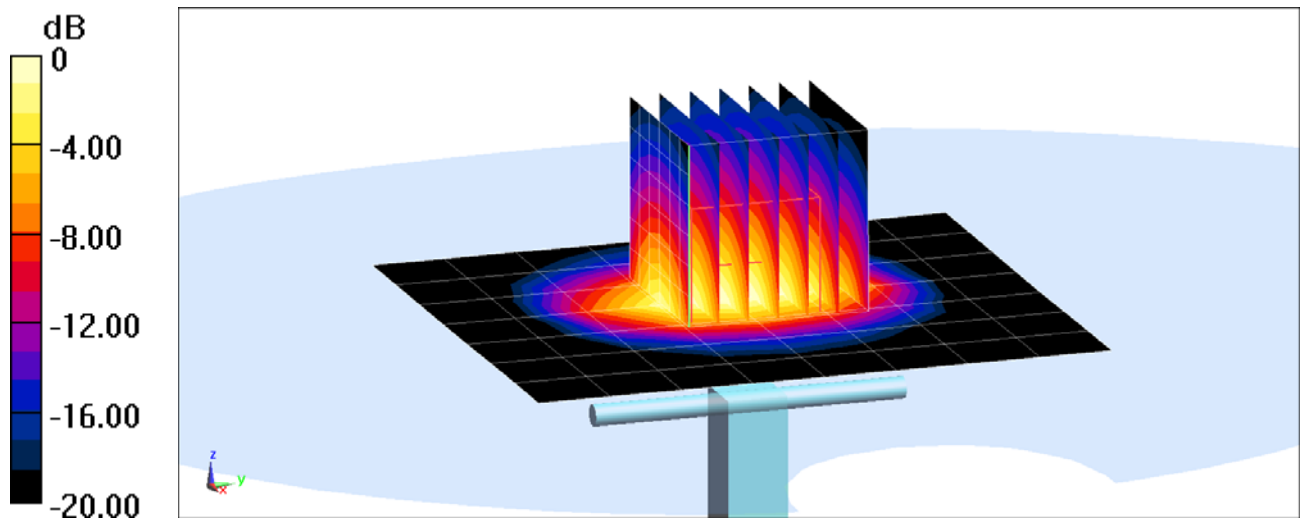
Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Peak SAR (extrapolated) = 11.0 W/kg

SAR(1 g) = 5.36 W/kg

Deviation(1 g) = 5.51%



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 981

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: 2450 Body Medium parameters used:

$f = 2450 \text{ MHz}$; $\sigma = 2.018 \text{ S/m}$; $\epsilon_r = 51.288$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-19-2017; Ambient Temp: 22.1°C; Tissue Temp: 22.6°C

Probe: EX3DV4 - SN7406; ConvF(7.6, 7.6, 7.6); Calibrated: 4/18/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/11/2017

Phantom: SAM Right; Type: QD000P40CD; Serial: TP:7535

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

2450 MHz System Verification at 20.0 dBm (100 mW)

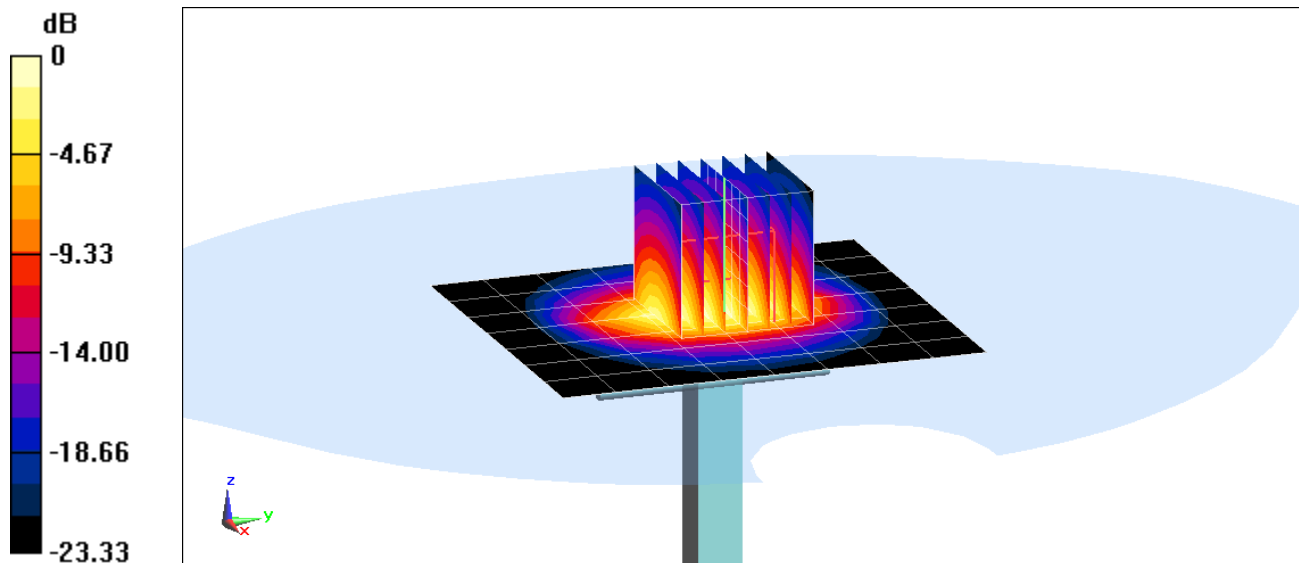
Area Scan (8x9x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Peak SAR (extrapolated) = 11.0 W/kg

