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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:
11/12/18 - 01/07/19
Test Site/Location:
PCTEST Lab, Columbia, MD, USA
Document Serial No.:
1M1810250197-01-R4.A3L

FCC ID: **A3LSMG975U**

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

DUT Type: Portable Handset
Application Type: Certification
FCC Rule Part(s): CFR §2.1093
Model: SM-G975U
Additional Model(s): SM-G975U1, SM-G975W, SM-G975XU

Equipment Class	Band & Mode	Tx Frequency	SAR			
			1g Head (W/kg)	1g Body-Worn (W/kg)	1g Hotspot (W/kg)	10g Phablet (W/kg)
PCE	GSM/GPRS/EDGE 850	824.20 - 848.80 MHz	0.20	0.20	0.45	N/A
PCE	GSM/GPRS/EDGE 1900	1850.20 - 1909.80 MHz	< 0.1	0.25	0.90	3.29
PCE	UMTS 850	826.40 - 846.60 MHz	0.27	0.35	0.73	N/A
PCE	UMTS 1750	1712.4 - 1752.6 MHz	0.12	0.46	0.66	2.65
PCE	UMTS 1900	1852.4 - 1907.6 MHz	0.16	1.04	1.14	2.48
PCE	CDMA/EVDO BC10 (§90S)	817.90 - 823.10 MHz	0.26	0.30	0.63	N/A
PCE	CDMA/EVDO BC0 (§22H)	824.70 - 848.31 MHz	0.31	0.39	0.75	N/A
PCE	PCS CDMA/EVDO	1851.25 - 1908.75 MHz	0.20	0.85	0.89	2.77
PCE	LTE Band 71	665.5 - 695.5 MHz	0.12	0.29	0.37	N/A
PCE	LTE Band 12	699.7 - 715.3 MHz	0.31	0.41	0.55	N/A
PCE	LTE Band 13	779.5 - 784.5 MHz	0.19	0.25	0.39	N/A
PCE	LTE Band 14	790.5 - 795.5 MHz	0.32	0.34	0.63	N/A
PCE	LTE Band 26 (Cell)	814.7 - 848.3 MHz	0.27	0.34	0.65	N/A
PCE	LTE Band 5 (Cell)	824.7 - 848.3 MHz	0.33	0.40	0.93	N/A
PCE	LTE Band 66 (AWS)	1710.7 - 1779.3 MHz	0.20	0.71	0.62	1.95
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	0.16	0.71	0.91	2.98
PCE	LTE Band 2 (PCS)	1850.7 - 1909.3 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 30	2307.5 - 2312.5 MHz	< 0.1	0.63	1.10	1.41
PCE	LTE Band 7	2502.5 - 2567.5 MHz	< 0.1	0.67	1.25	2.15
PCE	LTE Band 41	2498.5 - 2687.5 MHz	0.13	0.62	0.92	2.38
PCE	LTE Band 38	2572.5 - 2617.5 MHz	N/A	N/A	N/A	N/A
DTS	2.4 GHz WLAN	2412 - 2462 MHz	0.36	0.16	0.32	N/A
NII	U-NII-1	5180 - 5240 MHz	N/A	N/A	N/A	N/A
NII	U-NII-2A	5260 - 5320 MHz	0.40	0.19	N/A	1.59
NII	U-NII-2C	5500 - 5720 MHz	0.37	0.28	N/A	2.10
NII	U-NII-3	5745 - 5825 MHz	0.33	0.31	0.69	N/A
DSS/DTS	Bluetooth	2402 - 2480 MHz	0.83	0.12	0.28	N/A
Simultaneous SAR per KDB 690783 D01v01r03:			1.59	1.57	1.59	3.97

Note: This revised Test Report (S/N: 1M1810250197-01-R4.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.
Note: This test report addresses compliance data for material 1. Please see test report ID 1M1812260232-01-R3.A3L for compliance data for material 2.
Note: LTE Band 48 operations have been disabled.
This wireless portable device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment/general population exposure limits specified in ANSI/IEEE C95.1-1992 and has been tested in accordance with the measurement procedures specified in Section 1.8 of this report; for North American frequency bands only.
I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them. Test results reported herein relate only to the item(s) tested.

Randy Ortanez
President

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

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APPENDIX H: DOWNLINK LTE CA RF CONDUCTED POWERS

APPENDIX I: IEEE 802.11AX RU SAR EXCLUSION

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1 DEVICE UNDER TEST

1.1 Device Overview

Band & Mode	Operating Modes	Tx Frequency
GSM/GPRS/EDGE 850	Voice/Data	824.20 - 848.80 MHz
GSM/GPRS/EDGE 1900	Voice/Data	1850.20 - 1909.80 MHz
UMTS 850	Voice/Data	826.40 - 846.60 MHz
UMTS 1750	Voice/Data	1712.4 - 1752.6 MHz
UMTS 1900	Voice/Data	1852.4 - 1907.6 MHz
CDMA/EVDO BC10 (§90S)	Voice/Data	817.90 - 823.10 MHz
CDMA/EVDO BC0 (§22H)	Voice/Data	824.70 - 848.31 MHz
PCS CDMA/EVDO	Voice/Data	1851.25 - 1908.75 MHz
LTE Band 71	Voice/Data	665.5 - 695.5 MHz
LTE Band 12	Voice/Data	699.7 - 715.3 MHz
LTE Band 13	Voice/Data	779.5 - 784.5 MHz
LTE Band 14	Voice/Data	790.5 - 795.5 MHz
LTE Band 26 (Cell)	Voice/Data	814.7 - 848.3 MHz
LTE Band 5 (Cell)	Voice/Data	824.7 - 848.3 MHz
LTE Band 66 (AWS)	Voice/Data	1710.7 - 1779.3 MHz
LTE Band 4 (AWS)	Voice/Data	1710.7 - 1754.3 MHz
LTE Band 25 (PCS)	Voice/Data	1850.7 - 1914.3 MHz
LTE Band 2 (PCS)	Voice/Data	1850.7 - 1909.3 MHz
LTE Band 30	Voice/Data	2307.5 - 2312.5 MHz
LTE Band 7	Voice/Data	2502.5 - 2567.5 MHz
LTE Band 41	Voice/Data	2498.5 - 2687.5 MHz
LTE Band 38	Voice/Data	2572.5 - 2617.5 MHz
2.4 GHz WLAN	Voice/Data	2412 - 2462 MHz
U-NII-1	Voice/Data	5180 - 5240 MHz
U-NII-2A	Voice/Data	5260 - 5320 MHz
U-NII-2C	Voice/Data	5500 - 5720 MHz
U-NII-3	Voice/Data	5745 - 5825 MHz
Bluetooth	Data	2402 - 2480 MHz
NFC	Data	13.56 MHz
ANT+	Data	2402 - 2480 MHz
MST	Data	555 Hz - 8.33 kHz

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, under some conditions when the device is being used in close proximity to the user's hand, and when headphones are inserted. All hotspot SAR evaluations for this device were performed at the maximum allowed output power when hotspot is enabled. FCC KDB Publication 616217 D04v01r02 Section 6 was used as a guideline for selecting SAR test distances for this device when being used in phablet use conditions. Detailed descriptions of the power reduction mechanism are included in the operational description.

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

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1.3 Nominal and Maximum Output Power Specifications

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

1.3.1 Maximum 2G/3G/4G Output Power

Mode / Band		Voice (dBm)	Burst Average GMSK (dBm)				Burst Average 8-PSK (dBm)			
		1 TX Slot	*1 TX Slots*	*2 TX Slots*	*3 TX Slots*	*4 TX Slots*	*1 TX Slots*	*2 TX Slots*	*3 TX Slots*	*4 TX Slots*
GSM/GPRS/EDGE 850	Maximum	**33.5**	**33.5**	**32.5**	**30.5**	**28.5**	**28.0**	**26.0**	**24.0**	**23.0**
	Nominal	**32.5**	**32.5**	**31.5**	**29.5**	**27.5**	**27.0**	**25.0**	**23.0**	**22.0**
GSM/GPRS/EDGE 1900	Maximum	**30.5**	**30.5**	**29.5**	**27.5**	**25.5**	**27.0**	**25.0**	**23.0**	**22.0**
	Nominal	**29.5**	**29.5**	**28.5**	**26.5**	**24.5**	**26.0**	**24.0**	**22.0**	**21.0**

Mode / Band		Modulated Average (dBm)			
		3GPP WCDMA	*3GPP HSDPA*	*3GPP HSUPA*	*3GPP DC-HSDPA*
UMTS Band 5 (850 MHz)	Maximum	**25.8**	**24.8**	**24.8**	**24.8**
	Nominal	**24.8**	**23.8**	**23.8**	**23.8**
UMTS Band 4 (1750 MHz)	Maximum	**25.0**	**24.0**	**24.0**	**24.0**
	Nominal	**24.0**	**23.0**	**23.0**	**23.0**
UMTS Band 2 (1900 MHz)	Maximum	**25.0**	**24.0**	**24.0**	**24.0**
	Nominal	**24.0**	**23.0**	**23.0**	**23.0**

Mode / Band		Modulated Average (dBm)
CDMA/EVDO BC10 (§90S)	Maximum	**26.0**
	Nominal	**25.0**
CDMA/EVDO BC0 (§22H)	Maximum	**26.0**
	Nominal	**25.0**
PCS CDMA/EVDO	Maximum	**25.0**
	Nominal	**24.0**

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Mode / Band		Modulated Average (dBm)
LTE Band 71	Maximum	**25.5**
	Nominal	**24.5**
LTE Band 12	Maximum	**25.8**
	Nominal	**24.8**
LTE Band 13	Maximum	**25.8**
	Nominal	**24.8**
LTE Band 14	Maximum	**25.8**
	Nominal	**24.8**
LTE Band 26 (Cell)	Maximum	**25.8**
	Nominal	**24.8**
LTE Band 5 (Cell)	Maximum	**25.8**
	Nominal	**24.8**
LTE Band 66 (AWS)	Maximum	**25.0**
	Nominal	**24.0**
LTE Band 4 (AWS)	Maximum	**25.0**
	Nominal	**24.0**
LTE Band 25 (PCS)	Maximum	**25.0**
	Nominal	**24.0**
LTE Band 2 (PCS)	Maximum	**25.0**
	Nominal	**24.0**
LTE Band 30	Maximum	**23.5**
	Nominal	**22.5**
LTE Band 7	Maximum	**24.5**
	Nominal	**23.5**
LTE Band 48	Maximum	**24.5**
	Nominal	**23.5**
LTE Band 41 (PC3)	Maximum	**25.3**
	Nominal	**24.3**
LTE Band 41 (PC2)	Maximum	**28.3**
	Nominal	**27.3**
LTE Band 38	Maximum	**24.0**
	Nominal	**23.0**

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1.3.2 Reduced 2G/3G/4G Output Power – Hotspot Mode Active

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	**28.5**	**27.5**	**25.5**	**23.5**	**27.0**	**25.0**	**23.0**	**22.0**
	Nominal	**27.5**	**26.5**	**24.5**	**22.5**	**26.0**	**24.0**	**22.0**	**21.0**

Mode / Band		Modulated Average (dBm)			
		3GPP WCDMA	*3GPP HSDPA*	*3GPP HSUPA*	*3GPP DC-HSDPA*
UMTS Band 4 (1750 MHz)	Maximum	**21.0**	**20.0**	**20.0**	**20.0**
	Nominal	**20.0**	**19.0**	**19.0**	**19.0**
UMTS Band 2 (1900 MHz)	Maximum	**20.5**	**19.5**	**19.5**	**19.5**
	Nominal	**19.5**	**18.5**	**18.5**	**18.5**

Mode / Band		Modulated Average (dBm)
PCS CDMA/EVDO	Maximum	**20.0**
	Nominal	**19.0**

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Mode / Band		Modulated Average (dBm)
LTE Band 66 (AWS)	Maximum	**20.5**
	Nominal	**19.5**
LTE Band 4 (AWS)	Maximum	**20.5**
	Nominal	**19.5**
LTE Band 25 (PCS)	Maximum	**20.5**
	Nominal	**19.5**
LTE Band 2 (PCS)	Maximum	**20.5**
	Nominal	**19.5**
LTE Band 30	Maximum	**21.0**
	Nominal	**20.0**
LTE Band 7	Maximum	**21.0**
	Nominal	**20.0**
LTE Band 48	Maximum	**21.0**
	Nominal	**20.0**
LTE Band 41 (PC3)	Maximum	**22.5**
	Nominal	**21.5**
LTE Band 41 (PC2)	Maximum	**22.5**
	Nominal	**21.5**
LTE Band 38	Maximum	**21.0**
	Nominal	**20.0**

1.3.3 Reduced 2G/3G/4G Output Power – Grip Sensor and/or Earjack Active

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	**28.5**	**28.5**	**27.5**	**25.5**	**23.5**	**27.0**	**25.0**	**23.0**	**22.0**
	Nominal	**27.5**	**27.5**	**26.5**	**24.5**	**22.5**	**26.0**	**24.0**	**22.0**	**21.0**

Mode / Band		Modulated Average (dBm)			
		3GPP WCDMA	*3GPP HSDPA*	*3GPP HSUPA*	*3GPP DC-HSDPA*
UMTS Band 4 (1750 MHz)	Maximum	**22.0**	**21.0**	**21.0**	**21.0**
	Nominal	**21.0**	**20.0**	**20.0**	**20.0**
UMTS Band 2 (1900 MHz)	Maximum	**21.5**	**20.5**	**20.5**	**20.5**
	Nominal	**20.5**	**19.5**	**19.5**	**19.5**

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Mode / Band		Modulated Average (dBm)
PCS CDMA/EVDO	Maximum	**21.0**
	Nominal	**20.0**

Mode / Band		Modulated Average (dBm)
LTE Band 66 (AWS)	Maximum	**20.5**
	Nominal	**19.5**
LTE Band 4 (AWS)	Maximum	**20.5**
	Nominal	**19.5**
LTE Band 25 (PCS)	Maximum	**21.5**
	Nominal	**20.5**
LTE Band 2 (PCS)	Maximum	**21.5**
	Nominal	**20.5**
LTE Band 30	Maximum	**21.0**
	Nominal	**20.0**
LTE Band 7	Maximum	**21.0**
	Nominal	**20.0**
LTE Band 48	Maximum	**21.0**
	Nominal	**20.0**
LTE Band 41 (PC3)	Maximum	**24.0**
	Nominal	**23.0**
LTE Band 41 (PC2)	Maximum	**24.0**
	Nominal	**23.0**
LTE Band 38	Maximum	**21.0**
	Nominal	**20.0**

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1.3.4 Maximum Bluetooth and SISO/MIMO WLAN Output Power

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

Mode / Band		Modulated Average - Single Tx Chain - Ant 1 (dBm)		
Channels		1	2-10	11
IEEE 802.11b (2.4 GHz)	Maximum	**20.0**		
	Nominal	**19.0**		
IEEE 802.11g (2.4 GHz)	Maximum	**18.0**		**17.0**
	Nominal	**17.0**		**16.0**
IEEE 802.11n (2.4 GHz)	Maximum	**18.0**		**17.0**
	Nominal	**17.0**		**16.0**
IEEE 802.11ax SU (2.4 GHz)	Maximum	**16.0**	**17.0**	**15.0**
	Nominal	**15.0**	**16.0**	**14.0**

Mode / Band		Modulated Average - Single Tx Chain (dBm) - Ant 2		
Channels		1	2-10	11
IEEE 802.11b (2.4 GHz)	Maximum	**19.0**		
	Nominal	**18.0**		
IEEE 802.11g (2.4 GHz)	Maximum	**18.0**		
	Nominal	**17.0**		
IEEE 802.11n (2.4 GHz)	Maximum	**18.0**		
	Nominal	**17.0**		
IEEE 802.11ax SU (2.4 GHz)	Maximum	**16.0**	**17.0**	**15.0**
	Nominal	**15.0**	**16.0**	**14.0**

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Mode / Band		Modulated Average - Single Tx Chain - Ant 1 (dBm)						
		20 MHz Bandwidth			40 MHz Bandwidth		80 MHz Bandwidth	
	Channel	36	64	40-60, 100-165	38, 62	46-54, 102-159	42-106	122-155
IEEE 802.11a (5 GHz)	Maximum	**15.5**	**16.5**	**18.0**				
	Nominal	**14.5**	**15.5**	**17.0**				
IEEE 802.11n (5 GHz)	Maximum	**15.5**	**16.5**	**18.0**	**13.0**	**17.0**		
	Nominal	**14.5**	**15.5**	**17.0**	**12.0**	**16.0**		
IEEE 802.11ac (5 GHz)	Maximum	**15.5**	**16.5**	**18.0**	**13.0**	**17.0**	**13.0**	**16.0**
	Nominal	**14.5**	**15.5**	**17.0**	**12.0**	**16.0**	**12.0**	**15.0**
IEEE 802.11ax SU (5 GHz)	Maximum	**16.0**			**14.0**		**13.0**	
	Nominal	**15.0**			**13.0**		**12.0**	

Mode / Band		Modulated Average - Single Tx Chain - Ant 2 (dBm)						
		20 MHz Bandwidth			40 MHz Bandwidth		80 MHz Bandwidth	
	Channel	36	64	40-60, 100-165	38, 62	46-54, 102-159	42-106	122-155
IEEE 802.11a (5 GHz)	Maximum	**15.5**	**16.5**	**18.0**				
	Nominal	**14.5**	**15.5**	**17.0**				
IEEE 802.11n (5 GHz)	Maximum	**15.5**	**17.0**	**18.0**	**13.0**	**17.0**		
	Nominal	**14.5**	**16.0**	**17.0**	**12.0**	**16.0**		
IEEE 802.11ac (5 GHz)	Maximum	**15.5**	**17.0**	**18.0**	**13.0**	**17.0**	**13.0**	**16.0**
	Nominal	**14.5**	**16.0**	**17.0**	**12.0**	**16.0**	**12.0**	**15.0**
IEEE 802.11ax SU (5 GHz)	Maximum	**16.0**			**14.0**		**13.0**	
	Nominal	**15.0**			**13.0**		**12.0**	

Mode / Band		Modulated Average - MIMO (dBm)		
Channels		1	2-10	11
IEEE 802.11g (2.4 GHz)	Maximum	**21.0**		**20.5**
	Nominal	**20.0**		**19.5**
IEEE 802.11n (2.4 GHz)	Maximum	**21.0**		**20.0**
	Nominal	**20.0**		**19.0**
IEEE 802.11ax SU (2.4 GHz)	Maximum	**16.0**	**17.0**	**15.0**
	Nominal	**15.0**	**16.0**	**14.0**

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Mode / Band		Modulated Average - MIMO (dBm)						
		20 MHz Bandwidth			40 MHz Bandwidth		80 MHz Bandwidth	
	Channel	36	64	40-60, 100-165	38, 62	46-54, 102-159	42-106	122-155
IEEE 802.11a (5 GHz)	Maximum	**15.5**	**16.5**	**21.0**				
	Nominal	**14.5**	**15.5**	**20.0**				
IEEE 802.11n (5 GHz)	Maximum	**15.5**	**16.5**	**21.0**	**13.0**	**20.0**		
	Nominal	**14.5**	**15.5**	**20.0**	**12.0**	**19.0**		
IEEE 802.11ac (5 GHz)	Maximum	**15.5**	**16.5**	**21.0**	**13.0**	**20.0**	**13.0**	**19.0**
	Nominal	**14.5**	**15.5**	**20.0**	**12.0**	**19.0**	**12.0**	**18.0**
IEEE 802.11ax SU (5 GHz)	Maximum	**16.0**			**14.0**		**13.0**	
	Nominal	**15.0**			**13.0**		**12.0**	

Mode / Band		Modulated Average - Single Tx Chain (dBm)
Bluetooth	Maximum	**18.5**
	Nominal	**17.5**
Bluetooth LE	Maximum	**11.5**
	Nominal	**10.5**
Bluetooth EDR	Maximum	**12.5**
	Nominal	**11.5**

1.3.5 Reduced SISO and MIMO WLAN Output Power

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

Mode / Band		Modulated Average - Single Tx Chain (dBm)		
Channels		1	2-10	11
IEEE 802.11b (2.4 GHz)	Maximum	**17.0**		
	Nominal	**16.0**		
IEEE 802.11g (2.4 GHz)	Maximum	**17.0**		
	Nominal	**16.0**		
IEEE 802.11n (2.4 GHz)	Maximum	**17.0**		
	Nominal	**16.0**		
IEEE 802.11ax SU (2.4 GHz)	Maximum	**16.0**	**17.0**	**15.0**
	Nominal	**15.0**	**16.0**	**14.0**

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

Mode / Band		Modulated Average - MIMO (dBm)		
Channels		1	2-10	11
IEEE 802.11g (2.4 GHz)	Maximum	20.0		
	Nominal	19.0		
IEEE 802.11n (2.4 GHz)	Maximum	20.0		
	Nominal	19.0		
IEEE 802.11ax SU (2.4 GHz)	Maximum	16.0	17.0	15.0
	Nominal	15.0	16.0	14.0

Mode / Band		Modulated Average - MIMO (dBm)						
		20 MHz Bandwidth			40 MHz Bandwidth		80 MHz Bandwidth	
	Channel	36	64	40-60, 100-165	38, 62	102 - 159	42-106	122-155
IEEE 802.11a (5 GHz)	Maximum	15.5	16.5	17.0				
	Nominal	14.5	15.5	16.0				
IEEE 802.11n (5 GHz)	Maximum	15.5	16.5	17.0	13.0	17.0		
	Nominal	14.5	15.5	16.0	12.0	16.0		
IEEE 802.11ac (5 GHz)	Maximum	15.5	16.5	17.0	13.0	17.0	13.0	17.0
	Nominal	14.5	15.5	16.0	12.0	16.0	12.0	16.0
IEEE 802.11ax SU (5 GHz)	Maximum	16.0			14.0		13.0	
	Nominal	15.0			13.0		12.0	

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1.3.6 Maximum Output Power During Conditions with Simultaneous 2.4 GHz WLAN and 5 GHz WLAN

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

Mode / Band		Modulated Average - Single Tx Chain (dBm)		
Channels		1	2-10	11
IEEE 802.11b (2.4 GHz)	Maximum	**17.0**		
	Nominal	**16.0**		
IEEE 802.11g (2.4 GHz)	Maximum	**17.0**		
	Nominal	**16.0**		
IEEE 802.11n (2.4 GHz)	Maximum	**17.0**		
	Nominal	**16.0**		
IEEE 802.11ax SU (2.4 GHz)	Maximum	**16.0**	**17.0**	**15.0**
	Nominal	**15.0**	**16.0**	**14.0**

Mode / Band		Modulated Average - Single Tx Chain (dBm)						
		20 MHz Bandwidth			40 MHz Bandwidth		80 MHz Bandwidth	
	Channel	36	64	40-60, 100-165	38, 62	46-54, 102-159	42-106	122-155
IEEE 802.11a (5 GHz)	Maximum	**14.0**						
	Nominal	**13.0**						
IEEE 802.11n (5 GHz)	Maximum	**14.0**			**13.0**	**14.0**		
	Nominal	**13.0**			**12.0**	**13.0**		
IEEE 802.11ac (5 GHz)	Maximum	**14.0**			**13.0**	**14.0**	**13.0**	**14.0**
	Nominal	**13.0**			**12.0**	**13.0**	**12.0**	**13.0**
IEEE 802.11ax SU (5 GHz)	Maximum	**14.0**			**14.0**		**13.0**	
	Nominal	**13.0**			**13.0**		**12.0**	

Mode / Band		Modulated Average - MIMO (dBm)		
Channels		1	2-10	11
IEEE 802.11g (2.4 GHz)	Maximum	**20.0**		
	Nominal	**19.0**		
IEEE 802.11n (2.4 GHz)	Maximum	**20.0**		
	Nominal	**19.0**		
IEEE 802.11ax SU (2.4 GHz)	Maximum	**16.0**	**17.0**	**15.0**
	Nominal	**15.0**	**16.0**	**14.0**

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Mode / Band		Modulated Average - MIMO (dBm)						
		20 MHz Bandwidth			40 MHz Bandwidth		80 MHz Bandwidth	
	Channel	36	64	40-60, 100-165	38, 62	46-54, 102-159	42-106	122-155
IEEE 802.11a (5 GHz)	Maximum	15.5	16.5	17.0				
	Nominal	14.5	15.5	16.0				
IEEE 802.11n (5 GHz)	Maximum	15.5	16.5	17.0	13.0	17.0		
	Nominal	14.5	15.5	16.0	12.0	16.0		
IEEE 802.11ac (5 GHz)	Maximum	15.5	16.5	17.0	13.0	17.0	13.0	17.0
	Nominal	14.5	15.5	16.0	12.0	16.0	12.0	16.0
IEEE 802.11ax SU (5 GHz)	Maximum	16.0			14.0		13.0	
	Nominal	15.0			13.0		12.0	

1.3.7 Reduced Output Power During Conditions with Simultaneous 2.4 GHz WLAN and 5 GHz WLAN

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

Mode / Band		Modulated Average - Single Tx Chain (dBm)
Channels		1-11
IEEE 802.11b (2.4 GHz)	Maximum	14.0
	Nominal	13.0
IEEE 802.11g (2.4 GHz)	Maximum	14.0
	Nominal	13.0
IEEE 802.11n (2.4 GHz)	Maximum	14.0
	Nominal	13.0
IEEE 802.11ax SU (2.4 GHz)	Maximum	14.0
	Nominal	13.0

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

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Mode / Band		Modulated Average - MIMO (dBm)		
Channels		1	2-10	11
IEEE 802.11g (2.4 GHz)	Maximum	**17.0**		
	Nominal	**16.0**		
IEEE 802.11n (2.4 GHz)	Maximum	**17.0**		
	Nominal	**16.0**		
IEEE 802.11ax SU (2.4 GHz)	Maximum	**16.0**	**17.0**	**15.0**
	Nominal	**15.0**	**16.0**	**14.0**

Mode / Band		Modulated Average - MIMO (dBm)						
		20 MHz Bandwidth			40 MHz Bandwidth		80 MHz Bandwidth	
	Channel	36	64	40-60, 100-165	38, 62	46-54, 102-159	42-106	122-155
IEEE 802.11a (5 GHz)	Maximum	**15.5**	**16.5**	**17.0**				
	Nominal	**14.5**	**15.5**	**16.0**				
IEEE 802.11n (5 GHz)	Maximum	**15.5**	**16.5**	**17.0**	**13.0**	**17.0**		
	Nominal	**14.5**	**15.5**	**16.0**	**12.0**	**16.0**		
IEEE 802.11ac (5 GHz)	Maximum	**15.5**	**16.5**	**17.0**	**13.0**	**17.0**	**13.0**	**17.0**
	Nominal	**14.5**	**15.5**	**16.0**	**12.0**	**16.0**	**12.0**	**16.0**
IEEE 802.11ax SU (5 GHz)	Maximum	**16.0**			**14.0**		**13.0**	
	Nominal	**15.0**			**13.0**		**12.0**	

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1.4 DUT Antenna Locations

The overall dimensions of this device are > 9 x 5 cm. A diagram showing the location of the device antennas 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
GPRS 850	Yes	Yes	No	Yes	Yes	Yes
GPRS 1900	Yes	Yes	No	Yes	Yes	Yes
UMTS 850	Yes	Yes	No	Yes	Yes	Yes
UMTS 1750	Yes	Yes	No	Yes	Yes	Yes
UMTS 1900	Yes	Yes	No	Yes	Yes	Yes
EVDO BC10 (§90S)	Yes	Yes	No	Yes	Yes	Yes
EVDO BC0 (§22H)	Yes	Yes	No	Yes	Yes	Yes
PCS EVDO	Yes	Yes	No	Yes	Yes	Yes
LTE Band 71	Yes	Yes	No	Yes	Yes	Yes
LTE Band 12	Yes	Yes	No	Yes	Yes	Yes
LTE Band 13	Yes	Yes	No	Yes	Yes	Yes
LTE Band 14	Yes	Yes	No	Yes	Yes	Yes
LTE Band 26 (Cell)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 5 (Cell)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 66 (AWS)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 25 (PCS)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 30	Yes	Yes	No	Yes	Yes	Yes
LTE Band 7 Ant A	Yes	Yes	No	Yes	Yes	Yes
LTE Band 7 Ant B	Yes	Yes	No	Yes	No	Yes
LTE Band 48	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

Note: Particular DUT edges were not required to be evaluated for wireless router SAR or phablet SAR if the edges were greater than 2.5 cm from the transmitting antenna according to FCC KDB Publication 941225 D06v02r01 Section III and FCC KDB Publication 648474 D04v01r03. The distances between the transmit antennas and the edges of the device are included in the filing. When wireless router mode is enabled, U-NII-1, U-NII-2A, U-NII-2C operations are disabled.

1.5 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.

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1.6 Simultaneous Transmission Capabilities

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

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

Table 1-2
Simultaneous Transmission Scenarios

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

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1. 2.4 GHz WLAN and 2.4 GHz Bluetooth share the same antenna path and cannot transmit simultaneously.
2. All licensed modes share the same antenna path and cannot transmit simultaneously.
3. When the user utilizes multiple services in UMTS 3G mode it uses multi-Radio Access Bearer or multi-RAB. The power control is based on a physical control channel (Dedicated Physical Control Channel [DPCCH]) and power control will be adjusted to meet the needs of both services. Therefore, the UMTS+WLAN scenario also represents the UMTS Voice/DATA + WLAN Hotspot scenario.
4. Per the manufacturer, WIFI Direct is not expected to be used in conjunction with a held-to-ear or body-worn accessory voice call. Therefore, there are no simultaneous transmission scenarios involving WIFI direct beyond that listed in the above table.
5. 5 GHz Wireless Router is only supported for the U-NII-3 by S/W, therefore U-NII-1, U-NII2A, and U-NII2C were not evaluated for wireless router conditions.
6. This device supports 2x2 MIMO Tx for WLAN 802.11a/g/n/ac/ax. 802.11a/g/n/ac/ax supports CDD and STBC and 802.11n/ac/ax additionally supports SDM. Each WLAN antenna can transmit independently or together when operating with MIMO.
7. This device supports VOLTE.
8. This device supports VoWIFI.
9. This device supports Bluetooth Tethering.

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.

Per FCC Guidance, SAR testing was not required for 802.11ax when applying the initial test configuration procedures of KDB 248227, with 802.11ax considered a higher order 802.11 mode.

This device supports IEEE 802.11ax with the following features:

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

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

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(B) Licensed Transmitter(s)

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

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

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

CDMA 1X Advanced technology was not required for SAR since the maximum allowed output powers for 1x Advanced was not more than 0.25 dB higher than the maximum powers for 1x and the measured SAR in any 1x mode exposure conditions was not greater than 1.2 W/kg per FCC KDB Publication 941225 D01v03r01.

This device supports LTE Carrier Aggregation (CA) in the downlink. All uplink communications are identical to Release 8 specifications. Per FCC KDB Publication 941225 D05A v01r02, SAR for 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. The downlink carrier aggregation exclusion analysis can be found in Appendix H.

Per FCC KDB Publication 648474 D04v01r03, this device is considered a "phablet" since the diagonal dimension is greater than 160mm and less than 200mm. Therefore, phablet SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR > 1.2 W/kg.

This device supports downlink 4x4 MIMO operations for some LTE Bands. Per May 2017 TCB Workshop 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.

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

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

This device supports both Power Class 2 (PC2) and Power Class 3 (PC3) for LTE Band 41. Per May 2017 TCB Workshop Notes, SAR tests were performed with Power Class 3 (given the specific UL/DL limitations for Power Class 2). Additionally, SAR testing for the power class condition was evaluated for the highest configuration in Power Class 3 for each test configuration to confirm the results were scalable linearly (See Section 13.2).

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This device supports LTE Carrier Aggregation (CA) for LTE Band 5, LTE Band 66, and LTE B41 with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per 2017 Fall TCB Workshop Notes.

This device uses antenna B for LTE Band 7 standalone operations. During some inter-band downlink carrier aggregation scenarios with Band 7 as the PCC, the transmit operations for these bands are switched to Antenna A. Both antennas were completely evaluated for SAR following FCC KDB procedures for all test positions and exposure conditions for LTE Band 7. Per FCC Guidance, the device was connected in a radiated downlink carrier aggregation scenario for evaluations of Antenna A. The operational description contains more information about this switching mechanism.

1.8 Guidance Applied

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

1.9 Device Serial Numbers

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

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2 LTE INFORMATION

LTE Information					
Form Factor	Portable Handset				
Frequency Range of each LTE transmission band	LTE Band 71 (665.5 - 695.5 MHz)				
	LTE Band 12 (699.7 - 715.3 MHz)				
	LTE Band 13 (779.5 - 784.5 MHz)				
	LTE Band 14 (790.5 - 795.5 MHz)				
	LTE Band 26 (Cell) (814.7 - 848.3 MHz)				
	LTE Band 5 (Cell) (824.7 - 848.3 MHz)				
	LTE Band 66 (AWS) (1710.7 - 1779.3 MHz)				
	LTE Band 4 (AWS) (1710.7 - 1754.3 MHz)				
	LTE Band 25 (PCS) (1850.7 - 1914.3 MHz)				
	LTE Band 2 (PCS) (1850.7 - 1909.3 MHz)				
	LTE Band 30 (2307.5 - 2312.5 MHz)				
	LTE Band 7 (2502.5 - 2567.5 MHz)				
	LTE Band 48 (3552.5 - 3697.5 MHz)				
	LTE Band 41 (2498.5 - 2687.5 MHz)				
	LTE Band 38 (2572.5 - 2617.5 MHz)				
Channel Bandwidths	LTE Band 71: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 12: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 13: 5 MHz, 10 MHz				
	LTE Band 14: 5 MHz, 10 MHz				
	LTE Band 26 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz				
	LTE Band 5 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 66 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 4 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 25 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 2 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 30: 5 MHz, 10 MHz				
	LTE Band 7: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 48: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 41: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 38: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
Channel Numbers and Frequencies (MHz)	Low	Low-Mid	Mid	Mid-High	High
LTE Band 71: 5 MHz	665.5 (133147)		680.5 (133297)	695.5 (133447)	
LTE Band 71: 10 MHz	668 (133172)		680.5 (133297)	693 (133422)	
LTE Band 71: 15 MHz	670.5 (133197)		680.5 (133297)	690.5 (133397)	
LTE Band 71: 20 MHz	673 (133222)		680.5 (133297)	688 (133372)	
LTE Band 12: 1.4 MHz	699.7 (23017)		707.5 (23095)	715.3 (23173)	
LTE Band 12: 3 MHz	700.5 (23025)		707.5 (23095)	714.5 (23165)	
LTE Band 12: 5 MHz	701.5 (23035)		707.5 (23095)	713.5 (23155)	
LTE Band 12: 10 MHz	704 (23060)		707.5 (23095)	711 (23130)	
LTE Band 13: 5 MHz	779.5 (23205)		782 (23230)	784.5 (23255)	
LTE Band 13: 10 MHz	N/A		782 (23230)	N/A	
LTE Band 14: 5 MHz	790.5 (23305)		793 (23330)	795.5 (23355)	
LTE Band 14: 10 MHz	N/A		793 (23330)	N/A	
LTE Band 26 (Cell): 1.4 MHz	814.7 (26697)		831.5 (26865)	848.3 (27033)	
LTE Band 26 (Cell): 3 MHz	815.5 (26705)		831.5 (26865)	847.5 (27025)	
LTE Band 26 (Cell): 5 MHz	816.5 (26715)		831.5 (26865)	846.5 (27015)	
LTE Band 26 (Cell): 10 MHz	819 (26740)		831.5 (26865)	844 (26990)	
LTE Band 26 (Cell): 15 MHz	821.5 (26765)		831.5 (26865)	841.5 (26965)	
LTE Band 5 (Cell): 1.4 MHz	824.7 (20407)		836.5 (20525)	848.3 (20643)	
LTE Band 5 (Cell): 3 MHz	825.5 (20415)		836.5 (20525)	847.5 (20635)	
LTE Band 5 (Cell): 5 MHz	826.5 (20425)		836.5 (20525)	846.5 (20625)	
LTE Band 5 (Cell): 10 MHz	829 (20450)		836.5 (20525)	844 (20600)	
LTE Band 66 (AWS): 1.4 MHz	1710.7 (131979)		1745 (132322)	1779.3 (132665)	
LTE Band 66 (AWS): 3 MHz	1711.5 (131987)		1745 (132322)	1778.5 (132657)	
LTE Band 66 (AWS): 5 MHz	1712.5 (131997)		1745 (132322)	1777.5 (132647)	
LTE Band 66 (AWS): 10 MHz	1715 (132022)		1745 (132322)	1775 (132622)	
LTE Band 66 (AWS): 15 MHz	1717.5 (132047)		1745 (132322)	1772.5 (132597)	
LTE Band 66 (AWS): 20 MHz	1720 (132072)		1745 (132322)	1770 (132572)	
LTE Band 4 (AWS): 1.4 MHz	1710.7 (19957)		1732.5 (20175)	1754.3 (20393)	
LTE Band 4 (AWS): 3 MHz	1711.5 (19965)		1732.5 (20175)	1753.5 (20385)	
LTE Band 4 (AWS): 5 MHz	1712.5 (19975)		1732.5 (20175)	1752.5 (20375)	
LTE Band 4 (AWS): 10 MHz	1715 (20000)		1732.5 (20175)	1750 (20350)	
LTE Band 4 (AWS): 15 MHz	1717.5 (20025)		1732.5 (20175)	1747.5 (20325)	
LTE Band 4 (AWS): 20 MHz	1720 (20050)		1732.5 (20175)	1745 (20300)	
LTE Band 25 (PCS): 1.4 MHz	1850.7 (26047)		1882.5 (26365)	1914.3 (26683)	
LTE Band 25 (PCS): 3 MHz	1851.5 (26055)		1882.5 (26365)	1913.5 (26675)	
LTE Band 25 (PCS): 5 MHz	1852.5 (26065)		1882.5 (26365)	1912.5 (26665)	
LTE Band 25 (PCS): 10 MHz	1855 (26090)		1882.5 (26365)	1910 (26640)	
LTE Band 25 (PCS): 15 MHz	1857.5 (26115)		1882.5 (26365)	1907.5 (26615)	
LTE Band 25 (PCS): 20 MHz	1860 (26140)		1882.5 (26365)	1905 (26590)	
LTE Band 2 (PCS): 1.4 MHz	1850.7 (18607)		1880 (18900)	1909.3 (19193)	
LTE Band 2 (PCS): 3 MHz	1851.5 (18615)		1880 (18900)	1908.5 (19185)	
LTE Band 2 (PCS): 5 MHz	1852.5 (18625)		1880 (18900)	1907.5 (19175)	
LTE Band 2 (PCS): 10 MHz	1855 (18650)		1880 (18900)	1905 (19150)	
LTE Band 2 (PCS): 15 MHz	1857.5 (18675)		1880 (18900)	1902.5 (19125)	
LTE Band 2 (PCS): 20 MHz	1860 (18700)		1880 (18900)	1900 (19100)	
LTE Band 30: 5 MHz	2307.5 (27685)		2310 (27710)	2312.5 (27735)	
LTE Band 30: 10 MHz	N/A		2310 (27710)	N/A	
LTE Band 7: 5 MHz	2502.5 (20775)		2535 (21100)	2567.5 (21425)	
LTE Band 7: 10 MHz	2505 (20800)		2535 (21100)	2565 (21400)	
LTE Band 7: 15 MHz	2507.5 (20825)		2535 (21100)	2562.5 (21375)	
LTE Band 7: 20 MHz	2510 (20850)		2535 (21100)	2560 (21350)	
LTE Band 48: 5 MHz	3552.5 (55265)	3600.8 (55748)	N/A	3649.2 (56232)	3697.5 (56715)
LTE Band 48: 10 MHz	3555 (55290)	3601.7 (55757)	N/A	3648.3 (56223)	3695 (56690)
LTE Band 48: 15 MHz	3557.5 (55315)	3602.5 (55765)	N/A	3647.5 (56215)	3692.5 (56665)
LTE Band 48: 20 MHz	3560 (55340)	3603.3 (55773)	N/A	3646.7 (56207)	3690 (56640)
LTE Band 41: 5 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 10 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 15 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 20 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 38: 5 MHz	2572.5 (37775)		2595 (38000)	2617.5 (38225)	
LTE Band 38: 10 MHz	2575 (37800)		2595 (38000)	2615 (38200)	
LTE Band 38: 15 MHz	2577.5 (37825)		2595 (38000)	2612.5 (38175)	
LTE Band 38: 20 MHz	2580 (37850)		2595 (38000)	2610 (38150)	
UE Category	DL UE Cat 20 (QPSK, 16QAM, 64QAM, 256QAM), UL UE Cat 18 (QPSK, 16QAM, 64QAM, 256QAM)				
Modulations Supported in UL	QPSK, 16QAM, 64QAM, 256QAM				
LTE MPR Permanently implemented per 3GPP TS 36.101 section 6.2.3~6.2.5? (manufacturer attestation to be provided)	YES				
A-MPR (Additional MPR) disabled for SAR Testing?	YES				
LTE Carrier Aggregation Possible Combinations	The technical description includes all the possible carrier aggregation combinations				
LTE Additional Information	This device does not support full CA features on 3GPP Release 14. It supports carrier aggregation, downlink MIMO, LAA features as shown in Section 9 and Appendix H. All other uplink communications are identical to the Release 8 specifications. Uplink communications are done on the PCC unless otherwise specified. The following LTE Release 14 Features are not supported: Relay, HetNet, Enhanced eICIC, MDH, eMBMS, Cross-Carrier Scheduling, Enhanced SC-FDMA.				

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3 INTRODUCTION

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

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

3.1 SAR Definition

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

Equation 3-1
SAR Mathematical Equation

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

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

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

where:

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

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

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4 DOSIMETRIC ASSESSMENT

4.1 Measurement Procedure

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

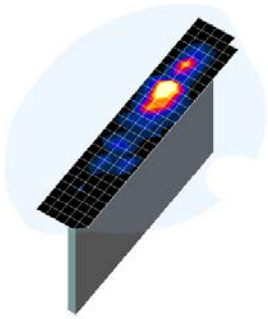

Figure 4-1
Sample SAR Area Scan

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

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

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

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

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

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

*Also compliant to IEEE 1528-2013 Table 6

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5 DEFINITION OF REFERENCE POINTS

5.1 EAR REFERENCE POINT

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

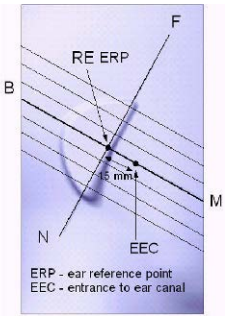

Figure 5-1
Close-Up Side view of ERP

5.2 HANDSET REFERENCE POINTS

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

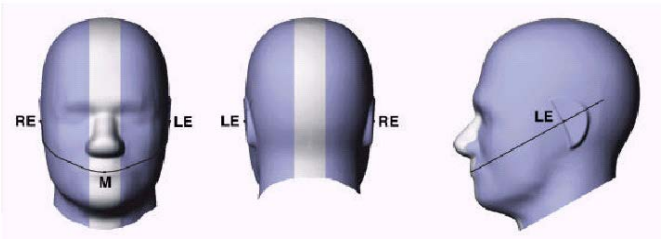

Figure 5-2
Front, back and side view of SAM Twin Phantom

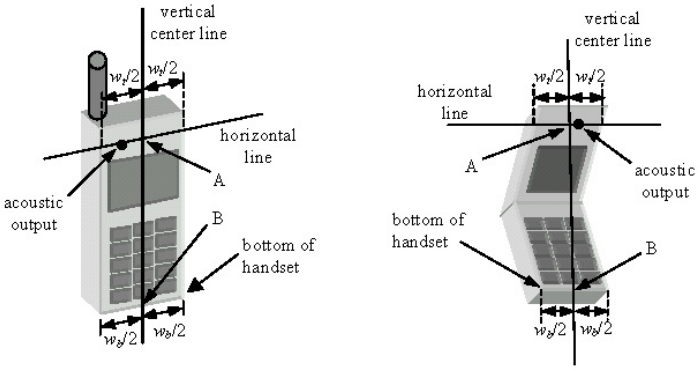

Figure 5-3
Handset Vertical Center & Horizontal Line Reference Points

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6 TEST CONFIGURATION POSITIONS

6.1 Device Holder

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

6.2 Positioning for Cheek

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

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

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

6.3 Positioning for Ear / 15º Tilt

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

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

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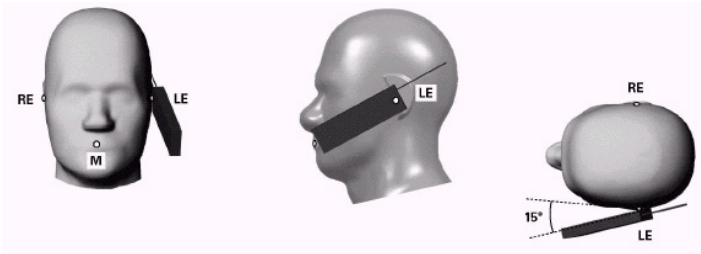

Figure 6-2 Front, Side and Top View of Ear/15º Tilt Position

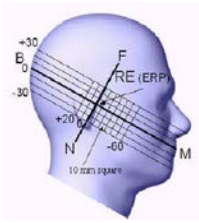

Figure 6-3
Side view w/ relevant markings

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

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

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

6.5 Body-Worn Accessory Configurations

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

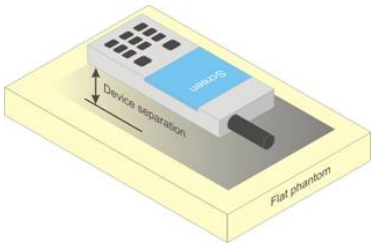

Figure 6-4
Sample Body-Worn Diagram

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

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

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

6.6 Extremity Exposure Configurations

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

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

6.7 Wireless Router Configurations

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

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

6.8 Phablet Configurations

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

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

6.9 Proximity Sensor Considerations

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

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

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

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7 RF EXPOSURE LIMITS

7.1 Uncontrolled Environment

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

7.2 Controlled Environment

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

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

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

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

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8 FCC MEASUREMENT PROCEDURES

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

8.1 Measured and Reported SAR

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

8.2 3G SAR Test Reduction Procedure

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

8.3 Procedures Used to Establish RF Signal for SAR

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

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

8.4 SAR Measurement Conditions for CDMA2000

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

8.4.1 Output Power Verification

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

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

Table 8-1
Parameters for Max. Power for RC1

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

Table 8-2
Parameters for Max. Power for RC3

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

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

8.4.2 Head SAR Measurements

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

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

8.4.3 Body-worn SAR Measurements

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

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

8.4.4 Body-worn SAR Measurements for EVDO Devices

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

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

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

8.4.5 Body SAR Measurements for EVDO Hotspot

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

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

8.4.6 CDMA2000 1x Advanced

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

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

8.5 SAR Measurement Conditions for UMTS

8.5.1 Output Power Verification

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

8.5.2 Head SAR Measurements

SAR for next to the ear head exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's". The 3G SAR test reduction procedure is applied to AMR configurations with 12.2 kbps RMC as the

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primary mode. Otherwise, SAR is measured for 12.2 kbps AMR in 3.4 kbps SRB (signaling radio bearer) using the highest reported SAR configuration in 12.2 kbps RMC for head exposure.

8.5.3 Body SAR Measurements

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

8.5.4 SAR Measurements with Rel 5 HSDPA

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

8.5.5 SAR Measurements with Rel 6 HSUPA

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

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

8.5.6 SAR Measurement Conditions for DC-HSDPA

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

8.6 SAR Measurement Conditions for LTE

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

8.6.1 Spectrum Plots for RB Configurations

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

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8.6.2 MPR

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

8.6.3 A-MPR

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

8.6.4 Required RB Size and RB Offsets for SAR Testing

According to FCC KDB 941225 D05v02r04:

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

8.6.5 TDD

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

8.6.6 Downlink Only Carrier Aggregation

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

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

8.7 SAR Testing with 802.11 Transmitters

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

8.7.1 General Device Setup

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

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

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

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

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

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

8.7.4 Initial Test Position Procedure

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

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positions until the reported SAR result is ≤ 0.8 W/kg or all test positions are measured. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

8.7.5 2.4 GHz SAR Test Requirements

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

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

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

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

8.7.6 OFDM Transmission Mode and SAR Test Channel Selection

When the same maximum output power was specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration with the largest channel bandwidth, lowest order modulation and lowest data rate. When the maximum output power of a channel is the same for equivalent OFDM configurations; for example, 802.11a, 802.11n and 802.11ac or 802.11g and 802.11n with the same channel bandwidth, modulation and data rate etc., the lower order 802.11 mode i.e., 802.11a, then 802.11n and 802.11ac or 802.11g then 802.11n, is used for SAR measurement. Per FCC Guidance, 802.11ax was considered a higher order 802.11 mode when compared to a/b/g/n/ac to apply KDB Publication 248227 Guidance. When the maximum output power are the same for multiple test channels, either according to the default or additional power measurement requirements, SAR is measured using the channel closest to the middle of the frequency band or aggregated band. When there are multiple channels with the same maximum output power, SAR is measured using the higher number channel.

8.7.7 Initial Test Configuration Procedure

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

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

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8.7.8 Subsequent Test Configuration Procedures

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

8.7.9 MIMO SAR considerations

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

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9 RF CONDUCTED POWERS

9.1 CDMA Conducted Powers

Table 9-1
Maximum Conducted Power

				Loopback			Data			
Band	**Channel**	**Rule Part**	**Frequency**	**SO55 [dBm]**	**SO55 [dBm]**	**SO75 [dBm]**	**TDSO SO32 [dBm]**	**TDSO SO32 [dBm]**	**1x EvDO Rev. 0 [dBm]**	**1x EvDO Rev. A [dBm]**
	F-RC		MHz	RC1	RC3	RC11	FCH+SCH	FCH	(RTAP)	(RETAP)
Cellular	564	90S	820.1	25.12	25.13	25.09	25.13	25.17	25.22	25.19
Cellular	1013	22H	824.7	25.27	25.27	25.22	25.26	25.29	25.29	25.30
	384	22H	836.52	25.24	25.24	25.19	25.22	25.24	25.26	25.27
	777	22H	848.31	25.29	25.17	25.16	25.16	25.18	25.17	25.16
PCS	25	24E	1851.25	24.26	24.24	24.21	24.21	24.19	24.26	24.29
	600	24E	1880	24.43	24.44	24.41	24.40	24.39	24.50	24.51
	1175	24E	1908.75	24.12	24.16	24.10	24.12	24.13	24.19	24.18

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	19.10	19.10	19.22	19.19
	600	24E	1880	19.32	19.33	19.46	19.44
	1175	24E	1908.75	19.08	19.09	19.15	19.12

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

Band	Channel	Rule Part	Frequency	SO55 [dBm]	SO55 [dBm]	SO75 [dBm]	TDSO SO32 [dBm]	TDSO SO32 [dBm]	1x EvDO Rev. 0 [dBm]	1x EvDO Rev. A [dBm]
	F-RC		MHz	RC1	RC3	RC11	FCH+SCH	FCH	(RTAP)	(RETAP)
PCS	25	24E	1851.25	20.12	20.10	20.05	20.08	20.06	20.14	20.18
	600	24E	1880	20.37	20.40	20.35	20.32	20.33	20.43	20.46
	1175	24E	1908.75	20.09	20.11	20.04	20.05	20.04	20.12	20.15

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 Power

Maximum Burst-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 850	128	33.21	33.07	31.67	**29.41**	27.32	26.25	25.21	22.91	22.05
	190	33.08	32.94	31.52	**29.80**	27.99	26.71	25.62	23.04	22.23
	251	32.87	32.69	31.79	**29.69**	27.64	26.18	25.17	22.90	21.73
GSM 1900	512	29.61	29.51	27.88	**25.58**	23.51	25.32	23.88	21.74	20.48
	661	29.24	29.27	27.91	**25.60**	23.50	25.76	23.93	22.03	20.97
	810	29.70	29.61	27.64	**26.05**	23.50	25.12	23.47	21.66	20.42

Calculated Maximum Frame-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 850	128	24.18	24.04	25.65	**25.15**	24.31	17.22	19.19	18.65	19.04
	190	24.05	23.91	25.50	**25.54**	24.98	17.68	19.60	18.78	19.22
	251	23.84	23.66	25.77	**25.43**	24.63	17.15	19.15	18.64	18.72
GSM 1900	512	20.58	20.48	21.86	**21.32**	20.50	16.29	17.86	17.48	17.47
	661	20.21	20.24	21.89	**21.34**	20.49	16.73	17.91	17.77	17.96
	810	20.67	20.58	21.62	**21.79**	20.49	16.09	17.45	17.40	17.41

GSM 850	**Frame Avg.Targets:**	23.47	23.47	25.48	**25.24**	24.49	17.97	18.98	18.74	18.99
GSM 1900		20.47	20.47	22.48	**22.24**	21.49	16.97	17.98	17.74	17.99

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Table 9-5
Reduced Conducted Powers- Hotspot/Grip Sensor and/or Earjack Mode Active

Maximum Burst-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 1900	512	27.32	27.24	26.24	**24.12**	22.25	25.32	23.88	21.74	20.48
	661	27.53	27.38	26.50	**24.39**	22.40	25.76	23.93	22.03	20.97
	810	27.28	27.24	26.11	**24.38**	22.17	25.12	23.47	21.66	20.42

Calculated Maximum Frame-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 1900	512	18.29	18.21	20.22	**19.86**	19.24	16.29	17.86	17.48	17.47
	661	18.50	18.35	20.48	**20.13**	19.39	16.73	17.91	17.77	17.96
	810	18.25	18.21	20.09	**20.12**	19.16	16.09	17.45	17.40	17.41
GSM 1900	**Frame Avg.Targets:**	18.47	18.47	20.48	**20.24**	19.49	16.97	17.98	17.74	17.99

Note:

1. Both burst-averaged and calculated frame-averaged powers are included. Frame-averaged power was calculated from the measured burst-averaged power by converting the slot powers into linear units and calculating the energy over 8 timeslots.
2. GPRS/EDGE (GMSK) output powers were measured with coding scheme setting of 1 (CS1) on the base station simulator. CS1 was configured to measure GPRS output power measurements and SAR to ensure GMSK modulation in the signal. Our Investigation has shown that CS1 - CS4 settings do not have any impact on the output levels or modulation in the GPRS modes.
3. EDGE (8-PSK) output powers were measured with MCS7 on the base station simulator. MCS7 coding scheme was used to measure the output powers for EDGE since investigation has shown that choosing MCS7 coding scheme will ensure 8-PSK modulation. It has been shown that MCS levels that produce 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 9-6
Maximum Conducted Power

3GPP Release Version	Mode	3GPP 34.121 Subtest	Cellular Band [dBm]			AWS Band [dBm]			PCS Band [dBm]			3GPP MPR [dB]
			4132	4183	4233	1312	1412	1513	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	24.97	24.85	24.77	24.40	24.29	24.27	24.20	24.21	23.93	-
99		12.2 kbps AMR	25.01	24.88	24.79	24.39	24.29	24.30	24.20	24.37	24.04	-
6	HSDPA	Subtest 1	23.81	23.72	23.60	23.23	23.11	23.07	22.96	23.15	22.86	0
6		Subtest 2	23.82	23.73	23.59	23.25	23.13	23.07	23.00	23.17	22.86	0
6		Subtest 3	23.32	23.24	23.09	22.73	22.56	22.58	22.47	22.67	22.37	0.5
6		Subtest 4	23.32	23.18	23.08	22.71	22.61	22.56	22.43	22.64	22.34	0.5
6	HSUPA	Subtest 1	23.84	23.74	23.62	23.28	23.13	23.10	22.91	23.14	22.91	0
6		Subtest 2	21.86	21.72	21.60	21.23	21.12	21.03	20.94	21.13	20.81	2
6		Subtest 3	22.82	22.73	22.62	22.26	22.14	22.07	21.86	22.03	21.73	1
6		Subtest 4	21.85	21.73	21.61	21.25	21.12	21.06	20.99	21.14	20.86	2
6		Subtest 5	23.86	23.76	23.64	23.30	23.17	23.16	23.01	23.22	22.91	0
8	DC-HSDPA	Subtest 1	23.89	23.85	23.70	23.32	23.22	23.24	23.35	23.27	23.08	0
8		Subtest 2	23.89	23.78	23.70	23.34	23.22	23.25	23.35	23.25	23.07	0
8		Subtest 3	23.38	23.34	23.21	22.84	22.73	22.74	22.81	22.76	22.57	0.5
8		Subtest 4	23.42	23.35	23.19	22.75	22.64	22.71	22.81	22.72	22.53	0.5

Table 9-7
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	20.26	20.21	20.17	20.10	20.28	19.98	-
99		12.2 kbps AMR	20.21	20.16	20.15	20.15	20.34	20.01	-
6	HSDPA	Subtest 1	19.29	19.25	19.20	19.01	19.18	18.82	0
6		Subtest 2	19.26	19.23	19.16	19.05	19.17	18.80	0
6		Subtest 3	18.75	18.72	18.67	18.49	18.67	18.23	0.5
6		Subtest 4	18.75	18.69	18.68	18.46	18.64	18.24	0.5
6	HSUPA	Subtest 1	19.35	19.28	19.25	19.11	19.25	18.87	0
6		Subtest 2	17.29	17.21	17.16	17.02	17.22	16.80	2
6		Subtest 3	18.27	18.20	18.20	18.01	18.23	17.84	1
6		Subtest 4	17.27	17.30	17.18	17.01	17.20	16.78	2
6		Subtest 5	19.29	19.27	19.22	19.08	19.19	18.82	0
8	DC-HSDPA	Subtest 1	19.20	19.16	19.09	18.97	19.14	18.76	0
8		Subtest 2	19.00	18.92	18.74	18.80	18.94	18.44	0
8		Subtest 3	18.75	18.67	18.61	18.47	18.63	18.32	0.5
8		Subtest 4	18.73	18.68	18.62	18.44	18.60	18.34	0.5

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Table 9-8
Reduced Conducted Powers - Grip Sensor and/or Earjack Mode Active

3GPP Release Version	Mode	3GPP 34.121 Subtest	AWS Band [dBm]			PCS Band [dBm]			3GPP MPR [dB]
			1312	1412	1513	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	21.31	21.24	21.22	21.12	21.29	21.00	-
99		12.2 kbps AMR	21.34	21.29	21.23	21.16	21.36	21.11	-
6	HSDPA	Subtest 1	20.25	20.24	20.18	19.97	20.11	19.81	0
6		Subtest 2	20.27	20.20	20.19	19.97	20.15	19.78	0
6		Subtest 3	19.80	19.70	19.76	19.52	19.67	19.31	0.5
6		Subtest 4	19.84	19.75	19.72	19.50	19.68	19.26	0.5
6	HSUPA	Subtest 1	20.27	20.19	20.17	20.07	20.28	19.89	0
6		Subtest 2	18.23	18.15	18.14	18.09	18.23	17.92	2
6		Subtest 3	19.25	19.17	19.12	19.08	19.30	18.91	1
6		Subtest 4	18.24	18.16	18.12	18.06	18.23	17.85	2
6		Subtest 5	20.32	20.24	20.21	20.05	20.23	19.84	0
8	DC-HSDPA	Subtest 1	20.32	20.24	20.22	20.07	20.22	19.79	0
8		Subtest 2	20.34	20.23	20.21	20.04	20.19	19.81	0
8		Subtest 3	19.84	19.74	19.67	19.59	19.73	19.31	0.5
8		Subtest 4	19.85	19.74	19.70	19.57	19.73	19.31	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 71

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

LTE Band 71 20 MHz Bandwidth					
Modulation	**RB Size**	**RB Offset**	**Mid Channel 133297 (680.5 MHz) Conducted Power [dBm]**	**MPR Allowed per 3GPP [dB]**	**MPR [dB]**
QPSK	1	0	**24.97**	0	0
	1	50	24.70		0
	1	99	24.50		0
	50	0	**24.06**	0-1	1
	50	25	23.88		1
	50	50	23.75		1
	100	0	23.89		1
16QAM	1	0	24.31	0-1	1
	1	50	24.01		1
	1	99	23.78		1
	50	0	23.04	0-2	2
	50	25	22.87		2
	50	50	22.74		2
	100	0	22.88		2
64QAM	1	0	23.28	0-2	2
	1	50	22.96		2
	1	99	22.73		2
	50	0	22.03	0-3	3
	50	25	21.89		3
	50	50	21.75		3
	100	0	21.85		3
256QAM	1	0	20.19	0-5	5
	1	50	19.87		5
	1	99	19.61		5
	50	0	20.03		5
	50	25	19.84		5
	50	50	19.72		5
	100	0	19.84		5

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

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Table 9-10
LTE Band 71 Conducted Powers - 15 MHz Bandwidth

LTE Band 71 15 MHz Bandwidth					
Modulation	**RB Size**	**RB Offset**	**Mid Channel 133297 (680.5 MHz) Conducted Power [dBm]**	**MPR Allowed per 3GPP [dB]**	**MPR [dB]**
QPSK	1	0	24.94	0	0
	1	36	24.85		0
	1	74	24.73		0
	36	0	23.99	0-1	1
	36	18	24.00		1
	36	37	23.89		1
	75	0	23.98		1
16QAM	1	0	24.23	0-1	1
	1	36	24.11		1
	1	74	24.06		1
	36	0	22.95	0-2	2
	36	18	23.00		2
	36	37	22.86		2
	75	0	22.94		2
64QAM	1	0	23.28	0-2	2
	1	36	23.11		2
	1	74	23.03		2
	36	0	22.01	0-3	3
	36	18	21.97		3
	36	37	21.86		3
	75	0	21.95		3
256QAM	1	0	20.15	0-5	5
	1	36	19.97		5
	1	74	19.90		5
	36	0	19.91		5
	36	18	19.92		5
	36	37	19.84		5
	75	0	19.93		5

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

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Table 9-11
LTE Band 71 Conducted Powers - 10 MHz Bandwidth

LTE Band 71 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 133172 (668.0 MHz)	Mid Channel 133297 (680.5 MHz)	High Channel 133422 (693.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.65	24.69	24.70	0	0
	1	25	24.62	24.72	24.61		0
	1	49	24.54	24.56	24.49		0
	25	0	23.84	23.87	23.79	0-1	1
	25	12	23.78	23.82	23.75		1
	25	25	23.70	23.74	23.68		1
	50	0	23.76	23.82	23.71		1
16QAM	1	0	23.99	23.94	24.00	0-1	1
	1	25	23.88	23.99	23.91		1
	1	49	23.81	23.80	23.74		1
	25	0	22.82	22.82	22.76	0-2	2
	25	12	22.77	22.78	22.70		2
	25	25	22.66	22.67	22.66		2
	50	0	22.73	22.77	22.70		2
64QAM	1	0	22.91	23.01	22.97	0-2	2
	1	25	22.88	22.92	22.90		2
	1	49	22.82	22.82	22.77		2
	25	0	21.81	21.83	21.76	0-3	3
	25	12	21.77	21.77	21.69		3
	25	25	21.71	21.72	21.62		3
	50	0	21.73	21.80	21.71		3
256QAM	1	0	19.77	19.88	19.83	0-5	5
	1	25	19.79	19.86	19.69		5
	1	49	19.72	19.65	19.64		5
	25	0	19.76	19.80	19.73		5
	25	12	19.74	19.78	19.67		5
	25	25	19.65	19.69	19.56		5
	50	0	19.66	19.75	19.72		5

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Table 9-12
LTE Band 71 Conducted Powers - 5 MHz Bandwidth

LTE Band 71 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 133147 (665.5 MHz)	Mid Channel 133297 (680.5 MHz)	High Channel 133447 (695.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.50	24.58	24.53	0	0
	1	12	24.31	24.42	24.41		0
	1	24	24.36	24.51	24.59		0
	12	0	23.84	23.83	23.77	0-1	1
	12	6	23.81	23.83	23.79		1
	12	13	23.79	23.80	23.68		1
	25	0	23.88	23.81	23.75		1
16QAM	1	0	23.90	23.92	23.79	0-1	1
	1	12	23.81	23.86	23.80		1
	1	24	23.69	23.64	23.49		1
	12	0	22.88	22.90	22.76	0-2	2
	12	6	22.79	22.84	22.71		2
	12	13	22.73	22.79	22.71		2
	25	0	22.78	22.81	22.70		2
64QAM	1	0	22.90	22.88	22.62	0-2	2
	1	12	22.71	22.76	22.49		2
	1	24	22.77	22.67	22.55		2
	12	0	21.86	21.86	21.87	0-3	3
	12	6	21.82	21.80	21.69		3
	12	13	21.73	21.79	21.74		3
	25	0	21.81	21.83	21.75		3
256QAM	1	0	19.63	19.77	19.82	0-5	5
	1	12	19.59	19.82	19.87		5
	1	24	19.60	19.93	19.66		5
	12	0	19.71	19.82	19.67		5
	12	6	19.68	19.74	19.72		5
	12	13	19.65	19.72	19.66		5
	25	0	19.71	19.75	19.70		5

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9.4.2 LTE Band 12

Table 9-13
LTE Band 12 Conducted Powers - 10 MHz Bandwidth

LTE Band 12 10 MHz Bandwidth					
Modulation	**RB Size**	**RB Offset**	**Mid Channel 23095 (707.5 MHz) Conducted Power [dBm]**	**MPR Allowed per 3GPP [dB]**	**MPR [dB]**
QPSK	1	0	**24.46**	0	0
	1	25	24.30		0
	1	49	24.30		0
	25	0	**23.61**	0-1	1
	25	12	23.54		1
	25	25	23.48		1
	50	0	23.55		1
16QAM	1	0	23.85	0-1	1
	1	25	23.83		1
	1	49	23.69		1
	25	0	22.53	0-2	2
	25	12	22.58		2
	25	25	22.34		2
	50	0	22.48		2
64QAM	1	0	22.82	0-2	2
	1	25	22.78		2
	1	49	22.66		2
	25	0	21.61	0-3	3
	25	12	21.47		3
	25	25	21.45		3
	50	0	21.52		3
256QAM	1	0	19.43	0-5	5
	1	25	19.55		5
	1	49	19.38		5
	25	0	19.61		5
	25	12	19.50		5
	25	25	19.43		5
	50	0	19.47		5

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

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Table 9-14
LTE Band 12 Conducted Powers - 5 MHz Bandwidth

LTE Band 12 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23035 (701.5 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23155 (713.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.48	24.35	24.48	0	0
	1	12	24.09	24.21	24.40		0
	1	24	24.19	24.33	24.19		0
	12	0	23.84	23.60	23.72	0-1	1
	12	6	23.77	23.61	23.68		1
	12	13	23.71	23.57	23.69		1
	25	0	23.82	23.46	23.71		1
16QAM	1	0	23.76	23.64	23.85	0-1	1
	1	12	23.45	23.62	23.84		1
	1	24	23.42	23.69	23.55		1
	12	0	22.76	22.68	22.76	0-2	2
	12	6	22.70	22.63	22.71		2
	12	13	22.64	22.54	22.69		2
	25	0	22.71	22.65	22.72		2
64QAM	1	0	22.43	22.58	22.60	0-2	2
	1	12	22.31	22.47	22.60		2
	1	24	22.35	22.36	22.62		2
	12	0	21.74	21.67	21.77	0-3	3
	12	6	21.76	21.68	21.79		3
	12	13	21.73	21.59	21.50		3
	25	0	21.70	21.62	21.71		3
256QAM	1	0	19.47	19.58	19.77	0-5	5
	1	12	19.70	19.67	19.72		5
	1	24	19.50	19.53	19.52		5
	12	0	19.68	19.54	19.61		5
	12	6	19.70	19.60	19.66		5
	12	13	19.69	19.52	19.63		5
	25	0	19.70	19.57	19.62		5