SAR(1 g) = 5.10 W/kg

Deviation(1 g) = 0.39%



0 dB = 8.68 W/kg = 9.39 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 981

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: 2450 Body Medium parameters used:

$f = 2450 \text{ MHz}$; $\sigma = 1.985 \text{ S/m}$; $\epsilon_r = 51.927$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-27-2017; Ambient Temp: 21.1°C; Tissue Temp: 22.6°C

Probe: ES3DV3 - SN3287; ConvF(4.35, 4.35, 4.35); Calibrated: 9/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1408; Calibrated: 9/14/2016

Phantom: SAM Front; Type: SAM; Serial: 1686

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

2450 MHz System Verification at 20.0 dBm (100 mW)

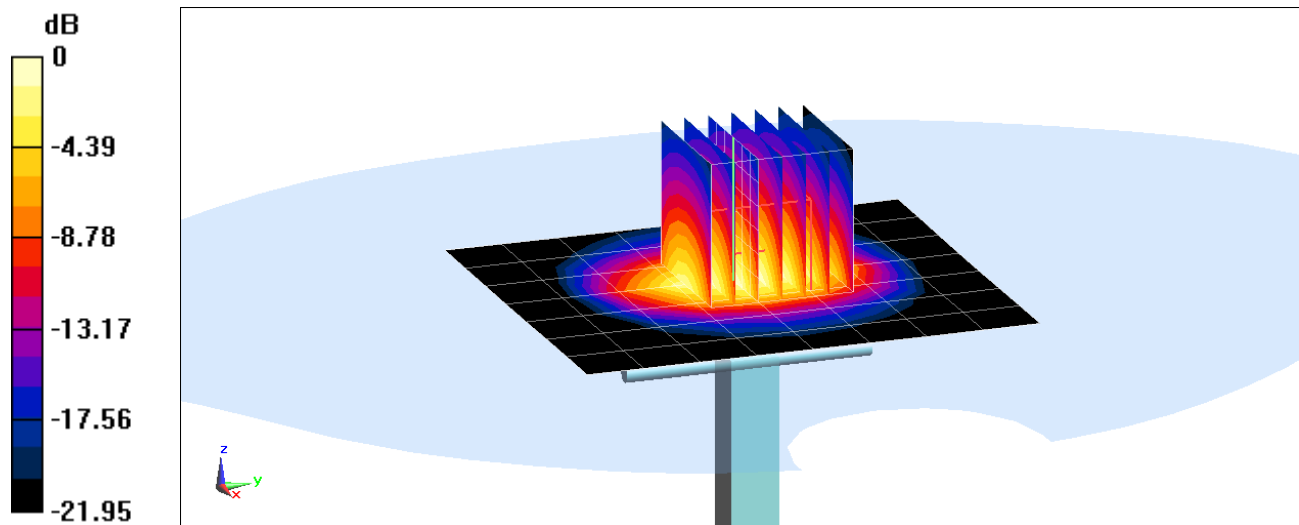
Area Scan (8x9x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Peak SAR (extrapolated) = 11.1 W/kg

SAR(1 g) = 5.43 W/kg

Deviation(1 g) = 6.89%



0 dB = 7.03 W/kg = 8.47 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1071

Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: 2600 Body Medium parameters used:

$f = 2600 \text{ MHz}$; $\sigma = 2.126 \text{ S/m}$; $\epsilon_r = 50.433$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-07-2017; Ambient Temp: 22.5°C; Tissue Temp: 23.4°C

Probe: ES3DV3 - SN3287; ConvF(4.12, 4.12, 4.12); Calibrated: 9/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1408; Calibrated: 9/14/2016

Phantom: SAM Front; Type: SAM; Serial: 1686

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

2600 MHz System Verification at 20.0 dBm (100 mW)

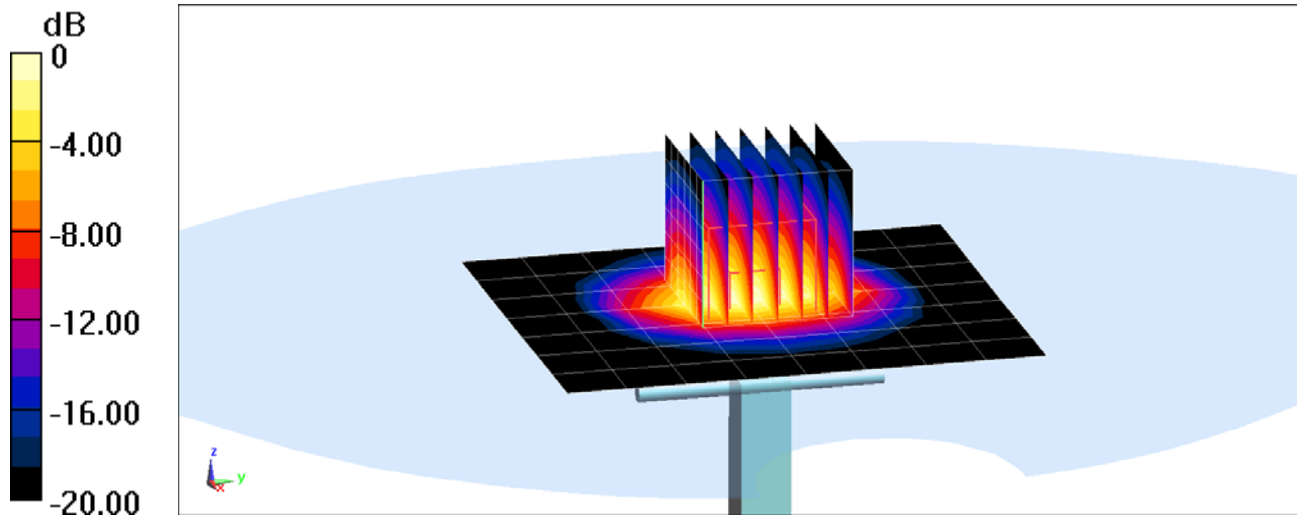
Area Scan (8x9x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Peak SAR (extrapolated) = 12.6 W/kg

SAR(1 g) = 5.84 W/kg; SAR(10 g) = 2.61 W/kg

Deviation(1 g) = 7.75%; Deviation(10 g) = 6.53%



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1004

Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: 2600 Body Medium parameters used:

$f = 2600 \text{ MHz}$; $\sigma = 2.195 \text{ S/m}$; $\epsilon_r = 51.353$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-27-2017; Ambient Temp: 21.1°C; Tissue Temp: 22.6°C

Probe: ES3DV3 - SN3287; ConvF(4.12, 4.12, 4.12); Calibrated: 9/19/2016;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1408; Calibrated: 9/14/2016