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Table 9-15
LTE Band 12 Conducted Powers - 3 MHz Bandwidth

LTE Band 12 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23025 (700.5 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23165 (714.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.50	24.58	24.53	0	0
	1	7	24.69	24.49	24.55		0
	1	14	24.65	24.47	24.24		0
	8	0	23.72	23.50	23.67	0-1	1
	8	4	23.74	23.58	23.70		1
	8	7	23.64	23.47	23.50		1
	15	0	23.70	23.59	23.67		1
16QAM	1	0	23.82	23.68	23.64	0-1	1
	1	7	23.79	23.79	23.62		1
	1	14	23.77	23.72	23.50		1
	8	0	22.83	22.51	22.65	0-2	2
	8	4	22.83	22.68	22.70		2
	8	7	22.62	22.53	22.69		2
	15	0	22.70	22.61	22.68		2
64QAM	1	0	22.60	22.78	22.62	0-2	2
	1	7	22.64	22.76	22.64		2
	1	14	22.73	22.64	22.70		2
	8	0	21.69	21.52	21.65	0-3	3
	8	4	21.73	21.56	21.63		3
	8	7	21.63	21.54	21.60		3
	15	0	21.81	21.67	21.69		3
256QAM	1	0	19.67	19.62	19.71	0-5	5
	1	7	19.71	19.70	19.77		5
	1	14	19.69	19.61	19.66		5
	8	0	19.73	19.57	19.59		5
	8	4	19.74	19.53	19.57		5
	8	7	19.62	19.47	19.49		5
	15	0	19.73	19.59	19.65		5

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Table 9-16
LTE Band 12 Conducted Powers -1.4 MHz Bandwidth

LTE Band 12 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23017 (699.7 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23173 (715.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.41	24.43	24.39	0	0
	1	2	24.44	24.25	24.36		0
	1	5	24.32	24.33	24.12		0
	3	0	24.25	24.29	24.33		0
	3	2	24.44	24.42	24.20		0
	3	3	24.52	24.43	24.14		0
	6	0	23.65	23.36	23.47	0-1	1
16QAM	1	0	23.63	23.62	23.71	0-1	1
	1	2	23.55	23.65	23.69		1
	1	5	23.61	23.61	23.48		1
	3	0	23.67	23.50	23.40		1
	3	2	23.66	23.44	23.39		1
	3	3	23.66	23.39	23.35		1
	6	0	22.56	22.51	22.52	0-2	2
64QAM	1	0	22.64	22.58	22.49	0-2	2
	1	2	22.60	22.46	22.54		2
	1	5	22.45	22.51	22.47		2
	3	0	22.51	22.38	22.55		2
	3	2	22.46	22.41	22.57		2
	3	3	22.54	22.40	22.48		2
	6	0	21.53	21.42	21.49	0-3	3
256QAM	1	0	19.50	19.53	19.60	0-5	5
	1	2	19.62	19.51	19.61		5
	1	5	19.49	19.57	19.66		5
	3	0	19.38	19.39	19.44		5
	3	2	19.58	19.50	19.52		5
	3	3	19.42	19.39	19.50		5
	6	0	19.46	19.35	19.57		5

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9.4.3 LTE Band 13

Table 9-17
LTE Band 13 Conducted Powers - 10 MHz Bandwidth

LTE Band 13 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23230 (782.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**24.45**	0	0
	1	25	24.35		0
	1	49	24.22		0
	25	0	**23.57**	0-1	1
	25	12	23.48		1
	25	25	23.41		1
	50	0	23.50		1
16QAM	1	0	23.75	0-1	1
	1	25	23.65		1
	1	49	23.51		1
	25	0	22.48	0-2	2
	25	12	22.45		2
	25	25	22.34		2
	50	0	22.42		2
64QAM	1	0	22.70	0-2	2
	1	25	22.59		2
	1	49	22.46		2
	25	0	21.50	0-3	3
	25	12	21.46		3
	25	25	21.38		3
	50	0	21.43		3
256QAM	1	0	19.63	0-5	5
	1	25	19.52		5
	1	49	19.41		5
	25	0	19.43		5
	25	12	19.40		5
	25	25	19.28		5
	50	0	19.37		5

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Table 9-18
LTE Band 13 Conducted Powers - 5 MHz Bandwidth

LTE Band 13 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23230 (782.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	24.33	0	0
	1	12	24.22		0
	1	24	24.26		0
	12	0	23.28	0-1	1
	12	6	23.23		1
	12	13	23.23		1
	25	0	23.37		1
16QAM	1	0	23.47	0-1	1
	1	12	23.38		1
	1	24	23.45		1
	12	0	22.20	0-2	2
	12	6	22.19		2
	12	13	22.11		2
	25	0	22.13		2
64QAM	1	0	22.36	0-2	2
	1	12	22.35		2
	1	24	22.14		2
	12	0	21.18	0-3	3
	12	6	21.17		3
	12	13	21.12		3
	25	0	21.09		3
256QAM	1	0	19.24	0-5	5
	1	12	19.23		5
	1	24	19.19		5
	12	0	19.20		5
	12	6	19.09		5
	12	13	19.04		5
	25	0	19.00		5

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

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9.4.4 LTE Band 14

Table 9-19
LTE Band 14 Conducted Powers - 10 MHz Bandwidth

LTE Band 14 10 MHz Bandwidth					
Modulation	**RB Size**	**RB Offset**	**Mid Channel 23330 (793.0 MHz) Conducted Power [dBm]**	**MPR Allowed per 3GPP [dB]**	**MPR [dB]**
QPSK	1	0	24.53	0	0
	1	25	24.45		0
	1	49	**24.62**		0
	25	0	**23.74**	0-1	1
	25	12	23.71		1
	25	25	23.64		1
	50	0	23.72		1
16QAM	1	0	23.55	0-1	1
	1	25	23.84		1
	1	49	23.82		1
	25	0	22.75	0-2	2
	25	12	22.66		2
	25	25	22.54		2
	50	0	22.75		2
64QAM	1	0	22.51	0-2	2
	1	25	22.71		2
	1	49	22.84		2
	25	0	21.73	0-3	3
	25	12	21.65		3
	25	25	21.60		3
	50	0	21.77		3
256QAM	1	0	19.87	0-5	5
	1	25	19.80		5
	1	49	19.69		5
	25	0	19.73		5
	25	12	19.77		5
	25	25	19.62		5
	50	0	19.76		5

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Table 9-20
LTE Band 14 Conducted Powers - 5 MHz Bandwidth

LTE Band 14 5 MHz Bandwidth					
Modulation	**RB Size**	**RB Offset**	**Mid Channel** **23330** **(793.0 MHz)** **Conducted Power [dBm]**	**MPR Allowed per 3GPP [dB]**	**MPR [dB]**
QPSK	1	0	24.53	0	0
	1	12	24.55		0
	1	24	24.49		0
	12	0	23.78	0-1	1
	12	6	23.70		1
	12	13	23.64		1
	25	0	23.58		1
16QAM	1	0	23.25	0-1	1
	1	12	23.46		1
	1	24	23.65		1
	12	0	22.24	0-2	2
	12	6	22.54		2
	12	13	22.63		2
	25	0	22.36		2
64QAM	1	0	22.41	0-2	2
	1	12	22.48		2
	1	24	22.50		2
	12	0	21.38	0-3	3
	12	6	21.45		3
	12	13	21.54		3
	25	0	21.55		3
256QAM	1	0	19.61	0-5	5
	1	12	19.42		5
	1	24	19.29		5
	12	0	19.22		5
	12	6	19.26		5
	12	13	19.29		5
	25	0	19.35		5

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

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9.4.5 LTE Band 26 (Cell)

Table 9-21
LTE Band 26 (Cell) Conducted Powers - 15 MHz Bandwidth

LTE Band 26 (Cell) 15 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 26865 (831.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**24.71**	0	0
	1	36	24.57		0
	1	74	24.53		0
	36	0	**23.92**	0-1	1
	36	18	23.82		1
	36	37	23.72		1
	75	0	23.80		1
16QAM	1	0	24.09	0-1	1
	1	36	24.02		1
	1	74	23.84		1
	36	0	22.83	0-2	2
	36	18	22.79		2
	36	37	22.68		2
	75	0	22.76		2
64QAM	1	0	23.00	0-2	2
	1	36	22.90		2
	1	74	22.76		2
	36	0	21.82	0-3	3
	36	18	21.83		3
	36	37	21.67		3
	75	0	21.78		3
256QAM	1	0	19.91	0-5	5
	1	36	19.89		5
	1	74	19.72		5
	36	0	19.76		5
	36	18	19.74		5
	36	37	19.63		5
	75	0	19.72		5

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

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Table 9-22
LTE Band 26 (Cell) Conducted Powers - 10 MHz Bandwidth

LTE Band 26 (Cell) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26740 (819.0 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 26990 (844.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.74	24.67	24.98	0	0
	1	25	24.71	24.65	25.04		0
	1	49	24.60	24.65	24.93		0
	25	0	23.85	23.83	24.14	0-1	1
	25	12	23.80	23.80	24.12		1
	25	25	23.77	23.71	24.07		1
	50	0	23.81	23.78	24.09		1
16QAM	1	0	24.05	24.04	24.38	0-1	1
	1	25	24.00	23.97	24.32		1
	1	49	23.88	23.92	24.17		1
	25	0	22.85	22.80	23.13	0-2	2
	25	12	22.82	22.75	23.09		2
	25	25	22.71	22.69	23.00		2
	50	0	22.75	22.75	23.10		2
64QAM	1	0	23.02	23.01	23.35	0-2	2
	1	25	22.97	22.92	23.22		2
	1	49	22.83	22.85	23.23		2
	25	0	21.84	21.83	22.10	0-3	3
	25	12	21.78	21.73	22.07		3
	25	25	21.70	21.69	22.03		3
	50	0	21.79	21.77	22.09		3
256QAM	1	0	19.94	19.92	20.25	0-5	5
	1	25	19.90	19.82	20.13		5
	1	49	19.65	19.80	20.09		5
	25	0	19.80	19.84	20.11		5
	25	12	19.76	19.72	20.08		5
	25	25	19.60	19.68	20.03		5
	50	0	19.67	19.71	20.10		5

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Table 9-23
LTE Band 26 (Cell) Conducted Powers - 5 MHz Bandwidth

LTE Band 26 (Cell) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26715 (816.5 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 27015 (846.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.76	24.85	24.75	0	0
	1	12	24.73	24.79	24.69		0
	1	24	24.52	24.55	24.56		0
	12	0	23.89	23.84	23.81	0-1	1
	12	6	23.90	23.85	23.80		1
	12	13	23.84	23.75	23.79		1
	25	0	23.85	23.83	23.82		1
16QAM	1	0	23.88	23.95	23.88	0-1	1
	1	12	23.91	23.90	23.91		1
	1	24	24.07	23.99	23.95		1
	12	0	23.02	22.93	23.10	0-2	2
	12	6	22.95	22.97	23.06		2
	12	13	23.01	22.49	23.05		2
	25	0	23.02	22.86	23.07		2
64QAM	1	0	23.02	22.82	22.38	0-2	2
	1	12	22.43	22.70	22.27		2
	1	24	22.83	22.47	22.35		2
	12	0	21.97	21.83	21.98	0-3	3
	12	6	21.92	21.51	21.93		3
	12	13	21.80	21.86	21.92		3
	25	0	21.90	21.87	22.00		3
256QAM	1	0	19.97	19.81	19.95	0-5	5
	1	12	19.87	19.87	19.90		5
	1	24	19.83	19.90	19.87		5
	12	0	19.81	19.88	19.83		5
	12	6	19.78	19.83	19.83		5
	12	13	19.83	19.91	20.01		5
	25	0	19.88	19.82	20.00		5

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Table 9-24
LTE Band 26 (Cell) Conducted Powers - 3 MHz Bandwidth

LTE Band 26 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26705 (815.5 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 27025 (847.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.56	24.64	24.67	0	0
	1	7	24.48	24.41	24.73		0
	1	14	24.26	24.22	24.71		0
	8	0	23.72	23.75	23.94	0-1	1
	8	4	23.66	23.70	23.82		1
	8	7	23.59	23.69	23.82		1
	15	0	23.75	23.82	24.02		1
16QAM	1	0	23.81	23.70	24.08	0-1	1
	1	7	24.01	23.61	23.98		1
	1	14	23.98	23.91	23.92		1
	8	0	22.83	22.75	22.97	0-2	2
	8	4	22.85	22.76	23.01		2
	8	7	22.75	22.78	22.98		2
	15	0	22.90	22.84	23.01		2
64QAM	1	0	22.95	22.96	23.00	0-2	2
	1	7	22.96	22.76	22.91		2
	1	14	22.86	22.76	22.90		2
	8	0	21.69	21.66	22.03	0-3	3
	8	4	21.76	21.74	21.94		3
	8	7	21.70	21.58	21.90		3
	15	0	21.79	21.78	22.00		3
256QAM	1	0	19.80	20.00	20.14	0-5	5
	1	7	19.73	19.66	19.97		5
	1	14	19.77	19.94	19.80		5
	8	0	19.59	19.61	19.92		5
	8	4	19.79	19.71	19.95		5
	8	7	19.65	19.55	19.88		5
	15	0	19.60	19.77	19.94		5

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Table 9-25
LTE Band 26 (Cell) Conducted Powers -1.4 MHz Bandwidth

LTE Band 26 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26697 (814.7 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 27033 (848.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.74	24.75	24.82	0	0
	1	2	24.55	24.78	24.77		0
	1	5	24.84	24.74	24.87		0
	3	0	24.32	24.35	24.73		0
	3	2	24.24	24.60	24.76		0
	3	3	24.50	24.50	24.82		0
	6	0	23.78	23.74	23.84	0-1	1
16QAM	1	0	23.82	23.68	23.88	0-1	1
	1	2	23.94	23.56	23.95		1
	1	5	23.95	23.80	23.80		1
	3	0	23.59	23.70	23.96		1
	3	2	23.72	23.85	23.97		1
	3	3	23.53	23.69	23.95		1
	6	0	22.75	22.80	22.88	0-2	2
64QAM	1	0	22.82	22.83	22.74	0-2	2
	1	2	22.95	22.89	22.69		2
	1	5	22.95	22.82	22.50		2
	3	0	22.72	22.79	22.85		2
	3	2	22.85	22.89	23.00		2
	3	3	22.60	22.90	22.98		2
	6	0	21.63	21.81	21.82	0-3	3
256QAM	1	0	19.89	19.85	20.00	0-5	5
	1	2	19.98	19.70	19.98		5
	1	5	19.80	19.59	19.88		5
	3	0	19.76	19.44	19.69		5
	3	2	19.90	19.80	19.78		5
	3	3	19.92	19.71	19.80		5
	6	0	19.56	19.66	19.78		5

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9.4.6 LTE Band 5 (Cell)

Table 9-26
LTE Band 5 (Cell) Conducted Powers - 10 MHz Bandwidth

LTE Band 5 (Cell) 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 20525 (836.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	24.82	0	0
	1	25	24.77		0
	1	49	**24.83**		0
	25	0	**23.98**	0-1	1
	25	12	23.91		1
	25	25	23.88		1
	50	0	23.93		1
16QAM	1	0	24.12	0-1	1
	1	25	24.09		1
	1	49	24.07		1
	25	0	22.92	0-2	2
	25	12	22.92		2
	25	25	22.82		2
	50	0	22.91		2
64QAM	1	0	23.09	0-2	2
	1	25	23.06		2
	1	49	23.05		2
	25	0	21.94	0-3	3
	25	12	21.89		3
	25	25	21.81		3
	50	0	21.97		3
256QAM	1	0	20.01	0-5	5
	1	25	19.98		5
	1	49	19.91		5
	25	0	19.96		5
	25	12	19.85		5
	25	25	19.83		5
	50	0	19.87		5

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

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Table 9-27
LTE Band 5 (Cell) Conducted Powers - 5 MHz Bandwidth

LTE Band 5 (Cell) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20425 (826.5 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20625 (846.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.69	24.75	24.85	0	0
	1	12	24.63	24.70	24.72		0
	1	24	24.42	24.68	24.68		0
	12	0	24.06	24.08	24.25	0-1	1
	12	6	23.96	24.05	24.13		1
	12	13	24.05	23.98	24.08		1
	25	0	24.04	24.00	24.15		1
16QAM	1	0	23.79	23.95	24.21	0-1	1
	1	12	23.84	23.77	24.09		1
	1	24	23.85	23.68	23.98		1
	12	0	23.05	22.80	23.31	0-2	2
	12	6	22.97	23.02	23.12		2
	12	13	22.89	22.99	23.02		2
	25	0	23.00	23.00	23.14		2
64QAM	1	0	22.79	22.99	23.33	0-2	2
	1	12	22.65	22.63	23.21		2
	1	24	22.54	22.87	23.25		2
	12	0	22.02	21.83	22.29	0-3	3
	12	6	21.97	21.88	22.18		3
	12	13	21.95	21.98	22.26		3
	25	0	22.02	22.00	22.27		3
256QAM	1	0	19.71	20.02	19.95	0-5	5
	1	12	19.65	19.98	19.73		5
	1	24	19.69	19.89	19.88		5
	12	0	19.68	19.95	19.92		5
	12	6	19.81	19.99	19.61		5
	12	13	19.75	20.12	19.77		5
	25	0	19.60	20.01	19.80		5

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Table 9-28
LTE Band 5 (Cell) Conducted Powers - 3 MHz Bandwidth

LTE Band 5 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20415 (825.5 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20635 (847.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.92	24.82	24.52	0	0
	1	7	24.70	24.88	24.68		0
	1	14	24.84	25.01	24.43		0
	8	0	23.98	24.03	24.14	0-1	1
	8	4	24.00	23.82	24.19		1
	8	7	23.89	23.91	24.13		1
	15	0	23.98	23.87	24.20		1
16QAM	1	0	23.83	23.95	24.28	0-1	1
	1	7	23.88	24.05	23.98		1
	1	14	24.00	23.95	23.76		1
	8	0	23.11	23.08	23.23	0-2	2
	8	4	23.03	23.12	23.25		2
	8	7	22.98	22.98	23.27		2
	15	0	22.95	22.94	23.12		2
64QAM	1	0	22.89	22.82	23.22	0-2	2
	1	7	22.79	22.85	23.21		2
	1	14	22.89	22.98	23.25		2
	8	0	22.01	21.92	22.23	0-3	3
	8	4	22.03	22.00	22.11		3
	8	7	21.95	21.78	22.16		3
	15	0	22.03	21.96	22.18		3
256QAM	1	0	19.98	19.98	20.23	0-5	5
	1	7	19.86	19.75	20.16		5
	1	14	19.76	19.87	20.22		5
	8	0	19.78	19.90	20.20		5
	8	4	19.84	19.91	20.18		5
	8	7	19.88	19.97	20.12		5
	15	0	19.95	20.00	20.15		5

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Table 9-29
LTE Band 5 (Cell) Conducted Powers -1.4 MHz Bandwidth

LTE Band 5 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20407 (824.7 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20643 (848.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.78	24.73	24.82	0	0
	1	2	24.72	24.85	24.91		0
	1	5	24.83	24.69	24.73		0
	3	0	24.60	24.84	24.90		0
	3	2	24.72	24.88	25.00		0
	3	3	24.69	24.96	24.98		0
	6	0	24.12	23.98	24.03	0-1	1
16QAM	1	0	23.88	24.12	24.23	0-1	1
	1	2	23.63	24.22	24.20		1
	1	5	23.78	24.18	24.06		1
	3	0	23.77	23.84	23.98		1
	3	2	23.79	23.89	24.00		1
	3	3	23.82	23.75	24.02		1
	6	0	22.82	22.97	22.98	0-2	2
64QAM	1	0	22.73	23.18	23.12	0-2	2
	1	2	22.72	23.20	23.01		2
	1	5	22.78	23.22	23.07		2
	3	0	22.74	22.81	23.08		2
	3	2	22.95	22.78	23.09		2
	3	3	22.91	22.84	23.04		2
	6	0	21.86	21.85	21.98	0-3	3
256QAM	1	0	19.65	20.13	20.12	0-5	5
	1	2	19.45	20.12	20.33		5
	1	5	19.43	20.16	20.32		5
	3	0	19.70	19.95	20.00		5
	3	2	19.78	19.98	19.98		5
	3	3	19.72	19.99	19.95		5
	6	0	19.73	19.88	19.94		5

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9.4.7 LTE Band 66 (AWS)

Table 9-30
LTE Band 66 (AWS) Max Conducted Powers - 20 MHz Bandwidth

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132072 (1720.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132572 (1770.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.56	23.58	24.52	0	0
	1	50	24.28	**24.54**	24.44		0
	1	99	23.62	23.57	24.52		0
	50	0	23.30	23.43	23.31	0-1	1
	50	25	23.33	**23.57**	23.56		1
	50	50	23.11	23.43	23.22		1
	100	0	23.14	23.39	23.27		1
16QAM	1	0	22.60	22.97	23.62	0-1	1
	1	50	23.52	23.56	23.61		1
	1	99	22.92	23.09	23.63		1
	50	0	22.20	22.47	22.37	0-2	2
	50	25	22.40	22.57	22.47		2
	50	50	22.22	22.42	22.28		2
	100	0	22.21	22.43	22.28		2
64QAM	1	0	21.60	22.00	22.64	0-2	2
	1	50	22.54	22.56	22.55		2
	1	99	21.93	22.07	22.61		2
	50	0	21.20	21.48	21.31	0-3	3
	50	25	21.41	21.57	21.52		3
	50	50	21.21	21.42	21.27		3
	100	0	21.20	21.43	21.27		3
256QAM	1	0	18.55	18.62	19.74	0-5	5
	1	50	19.28	19.50	19.75		5
	1	99	19.08	18.74	19.70		5
	50	0	19.10	19.35	19.08		5
	50	25	19.10	19.53	19.22		5
	50	50	18.99	19.14	19.06		5
	100	0	18.97	19.25	19.25		5

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Table 9-31
LTE Band 66 (AWS) Max Conducted Powers - 15 MHz Bandwidth

LTE Band 66 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132047 (1717.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132597 (1772.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.64	23.52	23.82	0	0
	1	36	24.14	24.21	24.31		0
	1	74	23.61	23.50	23.81		0
	36	0	23.21	23.40	23.40	0-1	1
	36	18	23.34	23.46	23.49		1
	36	37	23.23	23.43	23.36		1
	75	0	23.27	23.46	23.38		1
16QAM	1	0	22.72	22.99	23.65	0-1	1
	1	36	23.48	23.40	23.57		1
	1	74	23.02	23.01	23.64		1
	36	0	22.25	22.47	22.39	0-2	2
	36	18	22.37	22.48	22.54		2
	36	37	22.28	22.42	22.37		2
	75	0	22.24	22.44	22.39		2
64QAM	1	0	21.89	22.19	22.60	0-2	2
	1	36	22.48	22.49	22.58		2
	1	74	22.02	22.14	22.64		2
	36	0	21.26	21.49	21.43	0-3	3
	36	18	21.41	21.49	21.54		3
	36	37	21.31	21.44	21.43		3
	75	0	21.25	21.44	21.39		3
256QAM	1	0	18.73	18.87	19.45	0-5	5
	1	36	19.45	19.41	19.55		5
	1	74	18.90	18.92	19.44		5
	36	0	19.10	19.37	19.09		5
	36	18	19.14	19.42	19.25		5
	36	37	19.07	19.21	19.13		5
	75	0	19.02	19.22	19.24		5

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Table 9-32
LTE Band 66 (AWS) Max Conducted Powers - 10 MHz Bandwidth

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132022 (1715.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132622 (1775.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.37	23.08	23.50	0	0
	1	25	24.03	24.00	24.13		0
	1	49	23.51	23.13	23.49		0
	25	0	22.88	22.86	23.05	0-1	1
	25	12	23.13	23.06	23.26		1
	25	25	22.91	22.84	23.05		1
	50	0	22.95	22.87	23.10		1
16QAM	1	0	22.63	22.52	22.76	0-1	1
	1	25	23.34	23.04	23.46		1
	1	49	22.74	22.54	22.75		1
	25	0	21.94	21.84	22.08	0-2	2
	25	12	22.17	22.05	22.29		2
	25	25	21.92	21.82	22.07		2
	50	0	21.94	21.86	22.07		2
64QAM	1	0	21.58	21.56	21.74	0-2	2
	1	25	22.33	22.04	22.49		2
	1	49	21.73	21.52	21.76		2
	25	0	20.93	20.88	21.09	0-3	3
	25	12	21.14	21.02	21.30		3
	25	25	20.94	20.83	21.08		3
	50	0	20.96	20.85	21.08		3
256QAM	1	0	18.47	18.24	19.19	0-5	5
	1	25	19.13	19.04	19.43		5
	1	49	18.64	18.46	19.30		5
	25	0	19.05	18.91	19.17		5
	25	12	19.10	19.00	19.21		5
	25	25	19.00	18.86	19.16		5
	50	0	18.89	18.90	19.10		5

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Table 9-33
LTE Band 66 (AWS) Max Conducted Powers - 5 MHz Bandwidth

LTE Band 66 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131997 (1712.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132647 (1777.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.66	23.56	23.82	0	0
	1	12	23.97	24.36	24.15		0
	1	24	23.78	23.60	23.79		0
	12	0	23.04	23.42	23.21	0-1	1
	12	6	23.21	23.48	23.35		1
	12	13	23.13	23.41	23.23		1
	25	0	23.14	23.46	23.27		1
16QAM	1	0	22.72	23.03	23.30	0-1	1
	1	12	23.33	23.54	23.50		1
	1	24	23.17	23.20	23.22		1
	12	0	22.12	22.50	22.29	0-2	2
	12	6	22.11	22.48	22.34		2
	12	13	22.10	22.50	22.30		2
	25	0	22.14	22.42	22.29		2
64QAM	1	0	21.82	22.12	22.24	0-2	2
	1	12	22.25	22.50	22.48		2
	1	24	22.03	22.24	22.20		2
	12	0	21.15	21.51	21.31	0-3	3
	12	6	21.12	21.50	21.33		3
	12	13	21.10	21.48	21.31		3
	25	0	21.16	21.44	21.29		3
256QAM	1	0	18.74	18.81	19.38	0-5	5
	1	12	19.10	19.49	19.46		5
	1	24	18.90	18.83	19.26		5
	12	0	19.05	19.34	19.08		5
	12	6	18.97	19.40	19.19		5
	12	13	19.07	19.32	19.14		5
	25	0	18.85	19.45	19.02		5

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Table 9-34
LTE Band 66 (AWS) Max Conducted Powers - 3 MHz Bandwidth

LTE Band 66 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131987 (1711.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132657 (1778.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.60	23.57	23.72	0	0
	1	7	24.01	24.21	24.18		0
	1	14	23.57	23.60	23.63		0
	8	0	22.98	23.40	23.27	0-1	1
	8	4	23.10	23.39	23.33		1
	8	7	23.12	23.39	23.20		1
	15	0	23.21	23.52	23.34		1
16QAM	1	0	23.00	23.36	23.46	0-1	1
	1	7	23.28	23.54	23.47		1
	1	14	23.28	23.49	23.51		1
	8	0	22.20	22.51	22.36	0-2	2
	8	4	22.26	22.53	22.39		2
	8	7	22.23	22.56	22.27		2
	15	0	22.17	22.48	22.32		2
64QAM	1	0	22.02	22.37	22.45	0-2	2
	1	7	22.29	22.50	22.44		2
	1	14	22.16	22.38	22.45		2
	8	0	21.14	21.51	21.33	0-3	3
	8	4	21.22	21.53	21.40		3
	8	7	21.20	21.56	21.35		3
	15	0	21.19	21.48	21.25		3
256QAM	1	0	18.81	18.90	19.25	0-5	5
	1	7	19.17	19.41	19.47		5
	1	14	19.06	18.99	19.42		5
	8	0	19.20	19.45	19.13		5
	8	4	19.25	19.52	19.15		5
	8	7	19.27	19.29	19.17		5
	15	0	19.12	19.30	19.06		5

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Table 9-35
LTE Band 66 (AWS) Max Conducted Powers -1.4 MHz Bandwidth

LTE Band 66 (AWS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131979 (1710.7 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132665 (1779.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.64	23.56	23.82	0	0
	1	2	23.90	24.34	24.13		0
	1	5	23.82	23.66	23.82		0
	3	0	23.85	24.23	24.07		0
	3	2	23.94	24.37	24.15		0
	3	3	23.89	24.33	24.10		0
	6	0	23.11	23.42	23.27	0-1	1
16QAM	1	0	22.76	23.21	23.38	0-1	1
	1	2	23.29	23.56	23.45		1
	1	5	23.12	23.30	23.37		1
	3	0	23.21	23.52	23.31		1
	3	2	23.18	23.40	23.34		1
	3	3	23.19	23.55	23.34		1
	6	0	22.18	22.50	22.32	0-2	2
64QAM	1	0	21.77	22.19	22.38	0-2	2
	1	2	22.23	22.45	22.47		2
	1	5	22.00	22.20	22.39		2
	3	0	22.18	22.53	22.36		2
	3	2	22.23	22.55	22.43		2
	3	3	22.14	22.55	22.34		2
	6	0	21.12	21.43	21.30	0-3	3
256QAM	1	0	18.90	18.97	19.21	0-5	5
	1	2	19.05	19.42	19.50		5
	1	5	18.96	19.03	19.32		5
	3	0	19.11	19.45	19.25		5
	3	2	19.25	19.31	19.17		5
	3	3	19.17	19.45	19.14		5
	6	0	19.06	19.37	19.02		5

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Table 9-36
LTE Band 66 (AWS) Reduced Conducted Powers - 20 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132072 (1720.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132572 (1770.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	18.81	18.96	**19.64**	0	0
	1	50	19.34	19.48	19.36		0
	1	99	18.76	18.91	19.47		0
	50	0	19.26	19.54	19.31	0-1	0
	50	25	19.32	19.69	**19.70**		0
	50	50	19.34	19.53	19.30		0
	100	0	19.28	19.49	19.40		0
16QAM	1	0	18.71	19.07	19.73	0-1	0
	1	50	19.67	19.87	19.69		0
	1	99	19.03	19.21	19.76		0
	50	0	19.29	19.60	19.46	0-2	0
	50	25	19.43	19.65	19.63		0
	50	50	19.29	19.52	19.41		0
	100	0	19.30	19.54	19.44		0
64QAM	1	0	18.79	19.02	19.65	0-2	0
	1	50	19.36	19.68	19.52		0
	1	99	18.92	19.15	19.65		0
	50	0	19.33	19.61	19.53	0-3	0
	50	25	19.52	19.80	19.68		0
	50	50	19.33	19.58	19.44		0
	100	0	19.33	19.60	19.44		0
256QAM	1	0	18.70	18.63	19.49	0-5	0.5
	1	50	18.78	18.81	19.44		0.5
	1	99	18.59	18.79	19.44		0.5
	50	0	18.81	19.01	19.27		0.5
	50	25	19.01	19.12	19.44		0.5
	50	50	18.85	18.97	19.23		0.5
	100	0	18.88	18.85	19.21		0.5

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Table 9-37
LTE Band 66 (AWS) Reduced Conducted Powers - 15 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 66 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132047 (1717.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132597 (1772.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	18.94	19.28	18.97	0	0
	1	36	19.35	19.62	19.44		0
	1	74	19.03	19.23	19.00		0
	36	0	19.33	19.67	19.52	0-1	0
	36	18	19.46	19.80	19.67		0
	36	37	19.36	19.67	19.52		0
	75	0	19.39	19.67	19.54		0
16QAM	1	0	18.95	19.27	19.82	0-1	0
	1	36	19.64	19.96	19.76		0
	1	74	19.29	19.42	19.81		0
	36	0	19.38	19.68	19.54	0-2	0
	36	18	19.50	19.77	19.67		0
	36	37	19.38	19.68	19.52		0
	75	0	19.40	19.68	19.51		0
64QAM	1	0	19.00	19.40	19.75	0-2	0
	1	36	19.59	19.92	19.75		0
	1	74	19.28	19.38	19.75		0
	36	0	19.37	19.65	19.56	0-3	0
	36	18	19.52	19.83	19.66		0
	36	37	19.42	19.70	19.53		0
	75	0	19.36	19.69	19.51		0
256QAM	1	0	18.96	18.83	19.26	0-5	0.5
	1	36	19.10	19.32	19.02		0.5
	1	74	18.88	19.02	19.10		0.5
	36	0	19.05	19.35	19.05		0.5
	36	18	19.05	19.33	19.05		0.5
	36	37	19.00	19.25	19.00		0.5
	75	0	19.03	19.30	18.98		0.5

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Table 9-38
LTE Band 66 (AWS) Reduced Conducted Powers - 10 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132022 (1715.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132622 (1775.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	18.73	18.95	18.53	0	0
	1	25	19.15	19.39	19.29		0
	1	49	18.62	18.97	18.61		0
	25	0	18.89	19.33	19.17	0-1	0
	25	12	19.18	19.53	19.40		0
	25	25	19.21	19.31	19.15		0
	50	0	19.04	19.26	19.11		0
16QAM	1	0	18.68	19.10	18.96	0-1	0
	1	25	19.52	19.59	19.38		0
	1	49	18.82	19.01	18.89		0
	25	0	19.10	19.41	19.05	0-2	0
	25	12	19.33	19.64	19.28		0
	25	25	19.10	19.40	19.00		0
	50	0	19.10	19.42	19.04		0
64QAM	1	0	18.68	19.13	18.78	0-2	0
	1	25	19.48	19.53	19.47		0
	1	49	18.89	19.10	18.88		0
	25	0	19.09	19.45	19.27	0-3	0
	25	12	19.28	19.67	19.29		0
	25	25	19.12	19.42	19.23		0
	50	0	19.12	19.45	19.28		0
256QAM	1	0	19.00	19.35	18.96	0-5	0.5
	1	25	19.04	19.21	18.87		0.5
	1	49	18.97	19.23	18.81		0.5
	25	0	18.85	19.18	18.83		0.5
	25	12	18.90	19.17	18.78		0.5
	25	25	18.86	19.12	18.75		0.5
	50	0	18.85	19.10	18.73		0.5

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Table 9-39
LTE Band 66 (AWS) Reduced Conducted Powers - 5 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 66 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131997 (1712.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132647 (1777.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	18.92	19.23	18.96	0	0
	1	12	19.25	19.58	19.37		0
	1	24	19.03	19.31	18.87		0
	12	0	19.20	19.59	19.47	0-1	0
	12	6	19.36	19.68	19.54		0
	12	13	19.31	19.59	19.45		0
	25	0	19.32	19.62	19.47		0
16QAM	1	0	19.01	19.29	19.17	0-1	0
	1	12	19.43	19.82	19.68		0
	1	24	19.29	19.58	19.32		0
	12	0	19.35	19.62	19.47	0-2	0
	12	6	19.24	19.64	19.51		0
	12	13	19.28	19.65	19.44		0
	25	0	19.28	19.61	19.46		0
64QAM	1	0	18.90	19.28	19.50	0-2	0
	1	12	19.45	19.85	19.67		0
	1	24	19.11	19.35	19.42		0
	12	0	19.32	19.66	19.54	0-3	0
	12	6	19.28	19.67	19.53		0
	12	13	19.27	19.64	19.53		0
	25	0	19.35	19.56	19.49		0
256QAM	1	0	18.80	18.84	19.24	0-5	0.5
	1	12	19.13	19.07	19.18		0.5
	1	24	18.74	18.90	19.20		0.5
	12	0	19.02	19.19	18.78		0.5
	12	6	19.05	19.16	18.82		0.5
	12	13	19.03	19.11	18.69		0.5
	25	0	19.04	19.12	18.88		0.5

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Table 9-40
LTE Band 66 (AWS) Reduced Conducted Powers - 3 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 66 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131987 (1711.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132657 (1778.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.01	19.23	18.89	0	0
	1	7	19.20	19.54	19.30		0
	1	14	18.88	19.26	18.93		0
	8	0	19.26	19.65	19.46	0-1	0
	8	4	19.36	19.72	19.50		0
	8	7	19.32	19.67	19.47		0
	15	0	19.34	19.68	19.11		0
16QAM	1	0	18.97	19.21	19.40	0-1	0
	1	7	19.43	19.89	19.59		0
	1	14	19.30	19.42	19.46		0
	8	0	19.29	19.69	19.52	0-2	0
	8	4	19.39	19.70	19.58		0
	8	7	19.38	19.73	19.51		0
	15	0	19.33	19.64	19.49		0
64QAM	1	0	19.00	19.46	19.19	0-2	0
	1	7	19.43	19.83	19.63		0
	1	14	19.28	19.50	19.16		0
	8	0	19.31	19.70	19.57	0-3	0
	8	4	19.38	19.74	19.60		0
	8	7	19.37	19.75	19.56		0
	15	0	19.38	19.67	19.54		0
256QAM	1	0	18.94	18.91	19.23	0-5	0.5
	1	7	19.01	19.22	19.00		0.5
	1	14	18.83	19.00	19.07		0.5
	8	0	18.95	19.18	18.76		0.5
	8	4	18.96	19.15	18.75		0.5
	8	7	18.93	19.12	18.70		0.5
	15	0	18.98	19.12	18.77		0.5

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Table 9-41
LTE Band 66 (AWS) Reduced Conducted Powers - 1.4 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 66 (AWS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131979 (1710.7 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132665 (1779.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	18.90	19.34	18.76	0	0
	1	2	19.06	19.46	19.24		0
	1	5	18.97	19.29	18.91		0
	3	0	19.01	19.38	19.19		0
	3	2	19.08	19.52	19.29		0
	3	3	19.08	19.43	19.25		0
	6	0	19.26	19.55	19.39	0-1	0
16QAM	1	0	18.98	19.45	19.33	0-1	0
	1	2	19.43	19.85	19.59		0
	1	5	19.38	19.51	19.38		0
	3	0	19.30	19.61	19.45		0
	3	2	19.29	19.74	19.47		0
	3	3	19.28	19.71	19.44		0
	6	0	19.29	19.62	19.49	0-2	0
64QAM	1	0	18.89	19.30	19.21	0-2	0
	1	2	19.39	19.78	19.60		0
	1	5	19.21	19.39	19.20		0
	3	0	19.28	19.70	19.48		0
	3	2	19.40	19.78	19.56		0
	3	3	19.30	19.74	19.54		0
	6	0	19.25	19.60	19.41	0-3	0
256QAM	1	0	19.00	18.90	19.21	0-5	0.5
	1	2	19.00	19.00	19.15		0.5
	1	5	18.72	18.92	19.14		0.5
	3	0	18.92	19.20	18.72		0.5
	3	2	19.05	19.20	18.84		0.5
	3	3	18.97	19.12	18.75		0.5
	6	0	18.85	19.02	18.70		0.5

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9.4.8 LTE Band 25 (PCS)

Table 9-42
LTE Band 25 (PCS) Max Conducted Powers - 20 MHz Bandwidth

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26140 (1860.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26590 (1905.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	**24.34**	24.24	24.03	0	0
	1	50	24.17	24.17	23.92		0
	1	99	24.33	24.16	24.07		0
	50	0	**23.44**	23.43	23.32	0-1	1
	50	25	23.36	23.37	23.22		1
	50	50	23.34	23.33	23.17		1
	100	0	23.38	23.37	23.21		1
16QAM	1	0	23.77	23.54	23.47	0-1	1
	1	50	23.54	23.44	23.40		1
	1	99	23.64	23.24	23.36		1
	50	0	22.38	22.47	22.27	0-2	2
	50	25	22.33	22.36	22.18		2
	50	50	22.27	22.30	22.23		2
	100	0	22.36	22.35	22.23		2
64QAM	1	0	22.70	22.38	22.36	0-2	2
	1	50	22.39	22.30	22.10		2
	1	99	22.57	22.28	22.19		2
	50	0	21.40	21.34	21.24	0-3	3
	50	25	21.32	21.30	21.17		3
	50	50	21.34	21.26	21.12		3
	100	0	21.30	21.31	21.19		3
256QAM	1	0	19.50	19.37	19.33	0-5	5
	1	50	19.14	19.45	19.04		5
	1	99	19.40	19.20	19.33		5
	50	0	19.18	19.28	19.14		5
	50	25	19.44	19.22	19.10		5
	50	50	19.13	19.21	19.07		5
	100	0	19.27	19.30	19.09		5

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Table 9-43
LTE Band 25 (PCS) Max Conducted Powers - 15 MHz Bandwidth

LTE Band 25 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26115 (1857.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26615 (1907.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.28	24.30	24.14	0	0
	1	36	24.19	24.25	24.03		0
	1	74	24.23	24.26	24.12		0
	36	0	23.52	23.54	23.33	0-1	1
	36	18	23.50	23.55	23.33		1
	36	37	23.50	23.50	23.32		1
	75	0	23.55	23.56	23.34		1
16QAM	1	0	23.80	23.80	23.56	0-1	1
	1	36	23.64	23.69	23.40		1
	1	74	23.73	23.71	23.45		1
	36	0	22.59	22.59	22.38	0-2	2
	36	18	22.60	22.58	22.35		2
	36	37	22.52	22.56	22.34		2
	75	0	22.51	22.58	22.36		2
64QAM	1	0	22.82	22.81	22.56	0-2	2
	1	36	22.68	22.69	22.41		2
	1	74	22.65	22.65	22.47		2
	36	0	21.60	21.61	21.40	0-3	3
	36	18	21.63	21.62	21.39		3
	36	37	21.54	21.56	21.34		3
	75	0	21.55	21.56	21.35		3
256QAM	1	0	19.24	19.33	19.32	0-5	5
	1	36	19.35	19.35	19.27		5
	1	74	19.38	19.38	19.29		5
	36	0	19.46	19.45	19.28		5
	36	18	19.32	19.44	19.25		5
	36	37	19.38	19.41	19.20		5
	75	0	19.37	19.32	19.24		5

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Table 9-44
LTE Band 25 (PCS) Max Conducted Powers - 10 MHz Bandwidth

LTE Band 25 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26090 (1855.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26640 (1910.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.24	24.25	23.87	0	0
	1	25	24.24	24.26	23.87		0
	1	49	24.19	24.22	23.91		0
	25	0	23.30	23.36	23.03	0-1	1
	25	12	23.32	23.35	23.02		1
	25	25	23.31	23.29	23.02		1
	50	0	23.34	23.35	23.12		1
16QAM	1	0	23.51	23.50	23.27	0-1	1
	1	25	23.52	23.52	23.29		1
	1	49	23.50	23.46	23.28		1
	25	0	22.35	22.34	22.11	0-2	2
	25	12	22.37	22.37	22.10		2
	25	25	22.33	22.32	22.09		2
	50	0	22.32	22.38	22.10		2
64QAM	1	0	22.65	22.57	22.31	0-2	2
	1	25	22.46	22.51	22.29		2
	1	49	22.51	22.49	22.26		2
	25	0	21.37	21.37	21.13	0-3	3
	25	12	21.37	21.38	21.12		3
	25	25	21.33	21.33	21.11		3
	50	0	21.33	21.36	21.15		3
256QAM	1	0	19.38	19.26	19.22	0-5	5
	1	25	19.35	19.38	19.35		5
	1	49	19.34	19.26	19.40		5
	25	0	19.34	19.21	19.08		5
	25	12	19.27	19.31	19.15		5
	25	25	19.21	19.29	19.04		5
	50	0	19.19	19.22	19.02		5

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Table 9-45
LTE Band 25 (PCS) Max Conducted Powers - 5 MHz Bandwidth

LTE Band 25 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26065 (1852.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26665 (1912.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.26	24.01	23.92	0	0
	1	12	24.33	24.07	23.64		0
	1	24	24.28	24.18	23.65		0
	12	0	23.47	23.55	23.26	0-1	1
	12	6	23.51	23.50	23.30		1
	12	13	23.47	23.43	23.28		1
	25	0	23.52	23.52	23.27		1
16QAM	1	0	23.67	23.21	23.21	0-1	1
	1	12	23.35	23.42	23.04		1
	1	24	23.34	23.38	23.26		1
	12	0	22.57	22.52	22.28	0-2	2
	12	6	22.61	22.58	22.38		2
	12	13	22.47	22.49	22.27		2
	25	0	22.53	22.45	22.24		2
64QAM	1	0	22.48	22.73	22.53	0-2	2
	1	12	22.29	22.54	22.32		2
	1	24	22.45	22.46	22.28		2
	12	0	21.52	21.53	21.29	0-3	3
	12	6	21.59	21.52	21.29		3
	12	13	21.61	21.49	21.36		3
	25	0	21.43	21.56	21.25		3
256QAM	1	0	19.40	19.42	19.25	0-5	5
	1	12	19.34	19.24	19.34		5
	1	24	19.22	19.33	19.21		5
	12	0	19.28	19.36	19.17		5
	12	6	19.34	19.38	19.18		5
	12	13	19.31	19.24	19.13		5
	25	0	19.29	19.20	19.13		5

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Table 9-46
LTE Band 25 (PCS) Max Conducted Powers - 3 MHz Bandwidth

LTE Band 25 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26055 (1851.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26675 (1913.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.97	24.15	23.93	0	0
	1	7	24.05	23.92	24.07		0
	1	14	24.43	24.46	23.72		0
	8	0	23.37	23.39	23.27	0-1	1
	8	4	23.32	23.37	23.19		1
	8	7	23.30	23.34	23.13		1
	15	0	23.52	23.49	23.20		1
16QAM	1	0	23.65	23.59	23.16	0-1	1
	1	7	23.35	23.34	23.03		1
	1	14	23.69	23.61	23.21		1
	8	0	22.63	22.51	22.25	0-2	2
	8	4	22.58	22.61	22.30		2
	8	7	22.44	22.48	22.19		2
	15	0	22.44	22.46	22.26		2
64QAM	1	0	22.75	22.39	22.37	0-2	2
	1	7	22.68	22.64	22.40		2
	1	14	22.61	22.65	22.24		2
	8	0	21.46	21.60	21.30	0-3	3
	8	4	21.52	21.62	21.29		3
	8	7	21.58	21.54	21.34		3
	15	0	21.51	21.44	21.31		3
256QAM	1	0	19.25	19.44	19.12	0-5	5
	1	7	19.18	19.16	19.37		5
	1	14	19.36	19.38	19.32		5
	8	0	19.38	19.34	19.24		5
	8	4	19.27	19.37	19.22		5
	8	7	19.14	19.15	19.24		5
	15	0	19.45	19.27	19.12		5

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Table 9-47
LTE Band 25 (PCS) Max Conducted Powers -1.4 MHz Bandwidth

LTE Band 25 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26047 (1850.7 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26683 (1914.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.98	24.31	24.03	0	0
	1	2	24.08	24.10	24.05		0
	1	5	23.98	24.39	24.19		0
	3	0	24.05	23.97	23.87		0
	3	2	24.15	24.10	23.82		0
	3	3	24.12	24.10	23.83		0
	6	0	23.44	23.34	22.97	0-1	1
16QAM	1	0	23.72	23.73	23.32	0-1	1
	1	2	23.70	23.70	23.49		1
	1	5	23.67	23.57	23.48		1
	3	0	23.24	23.09	23.12		1
	3	2	23.27	23.36	23.35		1
	3	3	23.46	23.23	23.26		1
	6	0	22.46	22.30	22.09	0-2	2
64QAM	1	0	22.75	22.65	22.46	0-2	2
	1	2	22.68	22.65	22.49		2
	1	5	22.67	22.49	22.33		2
	3	0	22.22	22.15	22.01		2
	3	2	22.20	22.38	21.94		2
	3	3	22.30	22.20	22.10		2
	6	0	21.38	21.34	20.97	0-3	3
256QAM	1	0	19.24	19.21	19.42	0-5	5
	1	2	19.21	19.34	19.35		5
	1	5	19.21	19.41	19.22		5
	3	0	19.17	19.31	19.15		5
	3	2	19.42	19.18	19.21		5
	3	3	19.27	19.34	19.44		5
	6	0	19.25	19.28	19.25		5

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Table 9-48
LTE Band 25 (PCS) Reduced Conducted Powers - 20 MHz Bandwidth - Hotspot Mode Active

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26140 (1860.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26590 (1905.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.24	**20.35**	20.22	0	0
	1	50	20.03	20.20	20.00		0
	1	99	20.12	20.19	20.01		0
	50	0	20.26	**20.45**	20.25	0-1	0
	50	25	20.20	20.42	20.20		0
	50	50	20.24	20.35	20.18		0
	100	0	20.21	20.34	20.21		0
16QAM	1	0	20.43	20.47	20.37	0-1	0
	1	50	20.30	20.43	20.31		0
	1	99	20.50	20.49	20.37		0
	50	0	20.24	20.46	20.28	0-2	0
	50	25	20.20	20.40	20.20		0
	50	50	20.16	20.37	20.17		0
	100	0	20.23	20.44	20.25		0
64QAM	1	0	20.44	20.45	20.46	0-2	0
	1	50	20.29	20.44	20.32		0
	1	99	20.41	20.44	20.28		0
	50	0	20.30	20.40	20.33	0-3	0
	50	25	20.24	20.45	20.22		0
	50	50	20.21	20.43	20.22		0
	100	0	20.22	20.46	20.31		0
256QAM	1	0	19.50	19.47	19.45	0-5	0.5
	1	50	19.48	19.41	19.29		0.5
	1	99	19.46	19.46	19.27		0.5
	50	0	19.44	19.43	19.32		0.5
	50	25	19.38	19.45	19.22		0.5
	50	50	19.36	19.31	19.19		0.5
	100	0	19.40	19.47	19.22		0.5

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Table 9-49
LTE Band 25 (PCS) Reduced Conducted Powers - 15 MHz Bandwidth - Hotspot Mode Active

LTE Band 25 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26115 (1857.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26615 (1907.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.10	20.25	20.19	0	0
	1	36	19.96	20.21	20.05		0
	1	74	20.04	20.25	20.11		0
	36	0	19.93	20.41	20.15	0-1	0
	36	18	19.93	20.42	20.14		0
	36	37	19.88	20.36	20.13		0
	75	0	19.93	20.42	20.18		0
16QAM	1	0	20.11	20.43	20.19	0-1	0
	1	36	20.02	20.50	20.13		0
	1	74	20.11	20.41	20.16		0
	36	0	19.94	20.41	20.17	0-2	0
	36	18	19.91	20.40	20.21		0
	36	37	19.87	20.36	20.13		0
	75	0	19.96	20.44	20.16		0
64QAM	1	0	20.35	20.49	20.35	0-2	0
	1	36	20.18	20.44	20.23		0
	1	74	20.27	20.48	20.21		0
	36	0	20.29	20.43	20.14	0-3	0
	36	18	20.12	20.43	20.17		0
	36	37	20.13	20.46	20.06		0
	75	0	20.11	20.49	20.14		0
256QAM	1	0	19.25	19.44	19.26	0-5	0.5
	1	36	19.12	19.49	19.12		0.5
	1	74	19.17	19.46	19.16		0.5
	36	0	19.05	19.44	19.05		0.5
	36	18	19.03	19.50	19.10		0.5
	36	37	19.09	19.42	19.02		0.5
	75	0	19.12	19.47	19.06		0.5

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Table 9-50
LTE Band 25 (PCS) Reduced Conducted Powers - 10 MHz Bandwidth - Hotspot Mode Active

LTE Band 25 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26090 (1855.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26640 (1910.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.70	20.08	19.82	0	0
	1	25	19.57	20.11	19.72		0
	1	49	19.59	20.14	19.86		0
	25	0	19.65	20.19	19.95	0-1	0
	25	12	19.68	20.20	19.94		0
	25	25	19.66	20.17	19.96		0
	50	0	19.71	20.19	19.92		0
16QAM	1	0	20.09	20.38	20.21	0-1	0
	1	25	19.93	20.41	20.11		0
	1	49	19.92	20.43	20.20		0
	25	0	19.73	20.31	20.03	0-2	0
	25	12	19.74	20.28	20.04		0
	25	25	19.72	20.27	20.00		0
	50	0	19.73	20.21	19.98		0
64QAM	1	0	20.22	20.48	20.41	0-2	0
	1	25	20.19	20.50	20.38		0
	1	49	20.41	20.41	20.40		0
	25	0	20.07	20.46	20.20	0-3	0
	25	12	20.01	20.42	20.17		0
	25	25	20.02	20.45	20.23		0
	50	0	20.08	20.41	20.29		0
256QAM	1	0	19.36	19.43	19.37	0-5	0.5
	1	25	19.37	19.46	19.29		0.5
	1	49	19.26	19.45	19.31		0.5
	25	0	19.19	19.46	19.16		0.5
	25	12	19.27	19.41	19.18		0.5
	25	25	19.14	19.47	19.22		0.5
	50	0	19.22	19.49	19.23		0.5

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Table 9-51
LTE Band 25 (PCS) Reduced Conducted Powers - 5 MHz Bandwidth - Hotspot Mode Active

LTE Band 25 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26065 (1852.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26665 (1912.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.87	20.24	19.91	0	0
	1	12	19.59	20.00	19.60		0
	1	24	19.95	20.17	19.98		0
	12	0	19.74	20.18	19.99	0-1	0
	12	6	19.71	20.26	20.02		0
	12	13	19.72	20.19	20.03		0
	25	0	19.83	20.21	19.94		0
16QAM	1	0	19.79	19.96	20.36	0-1	0
	1	12	19.63	19.88	20.08		0
	1	24	19.86	20.08	20.32		0
	12	0	20.04	20.31	20.01	0-2	0
	12	6	20.01	20.29	19.84		0
	12	13	19.98	20.33	19.99		0
	25	0	19.94	20.26	20.10		0
64QAM	1	0	20.31	20.46	20.08	0-2	0
	1	12	20.18	20.37	20.03		0
	1	24	20.27	20.50	19.98		0
	12	0	20.04	20.34	20.23	0-3	0
	12	6	20.13	20.32	20.26		0
	12	13	20.12	20.28	20.19		0
	25	0	20.08	20.29	20.21		0
256QAM	1	0	19.29	19.20	19.14	0-5	0.5
	1	12	19.33	19.27	19.26		0.5
	1	24	19.22	19.42	19.21		0.5
	12	0	19.30	19.25	19.27		0.5
	12	6	19.33	19.24	19.27		0.5
	12	13	19.37	19.25	19.22		0.5
	25	0	19.18	19.26	19.20		0.5

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Table 9-52
LTE Band 25 (PCS) Reduced Conducted Powers - 3 MHz Bandwidth - Hotspot Mode Active

LTE Band 25 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26055 (1851.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26675 (1913.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.82	20.23	19.93	0	0
	1	7	19.91	20.06	19.78		0
	1	14	19.74	19.98	19.96		0
	8	0	19.74	20.05	19.88	0-1	0
	8	4	19.83	20.06	19.95		0
	8	7	19.67	20.13	19.74		0
	15	0	19.85	20.18	19.82		0
16QAM	1	0	19.88	20.37	20.33	0-1	0
	1	7	19.70	20.39	19.85		0
	1	14	19.86	20.28	19.99		0
	8	0	19.83	20.31	19.92	0-2	0
	8	4	19.86	20.23	20.03		0
	8	7	19.76	20.28	19.96		0
	15	0	19.79	20.24	19.99		0
64QAM	1	0	20.01	20.16	20.03	0-2	0
	1	7	19.62	20.08	19.97		0
	1	14	19.78	20.37	20.08		0
	8	0	19.88	20.20	19.97	0-3	0
	8	4	19.90	20.13	20.06		0
	8	7	19.73	20.07	19.89		0
	15	0	19.86	20.19	19.99		0
256QAM	1	0	18.91	19.09	19.07	0-5	0.5
	1	7	18.77	18.94	18.94		0.5
	1	14	18.86	19.17	18.95		0.5
	8	0	18.97	19.12	19.00		0.5
	8	4	18.90	19.21	19.01		0.5
	8	7	18.82	19.02	18.84		0.5
	15	0	18.91	19.15	19.02		0.5

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Table 9-53
LTE Band 25 (PCS) Reduced Conducted Powers -1.4 MHz Bandwidth - Hotspot Mode Active

LTE Band 25 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26047 (1850.7 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26683 (1914.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.69	20.23	19.85	0	0
	1	2	19.48	20.19	19.62		0
	1	5	19.70	20.06	19.71		0
	3	0	19.37	19.86	19.45		0
	3	2	19.32	19.78	19.68		0
	3	3	19.41	19.91	19.74		0
	6	0	19.48	20.12	19.83	0-1	0
16QAM	1	0	20.11	20.29	19.90	0-1	0
	1	2	19.94	20.44	19.83		0
	1	5	20.03	20.32	19.93		0
	3	0	19.68	19.84	19.77		0
	3	2	19.67	19.93	19.89		0
	3	3	19.58	20.00	19.82		0
	6	0	19.69	19.95	19.91	0-2	0
64QAM	1	0	19.72	20.48	19.99	0-2	0
	1	2	19.80	20.23	20.15		0
	1	5	19.71	20.30	19.92		0
	3	0	19.58	19.97	19.80		0
	3	2	19.58	19.94	19.88		0
	3	3	19.49	20.08	19.87		0
	6	0	19.64	19.95	19.79	0-3	0
256QAM	1	0	19.09	19.09	18.94	0-5	0.5
	1	2	18.91	19.28	19.08		0.5
	1	5	19.02	19.21	19.04		0.5
	3	0	18.98	19.01	18.69		0.5
	3	2	18.86	19.02	18.72		0.5
	3	3	18.83	19.04	18.83		0.5
	6	0	18.81	19.06	18.71		0.5

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Table 9-54
LTE Band 25 (PCS) Reduced Conducted Powers - 20 MHz Bandwidth - Grip Sensor and/or Earjack Mode Active

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26140 (1860.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26590 (1905.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	21.21	**21.42**	21.30	0	0
	1	50	21.07	21.31	21.06		0
	1	99	21.14	21.29	21.09		0
	50	0	21.39	**21.48**	21.41	0-1	0
	50	25	21.32	21.47	21.34		0
	50	50	21.29	21.46	21.33		0
	100	0	21.36	21.41	21.35		0
16QAM	1	0	21.47	21.29	21.50	0-1	0
	1	50	21.32	21.19	21.38		0
	1	99	21.46	21.18	21.45		0
	50	0	21.33	21.43	21.31	0-2	0
	50	25	21.25	21.38	21.26		0
	50	50	21.21	21.37	21.20		0
	100	0	21.24	21.31	21.28		0
64QAM	1	0	21.42	21.47	21.48	0-2	0
	1	50	21.35	21.46	21.33		0
	1	99	21.46	21.40	21.35		0
	50	0	21.31	21.47	21.32	0-3	0
	50	25	21.27	21.46	21.25		0
	50	50	21.26	21.42	21.20		0
	100	0	21.28	21.43	21.29		0
256QAM	1	0	19.50	19.47	19.39	0-5	1.5
	1	50	19.43	19.41	19.22		1.5
	1	99	19.46	19.38	19.24		1.5
	50	0	19.50	19.45	19.36		1.5
	50	25	19.42	19.40	19.20		1.5
	50	50	19.44	19.37	19.17		1.5
	100	0	19.43	19.40	19.22		1.5

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Table 9-55
LTE Band 25 (PCS) Reduced Conducted Powers - 15 MHz Bandwidth - Grip Sensor and/or Earjack Mode Active

LTE Band 25 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26115 (1857.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26615 (1907.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.93	21.31	21.20	0	0
	1	36	21.11	21.38	21.14		0
	1	74	20.91	21.39	21.20		0
	36	0	21.00	21.38	21.28	0-1	0
	36	18	21.15	21.47	21.39		0
	36	37	20.98	21.44	21.29		0
	75	0	21.02	21.48	21.30		0
16QAM	1	0	20.97	21.33	21.34	0-1	0
	1	36	21.07	21.41	21.28		0
	1	74	20.90	21.42	21.37		0
	36	0	20.87	21.32	21.10	0-2	0
	36	18	20.94	21.43	21.24		0
	36	37	20.83	21.28	21.14		0
	75	0	20.84	21.30	21.12		0
64QAM	1	0	20.98	21.34	21.45	0-2	0
	1	36	21.12	21.47	21.31		0
	1	74	20.95	21.42	21.43		0
	36	0	20.90	21.37	21.16	0-3	0
	36	18	21.02	21.48	21.29		0
	36	37	20.88	21.35	21.22		0
	75	0	20.83	21.34	21.15		0
256QAM	1	0	19.35	19.47	19.37	0-5	1.5
	1	36	19.42	19.42	19.21		1.5
	1	74	19.23	19.33	19.42		1.5
	36	0	19.37	19.42	19.23		1.5
	36	18	19.31	19.43	19.30		1.5
	36	37	19.28	19.40	19.27		1.5
	75	0	19.36	19.31	19.20		1.5

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Table 9-56
LTE Band 25 (PCS) Reduced Conducted Powers - 10 MHz Bandwidth - Grip Sensor and/or Earjack Mode Active

LTE Band 25 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26090 (1855.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26640 (1910.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	21.03	21.37	21.09	0	0
	1	25	20.77	21.20	21.10		0
	1	49	20.98	21.46	21.09		0
	25	0	20.91	21.37	21.13	0-1	0
	25	12	21.08	21.49	21.37		0
	25	25	20.84	21.32	21.12		0
	50	0	20.96	21.41	21.20		0
16QAM	1	0	21.14	21.42	21.26	0-1	0
	1	25	21.08	21.47	21.19		0
	1	49	21.25	21.46	21.30		0
	25	0	20.72	21.12	20.92	0-2	0
	25	12	20.90	21.30	21.12		0
	25	25	20.59	21.08	20.89		0
	50	0	20.97	21.19	20.97		0
64QAM	1	0	21.34	21.26	21.28	0-2	0
	1	25	21.15	21.43	21.13		0
	1	49	21.25	21.37	21.25		0
	25	0	20.91	21.15	20.92	0-3	0
	25	12	21.13	21.35	21.14		0
	25	25	20.96	21.12	20.90		0
	50	0	20.97	21.16	20.90		0
256QAM	1	0	19.24	19.17	19.23	0-5	1.5
	1	25	19.34	19.27	19.41		1.5
	1	49	19.43	19.08	19.37		1.5
	25	0	19.02	19.15	19.11		1.5
	25	12	19.21	19.31	19.04		1.5
	25	25	19.00	19.13	19.09		1.5
	50	0	19.03	19.07	19.01		1.5

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Table 9-57
LTE Band 25 (PCS) Reduced Conducted Powers - 5 MHz Bandwidth - Grip Sensor and/or Earjack Mode Active

LTE Band 25 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26065 (1852.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26665 (1912.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.91	21.34	21.31	0	0
	1	12	21.16	21.48	21.31		0
	1	24	20.92	21.28	21.27		0
	12	0	21.00	21.37	21.27	0-1	0
	12	6	21.10	21.47	21.33		0
	12	13	21.00	21.41	21.25		0
	25	0	21.07	21.48	21.28		0
16QAM	1	0	20.90	21.27	21.34	0-1	0
	1	12	21.15	21.50	21.33		0
	1	24	20.87	21.26	21.24		0
	12	0	20.99	21.34	21.17	0-2	0
	12	6	21.06	21.46	21.25		0
	12	13	20.92	21.30	21.21		0
	25	0	20.92	21.32	21.15		0
64QAM	1	0	20.96	21.28	21.30	0-2	0
	1	12	21.14	21.48	21.30		0
	1	24	20.88	21.27	21.23		0
	12	0	21.01	21.32	21.25	0-3	0
	12	6	21.04	21.28	21.24		0
	12	13	21.03	21.30	21.25		0
	25	0	20.97	21.32	21.16		0
256QAM	1	0	19.25	19.36	19.30	0-5	1.5
	1	12	19.19	19.28	19.29		1.5
	1	24	19.20	19.41	19.09		1.5
	12	0	19.02	19.23	19.13		1.5
	12	6	19.15	19.39	19.22		1.5
	12	13	19.18	19.22	19.21		1.5
	25	0	19.04	19.19	19.18		1.5

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Table 9-58
LTE Band 25 (PCS) Reduced Conducted Powers - 3 MHz Bandwidth - Grip Sensor and/or Earjack Mode Active

LTE Band 25 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26055 (1851.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26675 (1913.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.97	21.32	21.09	0	0
	1	7	21.01	21.43	21.13		0
	1	14	20.98	21.39	21.08		0
	8	0	21.06	21.44	21.32	0-1	0
	8	4	21.12	21.48	21.35		0
	8	7	21.14	21.47	21.32		0
	15	0	21.03	21.43	21.26		0
16QAM	1	0	21.07	21.37	21.28	0-1	0
	1	7	21.10	21.49	21.40		0
	1	14	21.02	21.38	21.32		0
	8	0	20.97	21.36	21.23	0-2	0
	8	4	21.05	21.44	21.28		0
	8	7	20.96	21.47	21.21		0
	15	0	21.03	21.40	21.25		0
64QAM	1	0	21.12	21.43	21.28	0-2	0
	1	7	21.11	21.50	21.32		0
	1	14	21.03	21.50	21.29		0
	8	0	21.04	21.31	21.23	0-3	0
	8	4	21.03	21.36	21.24		0
	8	7	21.05	21.34	21.24		0
	15	0	21.00	21.36	21.22		0
256QAM	1	0	19.21	19.31	19.28	0-5	1.5
	1	7	19.19	19.33	19.32		1.5
	1	14	19.35	19.38	19.11		1.5
	8	0	19.17	19.42	19.13		1.5
	8	4	19.21	19.31	19.23		1.5
	8	7	19.11	19.38	19.12		1.5
	15	0	19.15	19.37	19.19		1.5

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Table 9-59
LTE Band 25 (PCS) Reduced Conducted Powers – 1.4 MHz Bandwidth - Grip Sensor and/or Earjack Mode Active

LTE Band 25 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26047 (1850.7 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26683 (1914.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.96	21.34	21.18	0	0
	1	2	21.01	21.46	21.25		0
	1	5	20.97	21.42	21.17		0
	3	0	20.99	21.33	21.16		0
	3	2	21.01	21.45	21.24		0
	3	3	20.97	21.43	21.20		0
	6	0	21.14	21.49	21.33	0-1	0
16QAM	1	0	20.96	21.39	21.25	0-1	0
	1	2	21.01	21.50	21.27		0
	1	5	21.02	21.41	21.19		0
	3	0	20.92	21.21	21.09		0
	3	2	20.95	21.39	21.14		0
	3	3	20.87	21.31	21.09		0
	6	0	20.88	21.27	21.10	0-2	0
64QAM	1	0	20.97	21.33	21.22	0-2	0
	1	2	21.07	21.48	21.25		0
	1	5	21.00	21.41	21.15		0
	3	0	20.94	21.29	21.20		0
	3	2	20.90	21.35	20.96		0
	3	3	20.91	21.34	20.92		0
	6	0	20.84	21.20	21.03	0-3	0
256QAM	1	0	19.29	19.36	19.19	0-5	1.5
	1	2	19.35	19.47	19.26		1.5
	1	5	19.31	19.32	19.33		1.5
	3	0	19.14	19.29	19.12		1.5
	3	2	19.29	19.36	19.29		1.5
	3	3	19.25	19.43	19.20		1.5
	6	0	19.11	19.25	19.11		1.5

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9.4.9 LTE Band 30

Table 9-60
LTE Band 30 Max Conducted Powers - 10 MHz Bandwidth

LTE Band 30 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**22.50**	0	0
	1	25	22.17		0
	1	49	22.16		0
	25	0	**21.43**	0-1	1
	25	12	21.36		1
	25	25	21.10		1
	50	0	21.22		1
16QAM	1	0	21.42	0-1	1
	1	25	21.13		1
	1	49	20.99		1
	25	0	20.40	0-2	2
	25	12	20.44		2
	25	25	20.13		2
	50	0	20.20		2
64QAM	1	0	20.67	0-2	2
	1	25	20.47		2
	1	49	20.25		2
	25	0	19.40	0-3	3
	25	12	19.51		3
	25	25	19.16		3
	50	0	19.26		3
256QAM	1	0	17.78	0-5	5
	1	25	17.59		5
	1	49	17.68		5
	25	0	17.40		5
	25	12	17.59		5
	25	25	17.32		5
	50	0	17.38		5