Phantom: SAM Front; Type: SAM; Serial: 1686

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

2600 MHz System Verification at 20.0 dBm (100 mW)

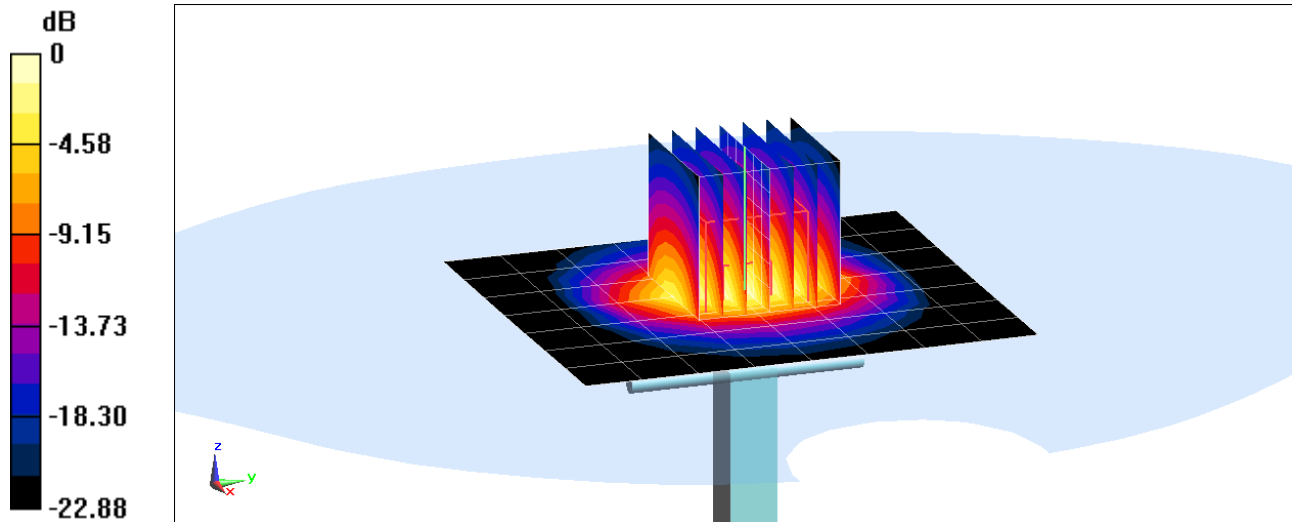
Area Scan (8x9x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Peak SAR (extrapolated) = 12.7 W/kg

SAR(1 g) = 5.9 W/kg; SAR(10 g) = 2.63 W/kg

Deviation(1 g) = 6.69%; Deviation(10 g) = 5.62%



0 dB = 7.81 W/kg = 8.93 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1237

Communication System: UID 0, CW; Frequency: 5250 MHz; Duty Cycle: 1:1

Medium: 5 GHz Body Medium parameters used (interpolated):

$f = 5250 \text{ MHz}$; $\sigma = 5.417 \text{ S/m}$; $\epsilon_r = 48.883$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-05-2017; Ambient Temp: 22.6°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN3589; ConvF(4.19, 4.19, 4.19); Calibrated: 1/13/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1466; Calibrated: 1/16/2017

Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: 1646

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

5250 MHz System Verification at 17.0 dBm (50 mW)

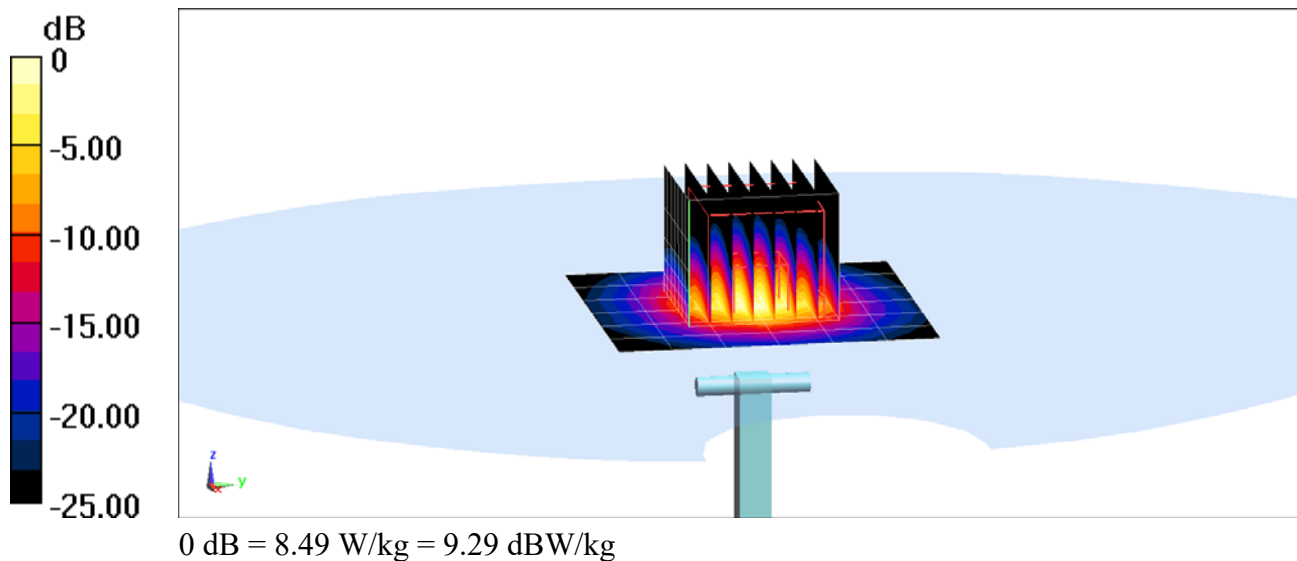
Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm