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Table 9-61
LTE Band 30 Max Conducted Powers - 5 MHz Bandwidth

LTE Band 30 5 MHz Bandwidth					
Modulation	**RB Size**	**RB Offset**	**Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]**	**MPR Allowed per 3GPP [dB]**	**MPR [dB]**
QPSK	1	0	22.32	0	0
	1	12	22.62		0
	1	24	22.41		0
	12	0	21.67	0-1	1
	12	6	21.77		1
	12	13	21.75		1
	25	0	21.69		1
16QAM	1	0	21.72	0-1	1
	1	12	21.93		1
	1	24	21.73		1
	12	0	20.71	0-2	2
	12	6	20.79		2
	12	13	20.76		2
	25	0	20.66		2
64QAM	1	0	20.72	0-2	2
	1	12	20.91		2
	1	24	20.70		2
	12	0	19.77	0-3	3
	12	6	19.70		3
	12	13	19.69		3
	25	0	19.63		3
256QAM	1	0	17.59	0-5	5
	1	12	17.77		5
	1	24	17.53		5
	12	0	17.52		5
	12	6	17.64		5
	12	13	17.60		5
	25	0	17.52		5

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

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Table 9-62
LTE Band 30 Reduced Conducted Powers - 10 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 30 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**20.09**	0	0
	1	25	19.73		0
	1	49	19.97		0
	25	0	**20.15**	0-1	0
	25	12	20.10		0
	25	25	20.00		0
	50	0	20.07		0
16QAM	1	0	20.39	0-1	0
	1	25	20.15		0
	1	49	20.30		0
	25	0	20.13	0-2	0
	25	12	20.12		0
	25	25	20.06		0
	50	0	20.03		0
64QAM	1	0	20.43	0-2	0
	1	25	20.22		0
	1	49	20.29		0
	25	0	20.20	0-3	0.5
	25	12	20.14		0.5
	25	25	20.13		0.5
	50	0	20.15		0.5
256QAM	1	0	18.21	0-5	2.5
	1	25	18.23		2.5
	1	49	18.22		2.5
	25	0	18.21		2.5
	25	12	18.22		2.5
	25	25	18.17		2.5
	50	0	18.20		2.5

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Table 9-63
LTE Band 30 Reduced Conducted Powers - 5 MHz Bandwidth – Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 30 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 27710 (2310.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	19.90	0	0
	1	12	19.99		0
	1	24	19.92		0
	12	0	20.10	0-1	0
	12	6	20.06		0
	12	13	20.08		0
	25	0	20.02		0
16QAM	1	0	20.14	0-1	0
	1	12	20.23		0
	1	24	20.23		0
	12	0	20.11	0-2	0
	12	6	20.04		0
	12	13	20.00		0
	25	0	20.06		0
64QAM	1	0	20.33	0-2	0
	1	12	20.25		0
	1	24	20.16		0
	12	0	20.07	0-3	0.5
	12	6	20.13		0.5
	12	13	20.17		0.5
	25	0	20.05		0.5
256QAM	1	0	18.25	0-5	2.5
	1	12	18.04		2.5
	1	24	18.36		2.5
	12	0	18.00		2.5
	12	6	18.17		2.5
	12	13	18.10		2.5
	25	0	18.05		2.5

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

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9.4.10 LTE Band 7

Table 9-64
LTE Band 7 Ant A Max Conducted Powers - 20 MHz Bandwidth

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20850 (2510.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21350 (2560.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.51	23.47	**23.76**	0	0
	1	50	23.57	23.26	23.23		0
	1	99	23.53	23.46	23.49		0
	50	0	22.45	22.28	**22.96**	0-1	1
	50	25	22.52	22.49	22.67		1
	50	50	22.28	22.22	22.65		1
	100	0	22.43	22.38	22.76		1
16QAM	1	0	22.93	22.75	23.03	0-1	1
	1	50	22.97	22.80	22.50		1
	1	99	22.96	22.86	22.81		1
	50	0	21.52	21.27	22.04	0-2	2
	50	25	21.61	21.48	21.88		2
	50	50	21.26	21.30	21.75		2
	100	0	21.37	21.27	22.00		2
64QAM	1	0	22.01	21.73	21.97	0-2	2
	1	50	21.76	21.71	21.46		2
	1	99	21.70	21.86	21.87		2
	50	0	20.40	20.29	21.00	0-3	3
	50	25	20.54	20.46	20.99		3
	50	50	20.22	20.30	20.85		3
	100	0	20.31	20.22	20.85		3
256QAM	1	0	18.86	18.67	19.19	0-5	5
	1	50	18.55	18.54	19.20		5
	1	99	18.37	18.67	19.21		5
	50	0	18.30	18.18	18.82		5
	50	25	18.42	18.35	19.03		5
	50	50	18.10	18.11	18.84		5
	100	0	18.10	18.23	18.83		5

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Table 9-65
LTE Band 7 Ant A Max Conducted Powers - 15 MHz Bandwidth

LTE Band 7 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20825 (2507.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21375 (2562.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.49	23.27	23.58	0	0
	1	36	23.39	23.24	23.25		0
	1	74	23.34	23.38	23.48		0
	36	0	22.42	22.26	22.71	0-1	1
	36	18	22.51	22.37	22.63		1
	36	37	22.30	22.25	22.78		1
	75	0	22.29	22.16	22.51		1
16QAM	1	0	22.97	22.77	23.05	0-1	1
	1	36	22.95	22.26	22.39		1
	1	74	22.80	22.89	23.03		1
	36	0	21.42	21.22	21.86	0-2	2
	36	18	21.45	21.31	21.79		2
	36	37	21.25	21.20	21.82		2
	75	0	21.31	21.16	21.72		2
64QAM	1	0	21.79	21.56	22.18	0-2	2
	1	36	21.81	21.59	21.56		2
	1	74	21.70	21.69	22.10		2
	36	0	20.38	20.18	20.83	0-3	3
	36	18	20.45	20.28	20.81		3
	36	37	20.23	20.16	20.76		3
	75	0	20.22	20.16	20.72		3
256QAM	1	0	18.70	18.49	19.17	0-5	5
	1	36	18.55	18.38	19.06		5
	1	74	18.51	18.57	19.22		5
	36	0	18.23	18.04	18.94		5
	36	18	18.33	18.17	19.07		5
	36	37	18.16	18.06	18.89		5
	75	0	18.19	18.08	18.94		5

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Table 9-66
LTE Band 7 Ant A Max Conducted Powers - 10 MHz Bandwidth

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20800 (2505.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21400 (2565.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.23	23.31	23.37	0	0
	1	25	23.21	23.34	23.32		0
	1	49	23.22	22.98	23.55		0
	25	0	22.08	22.15	22.59	0-1	1
	25	12	22.26	22.40	22.80		1
	25	25	21.93	22.18	22.95		1
	50	0	22.06	22.21	22.82		1
16QAM	1	0	22.72	22.82	22.43	0-1	1
	1	25	22.64	22.78	22.85		1
	1	49	22.53	22.60	22.88		1
	25	0	21.12	21.23	21.76	0-2	2
	25	12	21.23	21.41	22.12		2
	25	25	21.03	21.12	21.95		2
	50	0	21.00	21.15	21.93		2
64QAM	1	0	21.54	21.71	21.96	0-2	2
	1	25	21.45	21.65	21.89		2
	1	49	21.41	21.41	22.08		2
	25	0	20.04	20.12	20.98	0-3	3
	25	12	20.18	20.63	21.21		3
	25	25	20.23	20.09	20.87		3
	50	0	20.01	20.15	20.94		3
256QAM	1	0	18.47	18.56	18.86	0-5	5
	1	25	18.43	18.42	18.80		5
	1	49	18.33	18.22	18.93		5
	25	0	18.00	18.06	18.75		5
	25	12	18.07	18.26	18.83		5
	25	25	18.02	18.05	18.59		5
	50	0	18.01	18.07	18.62		5

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Table 9-67
LTE Band 7 Ant A Max Conducted Powers - 5 MHz Bandwidth

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20775 (2502.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21425 (2567.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.35	23.12	23.39	0	0
	1	12	23.36	23.35	23.49		0
	1	24	23.37	23.17	23.50		0
	12	0	22.44	22.39	23.18	0-1	1
	12	6	22.55	22.48	23.32		1
	12	13	22.43	22.43	23.18		1
	25	0	22.41	22.40	22.98		1
16QAM	1	0	22.72	22.63	22.65	0-1	1
	1	12	22.85	22.88	22.94		1
	1	24	22.87	22.75	22.92		1
	12	0	21.87	21.48	22.33	0-2	2
	12	6	21.58	21.55	22.33		2
	12	13	21.40	21.42	22.23		2
	25	0	21.41	21.37	22.16		2
64QAM	1	0	21.72	21.41	21.59	0-2	2
	1	12	21.68	21.80	22.02		2
	1	24	21.68	21.53	21.92		2
	12	0	20.55	20.37	21.17	0-3	3
	12	6	20.53	20.53	21.29		3
	12	13	20.36	20.44	21.17		3
	25	0	20.32	20.31	21.07		3
256QAM	1	0	18.55	18.25	19.18	0-5	5
	1	12	18.57	18.52	19.22		5
	1	24	18.55	18.33	19.18		5
	12	0	18.31	18.22	18.96		5
	12	6	18.40	18.35	19.10		5
	12	13	18.24	18.24	18.98		5
	25	0	18.29	18.25	18.84		5

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Table 9-68
LTE Band 7 Ant A Reduced Conducted Powers - 20 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20850 (2510.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21350 (2560.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.89	19.75	20.08	0	0
	1	50	19.61	19.51	19.86		0
	1	99	19.71	19.71	**20.25**		0
	50	0	19.93	19.85	**20.35**	0-1	0
	50	25	19.90	19.81	20.32		0
	50	50	19.83	19.92	20.25		0
	100	0	19.82	19.84	20.24		0
16QAM	1	0	20.21	20.16	20.65	0-1	0
	1	50	20.11	19.86	20.50		0
	1	99	20.19	20.17	20.64		0
	50	0	19.96	19.85	20.28	0-2	0
	50	25	19.87	19.77	20.38		0
	50	50	19.86	19.78	20.29		0
	100	0	19.88	19.81	20.35		0
64QAM	1	0	20.24	20.10	20.60	0-2	0
	1	50	19.97	19.87	20.38		0
	1	99	20.06	20.17	20.63		0
	50	0	20.04	19.84	20.31	0-3	0
	50	25	19.95	19.83	20.38		0
	50	50	19.90	19.82	20.35		0
	100	0	19.91	19.80	20.39		0
256QAM	1	0	18.07	18.05	18.42	0-5	1.5
	1	50	17.77	17.95	18.22		1.5
	1	99	18.01	18.15	18.47		1.5
	50	0	17.90	17.81	18.17		1.5
	50	25	17.82	17.80	18.17		1.5
	50	50	17.79	17.71	18.20		1.5
	100	0	17.84	17.72	18.21		1.5

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Table 9-69
LTE Band 7 Ant A Reduced Conducted Powers - 15 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 7 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20825 (2507.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21375 (2562.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.20	19.51	19.53	0	0
	1	36	19.31	19.43	19.88		0
	1	74	19.35	19.54	19.95		0
	36	0	19.35	19.47	20.00	0-1	0
	36	18	19.46	19.56	20.07		0
	36	37	19.32	19.42	19.88		0
	75	0	19.33	19.41	19.92		0
16QAM	1	0	19.88	20.02	20.52	0-1	0
	1	36	19.89	19.99	20.41		0
	1	74	19.95	20.02	20.51		0
	36	0	19.40	19.50	20.05	0-2	0
	36	18	19.50	19.59	20.08		0
	36	37	19.38	19.50	19.92		0
	75	0	19.37	19.37	19.93		0
64QAM	1	0	19.71	19.89	20.28	0-2	0
	1	36	19.95	19.88	20.27		0
	1	74	19.83	20.05	20.26		0
	36	0	19.36	19.55	19.97	0-3	0
	36	18	19.63	19.62	20.11		0
	36	37	19.42	19.48	19.95		0
	75	0	19.41	19.48	19.92		0
256QAM	1	0	18.17	18.26	18.53	0-5	1.5
	1	36	18.15	18.32	18.48		1.5
	1	74	18.14	18.34	18.44		1.5
	36	0	17.85	17.91	18.43		1.5
	36	18	17.97	18.06	18.40		1.5
	36	37	17.83	17.97	18.35		1.5
	75	0	17.84	17.89	18.37		1.5

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Table 9-70
LTE Band 7 Ant A Reduced Conducted Powers - 10 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20800 (2505.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21400 (2565.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.34	19.25	19.63	0	0
	1	25	19.05	19.21	19.55		0
	1	49	19.17	19.07	19.63		0
	25	0	19.06	19.12	19.67	0-1	0
	25	12	19.30	19.31	19.87		0
	25	25	19.04	19.11	19.55		0
	50	0	19.05	19.15	19.65		0
16QAM	1	0	19.63	19.75	20.36	0-1	0
	1	25	19.66	19.60	20.22		0
	1	49	19.70	19.64	20.25		0
	25	0	19.12	19.17	19.69	0-2	0
	25	12	19.31	19.39	19.91		0
	25	25	19.11	19.18	19.64		0
	50	0	19.12	19.16	19.65		0
64QAM	1	0	19.64	19.69	20.15	0-2	0
	1	25	19.60	19.62	20.18		0
	1	49	19.62	19.37	20.17		0
	25	0	19.14	19.23	19.76	0-3	0
	25	12	19.31	19.41	19.80		0
	25	25	19.05	19.20	19.65		0
	50	0	19.18	19.20	19.73		0
256QAM	1	0	18.04	18.05	18.19	0-5	1.5
	1	25	17.97	18.05	18.28		1.5
	1	49	17.99	17.85	18.15		1.5
	25	0	17.55	17.65	18.17		1.5
	25	12	17.73	17.87	18.28		1.5
	25	25	17.46	17.67	18.07		1.5
	50	0	17.59	17.62	18.16		1.5

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Table 9-71
LTE Band 7 Ant A Reduced Conducted Powers - 5 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20775 (2502.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21425 (2567.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	19.18	19.02	19.63	0	0
	1	12	19.21	19.33	19.73		0
	1	24	19.22	19.03	19.72		0
	12	0	19.29	19.35	19.84	0-1	0
	12	6	19.37	19.44	20.03		0
	12	13	19.29	19.44	19.85		0
	25	0	19.25	19.37	19.80		0
16QAM	1	0	19.67	19.51	20.31	0-1	0
	1	12	19.72	19.79	20.41		0
	1	24	19.69	19.70	20.33		0
	12	0	19.39	19.44	19.86	0-2	0
	12	6	19.56	19.54	20.11		0
	12	13	19.32	19.51	19.89		0
	25	0	19.31	19.45	19.86		0
64QAM	1	0	19.57	19.52	20.25	0-2	0
	1	12	19.21	19.78	20.32		0
	1	24	19.65	19.53	20.32		0
	12	0	19.39	19.44	19.98	0-3	0
	12	6	19.46	19.56	20.17		0
	12	13	19.30	19.47	19.96		0
	25	0	19.30	19.48	19.87		0
256QAM	1	0	18.03	17.92	18.60	0-5	1.5
	1	12	18.04	18.01	18.44		1.5
	1	24	18.01	17.73	18.53		1.5
	12	0	17.79	17.82	18.34		1.5
	12	6	17.87	17.96	18.51		1.5
	12	13	17.78	17.83	18.38		1.5
	25	0	17.88	17.86	18.33		1.5

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Table 9-72
LTE Band 7 Ant B Max Conducted Powers - 20 MHz Bandwidth

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20850 (2510.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21350 (2560.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.64	23.38	23.15	0	0
	1	50	23.69	23.09	23.22		0
	1	99	**23.77**	23.04	23.50		0
	50	0	22.72	22.13	22.24	0-1	1
	50	25	22.65	22.22	22.37		1
	50	50	**22.85**	21.92	22.17		1
	100	0	22.63	21.96	22.18		1
16QAM	1	0	23.20	22.67	22.67	0-1	1
	1	50	23.09	22.40	22.51		1
	1	99	22.90	22.40	22.76		1
	50	0	21.69	21.15	21.26	0-2	2
	50	25	21.79	21.15	21.36		2
	50	50	21.53	20.88	21.17		2
	100	0	21.58	20.96	21.14		2
64QAM	1	0	22.16	21.57	21.57	0-2	2
	1	50	21.98	21.28	21.47		2
	1	99	21.88	21.25	21.71		2
	50	0	20.68	20.04	20.19	0-3	3
	50	25	20.78	20.09	20.31		3
	50	50	20.55	19.88	20.08		3
	100	0	20.55	19.89	20.11		3
256QAM	1	0	18.92	18.47	18.40	0-5	5
	1	50	18.78	18.11	18.20		5
	1	99	18.65	18.09	18.46		5
	50	0	18.49	17.91	18.05		5
	50	25	18.65	18.03	18.15		5
	50	50	18.35	17.75	17.96		5
	100	0	18.44	17.87	17.99		5

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Table 9-73
LTE Band 7 Ant B Max Conducted Powers - 15 MHz Bandwidth

LTE Band 7 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20825 (2507.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21375 (2562.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.62	23.15	23.27	0	0
	1	36	23.58	23.05	23.20		0
	1	74	23.45	23.11	23.24		0
	36	0	22.60	22.11	22.22	0-1	1
	36	18	22.68	22.17	22.26		1
	36	37	22.54	21.97	22.25		1
	75	0	22.51	21.93	22.27		1
16QAM	1	0	22.97	22.26	22.45	0-1	1
	1	36	22.86	22.34	22.54		1
	1	74	22.77	22.47	22.60		1
	36	0	21.47	21.04	21.29	0-2	2
	36	18	21.64	21.15	21.33		2
	36	37	21.53	20.83	21.23		2
	75	0	21.52	20.89	21.20		2
64QAM	1	0	21.94	21.26	21.49	0-2	2
	1	36	21.75	21.15	21.53		2
	1	74	21.70	21.19	21.57		2
	36	0	20.61	19.96	20.25	0-3	3
	36	18	20.65	20.10	20.24		3
	36	37	20.43	19.86	20.18		3
	75	0	20.46	19.98	20.07		3
256QAM	1	0	18.70	18.28	18.31	0-5	5
	1	36	18.55	17.95	18.04		5
	1	74	18.44	18.02	18.27		5
	36	0	18.32	17.84	18.03		5
	36	18	18.32	17.92	18.17		5
	36	37	18.26	17.87	18.05		5
	75	0	18.28	17.80	18.04		5

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Table 9-74
LTE Band 7 Ant B Max Conducted Powers - 10 MHz Bandwidth

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20800 (2505.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21400 (2565.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.60	23.19	23.27	0	0
	1	25	23.67	23.27	23.43		0
	1	49	23.79	23.11	23.55		0
	25	0	22.78	22.22	22.52	0-1	1
	25	12	22.83	22.46	22.69		1
	25	25	22.75	22.12	22.51		1
	50	0	23.08	22.18	22.52		1
16QAM	1	0	23.25	22.67	22.81	0-1	1
	1	25	23.12	22.54	22.85		1
	1	49	23.10	22.27	22.48		1
	25	0	21.82	21.65	21.51	0-2	2
	25	12	21.95	21.33	21.71		2
	25	25	21.69	21.07	21.46		2
	50	0	21.73	21.13	21.42		2
64QAM	1	0	21.73	21.08	21.75	0-2	2
	1	25	21.50	20.98	21.68		2
	1	49	21.75	20.93	21.92		2
	25	0	20.38	20.15	20.39	0-3	3
	25	12	20.45	20.26	20.58		3
	25	25	20.39	19.95	20.38		3
	50	0	20.35	20.07	20.38		3
256QAM	1	0	18.76	18.56	18.64	0-5	5
	1	25	18.89	18.03	18.41		5
	1	49	18.57	18.02	18.63		5
	25	0	18.56	18.13	18.30		5
	25	12	18.83	17.94	18.50		5
	25	25	18.56	17.98	18.32		5
	50	0	18.57	18.03	18.31		5

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Table 9-75
LTE Band 7 Ant B Max Conducted Powers - 5 MHz Bandwidth

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20775 (2502.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21425 (2567.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.74	23.22	23.22	0	0
	1	12	23.86	23.35	23.22		0
	1	24	23.89	23.15	23.34		0
	12	0	23.04	22.39	22.61	0-1	1
	12	6	23.12	22.46	22.54		1
	12	13	22.96	22.35	22.59		1
	25	0	22.95	22.35	22.60		1
16QAM	1	0	23.32	22.52	22.98	0-1	1
	1	12	23.48	22.74	22.93		1
	1	24	23.29	22.62	23.12		1
	12	0	22.14	21.50	21.82	0-2	2
	12	6	22.16	21.52	21.64		2
	12	13	21.90	21.45	21.73		2
	25	0	21.92	21.40	21.66		2
64QAM	1	0	22.42	21.60	21.93	0-2	2
	1	12	22.30	21.82	21.95		2
	1	24	22.12	21.36	21.92		2
	12	0	21.11	20.47	20.71	0-3	3
	12	6	21.08	20.47	20.76		3
	12	13	20.97	20.38	20.78		3
	25	0	20.87	20.42	20.66		3
256QAM	1	0	18.95	18.39	18.71	0-5	5
	1	12	19.23	18.47	18.60		5
	1	24	18.97	17.87	18.87		5
	12	0	18.91	18.39	18.51		5
	12	6	18.99	18.37	18.67		5
	12	13	18.71	18.24	18.56		5
	25	0	18.78	18.22	18.55		5

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Table 9-76
LTE Band 7 Ant B Reduced Conducted Powers - 20 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20850 (2510.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21350 (2560.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	**20.32**	20.05	19.99	0	0
	1	50	19.82	19.58	19.71		0
	1	99	20.13	19.82	20.01		0
	50	0	20.40	20.14	20.22	0-1	0
	50	25	20.40	20.10	20.16		0
	50	50	**20.47**	20.07	20.13		0
	100	0	20.31	20.09	20.17		0
16QAM	1	0	20.62	20.43	20.32	0-1	0
	1	50	20.60	20.38	20.37		0
	1	99	20.58	20.21	20.19		0
	50	0	20.49	20.19	20.26	0-2	0
	50	25	20.50	20.15	20.19		0
	50	50	20.50	20.02	20.14		0
	100	0	20.43	20.12	20.17		0
64QAM	1	0	20.61	20.40	20.37	0-2	0
	1	50	20.15	19.95	19.95		0
	1	99	20.49	20.15	20.34		0
	50	0	20.53	20.22	20.35	0-3	0
	50	25	20.50	20.17	20.22		0
	50	50	20.57	20.09	20.16		0
	100	0	20.49	20.15	20.22		0
256QAM	1	0	18.48	18.31	18.34	0-5	1.5
	1	50	18.22	17.93	17.91		1.5
	1	99	18.45	18.06	18.25		1.5
	50	0	18.44	18.11	18.19		1.5
	50	25	18.46	18.14	18.15		1.5
	50	50	18.42	18.08	18.04		1.5
	100	0	18.51	18.06	18.09		1.5

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Table 9-77
LTE Band 7 Ant B Reduced Conducted Powers - 15 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 7 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20825 (2507.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21375 (2562.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.45	20.05	20.19	0	0
	1	36	20.42	19.95	20.27		0
	1	74	20.39	20.06	20.43		0
	36	0	20.44	19.97	20.27	0-1	0
	36	18	20.60	20.12	20.39		0
	36	37	20.50	20.00	20.33		0
	75	0	20.49	20.02	20.30		0
16QAM	1	0	20.78	20.49	20.58	0-1	0
	1	36	20.61	20.37	20.60		0
	1	74	20.56	20.49	20.78		0
	36	0	20.54	20.04	20.24	0-2	0
	36	18	20.68	20.17	20.45		0
	36	37	20.56	20.06	20.36		0
	75	0	20.54	20.01	20.32		0
64QAM	1	0	20.46	20.47	20.53	0-2	0
	1	36	20.78	20.34	20.61		0
	1	74	20.82	20.47	20.70		0
	36	0	20.54	20.06	20.34	0-3	0
	36	18	20.68	20.21	20.41		0
	36	37	20.56	20.09	20.43		0
	75	0	20.42	20.06	20.37		0
256QAM	1	0	18.65	18.38	18.47	0-5	1.5
	1	36	18.61	18.25	18.55		1.5
	1	74	18.53	18.34	18.73		1.5
	36	0	18.46	18.10	18.46		1.5
	36	18	18.56	18.22	18.59		1.5
	36	37	18.43	18.09	18.48		1.5
	75	0	18.45	18.16	18.44		1.5

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Table 9-78
LTE Band 7 Ant B Reduced Conducted Powers - 10 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20800 (2505.0 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21400 (2565.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.27	19.80	20.04	0	0
	1	25	20.23	19.77	19.98		0
	1	49	20.26	19.50	20.15		0
	25	0	20.15	19.66	19.96	0-1	0
	25	12	20.36	19.87	20.16		0
	25	25	20.13	19.64	19.98		0
	50	0	20.19	19.67	19.99		0
16QAM	1	0	20.67	20.10	20.39	0-1	0
	1	25	20.60	20.05	20.35		0
	1	49	20.64	19.83	20.58		0
	25	0	20.21	19.70	20.00	0-2	0
	25	12	20.42	19.90	20.01		0
	25	25	20.17	19.66	20.02		0
	50	0	20.19	19.68	20.00		0
64QAM	1	0	20.53	20.05	20.37	0-2	0
	1	25	20.54	20.04	20.36		0
	1	49	20.22	19.82	20.55		0
	25	0	19.98	19.68	19.99	0-3	0
	25	12	20.40	19.90	20.20		0
	25	25	20.18	19.66	20.03		0
	50	0	20.23	19.71	20.04		0
256QAM	1	0	18.46	18.14	18.31	0-5	1.5
	1	25	18.20	18.12	18.46		1.5
	1	49	18.50	17.91	18.59		1.5
	25	0	18.24	17.86	18.22		1.5
	25	12	18.48	18.05	18.42		1.5
	25	25	18.24	17.85	18.21		1.5
	50	0	18.21	17.83	18.10		1.5

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Table 9-79
LTE Band 7 Ant B Reduced Conducted Powers - 5 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20775 (2502.5 MHz)	Mid Channel 21100 (2535.0 MHz)	High Channel 21425 (2567.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.30	19.55	20.09	0	0
	1	12	20.33	19.78	20.18		0
	1	24	20.22	19.58	20.20		0
	12	0	20.40	19.86	20.21	0-1	0
	12	6	20.50	19.93	20.36		0
	12	13	20.33	19.87	20.25		0
	25	0	20.36	19.87	20.22		0
16QAM	1	0	20.80	19.97	20.52	0-1	0
	1	12	20.72	20.19	20.62		0
	1	24	20.63	20.00	20.63		0
	12	0	20.52	20.03	20.32	0-2	0
	12	6	20.61	20.02	20.47		0
	12	13	20.42	19.93	20.38		0
	25	0	20.40	19.89	20.28		0
64QAM	1	0	20.74	19.98	20.49	0-2	0
	1	12	20.73	20.14	20.60		0
	1	24	20.53	19.94	20.62		0
	12	0	20.53	19.94	20.32	0-3	0
	12	6	20.62	20.03	20.46		0
	12	13	20.44	19.92	20.39		0
	25	0	20.41	19.91	20.26		0
256QAM	1	0	18.37	18.08	18.40	0-5	1.5
	1	12	18.45	18.22	18.50		1.5
	1	24	18.37	17.86	18.59		1.5
	12	0	18.43	18.10	18.47		1.5
	12	6	18.51	18.05	18.58		1.5
	12	13	18.38	18.11	18.46		1.5
	25	0	18.40	18.09	18.45		1.5

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9.4.11 LTE Band 48

Table 9-80
LTE Band 48 Max Conducted Powers - 20 MHz Bandwidth

LTE Band 48 20 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel 55340 (3560.0 MHz)	Low-Mid Channel 55773 (3603.3 MHz)	Mid-High Channel 56207 (3646.7 MHz)	High Channel 56640 (3690.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
QPSK	1	0	23.54	23.66	23.55	**23.74**	0	0
	1	50	23.51	23.48	23.48	23.63		0
	1	99	23.58	23.52	23.64	23.71		0
	50	0	22.79	22.84	22.78	**22.97**	0-1	1
	50	25	22.82	22.76	22.80	22.94		1
	50	50	22.83	22.73	22.82	22.94		1
	100	0	22.81	22.80	22.79	22.92		1
16QAM	1	0	22.74	22.72	22.62	22.83	0-1	1
	1	50	22.69	22.53	22.53	22.69		1
	1	99	22.77	22.59	22.72	22.82		1
	50	0	21.93	21.83	21.77	21.97	0-2	2
	50	25	21.92	21.78	21.78	21.96		2
	50	50	21.92	21.75	21.82	21.96		2
	100	0	21.96	21.80	21.79	21.98		2
64QAM	1	0	21.51	21.49	21.34	21.56	0-2	2
	1	50	21.46	21.26	21.24	21.41		2
	1	99	21.53	21.33	21.42	21.52		2
	50	0	21.01	20.88	20.83	21.03	0-3	3
	50	25	21.00	20.82	20.84	21.01		3
	50	50	20.99	20.79	20.87	20.99		3
	100	0	20.96	20.79	20.79	20.99		3
256QAM	1	0	18.72	18.68	18.52	18.77	0-5	5
	1	50	18.68	18.49	18.51	18.63		5
	1	99	18.77	18.54	18.62	18.74		5
	50	0	19.05	18.90	18.83	19.04		5
	50	25	19.04	18.86	18.84	19.02		5
	50	50	19.04	18.85	18.88	19.01		5
	100	0	19.03	18.85	18.81	19.00		5

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Table 9-81
LTE Band 48 Max Conducted Powers - 15 MHz Bandwidth

LTE Band 48 15 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel 55315 (3557.5 MHz)	Low-Mid Channel 55765 (3602.5 MHz)	Mid-High Channel 56215 (3647.5 MHz)	High Channel 56665 (3692.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
QPSK	1	0	23.49	23.33	23.43	23.47	0	0
	1	36	23.53	23.41	23.34	23.48		0
	1	74	23.66	23.50	23.45	23.75		0
	36	0	22.81	22.57	22.52	22.81	0-1	1
	36	18	22.83	22.70	22.57	22.88		1
	36	37	22.67	22.51	22.71	22.86		1
	75	0	22.91	22.60	22.58	22.94		1
16QAM	1	0	22.62	22.49	22.29	22.82	0-1	1
	1	36	22.65	23.12	22.34	22.44		1
	1	74	22.72	22.52	22.40	22.66		1
	36	0	21.59	21.68	21.36	21.63	0-2	2
	36	18	21.61	21.62	21.45	21.83		2
	36	37	21.63	21.71	21.57	21.66		2
	75	0	21.82	21.57	21.66	21.79		2
64QAM	1	0	21.29	21.18	21.17	21.40	0-2	2
	1	36	21.30	21.19	21.18	21.31		2
	1	74	21.44	21.30	21.20	21.45		2
	36	0	20.85	20.76	20.18	20.79	0-3	3
	36	18	20.85	20.77	20.71	20.90		3
	36	37	20.86	20.68	20.69	20.71		3
	75	0	20.86	20.77	20.60	20.91		3
256QAM	1	0	18.61	18.33	18.33	18.58	0-5	5
	1	36	18.46	18.45	18.35	18.49		5
	1	74	18.51	18.45	18.46	18.51		5
	36	0	18.65	18.58	18.63	18.89		5
	36	18	18.68	18.74	18.77	18.72		5
	36	37	18.70	18.62	18.56	18.93		5
	75	0	18.88	18.81	18.75	18.93		5

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Table 9-82
LTE Band 48 Max Conducted Powers - 10 MHz Bandwidth

LTE Band 48 10 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel 55290 (3555.0 MHz)	Low-Mid Channel 55757 (3601.7 MHz)	Mid-High Channel 56223 (3648.3 MHz)	High Channel 56690 (3695.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
QPSK	1	0	23.37	23.32	23.07	23.65	0	0
	1	25	23.44	23.38	23.08	23.53		0
	1	49	23.38	23.30	23.22	23.65		0
	25	0	22.63	22.57	22.51	22.73	0-1	1
	25	12	22.64	22.58	22.33	22.82		1
	25	25	22.65	22.56	22.42	22.72		1
	50	0	22.74	22.56	22.44	22.81		1
16QAM	1	0	22.44	22.40	22.24	22.74	0-1	1
	1	25	22.51	22.49	22.33	22.71		1
	1	49	22.45	22.39	22.24	22.74		1
	25	0	21.63	21.56	21.38	21.80	0-2	2
	25	12	21.62	21.55	21.39	21.80		2
	25	25	21.59	21.53	21.38	21.78		2
	50	0	21.61	21.56	21.41	21.85		2
64QAM	1	0	21.17	21.12	20.95	21.50	0-2	2
	1	25	21.21	21.18	21.06	21.43		2
	1	49	21.18	21.11	20.97	21.45		2
	25	0	20.59	20.52	20.39	20.78	0-3	3
	25	12	20.58	20.50	20.38	20.49		3
	25	25	20.54	20.47	20.37	20.76		3
	50	0	20.66	20.56	20.47	20.88		3
256QAM	1	0	18.31	18.25	18.13	18.72	0-5	5
	1	25	18.38	18.34	18.20	18.63		5
	1	49	18.33	18.25	18.12	18.77		5
	25	0	18.61	18.54	18.41	18.85		5
	25	12	18.62	18.62	18.41	18.87		5
	25	25	18.59	18.55	18.39	18.83		5
	50	0	18.57	18.60	18.43	18.91		5

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Table 9-83
LTE Band 48 Max Conducted Powers - 5 MHz Bandwidth

LTE Band 48 5 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel 55265 (3552.5 MHz)	Low-Mid Channel 55748 (3600.8 MHz)	Mid-High Channel 56232 (3649.2 MHz)	High Channel 56715 (3697.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
QPSK	1	0	23.40	23.31	23.39	23.63	0	0
	1	12	23.44	23.39	23.42	23.66		0
	1	24	23.42	23.38	23.38	23.56		0
	12	0	22.59	22.55	22.52	22.79	0-1	1
	12	6	22.66	22.56	22.53	22.81		1
	12	13	22.61	22.57	22.51	22.81		1
	25	0	22.65	22.60	22.49	22.83		1
16QAM	1	0	22.52	22.44	22.46	22.70	0-1	1
	1	12	22.53	22.47	22.48	22.70		1
	1	24	22.51	22.43	22.44	22.64		1
	12	0	21.50	21.46	21.42	21.68	0-2	2
	12	6	21.53	21.49	21.46	21.72		2
	12	13	21.51	21.44	21.43	21.70		2
	25	0	21.77	21.57	21.57	21.77		2
64QAM	1	0	21.23	21.15	21.18	21.42	0-2	2
	1	12	21.26	21.19	21.21	21.44		2
	1	24	21.24	21.18	21.19	21.36		2
	12	0	20.54	20.49	20.50	20.72	0-3	3
	12	6	20.56	20.52	20.52	20.76		3
	12	13	20.54	20.36	20.48	20.63		3
	25	0	20.60	20.53	20.56	20.75		3
256QAM	1	0	18.37	18.31	18.37	18.62	0-5	5
	1	12	18.38	18.36	18.41	18.64		5
	1	24	18.38	18.28	18.36	18.56		5
	12	0	18.65	18.62	18.66	18.55		5
	12	6	18.70	18.63	18.71	18.89		5
	12	13	18.67	18.64	18.67	18.91		5
	25	0	18.59	18.56	18.63	18.85		5

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Table 9-84
LTE Band 48 Reduced Conducted Powers - 20 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 48 20 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel 55340 (3560.0 MHz)	Low-Mid Channel 55773 (3603.3 MHz)	Mid-High Channel 56207 (3646.7 MHz)	High Channel 56640 (3690.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
QPSK	1	0	20.41	20.21	20.00	20.22	0	0
	1	50	20.34	20.08	19.93	20.13		0
	1	99	**20.52**	20.08	20.03	20.20		0
	50	0	20.50	20.42	20.20	20.43	0-1	0
	50	25	20.49	20.37	20.21	20.42		0
	50	50	**20.53**	20.35	20.20	20.41		0
	100	0	20.51	20.38	20.22	20.44		0
16QAM	1	0	20.41	20.36	20.13	20.36	0-1	0
	1	50	20.32	20.22	20.05	20.24		0
	1	99	20.43	20.25	20.15	20.34		0
	50	0	20.49	20.44	20.25	20.44	0-2	0
	50	25	20.51	20.39	20.22	20.46		0
	50	50	20.48	20.35	20.24	20.45		0
	100	0	20.54	20.42	20.25	20.45		0
64QAM	1	0	20.09	20.12	19.83	20.04	0-2	0
	1	50	20.03	19.96	19.75	19.93		0
	1	99	20.11	19.96	19.84	20.02		0
	50	0	20.54	20.47	20.28	20.47	0-3	0
	50	25	20.55	20.45	20.27	20.48		0
	50	50	20.54	20.43	20.25	20.47		0
	100	0	20.53	20.41	20.22	20.42		0
256QAM	1	0	18.26	18.28	18.01	18.22	0-5	1.5
	1	50	18.21	18.12	17.93	18.16		1.5
	1	99	18.28	18.11	18.04	18.20		1.5
	50	0	18.56	18.49	18.27	18.50		1.5
	50	25	18.56	18.47	18.31	18.50		1.5
	50	50	18.57	18.41	18.29	18.49		1.5
	100	0	18.50	18.41	18.26	18.45		1.5

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Table 9-85
LTE Band 48 Reduced Conducted Powers - 15 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 48 15 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel 55315 (3557.5 MHz)	Low-Mid Channel 55765 (3602.5 MHz)	Mid-High Channel 56215 (3647.5 MHz)	High Channel 56665 (3692.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
QPSK	1	0	20.35	20.15	20.02	20.33	0	0
	1	36	20.35	20.10	20.02	20.34		0
	1	74	20.41	20.14	20.07	20.39		0
	36	0	20.29	20.15	20.05	20.35	0-1	0
	36	18	20.44	20.27	20.19	20.49		0
	36	37	20.37	20.16	20.10	20.43		0
	75	0	20.38	20.22	20.15	20.45		0
16QAM	1	0	20.48	20.32	20.15	20.53	0-1	0
	1	36	20.47	20.30	20.14	20.56		0
	1	74	20.59	20.36	20.25	20.65		0
	36	0	20.30	20.16	20.11	20.32	0-2	0
	36	18	20.44	20.27	20.27	20.46		0
	36	37	20.39	20.18	20.17	20.42		0
	75	0	20.36	20.19	20.07	20.40		0
64QAM	1	0	20.15	20.18	20.09	20.06	0-2	0
	1	36	20.19	20.17	20.05	20.09		0
	1	74	20.31	20.27	20.04	20.24		0
	36	0	20.46	20.32	20.20	20.33	0-3	0
	36	18	20.40	20.43	20.23	20.47		0
	36	37	20.50	20.31	20.21	20.38		0
	75	0	20.35	20.18	20.12	20.28		0
256QAM	1	0	18.17	18.27	18.01	18.21	0-5	1.5
	1	36	18.21	18.25	18.07	18.29		1.5
	1	74	18.23	18.36	18.12	18.35		1.5
	36	0	18.21	18.37	18.31	18.38		1.5
	36	18	18.34	18.50	18.40	18.52		1.5
	36	37	18.35	18.47	18.29	18.44		1.5
	75	0	18.24	18.48	18.37	18.49		1.5

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Table 9-86
LTE Band 48 Reduced Conducted Powers - 10 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 48 10 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel 55290 (3555.0 MHz)	Low-Mid Channel 55773 (3601.7 MHz)	Mid-High Channel 56207 (3648.3 MHz)	High Channel 56690 (3695.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
QPSK	1	0	20.25	20.04	20.07	20.02	0	0
	1	25	20.28	20.34	19.95	20.34		0
	1	49	20.32	20.02	20.14	20.00		0
	25	0	20.42	20.27	19.87	20.30	0-1	0
	25	12	20.64	20.53	20.15	20.41		0
	25	25	20.46	20.26	19.92	20.43		0
	50	0	20.44	20.32	19.90	20.43		0
16QAM	1	0	20.67	20.10	20.00	20.12	0-1	0
	1	25	20.64	20.42	20.25	20.51		0
	1	49	20.66	20.17	20.02	20.27		0
	25	0	20.37	20.24	20.03	20.56	0-2	0
	25	12	20.61	20.43	20.04	20.48		0
	25	25	20.40	20.20	19.97	20.48		0
	50	0	20.47	20.33	20.11	20.38		0
64QAM	1	0	20.29	20.06	20.12	20.14	0-2	0
	1	25	20.24	20.20	20.03	20.38		0
	1	49	20.36	20.08	20.14	20.10		0
	25	0	20.47	20.34	20.14	20.39	0-3	0
	25	12	20.72	20.53	20.15	20.46		0
	25	25	20.50	20.35	19.96	20.31		0
	50	0	20.51	20.36	19.96	20.34		0
256QAM	1	0	18.26	18.10	18.21	18.17	0-5	1.5
	1	25	18.22	18.27	18.13	18.33		1.5
	1	49	18.36	18.07	18.32	18.15		1.5
	25	0	18.25	18.31	18.18	18.43		1.5
	25	12	18.33	18.43	18.47	18.51		1.5
	25	25	18.29	18.24	18.36	18.47		1.5
	50	0	18.22	18.45	18.35	18.46		1.5

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Table 9-87
LTE Band 48 Reduced Conducted Powers - 5 MHz Bandwidth - Hotspot/Grip Sensor and/or Earjack Mode Active

LTE Band 48 5 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel 55265 (3552.5 MHz)	Low-Mid Channel 55773 (3600.8 MHz)	Mid-High Channel 56207 (3649.2 MHz)	High Channel 56715 (3697.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
QPSK	1	0	20.24	20.01	20.12	20.04	0	0
	1	12	20.42	20.17	20.29	20.24		0
	1	24	20.36	20.02	20.07	20.11		0
	12	0	20.62	20.21	20.13	20.34	0-1	0
	12	6	20.73	20.41	20.33	20.37		0
	12	13	20.56	20.23	20.25	20.29		0
	25	0	20.62	20.32	20.14	20.27		0
16QAM	1	0	20.62	20.18	20.20	20.41	0-1	0
	1	12	20.78	20.53	20.47	20.52		0
	1	24	20.64	20.29	20.23	20.36		0
	12	0	20.57	20.26	20.22	20.49	0-2	0
	12	6	20.59	20.36	20.29	20.40		0
	12	13	20.59	20.25	20.19	20.48		0
	25	0	20.65	20.35	20.25	20.27		0
64QAM	1	0	20.41	20.06	20.05	20.46	0-2	0
	1	12	20.54	20.22	20.32	20.21		0
	1	24	20.38	20.02	20.11	20.41		0
	12	0	20.58	20.37	20.15	20.41	0-3	0
	12	6	20.71	20.39	20.36	20.44		0
	12	13	20.52	20.38	20.27	20.43		0
	25	0	20.60	20.29	20.18	20.37		0
256QAM	1	0	18.32	18.09	18.12	18.26	0-5	1.5
	1	12	18.59	18.37	18.32	18.48		1.5
	1	24	18.44	18.09	18.09	18.23		1.5
	12	0	18.63	18.32	18.26	18.40		1.5
	12	6	18.83	18.42	18.46	18.52		1.5
	12	13	18.73	18.30	18.36	18.42		1.5
	25	0	18.56	18.24	18.29	18.34		1.5

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9.4.12 LTE Band 41

Table 9-88
LTE Band 41 Max PC3 Conducted Powers - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	23.97	**24.00**	23.93	23.81	23.88	0	0
	1	50	23.65	23.80	23.68	23.75	23.66		0
	1	99	23.95	23.94	23.62	23.69	23.58		0
	50	0	23.22	**23.28**	23.05	23.13	23.07	0-1	1
	50	25	23.17	23.23	22.97	23.06	22.99		1
	50	50	23.15	23.18	22.91	23.00	22.90		1
	100	0	23.19	23.21	22.97	23.08	22.98		1
16QAM	1	0	23.03	23.06	22.96	23.03	23.02	0-1	1
	1	50	22.68	22.82	22.68	22.74	22.74		1
	1	99	22.96	22.95	22.66	22.71	22.72		1
	50	0	22.19	22.25	22.03	22.12	22.05	0-2	2
	50	25	22.16	22.20	21.98	22.06	21.97		2
	50	50	22.16	22.15	21.91	22.01	21.88		2
	100	0	22.16	22.22	21.99	22.08	22.00		2
64QAM	1	0	21.74	21.75	21.69	21.73	21.71	0-2	2
	1	50	21.35	21.51	21.46	21.50	21.45		2
	1	99	21.67	21.64	21.34	21.45	21.45		2
	50	0	21.21	21.27	21.05	21.14	21.08	0-3	3
	50	25	21.17	21.22	20.99	21.08	20.98		3
	50	50	21.15	21.17	20.93	21.01	20.89		3
	100	0	21.13	21.19	20.95	21.05	20.94		3
256QAM	1	0	18.83	19.00	18.85	18.91	18.92	0-5	5
	1	50	18.56	18.69	18.58	18.60	18.64		5
	1	99	18.79	18.87	18.49	18.55	18.61		5
	50	0	19.16	19.27	19.03	19.13	19.04		5
	50	25	19.13	19.19	19.00	19.06	18.97		5
	50	50	19.08	19.16	18.91	18.98	18.86		5
	100	0	19.09	19.17	18.93	19.03	18.94		5

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Table 9-89
LTE Band 41 Max PC3 Conducted Powers - 15 MHz Bandwidth

LTE Band 41 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	24.00	24.11	23.81	24.04	23.91	0	0
	1	36	23.94	24.03	23.64	23.85	23.73		0
	1	74	23.97	24.03	23.66	23.84	23.74		0
	36	0	23.14	23.22	23.00	23.13	23.12	0-1	1
	36	18	23.14	23.20	22.95	23.11	23.06		1
	36	37	23.12	23.15	22.89	23.04	22.99		1
	75	0	23.23	23.21	23.01	23.14	23.08		1
16QAM	1	0	23.18	23.16	22.98	23.15	23.12	0-1	1
	1	36	23.14	23.02	22.81	22.84	22.96		1
	1	74	23.17	23.02	22.80	22.87	22.95		1
	36	0	22.15	22.22	21.98	22.11	22.06	0-2	2
	36	18	22.15	22.18	21.95	22.09	22.03		2
	36	37	22.15	22.12	21.90	22.02	21.96		2
	75	0	22.22	22.20	21.98	22.12	22.04		2
64QAM	1	0	21.82	21.95	21.35	21.58	21.97	0-2	2
	1	36	21.73	21.81	21.20	21.42	21.42		2
	1	74	21.75	21.91	21.23	21.45	21.42		2
	36	0	21.11	21.14	20.91	21.04	21.01	0-3	3
	36	18	21.12	21.12	20.88	21.02	20.97		3
	36	37	21.08	21.06	20.81	20.96	20.92		3
	75	0	21.22	21.19	20.94	21.08	21.03		3
256QAM	1	0	18.92	19.06	19.09	19.00	18.96	0-5	5
	1	36	19.05	19.04	18.93	18.70	18.75		5
	1	74	19.05	19.02	18.95	18.73	18.80		5
	36	0	19.37	19.28	19.12	19.11	19.05		5
	36	18	19.39	19.26	19.19	19.10	19.07		5
	36	37	19.35	19.25	19.10	19.09	19.05		5
	75	0	19.42	19.30	19.15	19.15	19.07		5

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Table 9-90
LTE Band 41 Max PC3 Conducted Powers - 10 MHz Bandwidth

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	23.89	24.07	23.82	23.88	23.96	0	0
	1	25	23.58	23.99	23.87	23.90	23.88		0
	1	49	23.87	23.90	23.78	23.76	23.78		0
	25	0	23.21	23.27	23.21	23.16	23.09	0-1	1
	25	12	23.22	23.24	23.19	23.12	23.08		1
	25	25	23.20	23.19	23.13	23.09	23.04		1
	50	0	23.30	23.32	23.27	23.21	23.15		1
16QAM	1	0	23.20	23.35	23.18	23.18	23.13	0-1	1
	1	25	22.92	23.07	22.99	22.91	22.93		1
	1	49	23.17	23.23	23.07	23.07	23.03		1
	25	0	22.21	22.21	22.16	22.09	22.04	0-2	2
	25	12	22.19	22.20	22.14	22.07	22.00		2
	25	25	22.17	22.13	22.09	22.03	21.95		2
	50	0	22.28	22.28	22.24	22.17	22.11		2
64QAM	1	0	21.84	21.96	21.85	21.79	21.75	0-2	2
	1	25	21.48	21.85	21.77	21.68	21.72		2
	1	49	21.82	21.81	21.72	21.63	21.63		2
	25	0	21.28	21.32	21.26	21.20	21.12	0-3	3
	25	12	21.29	21.29	21.24	21.18	21.11		3
	25	25	21.28	21.23	21.19	21.14	21.07		3
	50	0	21.26	21.28	21.20	21.16	21.09		3
256QAM	1	0	18.87	18.76	18.56	18.60	18.69	0-5	5
	1	25	18.66	18.92	18.70	18.61	18.56		5
	1	49	18.93	18.83	18.62	18.53	18.60		5
	25	0	19.22	19.14	19.06	18.92	18.84		5
	25	12	19.22	19.13	19.04	18.88	18.83		5
	25	25	19.21	19.09	18.98	18.87	18.78		5
	50	0	19.33	19.17	19.07	18.98	18.88		5

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Table 9-91
LTE Band 41 Max PC3 Conducted Powers - 5 MHz Bandwidth

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	23.99	24.04	23.83	23.86	23.83	0	0
	1	12	23.99	24.04	23.80	23.93	23.90		0
	1	24	24.00	23.88	23.76	23.88	23.85		0
	12	0	23.01	23.12	22.88	23.01	22.94	0-1	1
	12	6	23.07	23.16	22.93	23.08	22.96		1
	12	13	23.04	23.03	22.88	23.03	22.96		1
	25	0	23.27	23.21	23.01	23.16	23.04		1
16QAM	1	0	23.06	23.14	22.99	22.97	23.03	0-1	1
	1	12	23.05	23.17	22.89	23.09	23.09		1
	1	24	23.08	23.08	22.85	22.96	22.94		1
	12	0	22.08	22.18	21.95	22.04	22.01	0-2	2
	12	6	22.15	22.21	21.97	22.15	22.02		2
	12	13	22.12	22.09	21.93	22.07	22.04		2
	25	0	22.15	22.10	21.91	22.06	21.93		2
64QAM	1	0	21.89	21.86	21.61	21.65	21.70	0-2	2
	1	12	21.84	21.89	21.55	21.66	21.70		2
	1	24	21.83	21.79	21.55	21.67	21.66		2
	12	0	21.26	21.29	21.03	21.10	21.06	0-3	3
	12	6	21.30	21.30	21.06	21.18	21.08		3
	12	13	21.25	21.17	20.99	21.13	21.09		3
	25	0	21.28	21.22	21.06	21.17	21.06		3
256QAM	1	0	18.86	18.92	18.90	18.46	18.53	0-5	5
	1	12	18.90	18.96	18.92	18.58	18.67		5
	1	24	18.98	18.82	18.83	18.53	18.61		5
	12	0	19.25	19.15	19.17	18.90	18.84		5
	12	6	19.32	19.20	19.19	19.20	18.88		5
	12	13	19.27	19.06	19.13	18.97	18.92		5
	25	0	19.26	19.04	19.12	18.65	18.79		5

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Table 9-92
LTE Band 41 Max PC2 Conducted Powers - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	26.83	26.62	26.39	26.48	26.36	0	0
	1	50	26.56	26.44	26.42	**26.92**	26.74		0
	1	99	26.84	26.52	26.31	26.41	26.38		0
	50	0	25.84	25.85	25.45	26.16	25.99	0-1	1
	50	25	26.04	25.82	25.54	**26.31**	26.15		1
	50	50	26.02	25.75	25.39	26.04	25.89		1
	100	0	25.91	25.80	25.35	26.11	25.97		1
16QAM	1	0	26.11	25.94	25.07	25.85	25.77	0-1	1
	1	50	25.70	25.52	25.61	26.41	26.23		1
	1	99	26.03	25.81	24.96	25.57	25.46		1
	50	0	25.02	24.89	24.38	25.18	25.05	0-2	2
	50	25	25.00	24.82	24.51	25.32	25.15		2
	50	50	24.96	24.76	24.27	25.07	24.85		2
	100	0	25.00	24.83	24.34	25.13	24.97		2
64QAM	1	0	24.90	24.75	24.34	25.08	24.91	0-2	2
	1	50	24.51	24.34	24.79	25.41	25.28		2
	1	99	24.84	24.61	24.22	24.78	24.73		2
	50	0	24.02	23.89	23.41	24.21	24.06	0-3	3
	50	25	23.96	23.85	23.52	24.35	24.19		3
	50	50	23.93	23.83	23.25	24.08	23.90		3
	100	0	23.92	23.90	23.28	24.09	23.93		3
256QAM	1	0	21.90	21.95	20.90	21.58	21.55	0-5	5
	1	50	21.87	21.52	21.40	22.13	22.11		5
	1	99	21.73	21.73	20.80	21.49	21.37		5
	50	0	21.95	21.96	21.42	22.20	22.02		5
	50	25	21.95	21.90	21.56	22.29	22.16		5
	50	50	21.93	21.83	21.29	22.07	21.91		5
	100	0	21.90	21.82	21.32	22.09	21.89		5

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Table 9-93
LTE Band 41 Max PC2 Conducted Powers - 15 MHz Bandwidth

LTE Band 41 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	27.04	26.72	26.12	26.64	26.50	0	0
	1	36	26.87	26.49	26.44	26.91	26.83		0
	1	74	27.13	26.68	26.04	26.46	26.41		0
	36	0	26.12	25.97	25.42	26.25	26.12	0-1	1
	36	18	26.34	25.98	25.53	26.34	26.19		1
	36	37	26.27	25.91	25.35	26.19	26.05		1
	75	0	26.29	25.93	25.40	26.22	26.07		1
16QAM	1	0	26.34	26.20	25.35	26.14	26.08	0-1	1
	1	36	25.91	25.80	25.59	26.42	26.35		1
	1	74	26.40	26.01	25.11	25.96	25.88		1
	36	0	25.26	24.95	24.28	25.22	25.03	0-2	2
	36	18	25.26	24.84	24.45	25.28	25.13		2
	36	37	25.21	24.77	24.29	25.12	24.96		2
	75	0	25.30	24.88	24.37	25.21	25.04		2
64QAM	1	0	25.18	24.95	24.58	25.26	25.21	0-2	2
	1	36	24.75	24.87	24.82	25.43	25.39		2
	1	74	24.87	24.78	24.36	25.16	25.11		2
	36	0	24.28	23.85	23.40	24.28	24.10	0-3	3
	36	18	24.28	23.88	23.48	24.33	24.17		3
	36	37	24.25	23.84	23.35	24.11	23.99		3
	75	0	24.26	23.90	23.37	24.23	23.97		3
256QAM	1	0	22.18	21.98	21.16	21.87	21.83	0-5	5
	1	36	22.16	21.83	21.41	22.13	22.07		5
	1	74	22.23	21.80	20.91	21.66	21.58		5
	36	0	22.25	21.94	21.43	22.21	22.02		5
	36	18	22.28	21.90	21.51	22.27	22.11		5
	36	37	22.22	21.85	21.23	22.12	21.90		5
	75	0	22.05	21.90	21.37	22.15	21.95		5

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Table 9-94
LTE Band 41 Max PC2 Conducted Powers - 10 MHz Bandwidth

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	26.88	26.38	25.93	26.25	26.22	0	0
	1	25	26.71	26.49	26.25	26.79	26.65		0
	1	49	26.90	26.50	25.86	26.16	26.05		0
	25	0	26.14	25.72	25.14	25.90	25.71	0-1	1
	25	12	26.12	25.68	25.30	26.12	25.90		1
	25	25	26.13	25.65	25.06	25.88	25.67		1
	50	0	26.16	25.69	25.11	25.93	25.73		1
16QAM	1	0	26.23	25.90	24.89	25.60	25.47	0-1	1
	1	25	26.00	25.84	25.49	26.16	26.02		1
	1	49	26.21	25.75	24.93	25.47	25.28		1
	25	0	25.16	24.76	24.12	24.94	24.78	0-2	2
	25	12	25.15	24.68	24.33	25.14	24.94		2
	25	25	25.13	24.66	24.06	24.90	24.69		2
	50	0	25.12	24.71	24.11	24.91	24.71		2
64QAM	1	0	25.01	24.69	24.03	24.83	24.72	0-2	2
	1	25	24.80	24.79	24.59	25.16	25.05		2
	1	49	24.98	24.58	23.89	24.66	24.55		2
	25	0	24.06	24.22	23.12	23.96	23.75	0-3	3
	25	12	24.07	23.65	23.30	24.12	23.94		3
	25	25	24.07	23.62	23.06	23.89	23.93		3
	50	0	24.14	23.74	23.10	23.92	23.72		3
256QAM	1	0	21.97	21.73	20.87	21.32	21.23	0-5	5
	1	25	21.73	21.61	21.24	22.00	21.91		5
	1	49	21.92	21.58	20.82	21.16	21.06		5
	25	0	22.05	21.59	21.09	21.85	21.67		5
	25	12	22.03	21.69	21.27	22.04	21.87		5
	25	25	22.05	21.66	21.03	21.78	21.60		5
	50	0	22.04	21.70	21.12	21.91	21.70		5

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Table 9-95
LTE Band 41 Max PC2 Conducted Powers - 5 MHz Bandwidth

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	26.80	26.27	26.05	26.54	26.43	0	0
	1	12	26.82	26.50	26.37	26.79	26.70		0
	1	24	26.89	26.21	26.12	26.57	26.45		0
	12	0	25.98	25.57	25.40	26.02	25.91	0-1	1
	12	6	26.07	25.63	25.44	26.17	25.96		1
	12	13	25.97	25.48	25.32	26.03	25.95		1
	25	0	25.98	25.51	25.35	26.05	25.87		1
16QAM	1	0	26.10	25.62	25.34	26.01	25.98	0-1	1
	1	12	26.13	25.79	25.55	26.28	26.23		1
	1	24	26.16	25.50	25.29	26.00	25.99		1
	12	0	24.91	24.51	24.25	24.95	24.89	0-2	2
	12	6	25.02	24.61	24.33	25.09	24.96		2
	12	13	24.88	24.43	24.22	24.95	24.87		2
	25	0	24.95	24.50	24.32	25.07	24.94		2
64QAM	1	0	24.93	24.35	24.60	25.31	25.25	0-2	2
	1	12	24.91	24.57	24.78	25.52	25.41		2
	1	24	24.94	24.24	24.55	25.32	25.24		2
	12	0	23.95	23.56	23.33	24.03	23.94	0-3	3
	12	6	24.00	23.57	23.41	24.23	24.00		3
	12	13	23.88	23.45	23.29	24.14	23.96		3
	25	0	23.96	23.42	23.37	24.18	23.94		3
256QAM	1	0	21.89	21.40	20.99	21.71	21.73	0-5	5
	1	12	21.87	21.60	21.20	21.97	21.99		5
	1	24	21.85	21.30	20.93	21.73	21.70		5
	12	0	21.98	21.62	21.29	22.01	21.93		5
	12	6	21.99	21.72	21.35	22.13	22.00		5
	12	13	22.03	21.51	21.25	21.99	21.94		5
	25	0	21.93	21.50	21.24	21.98	21.80		5

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Table 9-96
LTE Band 41 PC3 Reduced Conducted Powers - 20 MHz Bandwidth - Hotspot Mode Active

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	21.51	**21.65**	20.81	20.87	20.68	0	0
	1	50	21.41	21.45	21.33	21.26	21.22		0
	1	99	21.45	21.48	20.71	20.76	20.63		0
	50	0	21.48	21.49	21.35	21.29	21.24	0-1	0
	50	25	21.38	**21.64**	21.48	21.22	21.41		0
	50	50	21.50	21.41	21.25	21.32	21.10		0
	100	0	21.42	21.44	21.33	21.45	21.24		0
16QAM	1	0	21.64	21.63	20.84	20.99	20.68	0-1	0
	1	50	21.52	21.55	21.35	21.31	21.15		0
	1	99	21.57	21.54	20.70	20.91	20.62		0
	50	0	21.61	21.59	21.40	21.42	21.21	0-2	0
	50	25	21.77	21.74	21.54	21.49	21.31		0
	50	50	21.52	21.46	21.30	21.29	21.05		0
	100	0	21.57	21.55	21.35	21.38	21.12		0
64QAM	1	0	21.87	21.92	21.11	21.05	20.95	0-2	0
	1	50	21.75	21.82	21.57	21.52	21.45		0
	1	99	21.78	21.82	20.76	20.82	20.64		0
	50	0	21.11	21.13	20.69	20.74	20.60	0-3	0.5
	50	25	21.29	21.24	20.70	20.76	20.62		0.5
	50	50	21.07	21.01	20.62	20.62	20.57		0.5
	100	0	21.06	21.02	20.68	20.66	20.61		0.5
256QAM	1	0	19.01	19.03	18.25	18.18	18.09	0-5	2.5
	1	50	18.88	18.94	18.65	18.68	18.59		2.5
	1	99	18.92	18.92	18.13	18.05	17.98		2.5
	50	0	19.11	19.10	18.69	18.74	18.59		2.5
	50	25	19.28	19.21	18.70	18.76	18.62		2.5
	50	50	19.02	19.01	18.56	18.75	18.56		2.5
	100	0	19.03	18.99	18.59	18.75	18.55		2.5

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Table 9-97
LTE Band 41 PC3 Reduced Conducted Powers - 15 MHz Bandwidth - Hotspot Mode Active

LTE Band 41 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	21.55	21.28	21.08	21.11	20.95	0	0
	1	36	21.52	21.52	21.33	21.32	21.16		0
	1	74	21.54	21.10	20.85	20.87	20.65		0
	36	0	21.63	21.62	21.41	21.48	21.26	0-1	0
	36	18	21.73	21.72	21.52	21.53	21.33		0
	36	37	21.61	21.54	21.35	21.37	21.13		0
	75	0	21.62	21.61	21.43	21.43	21.20		0
16QAM	1	0	21.68	21.38	21.16	21.13	21.01	0-1	0
	1	36	21.57	21.62	21.37	21.34	21.20		0
	1	74	21.60	21.18	20.92	20.87	20.74		0
	36	0	21.59	21.58	21.38	21.41	21.19	0-2	0
	36	18	21.69	21.66	21.45	21.49	21.26		0
	36	37	21.55	21.55	21.31	21.31	21.09		0
	75	0	21.64	21.64	21.43	21.46	21.22		0
64QAM	1	0	21.91	21.57	21.41	21.37	21.25	0-2	0
	1	36	21.79	21.83	21.60	21.55	21.48		0
	1	74	21.82	21.41	21.16	21.11	21.01		0
	36	0	21.16	21.15	20.96	21.00	20.73	0-3	0.5
	36	18	21.25	21.24	21.03	21.05	20.83		0.5
	36	37	21.12	21.10	20.87	20.90	20.67		0.5
	75	0	21.18	21.13	20.95	20.96	20.74		0.5
256QAM	1	0	19.04	18.73	18.56	18.52	18.42	0-5	2.5
	1	36	18.98	18.97	18.75	18.73	18.60		2.5
	1	74	18.96	18.57	18.31	18.27	18.15		2.5
	36	0	19.12	19.12	18.96	18.99	18.77		2.5
	36	18	19.23	19.23	19.02	19.03	18.81		2.5
	36	37	19.14	19.02	18.90	18.89	18.64		2.5
	75	0	19.13	19.12	18.93	18.94	18.70		2.5

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Table 9-98
LTE Band 41 PC3 Reduced Conducted Powers - 10 MHz Bandwidth - Hotspot Mode Active

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	21.38	20.89	20.47	20.57	20.46	0	0
	1	25	21.35	21.48	21.28	21.26	20.98		0
	1	49	21.40	20.76	20.35	20.46	20.28		0
	25	0	21.34	21.34	21.15	21.18	20.93	0-1	0
	25	12	21.53	21.53	21.33	21.32	21.12		0
	25	25	21.29	21.26	21.06	21.07	20.85		0
	50	0	21.37	21.33	21.15	21.17	20.94		0
16QAM	1	0	21.44	20.77	20.64	20.61	20.47	0-1	0
	1	25	21.34	21.51	21.26	21.26	21.10		0
	1	49	21.41	20.82	20.48	20.45	20.28		0
	25	0	21.38	21.36	21.18	21.20	20.96	0-2	0
	25	12	21.57	21.54	21.35	21.36	21.13		0
	25	25	21.32	21.32	21.09	21.11	20.91		0
	50	0	21.38	21.37	21.16	21.21	20.97		0
64QAM	1	0	21.70	21.04	20.89	20.77	20.74	0-2	0
	1	25	21.60	21.73	21.29	21.26	21.26		0
	1	49	21.66	20.92	20.73	20.62	20.58		0
	25	0	20.93	20.87	20.68	20.69	20.50	0-3	0.5
	25	12	21.10	21.07	20.82	20.68	20.68		0.5
	25	25	20.85	20.81	20.61	20.64	20.44		0.5
	50	0	20.91	20.88	20.69	20.69	20.48		0.5
256QAM	1	0	18.85	18.24	17.99	18.03	17.90	0-5	2.5
	1	25	18.73	18.89	18.70	18.63	18.52		2.5
	1	49	18.82	18.30	17.95	17.89	17.79		2.5
	25	0	18.86	18.85	18.66	18.72	18.46		2.5
	25	12	19.04	19.04	18.85	18.85	18.64		2.5
	25	25	18.82	18.79	18.58	18.62	18.38		2.5
	50	0	18.93	18.87	18.69	18.71	18.49		2.5

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Table 9-99
LTE Band 41 PC3 Reduced Conducted Powers - 5 MHz Bandwidth - Hotspot Mode Active

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	21.10	20.65	20.90	20.85	21.00	0	0
	1	12	21.10	20.84	21.12	21.03	21.27		0
	1	24	21.09	20.56	20.85	20.80	21.00		0
	12	0	21.22	20.84	21.16	21.03	21.23	0-1	0
	12	6	21.30	20.95	21.24	21.15	21.28		0
	12	13	21.20	20.75	21.15	21.03	21.22		0
	25	0	21.24	20.80	21.19	21.06	21.17		0
16QAM	1	0	21.40	20.96	21.19	21.02	21.24	0-1	0
	1	12	21.40	21.14	21.36	21.27	21.47		0
	1	24	21.36	20.86	21.16	21.06	21.25		0
	12	0	21.23	20.85	21.14	21.00	21.14	0-2	0
	12	6	21.30	20.91	21.22	21.14	21.10		0
	12	13	21.20	20.75	21.10	21.02	21.18		0
	25	0	21.30	20.86	21.23	21.12	21.15		0
64QAM	1	0	21.22	20.72	20.97	20.79	20.89	0-2	0
	1	12	21.20	20.95	21.16	21.06	21.17		0
	1	24	21.19	20.66	20.92	20.84	20.93		0
	12	0	20.75	20.36	21.18	20.52	20.57	0-3	0.5
	12	6	20.85	20.47	21.23	20.67	20.64		0.5
	12	13	20.74	20.30	21.17	20.52	20.57		0.5
	25	0	20.78	20.32	21.20	20.60	20.58		0.5
256QAM	1	0	18.77	18.30	18.50	18.35	18.47	0-5	2.5
	1	12	18.73	18.50	18.66	18.57	18.71		2.5
	1	24	18.72	18.20	18.40	18.34	18.47		2.5
	12	0	18.83	18.47	18.70	18.65	18.62		2.5
	12	6	18.90	18.56	18.77	18.75	18.73		2.5
	12	13	18.82	18.40	18.65	18.66	18.68		2.5
	25	0	18.79	18.35	18.58	18.62	18.54		2.5