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) = 3.59 W/kg; SAR(10 g) = 1.00 W/kg

Deviation(1 g) = -4.01%; Deviation(10 g) = -4.76%



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1237

Communication System: UID 0, CW; Frequency: 5600 MHz; Duty Cycle: 1:1

Medium: 5 GHz Body Medium parameters used:

$f = 5600 \text{ MHz}$; $\sigma = 5.889 \text{ S/m}$; $\epsilon_r = 48.319$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-05-2017; Ambient Temp: 22.6°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN3589; ConvF(3.82, 3.82, 3.82); Calibrated: 1/13/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1466; Calibrated: 1/16/2017

Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: 1646

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

5600 MHz System Verification at 17.0 dBm (50 mW)

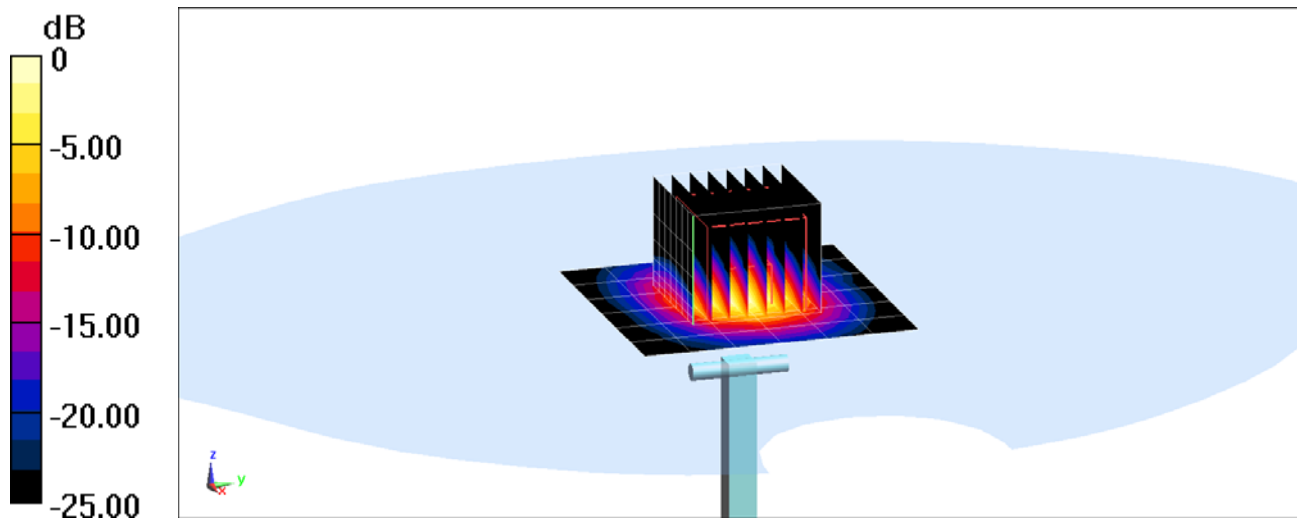
Area Scan (7x7x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Zoom Scan (8x8x7)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=1.4\text{mm}$; Graded Ratio: 1.4

Peak SAR (extrapolated) = 18.2 W/kg

SAR(1 g) = 3.88 W/kg; SAR(10 g) = 1.07 W/kg

Deviation(1 g) = 0.78%; Deviation(10 g) = -0.47%



PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1237

Communication System: UID 0, CW; Frequency: 5750 MHz; Duty Cycle: 1:1

Medium: 5 GHz Body Medium parameters used (interpolated):

$f = 5750 \text{ MHz}$; $\sigma = 6.093 \text{ S/m}$; $\epsilon_r = 48.058$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-05-2017; Ambient Temp: 22.6°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN3589; ConvF(3.83, 3.83, 3.83); Calibrated: 1/13/2017;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1466; Calibrated: 1/16/2017

Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: 1646

Measurement SW: DASY52, Version 52.10; SEMCAD X Version 14.6.10 (7417)

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) = 15.8 W/kg

SAR(1 g) = 3.49 W/kg; SAR(10 g) = 0.967 W/kg

Deviation(1 g) = -7.43%; Deviation(10 g) = -7.46%