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Table 9-100
LTE Band 41 PC2 Reduced Conducted Powers - 20 MHz Bandwidth - Hotspot Mode Active

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	21.41	**21.42**	20.51	20.63	20.55	0	0
	1	50	21.30	21.33	21.06	20.99	20.85		0
	1	99	21.33	21.26	20.50	20.53	20.50		0
	50	0	21.35	21.36	21.14	21.18	20.93	0-1	0
	50	25	21.28	**21.55**	21.28	21.21	21.06		0
	50	50	21.52	21.25	21.04	21.27	20.77		0
	100	0	21.30	21.28	21.07	21.06	20.85		0
16QAM	1	0	21.58	21.64	20.84	20.69	20.61	0-1	0
	1	50	21.51	21.58	21.32	21.25	21.15		0
	1	99	21.57	21.55	20.51	20.48	20.51		0
	50	0	21.34	21.38	21.14	21.11	20.95	0-2	0
	50	25	21.52	21.52	21.27	21.28	21.09		0
	50	50	21.32	21.27	21.01	20.96	20.78		0
	100	0	21.30	21.33	21.09	21.08	20.89		0
64QAM	1	0	21.84	21.89	21.06	20.93	20.90	0-2	0
	1	50	21.77	21.84	21.49	21.47	21.46		0
	1	99	21.78	21.79	20.73	20.60	20.66		0
	50	0	21.40	21.41	21.20	21.15	20.97	0-3	0
	50	25	21.54	21.56	21.31	21.31	21.09		0
	50	50	21.34	21.29	21.04	21.05	20.83		0
	100	0	21.32	21.28	21.06	21.07	20.85		0
256QAM	1	0	21.44	21.43	20.63	20.59	20.51	0-5	0
	1	50	21.31	21.38	21.16	21.12	21.07		0
	1	99	21.36	21.33	20.49	20.50	20.50		0
	50	0	21.38	21.38	21.21	21.36	21.02		0
	50	25	21.54	21.55	21.30	21.39	21.16		0
	50	50	21.32	21.27	21.07	21.10	20.86		0
	100	0	21.28	21.30	21.09	21.11	20.91		0

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Table 9-101
LTE Band 41 PC2 Reduced Conducted Powers - 15 MHz Bandwidth - Hotspot Mode Active

LTE Band 41 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	21.23	20.92	20.76	20.76	20.62	0	0
	1	36	21.17	21.23	21.03	21.01	20.89		0
	1	74	21.19	20.79	20.57	20.55	20.47		0
	36	0	21.35	21.33	21.18	21.16	20.90	0-1	0
	36	18	21.44	21.46	21.27	21.26	21.07		0
	36	37	21.32	21.30	21.10	21.10	20.92		0
	75	0	21.30	21.35	21.16	21.14	21.00		0
16QAM	1	0	21.49	21.23	21.11	21.03	20.92	0-1	0
	1	36	21.41	21.49	21.32	21.27	21.16		0
	1	74	21.48	21.10	20.85	20.75	20.69		0
	36	0	21.30	21.34	21.18	21.08	20.97	0-2	0
	36	18	21.38	21.40	21.22	21.21	21.01		0
	36	37	21.28	21.25	21.10	21.06	20.85		0
	75	0	21.31	21.34	21.14	21.12	20.94		0
64QAM	1	0	21.72	21.46	21.35	21.21	21.19	0-2	0
	1	36	21.68	21.61	21.56	21.49	21.46		0
	1	74	21.72	21.39	21.11	21.01	20.99		0
	36	0	21.31	21.41	21.20	21.24	21.00	0-3	0
	36	18	21.44	21.47	21.30	21.28	21.10		0
	36	37	21.36	21.32	21.13	21.13	20.94		0
	75	0	21.33	21.37	21.16	21.18	20.98		0
256QAM	1	0	21.35	21.08	20.91	20.87	20.80	0-5	0
	1	36	21.27	21.37	21.14	21.14	21.08		0
	1	74	21.32	20.95	20.70	20.65	20.61		0
	36	0	21.31	21.37	21.19	21.23	21.01		0
	36	18	21.44	21.45	21.27	21.28	21.13		0
	36	37	21.32	21.33	21.13	21.15	20.95		0
	75	0	21.34	21.36	21.18	21.20	20.98		0

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Table 9-102
LTE Band 41 PC2 Reduced Conducted Powers - 10 MHz Bandwidth - Hotspot Mode Active

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	21.04	20.53	20.32	20.42	20.07	0	0
	1	25	21.03	21.15	20.93	20.93	20.72		0
	1	49	21.00	20.51	20.26	20.36	20.05		0
	25	0	21.05	21.11	20.86	20.85	20.70	0-1	0
	25	12	21.22	21.23	21.06	21.04	20.84		0
	25	25	20.93	21.02	20.80	20.79	20.60		0
	50	0	21.05	21.08	20.88	20.87	20.66		0
16QAM	1	0	21.31	20.72	20.52	20.49	20.38	0-1	0
	1	25	21.30	21.44	21.20	21.19	20.83		0
	1	49	21.27	20.61	20.36	20.34	20.19		0
	25	0	21.08	21.15	20.91	20.84	20.71	0-2	0
	25	12	21.26	21.28	21.09	21.07	20.87		0
	25	25	21.05	21.07	20.87	20.96	20.65		0
	50	0	21.06	21.09	20.86	20.92	20.66		0
64QAM	1	0	21.54	21.00	20.80	20.72	20.67	0-2	0
	1	25	21.51	21.51	21.25	21.32	21.01		0
	1	49	21.50	20.88	20.62	20.56	20.53		0
	25	0	21.09	21.12	20.93	20.99	20.73	0-3	0
	25	12	21.29	21.31	21.12	21.10	20.91		0
	25	25	21.06	21.08	20.88	20.89	20.67		0
	50	0	21.04	21.10	20.91	20.91	20.70		0
256QAM	1	0	21.16	20.57	20.56	20.52	20.23	0-5	0
	1	25	21.13	21.29	21.10	21.01	20.91		0
	1	49	21.11	20.51	20.49	20.38	20.10		0
	25	0	21.09	21.14	20.92	20.97	20.71		0
	25	12	21.25	21.30	21.14	21.09	20.89		0
	25	25	21.03	21.09	20.87	20.84	20.64		0
	50	0	21.08	21.14	20.97	20.95	20.71		0

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Table 9-103
LTE Band 41 PC2 Reduced Conducted Powers - 5 MHz Bandwidth - Hotspot Mode Active

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	21.12	20.97	20.84	20.76	20.56	0	0
	1	12	21.14	21.18	21.02	21.02	20.82		0
	1	24	21.15	20.89	20.78	20.76	20.58		0
	12	0	21.23	21.29	21.07	21.01	20.84	0-1	0
	12	6	21.32	21.36	21.14	21.14	20.91		0
	12	13	21.22	21.20	21.04	21.05	20.86		0
	25	0	21.26	21.24	21.13	21.08	20.84		0
16QAM	1	0	21.31	21.35	21.09	20.97	20.88	0-1	0
	1	12	21.43	21.52	21.27	21.23	21.11		0
	1	24	21.36	21.24	21.05	21.01	20.89		0
	12	0	21.21	21.27	21.06	21.02	20.80	0-2	0
	12	6	21.33	21.34	21.14	21.13	20.86		0
	12	13	21.23	21.28	21.03	21.00	20.84		0
	25	0	21.31	21.29	21.13	21.12	20.87		0
64QAM	1	0	21.61	21.58	21.33	21.21	21.14	0-2	0
	1	12	21.58	21.76	21.51	21.42	21.39		0
	1	24	21.63	21.48	21.30	21.23	21.17		0
	12	0	21.24	21.33	21.11	21.11	20.86	0-3	0
	12	6	21.39	21.39	21.18	21.18	20.91		0
	12	13	21.30	21.25	21.09	21.05	20.88		0
	25	0	21.35	21.30	21.16	21.15	20.89		0
256QAM	1	0	21.28	21.19	20.94	20.81	20.73	0-5	0
	1	12	21.32	21.38	21.12	21.06	20.97		0
	1	24	21.23	21.09	20.87	20.81	20.73		0
	12	0	21.38	21.43	21.22	21.14	20.96		0
	12	6	21.46	21.54	21.30	21.27	21.09		0
	12	13	21.37	21.33	21.19	21.19	20.98		0
	25	0	21.34	21.31	21.15	21.15	20.88		0

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Table 9-104
LTE Band 41 PC3 Reduced Conducted Powers - 20 MHz Bandwidth - Grip Sensor and/or Earjack Mode Active

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	23.25	**23.45**	22.53	22.47	22.84	0	0
	1	50	23.18	23.35	23.00	22.99	22.80		0
	1	99	23.17	23.26	22.24	22.26	22.11		0
	50	0	22.84	22.94	22.77	22.76	22.63	0-1	0
	50	25	23.02	**23.09**	22.90	22.89	22.77		0
	50	50	22.83	22.86	22.63	22.63	22.51		0
	100	0	22.87	22.89	22.70	22.69	22.56		0
16QAM	1	0	22.97	22.95	22.16	22.08	22.06	0-1	0
	1	50	22.84	22.91	22.71	22.63	22.58		0
	1	99	22.89	22.90	22.07	22.04	22.01		0
	50	0	21.89	21.94	21.75	21.72	21.61	0-2	1
	50	25	22.04	22.07	21.88	21.88	21.74		1
	50	50	21.83	21.82	21.64	21.58	21.46		1
	100	0	21.87	21.87	21.70	21.67	21.55		1
64QAM	1	0	22.18	22.23	21.39	21.30	21.25	0-2	1
	1	50	22.06	22.16	21.86	21.78	21.82		1
	1	99	22.08	22.14	21.07	20.99	21.01		1
	50	0	20.90	20.92	20.77	20.71	20.63	0-3	2
	50	25	21.07	21.08	20.85	20.85	20.76		2
	50	50	20.86	20.83	20.61	20.59	20.48		2
	100	0	20.83	20.84	20.64	20.62	20.51		2
256QAM	1	0	18.81	18.88	18.03	18.04	17.95	0-5	4
	1	50	18.72	18.79	18.56	18.49	18.49		4
	1	99	18.73	18.80	18.00	18.01	17.84		4
	50	0	18.92	18.92	18.77	18.72	18.60		4
	50	25	19.05	19.06	18.89	18.83	18.72		4
	50	50	18.84	18.80	18.60	18.56	18.46		4
	100	0	18.79	18.83	18.64	18.60	18.48		4

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Table 9-105
LTE Band 41 PC3 Reduced Conducted Powers - 15 MHz Bandwidth - Grip Sensor and/or Earjack Mode Active

LTE Band 41 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	23.88	23.48	23.34	22.67	22.50	0	0
	1	36	23.79	23.61	23.47	22.94	22.76		0
	1	74	23.83	23.28	23.07	22.50	22.27		0
	36	0	23.46	22.98	23.18	22.73	22.53	0-1	0
	36	18	23.55	23.06	23.29	22.80	22.60		0
	36	37	23.41	22.90	23.13	22.64	22.44		0
	75	0	23.43	22.93	23.09	22.69	22.47		0
16QAM	1	0	23.47	22.79	22.95	22.51	22.45	0-1	0
	1	36	23.35	23.08	23.14	22.77	22.67		0
	1	74	23.39	22.66	22.68	22.29	22.20		0
	36	0	22.38	21.84	22.16	21.64	21.44	0-2	1
	36	18	22.46	21.93	22.23	21.71	21.52		1
	36	37	22.33	21.79	22.08	21.54	21.35		1
	75	0	22.43	21.85	22.21	21.63	21.45		1
64QAM	1	0	22.17	22.02	21.66	21.19	21.71	0-2	1
	1	36	22.05	22.31	21.87	21.45	21.94		1
	1	74	22.08	21.90	21.47	20.97	21.50		1
	36	0	21.42	20.91	21.22	20.70	20.52	0-3	2
	36	18	21.49	20.99	21.29	20.75	20.59		2
	36	37	21.35	20.84	21.14	20.60	20.42		2
	75	0	21.44	20.88	21.20	20.65	20.48		2
256QAM	1	0	19.31	18.62	18.78	18.36	18.33	0-5	4
	1	36	19.15	18.90	18.97	18.57	18.57		4
	1	74	19.15	18.66	18.59	18.11	18.11		4
	36	0	19.36	18.87	19.21	18.69	18.46		4
	36	18	19.48	18.97	19.27	18.76	18.59		4
	36	37	19.38	18.81	19.10	18.59	18.43		4
	75	0	19.38	18.85	19.20	18.64	18.46		4

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Table 9-106
LTE Band 41 PC3 Reduced Conducted Powers - 10 MHz Bandwidth - Grip Sensor and/or Earjack Mode Active

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	22.94	23.10	22.39	22.25	22.74	0	0
	1	25	22.95	23.17	22.99	22.97	22.65		0
	1	49	22.95	23.16	22.23	22.14	22.65		0
	25	0	22.58	22.80	22.60	22.54	22.33	0-1	0
	25	12	22.77	22.95	22.79	22.71	22.50		0
	25	25	22.52	22.72	22.52	22.47	22.27		0
	50	0	22.58	22.79	22.59	22.52	22.33		0
16QAM	1	0	22.83	22.42	22.23	22.15	22.04	0-1	0
	1	25	22.82	23.13	22.92	22.80	22.76		0
	1	49	22.79	22.27	22.07	21.98	21.97		0
	25	0	21.60	21.81	21.62	21.54	21.34	0-2	1
	25	12	21.81	21.97	21.80	21.71	21.53		1
	25	25	21.55	21.75	21.53	21.49	21.29		1
	50	0	21.59	21.78	21.58	21.50	21.30		1
64QAM	1	0	22.09	21.69	21.51	21.37	21.35	0-2	1
	1	25	22.01	22.17	22.07	21.96	21.85		1
	1	49	22.03	21.38	21.13	21.18	21.20		1
	25	0	20.63	20.65	20.63	20.59	20.38	0-3	2
	25	12	20.81	20.82	20.82	20.75	20.54		2
	25	25	20.58	20.57	20.56	20.48	20.30		2
	50	0	20.60	20.62	20.61	20.52	20.33		2
256QAM	1	0	18.63	18.31	18.28	18.18	17.96	0-5	4
	1	25	18.61	18.79	18.75	18.63	18.55		4
	1	49	18.59	18.17	18.11	17.97	17.86		4
	25	0	18.57	18.61	18.58	18.70	18.33		4
	25	12	18.75	18.80	18.77	18.71	18.50		4
	25	25	18.52	18.55	18.52	18.48	18.26		4
	50	0	18.60	18.65	18.62	18.57	18.35		4

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Table 9-107
LTE Band 41 PC3 Reduced Conducted Powers - 5 MHz Bandwidth - Grip Sensor and/or Earjack Mode Active

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	23.05	23.09	22.86	22.78	22.59	0	0
	1	12	23.03	23.31	23.02	23.02	22.83		0
	1	24	23.08	23.00	22.79	22.78	22.58		0
	12	0	22.78	22.93	22.72	22.68	22.46	0-1	0
	12	6	22.83	23.00	22.80	22.79	22.53		0
	12	13	22.76	22.82	22.67	22.66	22.47		0
	25	0	22.78	22.85	22.71	22.71	22.45		0
16QAM	1	0	22.90	22.92	22.69	22.60	22.54	0-1	0
	1	12	22.91	23.09	22.89	22.84	22.77		0
	1	24	22.88	22.79	22.67	22.63	22.51		0
	12	0	21.74	21.88	21.69	21.70	21.41	0-2	1
	12	6	21.84	21.96	21.75	21.76	21.49		1
	12	13	21.75	21.78	21.62	21.65	21.45		1
	25	0	21.82	21.90	21.75	21.74	21.50		1
64QAM	1	0	22.15	22.15	21.98	21.85	21.83	0-2	1
	1	12	22.10	22.33	22.14	22.05	22.05		1
	1	24	22.14	22.04	21.90	21.80	21.81		1
	12	0	20.81	20.92	20.73	20.69	20.48	0-3	2
	12	6	20.89	21.03	20.81	20.80	20.55		2
	12	13	20.79	20.84	20.70	20.70	20.49		2
	25	0	20.83	20.92	20.78	20.77	20.51		2
256QAM	1	0	18.70	18.77	18.53	18.43	18.40	0-5	4
	1	12	18.71	18.96	18.73	18.68	18.62		4
	1	24	18.70	18.66	18.44	18.42	18.36		4
	12	0	18.82	18.99	18.80	18.79	18.57		4
	12	6	18.92	19.08	18.87	18.88	18.64		4
	12	13	18.80	18.90	18.75	18.75	18.57		4
	25	0	18.81	18.85	18.74	18.74	18.47		4

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Table 9-108
LTE Band 41 PC2 Reduced Conducted Powers - 20 MHz Bandwidth - Grip Sensor and/or Earjack Mode Active

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	**23.36**	23.27	23.13	23.08	22.88	0	0
	1	50	23.30	23.17	23.04	22.97	22.89		0
	1	99	23.30	23.11	22.89	22.78	22.99		0
	50	0	23.34	23.27	23.28	23.31	23.13	0-1	0
	50	25	**23.48**	23.38	23.31	23.23	23.17		0
	50	50	23.25	23.15	23.23	23.15	23.16		0
	100	0	23.27	23.19	23.24	23.22	23.14		0
16QAM	1	0	23.58	23.51	23.36	23.39	23.20	0-1	0
	1	50	23.47	23.44	23.27	23.23	23.22		0
	1	99	23.48	23.39	23.12	23.02	23.35		0
	50	0	23.25	23.26	23.25	23.31	23.14	0-2	0
	50	25	23.43	23.37	23.26	23.28	23.17		0
	50	50	23.17	23.13	23.21	23.00	23.22		0
	100	0	23.21	23.20	23.26	23.12	23.19		0
64QAM	1	0	23.82	23.59	23.19	23.18	23.01	0-2	0
	1	50	23.64	23.51	23.11	23.04	23.05		0
	1	99	23.73	23.47	22.95	22.79	23.16		0
	50	0	23.30	23.29	23.30	23.39	23.17	0-3	0
	50	25	23.44	23.42	23.31	23.31	23.21		0
	50	50	23.21	23.17	23.28	23.17	23.24		0
	100	0	23.20	23.17	23.24	23.23	23.15		0
256QAM	1	0	22.11	21.94	21.43	22.19	22.04	0-5	1
	1	50	21.99	21.87	21.46	22.08	22.10		1
	1	99	22.00	21.79	21.36	21.85	22.15		1
	50	0	21.98	21.81	21.52	22.36	22.19		1
	50	25	22.16	21.93	21.55	22.33	22.21		1
	50	50	21.92	21.67	21.43	22.21	22.26		1
	100	0	21.93	21.68	21.43	22.25	22.14		1

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Table 9-109
LTE Band 41 PC2 Reduced Conducted Powers - 15 MHz Bandwidth - Grip Sensor and/or Earjack Mode Active

LTE Band 41 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	23.23	22.92	22.76	23.06	22.95	0	0
	1	36	23.18	23.19	23.01	23.10	23.02		0
	1	74	23.19	22.75	22.54	22.94	23.09		0
	36	0	23.33	23.36	23.14	23.45	23.21	0-1	0
	36	18	23.46	23.44	23.28	23.39	23.25		0
	36	37	23.33	23.27	23.07	23.26	23.21		0
	75	0	23.31	23.32	23.13	23.30	23.19		0
16QAM	1	0	23.51	23.21	23.00	23.52	23.37	0-1	0
	1	36	23.44	23.47	23.24	23.37	23.31		0
	1	74	23.46	23.05	22.78	23.20	23.43		0
	36	0	23.29	23.28	23.07	23.27	22.92	0-2	0
	36	18	23.38	23.38	23.16	23.17	23.01		0
	36	37	23.24	23.21	23.01	23.04	22.83		0
	75	0	23.31	23.31	23.11	23.15	22.93		0
64QAM	1	0	23.68	23.50	23.27	23.23	23.18	0-2	0
	1	36	23.64	23.58	23.42	23.48	23.41		0
	1	74	23.67	23.36	23.05	23.00	22.96		0
	36	0	23.36	23.38	23.16	23.15	22.95	0-3	0
	36	18	23.46	23.43	23.26	23.23	23.04		0
	36	37	23.33	23.29	23.07	23.08	22.87		0
	75	0	23.37	23.35	23.13	23.12	22.93		0
256QAM	1	0	22.09	21.58	21.49	22.14	22.05	0-5	1
	1	36	22.02	21.86	21.60	22.39	22.29		1
	1	74	22.03	21.63	21.46	21.88	21.82		1
	36	0	22.05	21.83	21.65	22.43	22.26		1
	36	18	22.15	21.94	21.73	22.53	22.35		1
	36	37	22.01	21.81	21.58	22.34	22.17		1
	75	0	22.04	21.80	21.62	22.42	22.22		1

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Table 9-110
LTE Band 41 PC2 Reduced Conducted Powers - 10 MHz Bandwidth - Grip Sensor and/or Earjack Mode Active

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	23.07	23.10	22.97	22.96	22.83	0	0
	1	25	23.06	23.17	22.95	22.95	22.79		0
	1	49	23.04	23.09	22.86	22.82	22.70		0
	25	0	23.08	23.38	23.18	23.33	23.01	0-1	0
	25	12	23.24	23.36	23.13	23.12	23.06		0
	25	25	23.01	23.34	23.07	23.08	22.98		0
	50	0	23.06	23.36	23.27	23.13	23.02		0
16QAM	1	0	23.36	23.49	23.26	23.24	23.14	0-1	0
	1	25	23.33	23.47	23.15	23.16	23.11		0
	1	49	23.34	23.42	23.21	23.12	23.05		0
	25	0	23.10	23.37	23.19	23.20	23.08	0-2	0
	25	12	23.29	23.42	23.16	23.21	23.07		0
	25	25	23.07	23.39	23.17	23.15	23.05		0
	50	0	23.08	23.38	23.14	23.17	23.03		0
64QAM	1	0	23.58	23.31	23.10	23.06	22.97	0-2	0
	1	25	23.53	23.30	23.05	22.99	22.93		0
	1	49	23.52	23.22	22.97	22.94	22.88		0
	25	0	23.08	23.25	23.14	23.09	23.05	0-3	0
	25	12	23.26	23.34	23.12	23.11	23.01		0
	25	25	23.06	23.14	23.08	23.03	22.96		0
	50	0	23.08	23.39	23.19	23.19	22.63		0
256QAM	1	0	21.87	21.54	21.31	22.07	21.46	0-5	1
	1	25	21.84	21.50	21.39	21.94	22.15		1
	1	49	21.80	21.54	21.34	21.92	21.31		1
	25	0	21.75	21.53	21.35	22.19	21.98		1
	25	12	21.94	21.70	21.39	22.17	22.16		1
	25	25	21.69	21.60	21.31	22.14	21.91		1
	50	0	21.79	21.51	21.40	22.20	21.97		1

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Table 9-111
LTE Band 41 PC2 Reduced Conducted Powers - 5 MHz Bandwidth - Grip Sensor and/or Earjack Mode Active

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	23.11	22.99	22.81	22.95	22.85	0	0
	1	12	23.12	23.20	22.96	22.92	22.87		0
	1	24	23.08	22.89	22.75	22.95	22.88		0
	12	0	23.23	23.25	23.07	23.02	22.93	0-1	0
	12	6	23.30	23.34	23.10	23.12	22.94		0
	12	13	23.20	23.16	22.98	23.08	22.98		0
	25	0	23.24	23.20	23.05	23.09	22.96		0
16QAM	1	0	23.47	23.29	23.12	23.21	23.20	0-1	0
	1	12	23.39	23.47	23.27	23.20	23.09		0
	1	24	23.44	23.16	23.03	23.23	22.83		0
	12	0	23.23	23.23	23.06	23.11	22.77	0-2	0
	12	6	23.29	23.31	23.11	23.08	22.84		0
	12	13	23.18	23.15	23.03	23.07	22.80		0
	25	0	23.29	23.25	23.14	23.13	22.83		0
64QAM	1	0	23.69	23.32	23.32	22.94	23.12	0-2	0
	1	12	23.64	23.46	23.34	23.01	23.35		0
	1	24	23.69	23.17	23.29	23.02	22.82		0
	12	0	23.31	23.22	23.09	23.05	22.90	0-3	0
	12	6	23.38	23.31	23.16	23.10	22.83		0
	12	13	23.25	23.14	23.05	23.04	22.85		0
	25	0	23.34	23.27	23.13	23.03	22.86		0
256QAM	1	0	22.05	21.61	21.41	21.99	22.02	0-5	1
	1	12	21.94	21.79	21.56	22.00	22.24		1
	1	24	21.99	21.50	21.39	22.03	21.96		1
	12	0	22.09	21.82	21.64	22.13	22.21		1
	12	6	22.20	21.92	21.74	22.23	22.29		1
	12	13	22.07	21.75	21.59	22.19	22.19		1
	25	0	22.03	21.73	21.60	22.21	22.13		1

9.4.13 LTE Uplink Carrier Aggregation Conducted Powers

Table 9-112
LTE Uplink Carrier Aggregation Max Conducted Powers

	PCC									SCC									Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC UL Channel	PCC UL Frequency [MHz]	PCC DL Channel	PCC DL Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC UL Channel	SCC UL Frequency [MHz]	SCC DL Channel	SCC DL Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	LTE Tx.Power with UL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_5B	LTE B5	10	20525	836.5	2525	881.5	QPSK	1	49	LTE B5	5	20597	843.7	2597	888.7	QPSK	1	0	24.65	24.83

	PCC									SCC									Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC UL Channel	PCC UL Frequency [MHz]	PCC DL Channel	PCC DL Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC UL Channel	SCC UL Frequency [MHz]	SCC DL Channel	SCC DL Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	LTE Tx.Power with UL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_66C	LTE B66	20	132322	1745.0	66786	2145.0	QPSK	1	0	LTE B66	20	132124	1725.2	66588	2125.2	QPSK	1	99	24.20	23.58
CA_66B	LTE B66	10	132322	1745.0	66786	2145.0	QPSK	1	0	LTE B66	10	132223	1735.1	66687	2135.1	QPSK	1	49	24.02	23.08

	PCC							SCC							Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL/DL) Channel	PCC (UL/DL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL/DL) Channel	SCC (UL/DL) Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	LTE Tx.Power with UL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_41C (1)	LTE B41	20	40185	2549.5	QPSK	1	0	LTE B41	20	39987	2529.7	QPSK	1	99	25.18	24.00
CA_41C (1)	LTE B41 PC2	20	40185	2549.5	QPSK	1	0	LTE B41 PC2	20	39987	2529.7	QPSK	1	99	27.90	26.62

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Table 9-113
LTE Uplink Carrier Aggregation Reduced Conducted Powers - Hotspot Mode Active

	PCC									SCC									Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC UL Channel	PCC UL Frequency [MHz]	PCC DL Channel	PCC DL Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC UL Channel	SCC UL Frequency [MHz]	SCC DL Channel	SCC DL Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	LTE Tx.Power with UL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_66C	LTE B66	20	132572	1770.0	67036	2170.0	QPSK	1	0	LTE B66	20	132374	1750.2	66838	2150.2	QPSK	1	99	19.82	19.64
CA_66B	LTE B66	10	132622	1775.0	67086	2175	QPSK	1	0	LTE B66	10	132523	1765.1	66987	2165.1	QPSK	1	49	20.22	18.53

	PCC							SCC							Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL/DL) Channel	PCC (UL/DL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL/DL) Channel	SCC (UL/DL) Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	LTE Tx.Power with UL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_41C (1)	LTE B41	20	41055	2636.5	QPSK	50	50	LTE B41	20	41253	2656.3	QPSK	50	0	22.50	21.32
CA_41C (1)	LTE B41 PC2	20	41055	2636.5	QPSK	50	50	LTE B41 PC2	20	41253	2656.3	QPSK	50	0	22.27	21.27

Table 9-114
LTE Uplink Carrier Aggregation Reduced Conducted Powers - Grip Sensor and/or Earjack Mode Active

	PCC									SCC									Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC UL Channel	PCC UL Frequency [MHz]	PCC DL Channel	PCC DL Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC UL Channel	SCC UL Frequency [MHz]	SCC DL Channel	SCC DL Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	LTE Tx.Power with UL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_66C	LTE B66	20	132072	1720.0	66536	2121.0	QPSK	50	50	LTE B66	20	132270	1739.8	66734	2139.8	QPSK	50	0	20.06	19.34
CA_66B	LTE B66	10	132022	1715.0	66486	2115	QPSK	25	25	LTE B66	10	132121	1724.9	66585	2124.9	QPSK	25	0	19.31	19.21

	PCC							SCC							Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL/DL) Channel	PCC (UL/DL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL/DL) Channel	SCC (UL/DL) Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	LTE Tx.Power with UL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_41C (1)	LTE B41	20	41490	2680.0	QPSK	1	0	LTE B41	20	41292	2660.2	QPSK	1	99	23.47	22.84
CA_41C (1)	LTE B41 PC2	20	41490	2680	QPSK	1	0	LTE B41 PC2	20	41292	2660.2	QPSK	1	99	23.35	22.88

Notes:

1. This device supports uplink carrier aggregation for LTE CA_5B, LTE CA_66B, LTE CA_66C, and LTE CA_41C with a maximum of two component carriers. For intraband contiguous carrier aggregation scenarios, 3GPP 36.101 Table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when non-contiguous RB allocation is implemented. The conducted powers and MPR settings in this device are permanently implemented per the above 3GPP requirements.
2. Per FCC Guidance, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.

Figure 9-4
Power Measurement Setup

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9.5 WLAN Conducted Powers

Table 9-115
2.4 GHz WLAN Maximum Average RF Power – Ant 1

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ax
		Average	Average	Average	Average
2412	1	19.47	17.91	17.81	15.82
2437	6	**19.65**	17.51	17.36	16.97
2462	11	19.63	16.71	16.74	14.70

Table 9-116
2.4 GHz WLAN Maximum Average RF Power – Ant 2

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ac
		Average	Average	Average	Average
2412	1	18.85	17.82	17.76	15.67
2437	6	**18.89**	17.56	17.65	16.91
2462	11	18.79	17.55	17.46	14.68

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Table 9-117
5 GHz WLAN Maximum Average RF Power – Ant 1

5GHz (20MHz) Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11a	802.11n	802.11ac	802.11ax
		Average	Average	Average	Average
5180	36	15.21	15.47	15.45	15.75
5200	40	17.59	17.84	17.83	15.79
5220	44	17.56	17.79	17.80	15.69
5240	48	17.61	17.76	17.91	15.77
5260	52	17.67	17.56	17.53	15.61
5280	56	17.81	17.61	17.63	15.75
5300	60	**17.97**	17.74	17.67	15.87
5320	64	16.20	16.39	16.37	15.83
5500	100	17.57	17.73	17.93	15.81
5600	120	17.65	17.94	17.89	15.96
5620	124	**17.89**	17.88	17.86	15.98
5720	144	17.82	17.98	17.98	15.99
5745	149	**17.93**	17.84	17.89	15.89
5785	157	17.52	17.97	17.97	15.97
5825	165	17.84	17.84	17.81	15.78

Table 9-118
5 GHz WLAN Maximum Average RF Power – Ant 2

5GHz (20MHz) Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11a	802.11n	802.11ac	802.11ax
		Average	Average	Average	Average
5180	36	15.24	15.24	15.30	15.56
5200	40	17.46	17.57	17.56	15.78
5220	44	17.63	17.70	17.68	15.95
5240	48	17.70	17.76	17.70	15.51
5260	52	17.64	17.68	17.77	15.62
5280	56	**17.91**	17.64	17.64	15.60
5300	60	17.90	17.60	17.61	15.90
5320	64	16.10	16.41	16.58	15.81
5500	100	17.56	17.61	17.68	15.98
5600	120	17.78	17.81	17.81	15.96
5620	124	17.67	17.78	17.72	15.99
5720	144	**17.79**	17.75	17.88	15.60
5745	149	**17.77**	17.76	17.71	15.58
5785	157	17.42	17.84	17.75	15.84
5825	165	17.40	17.35	17.89	15.71

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Table 9-119
5 GHz WLAN Maximum Average RF Power – MIMO

5GHz (20MHz) 802.11n Conducted Power [dBm]				
Freq [MHz]	**Channel**	**ANT1**	**ANT2**	**MIMO**
5180	36	12.06	11.84	14.96
5200	40	17.84	17.57	20.72
5220	44	17.79	17.70	20.76
5240	48	17.76	17.76	20.77
5260	52	17.56	17.68	20.63
5280	56	17.61	17.64	20.64
5300	60	**17.74**	**17.60**	**20.68**
5320	64	13.11	12.58	15.86
5500	100	17.73	17.61	20.68
5600	120	**17.94**	**17.81**	**20.89**
5620	124	17.88	17.78	20.84
5720	144	17.98	17.75	20.88
5745	149	17.84	17.76	20.81
5785	157	**17.97**	**17.84**	**20.92**
5825	165	17.84	17.35	20.61

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Table 9-120
Maximum Output Powers During Conditions with 2.4 GHz and 5 GHz WLAN

2.4GHz 802.11n Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
2412	1	**16.70**	**16.60**	**19.66**
2437	6	16.66	16.48	19.58
2462	11	16.65	16.50	19.59

5GHz (40MHz) 802.11n Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
5190	38	9.95	9.59	12.78
5230	46	13.51	13.74	16.64
5270	54	**13.90**	**13.61**	**16.77**
5310	62	9.94	9.83	12.90
5510	102	13.66	13.69	16.69
5590	118	13.58	13.76	16.68
5630	126	13.72	13.81	16.78
5710	142	13.80	13.70	16.76
5755	151	13.78	13.62	16.71
5795	159	13.74	13.55	16.66
5GHz (80MHz) 802.11ac Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
5210	42	9.85	9.85	12.86
5290	58	9.96	9.81	12.90
5530	106	9.90	9.53	12.73
5610	122	**13.92**	**13.99**	**16.97**
5690	138	13.89	13.79	16.85
5775	155	**13.97**	**13.44**	**16.72**

Table 9-121
2.4 GHz WLAN Reduced Average RF Power – Ant 1

2.4GHz Conducted Power [dBm]				
Freq [MHz]	Channel	IEEE Transmission Mode		
		802.11b	802.11g	802.11n
		Average	Average	Average
2412	1	**16.96**	16.85	16.70
2437	6	16.81	16.95	16.66
2462	11	16.69	16.97	16.65

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Table 9-122
2.4 GHz WLAN Reduced Average RF Power – Ant 2

2.4GHz Conducted Power [dBm]				
Freq [MHz]	Channel	IEEE Transmission Mode		
		802.11b	802.11g	802.11n
		Average	Average	Average
2412	1	16.50	16.75	16.60
2437	6	16.57	16.53	16.48
2462	11	**16.92**	16.65	16.50

Table 9-123
5 GHz WLAN Reduced Average RF Power – Ant 1

5GHz (40MHz) Conducted Power [dBm]				
Freq [MHz]	Channel	IEEE Transmission Mode		
		802.11n	802.11ac	802.11ax
		Average	Average	Average
5190	38	12.61	12.64	13.81
5230	46	13.51	13.63	13.91
5270	54	**13.90**	13.57	13.58
5310	62	12.92	12.91	13.61
5510	102	13.66	13.55	13.86
5590	118	13.58	13.62	13.88
5630	126	13.72	13.76	13.96
5710	142	13.80	13.81	13.60
5755	151	13.78	13.85	13.67
5795	159	13.74	13.68	13.51

5GHz (80MHz) Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11ac
		Average
5210	42	12.90
5290	58	12.71
5530	106	12.83
5610	122	**13.92**
5690	138	13.89
5775	155	**13.97**

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Table 9-124
5 GHz WLAN Reduced Average RF Power – Ant 2

5GHz (40MHz) Conducted Power [dBm]				
Freq [MHz]	Channel	IEEE Transmission Mode		
		802.11n	802.11ac	802.11ax
		Average	Average	Average
5190	38	12.72	12.54	13.54
5230	46	13.74	13.96	13.56
5270	54	**13.61**	13.70	13.43
5310	62	12.70	12.83	13.51
5510	102	13.69	13.93	13.81
5590	118	13.76	13.48	13.76
5630	126	13.81	13.59	13.88
5710	142	13.70	13.40	13.66
5755	151	13.62	13.61	13.90
5795	159	13.55	13.26	13.45

5GHz (80MHz) Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11ac
		Average
5210	42	12.64
5290	58	12.62
5530	106	12.98
5610	122	**13.99**
5690	138	13.79
5775	155	**13.44**

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.

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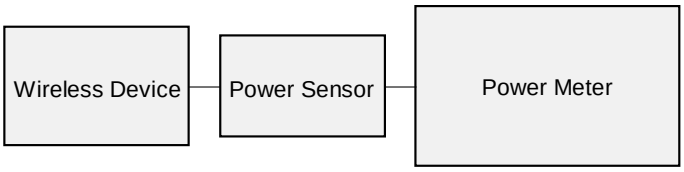

Figure 9-5
Power Measurement Setup

9.6 Bluetooth Conducted Powers

Table 9-125
Bluetooth Average RF Power

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
			[dBm]	[mW]
2402	1.0	0	17.69	58.700
2441	1.0	39	**18.37**	68.701
2480	1.0	78	17.48	55.928
2402	2.0	0	11.17	13.081
2441	2.0	39	11.98	15.762
2480	2.0	78	10.10	10.231
2402	3.0	0	11.30	13.493
2441	3.0	39	12.15	16.417
2480	3.0	78	10.20	10.466

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

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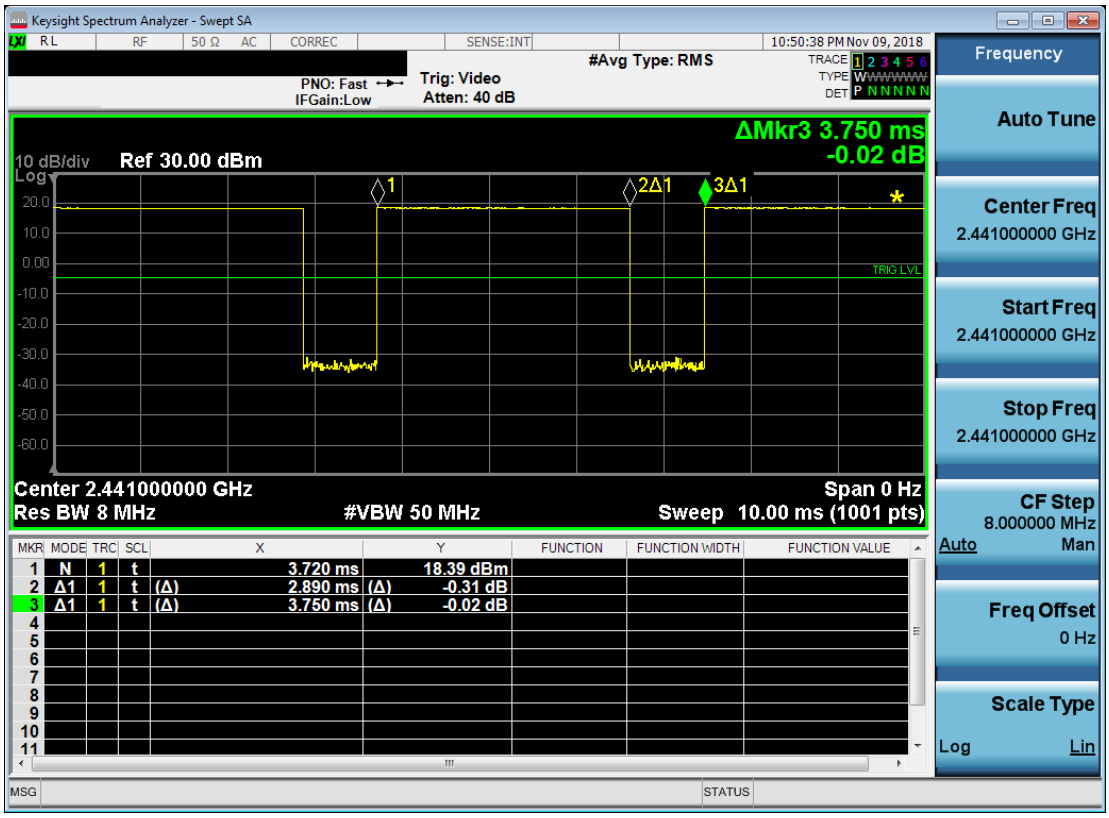

Figure 9-6
Bluetooth Transmission Plot

Equation 9-1
Bluetooth Duty Cycle Calculation

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

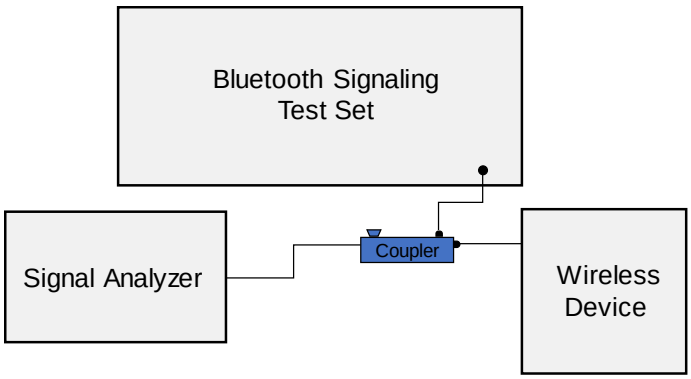

Figure 9-7
Power Measurement Setup

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10 SYSTEM VERIFICATION

10.1 Tissue Verification

Table 10-1
Measured Head Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (˚C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
11/15/2018	750H	20.6	740	0.890	42.675	0.893	41.994	-0.34%	1.62%
			755	0.895	42.614	0.894	41.916	0.11%	1.67%
			770	0.901	42.564	0.895	41.838	0.67%	1.74%
			785	0.906	42.521	0.896	41.760	1.12%	1.82%
			800	0.911	42.484	0.897	41.682	1.56%	1.92%
12/10/2018	750H	20.5	680	0.862	40.740	0.888	42.305	-2.93%	-3.70%
			695	0.866	40.672	0.889	42.227	-2.59%	-3.68%
			700	0.868	40.653	0.889	42.201	-2.36%	-3.67%
			710	0.871	40.616	0.890	42.149	-2.13%	-3.64%
			740	0.881	40.514	0.893	41.994	-1.34%	-3.52%
			755	0.886	40.470	0.894	41.916	-0.89%	-3.45%
11/13/2018	835H	19.7	820	0.879	43.361	0.899	41.578	-2.22%	4.29%
			835	0.895	43.164	0.900	41.500	-0.56%	4.01%
			850	0.911	42.979	0.916	41.500	-0.55%	3.56%
11/19/2018	835H	22.4	820	0.892	42.555	0.899	41.578	-0.78%	2.35%
			835	0.907	42.361	0.900	41.500	0.78%	2.07%
			850	0.922	42.174	0.916	41.500	0.66%	1.62%
11/23/2018	835H	19.5	820	0.896	41.539	0.899	41.578	-0.33%	-0.09%
			835	0.911	41.309	0.900	41.500	1.22%	-0.46%
			850	0.927	41.092	0.916	41.500	1.20%	-0.98%
11/26/2018	1750H	20.3	1710	1.323	39.585	1.348	40.142	-1.85%	-1.39%
			1750	1.347	39.501	1.371	40.079	-1.75%	-1.44%
			1790	1.371	39.422	1.394	40.016	-1.65%	-1.48%
12/10/2018	1750H	20.5	1710	1.317	38.473	1.348	40.142	-2.30%	-4.16%
			1750	1.340	38.399	1.371	40.079	-2.26%	-4.19%
			1790	1.364	38.359	1.394	40.016	-2.15%	-4.14%
11/12/2018	1900H	22.2	1850	1.400	41.411	1.400	40.000	0.00%	3.53%
			1880	1.431	41.278	1.400	40.000	2.21%	3.20%
			1910	1.463	41.148	1.400	40.000	4.50%	2.87%
12/3/2018	1900H	20.5	1850	1.409	39.007	1.400	40.000	0.64%	-2.48%
			1880	1.430	38.983	1.400	40.000	2.14%	-2.54%
			1910	1.448	38.944	1.400	40.000	3.43%	-2.64%
11/16/2018	2450H	23.1	2300	1.704	39.167	1.670	39.500	2.04%	-0.84%
			2310	1.715	39.136	1.679	39.480	2.14%	-0.87%
11/18/2018	2450H	23.4	2400	1.792	38.650	1.756	39.289	2.05%	-1.63%
			2450	1.846	38.444	1.800	39.200	2.56%	-1.93%
			2500	1.903	38.267	1.855	39.136	2.59%	-2.22%
11/28/2018	2450H	24.2	2400	1.719	38.988	1.756	39.289	-2.11%	-0.77%
			2450	1.772	38.839	1.800	39.200	-1.56%	-0.92%
			2500	1.825	38.669	1.855	39.136	-1.62%	-1.19%
			2550	1.880	38.527	1.909	39.073	-1.52%	-1.40%
			2600	1.937	38.350	1.964	39.009	-1.37%	-1.69%
			2650	1.993	38.160	2.018	38.945	-1.24%	-2.02%
			2700	2.051	37.969	2.073	38.882	-1.06%	-2.35%
1/7/2019	2450H	20.8	2500	1.869	40.009	1.855	39.136	0.75%	2.23%
			2550	1.907	39.929	1.909	39.073	-0.10%	2.19%
			2600	1.945	39.842	1.964	39.009	-0.97%	2.14%
			2650	1.986	39.745	2.018	38.945	-1.59%	2.05%
			2700	2.027	39.695	2.073	38.882	-2.22%	2.09%
11/27/2018	3500H-3700H	21.6	3500	2.924	37.356	2.913	37.929	0.38%	-1.51%
			3550	2.963	37.315	2.964	37.871	-0.03%	-1.47%
			3600	3.000	37.242	3.015	37.814	-0.50%	-1.51%
			3645	3.035	37.237	3.061	37.763	-0.85%	-1.39%
			3685	3.071	37.170	3.102	37.717	-1.00%	-1.45%
			3725	3.099	37.085	3.143	37.671	-1.40%	-1.56%
11/14/2018	5200H-5800H	18.5	5240	4.655	35.510	4.696	35.940	-0.87%	-1.20%
			5260	4.669	35.499	4.717	35.917	-1.02%	-1.16%
			5280	4.686	35.467	4.737	35.894	-1.08%	-1.19%
			5300	4.725	35.395	4.758	35.871	-0.69%	-1.33%
			5320	4.751	35.379	4.778	35.849	-0.57%	-1.31%
			5500	4.931	35.091	4.963	35.643	-0.64%	-1.55%
			5520	4.938	35.073	4.983	35.620	-0.90%	-1.54%
			5540	4.969	35.033	5.004	35.597	-0.70%	-1.58%
			5560	4.991	34.997	5.024	35.574	-0.66%	-1.62%
			5580	5.007	34.982	5.045	35.551	-0.75%	-1.60%
			5600	5.020	34.927	5.065	35.529	-0.89%	-1.69%
			5620	5.065	34.870	5.086	35.506	-0.41%	-1.79%
			5640	5.093	34.865	5.106	35.483	-0.25%	-1.74%
			5660	5.097	34.861	5.127	35.460	-0.59%	-1.69%
			5680	5.099	34.844	5.147	35.437	-0.93%	-1.67%
			5700	5.136	34.770	5.168	35.414	-0.62%	-1.82%
			5745	5.199	34.742	5.214	35.363	-0.29%	-1.76%
			5765	5.202	34.727	5.234	35.340	-0.61%	-1.73%
			5785	5.223	34.691	5.255	35.317	-0.61%	-1.77%

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Table 10-2
Measured Body Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (°C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
11/18/2018	750B	20.5	740	0.962	53.023	0.963	55.570	-0.10%	-4.58%
			755	0.968	52.976	0.964	55.512	0.41%	-4.57%
			770	0.973	52.978	0.965	55.453	0.83%	-4.46%
			785	0.979	52.990	0.966	55.395	1.35%	-4.34%
11/26/2018	750B	21.1	680	0.927	53.396	0.958	55.804	-3.24%	-4.32%
			695	0.932	53.383	0.959	55.745	-2.82%	-4.24%
			700	0.934	53.381	0.959	55.726	-2.61%	-4.21%
			710	0.937	53.372	0.960	55.687	-2.40%	-4.16%
			740	0.947	53.303	0.963	55.570	-1.66%	-4.08%
			755	0.953	53.285	0.964	55.512	-1.14%	-4.01%
			770	0.959	53.260	0.965	55.453	-0.62%	-3.95%
			785	0.965	53.223	0.966	55.395	-0.10%	-3.92%
			800	0.971	53.178	0.967	55.336	0.41%	-3.90%
11/14/2018	835B	21.4	820	0.941	53.962	0.969	55.258	-2.89%	-2.35%
			835	0.957	53.795	0.970	55.200	-1.34%	-2.55%
			850	0.974	53.638	0.988	55.154	-1.42%	-2.75%
11/26/2018	835B	20.5	820	1.004	54.134	0.969	55.258	3.61%	-2.03%
			835	1.018	53.976	0.970	55.200	4.95%	-2.22%
			850	1.034	53.818	0.988	55.154	4.66%	-2.42%
11/29/2018	835B	20.0	820	0.966	53.802	0.969	55.258	-0.31%	-2.63%
			835	0.982	53.648	0.970	55.200	1.24%	-2.81%
			850	0.997	53.476	0.988	55.154	0.91%	-3.04%
12/7/2018	835B	19.2	820	0.932	54.852	0.969	55.258	-3.82%	-0.73%
			835	0.936	54.810	0.970	55.200	-3.51%	-0.71%
			850	0.941	54.750	0.988	55.154	-4.76%	-0.73%
11/12/2018	1750B	21.7	1710	1.484	52.084	1.463	53.537	1.44%	-2.71%
			1750	1.526	51.976	1.488	53.432	2.55%	-2.72%
			1790	1.576	51.803	1.514	53.326	4.10%	-2.86%
11/18/2018	1750B	22.6	1710	1.449	51.001	1.463	53.537	-0.96%	-4.74%
			1750	1.490	50.865	1.488	53.432	0.13%	-4.80%
			1790	1.533	50.704	1.514	53.326	1.25%	-4.92%
12/10/2018	1750B	20.4	1710	1.419	53.778	1.463	53.537	-3.01%	0.45%
			1750	1.443	53.745	1.488	53.432	-3.02%	0.59%
			1790	1.472	53.694	1.514	53.326	-2.77%	0.69%
11/12/2018	1900B	21.0	1850	1.534	51.571	1.520	53.300	0.92%	-3.24%
			1880	1.558	51.512	1.520	53.300	2.50%	-3.35%
			1910	1.583	51.501	1.520	53.300	4.14%	-3.38%
11/14/2018	1900B	22.7	1850	1.521	51.464	1.520	53.300	0.07%	-3.44%
			1880	1.556	51.360	1.520	53.300	2.37%	-3.64%
			1910	1.591	51.249	1.520	53.300	4.67%	-3.85%
11/16/2018	1900B	22.9	1850	1.527	52.190	1.520	53.300	0.46%	-2.08%
			1880	1.562	52.115	1.520	53.300	2.76%	-2.22%
			1910	1.594	52.016	1.520	53.300	4.87%	-2.41%
11/19/2018	1900B	23.1	1850	1.489	51.591	1.520	53.300	-2.04%	-3.21%
			1880	1.524	51.536	1.520	53.300	0.26%	-3.31%
			1910	1.555	51.448	1.520	53.300	2.30%	-3.47%
11/21/2018	1900B	22.6	1850	1.493	52.097	1.520	53.300	-1.78%	-2.26%
			1880	1.528	51.975	1.520	53.300	0.53%	-2.49%
			1910	1.562	51.884	1.520	53.300	2.76%	-2.66%
11/28/2018	1900B	21.8	1850	1.516	51.382	1.520	53.300	-0.26%	-3.60%
			1880	1.560	51.262	1.520	53.300	2.63%	-3.82%
			1910	1.590	51.164	1.520	53.300	4.61%	-4.01%
12/5/2018	1900B	23.5	1850	1.517	51.165	1.520	53.300	-0.20%	-4.01%
			1880	1.550	51.085	1.520	53.300	1.97%	-4.16%
			1910	1.583	50.992	1.520	53.300	4.14%	-4.33%
12/9/2018	1900B	22.4	1850	1.505	52.898	1.520	53.300	-0.99%	-0.75%
			1880	1.542	52.822	1.520	53.300	1.45%	-0.90%
			1910	1.576	52.692	1.520	53.300	3.68%	-1.14%
12/12/2018	1900B	23.0	1850	1.496	51.280	1.520	53.300	-1.58%	-3.79%
			1880	1.529	51.157	1.520	53.300	0.59%	-4.02%
			1910	1.570	51.100	1.520	53.300	3.29%	-4.13%
11/20/2018	2450B	23.5	2300	1.878	51.069	1.809	52.900	3.81%	-3.46%
			2310	1.887	51.033	1.816	52.887	3.91%	-3.51%
11/12/2018	2450B	22.3	2400	1.971	52.177	1.902	52.767	3.63%	-1.12%
			2450	2.033	52.107	1.950	52.700	4.26%	-1.13%
			2500	2.090	51.871	2.021	52.636	3.41%	-1.45%
11/14/2018	2450B	22.5	2400	1.985	51.189	1.902	52.767	4.36%	-2.99%
			2450	2.045	51.016	1.950	52.700	4.87%	-3.20%
			2500	2.103	50.864	2.021	52.636	4.06%	-3.37%
11/26/2018	2450B	23.5	2400	1.982	51.602	1.902	52.767	4.21%	-2.21%
			2450	2.038	51.501	1.950	52.700	4.51%	-2.28%
			2500	2.091	51.285	2.021	52.636	3.46%	-2.57%
			2550	2.148	51.104	2.092	52.573	2.68%	-2.79%
			2600	2.203	50.886	2.163	52.509	1.85%	-3.09%
			2650	2.265	50.697	2.234	52.445	1.39%	-3.33%
			2700	2.328	50.533	2.305	52.382	1.00%	-3.53%
12/2/2018	2450B	23.3	2400	1.980	52.007	1.902	52.767	4.10%	-1.44%
			2450	2.039	51.875	1.950	52.700	4.56%	-1.57%
			2500	2.098	51.709	2.021	52.636	3.81%	-1.76%
			2550	2.158	51.581	2.092	52.573	3.15%	-1.89%
			2600	2.218	51.418	2.163	52.509	2.54%	-2.08%
			2650	2.277	51.282	2.234	52.445	1.92%	-2.22%
			2700	2.342	51.115	2.305	52.382	1.61%	-2.42%
12/5/2018	2450B	22.2	2400	1.973	51.951	1.902	52.767	3.73%	-1.55%
			2450	2.031	51.814	1.950	52.700	4.15%	-1.68%
			2500	2.086	51.669	2.021	52.636	3.22%	-1.84%
			2550	2.148	51.524	2.092	52.573	2.68%	-2.00%
			2600	2.203	51.338	2.163	52.509	1.85%	-2.23%
			2650	2.267	51.236	2.234	52.445	1.48%	-2.31%
			2700	2.331	51.072	2.305	52.382	1.13%	-2.50%
12/9/2018	2450B	22.8	2400	1.940	52.349	1.902	52.767	2.00%	-0.79%
			2450	1.994	52.216	1.950	52.700	2.26%	-0.92%
			2500	2.053	52.077	2.021	52.636	1.58%	-1.06%
			2550	2.113	51.959	2.092	52.573	1.00%	-1.17%
			2600	2.172	51.779	2.163	52.509	0.42%	-1.39%
			2650	2.232	51.655	2.234	52.445	-0.09%	-1.51%
			2700	2.289	51.500	2.305	52.382	-0.69%	-1.68%
12/27/2018	2450B	23.2	2400	1.990	51.367	1.902	52.767	4.63%	-2.65%
			2450	2.028	51.398	1.950	52.700	4.00%	-2.47%
			2500	2.067	51.127	2.021	52.636	2.28%	-2.87%
1/7/2019	2450B	23.5	2500	2.099	52.702	2.021	52.636	3.86%	0.13%
			2550	2.156	52.545	2.092	52.573	3.06%	-0.05%
			2600	2.220	52.401	2.163	52.509	2.64%	-0.21%
			2650	2.278	52.240	2.234	52.445	1.97%	-0.39%
			2700	2.341	52.107	2.305	52.382	1.56%	-0.52%
11/27/2018	3500B-3700B	20.9	3500	3.176	51.130	3.314	51.321	-4.16%	-0.37%
			3550	3.237	51.035	3.372	51.254	-4.00%	-0.43%
			3600	3.290	50.938	3.431	51.186	-4.11%	-0.48%
			3645	3.348	50.889	3.483	51.125	-3.88%	-0.46%
			3685	3.395	50.786	3.530	51.070	-3.82%	-0.56%
			3725	3.439	50.749	3.577	51.016	-3.86%	-0.52%

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Table 10-3
Measured Body Tissue Properties Continued

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (°C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
11/18/2018	5200B-5800B	22.8	5180	5.344	49.074	5.276	49.041	1.29%	0.07%
			5200	5.367	49.068	5.299	49.014	1.28%	0.11%
			5220	5.390	49.059	5.323	48.987	1.26%	0.15%
			5240	5.402	49.013	5.346	48.960	1.05%	0.11%
			5260	5.425	48.928	5.369	48.933	1.04%	-0.01%
			5280	5.465	48.895	5.393	48.906	1.34%	-0.02%
			5300	5.510	48.894	5.416	48.879	1.74%	0.03%
			5320	5.523	48.889	5.439	48.851	1.54%	0.08%
			5500	5.761	48.538	5.650	48.607	1.96%	-0.14%
			5520	5.784	48.493	5.673	48.580	1.96%	-0.18%
			5540	5.823	48.519	5.696	48.553	2.23%	-0.07%
			5560	5.836	48.490	5.720	48.526	2.03%	-0.07%
			5580	5.853	48.430	5.743	48.499	1.92%	-0.14%
			5600	5.888	48.371	5.766	48.471	2.12%	-0.21%
			5620	5.945	48.351	5.790	48.444	2.68%	-0.19%
			5640	5.956	48.344	5.813	48.417	2.46%	-0.15%
			5660	5.956	48.338	5.837	48.390	2.04%	-0.11%
			5680	5.977	48.245	5.860	48.363	2.00%	-0.24%
			5700	6.038	48.221	5.883	48.336	2.63%	-0.24%
			5745	6.081	48.179	5.936	48.275	2.44%	-0.20%
			5765	6.102	48.122	5.959	48.248	2.40%	-0.26%
			5785	6.140	48.121	5.982	48.220	2.64%	-0.21%
			5800	6.160	48.085	6.000	48.200	2.67%	-0.24%
			5805	6.167	48.072	6.006	48.193	2.68%	-0.25%
			5825	6.194	48.014	6.029	48.166	2.74%	-0.32%
12/03/2018	5200B-5800B	22.0	5180	5.310	47.783	5.276	49.041	0.64%	-2.57%
			5200	5.352	47.765	5.299	49.014	1.00%	-2.55%
			5220	5.371	47.755	5.323	48.987	0.90%	-2.51%
			5240	5.397	47.753	5.346	48.960	0.95%	-2.47%
			5260	5.402	47.653	5.369	48.933	0.61%	-2.62%
			5280	5.442	47.651	5.393	48.906	0.91%	-2.57%
			5300	5.480	47.638	5.416	48.879	1.18%	-2.54%
			5320	5.499	47.598	5.439	48.851	1.10%	-2.56%
			5500	5.749	47.280	5.650	48.607	1.75%	-2.73%
			5520	5.782	47.278	5.673	48.580	1.92%	-2.68%
			5540	5.844	47.163	5.696	48.553	2.60%	-2.86%
			5560	5.841	47.139	5.720	48.526	2.12%	-2.86%
			5580	5.896	47.137	5.743	48.499	2.66%	-2.81%
			5600	5.888	47.127	5.766	48.471	2.12%	-2.77%
			5620	5.946	47.117	5.790	48.444	2.69%	-2.74%
			5640	5.966	47.007	5.813	48.417	2.63%	-2.91%
			5660	6.037	46.998	5.837	48.390	3.43%	-2.88%
			5680	6.047	46.938	5.860	48.363	3.19%	-2.95%
			5700	6.052	46.832	5.883	48.336	2.87%	-3.11%
			5745	6.136	46.816	5.936	48.275	3.37%	-3.02%
			5765	6.203	46.814	5.959	48.248	4.09%	-2.97%
			5785	6.207	46.757	5.982	48.220	3.76%	-3.03%
			5800	6.197	46.583	6.000	48.200	3.28%	-3.35%
			5805	6.212	46.599	6.006	48.193	3.43%	-3.31%
			5825	6.263	46.680	6.029	48.166	3.88%	-3.09%
12/26/2018	5200B-5800B	21.9	5180	5.315	48.067	5.276	49.041	0.74%	-1.99%
			5200	5.346	48.007	5.299	49.014	0.89%	-2.05%
			5220	5.370	48.002	5.323	48.987	0.88%	-2.01%
			5240	5.403	47.944	5.346	48.960	1.07%	-2.08%
			5260	5.439	47.943	5.369	48.933	1.30%	-2.02%
			5280	5.466	47.832	5.393	48.906	1.35%	-2.20%
			5300	5.490	47.824	5.416	48.879	1.37%	-2.16%
			5320	5.519	47.811	5.439	48.851	1.47%	-2.13%
			5500	5.789	47.465	5.650	48.607	2.46%	-2.35%
			5520	5.807	47.430	5.673	48.580	2.36%	-2.37%
			5540	5.851	47.372	5.696	48.553	2.72%	-2.43%
			5560	5.877	47.365	5.720	48.526	2.74%	-2.39%
			5580	5.909	47.298	5.743	48.499	2.89%	-2.48%
			5600	5.939	47.285	5.766	48.471	3.00%	-2.45%
			5620	5.959	47.254	5.790	48.444	2.92%	-2.46%
			5640	5.989	47.225	5.813	48.417	3.03%	-2.46%
			5660	6.032	47.158	5.837	48.390	3.34%	-2.55%
			5680	6.071	47.118	5.860	48.363	3.60%	-2.57%
			5700	6.085	47.116	5.883	48.336	3.43%	-2.52%
			5745	6.147	47.016	5.936	48.275	3.55%	-2.61%
			5765	6.176	46.990	5.959	48.248	3.64%	-2.61%
			5785	6.219	46.931	5.982	48.220	3.96%	-2.67%
			5800	6.241	46.875	6.000	48.200	4.02%	-2.75%
			5805	6.243	46.872	6.006	48.193	3.95%	-2.74%
			5825	6.274	46.853	6.029	48.166	4.06%	-2.73%
01/03/2019	5200B-5800B	21.7	5180	5.307	47.482	5.276	49.041	0.59%	-3.18%
			5200	5.321	47.426	5.299	49.014	0.42%	-3.24%
			5220	5.356	47.399	5.323	48.987	0.62%	-3.24%
			5240	5.377	47.382	5.346	48.960	0.58%	-3.22%
			5260	5.427	47.316	5.369	48.933	1.08%	-3.30%
			5280	5.466	47.288	5.393	48.906	1.35%	-3.31%
			5300	5.477	47.257	5.416	48.879	1.13%	-3.32%
			5320	5.494	47.173	5.439	48.851	1.01%	-3.43%
			5500	5.752	46.860	5.650	48.607	1.81%	-3.59%
			5520	5.779	46.843	5.673	48.580	1.87%	-3.58%
			5540	5.819	46.752	5.696	48.553	2.16%	-3.71%
			5560	5.852	46.752	5.720	48.526	2.31%	-3.66%
			5580	5.882	46.729	5.743	48.499	2.42%	-3.65%
			5600	5.888	46.674	5.766	48.471	2.12%	-3.71%
			5620	5.927	46.624	5.790	48.444	2.37%	-3.76%
			5640	5.967	46.562	5.813	48.417	2.65%	-3.83%
			5660	6.003	46.584	5.837	48.390	2.84%	-3.73%
			5680	6.013	46.528	5.860	48.363	2.61%	-3.79%
			5700	6.052	46.454	5.883	48.336	2.87%	-3.89%
			5745	6.132	46.377	5.936	48.275	3.30%	-3.93%
			5765	6.157	46.380	5.959	48.248	3.32%	-3.87%
			5785	6.173	46.358	5.982	48.220	3.19%	-3.86%
			5800	6.197	46.298	6.000	48.200	3.28%	-3.95%
			5805	6.204	46.279	6.006	48.193	3.30%	-3.97%
			5825	6.235	46.256	6.029	48.166	3.42%	-3.97%

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

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10.2 Test System Verification

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

Table 10-4
System Verification Results – 1g Head

System Verification TARGET & MEASURED												
SAR System #	Tissue Frequency (MHz)	Tissue Type	Date	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Source SN	Probe SN	Measured SAR_{1g} (W/kg)	1 W Target SAR_{1g} (W/kg)	1 W Normalized SAR_{1g} (W/kg)	$Deviation_{1g}$ (%)
I	750	HEAD	11/15/2018	21.8	20.6	0.200	1054	7406	1.630	8.370	8.150	-2.63%
M	750	HEAD	12/10/2018	22.3	20.5	0.200	1003	3287	1.630	8.280	8.150	-1.57%
L	835	HEAD	11/13/2018	18.9	19.7	0.200	4d047	7308	1.880	9.470	9.400	-0.74%
L	835	HEAD	11/19/2018	23.3	22.4	0.200	4d047	7308	1.860	9.470	9.300	-1.80%
L	835	HEAD	11/23/2018	20.3	19.5	0.200	4d133	7308	2.020	9.430	10.100	7.10%
M	1750	HEAD	11/26/2018	20.7	21.6	0.100	1150	3287	3.570	36.500	35.700	-2.19%
M	1750	HEAD	12/10/2018	22.3	20.5	0.100	1150	3287	3.680	36.500	36.800	0.82%
E	1900	HEAD	11/12/2018	22.5	21.0	0.100	5d148	3213	3.980	40.100	39.800	-0.75%
M	1900	HEAD	12/03/2018	21.7	20.5	0.100	5d148	3287	4.200	40.100	42.000	4.74%
G	2300	HEAD	11/16/2018	22.4	23.1	0.100	1073	7410	4.770	49.200	47.700	-3.05%
G	2450	HEAD	11/18/2018	23.2	23.4	0.100	981	7410	5.370	52.300	53.700	2.68%
G	2450	HEAD	11/28/2018	23.0	23.9	0.100	797	7410	5.200	52.700	52.000	-1.33%
G	2600	HEAD	11/28/2018	23.0	23.9	0.100	1071	7410	5.390	56.300	53.900	-4.26%
G	2600	HEAD	01/07/2019	21.7	20.8	0.100	1004	7410	5.590	55.900	55.900	0.00%
H	3500	HEAD	11/27/2018	22.7	21.6	0.100	1055	3949	6.950	66.800	69.500	4.04%
H	3700	HEAD	11/27/2018	22.7	21.6	0.100	1002	3949	7.220	67.900	72.200	6.33%
H	5250	HEAD	11/14/2018	22.3	18.7	0.050	1191	7409	3.870	78.900	77.400	-1.90%
H	5600	HEAD	11/14/2018	22.3	18.7	0.050	1191	7409	3.970	83.600	79.400	-5.02%
H	5750	HEAD	11/14/2018	22.3	18.7	0.050	1191	7409	4.030	79.100	80.600	1.90%

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Table 10-5
System Verification Results – 1g Body

System Verification TARGET & MEASURED												
SAR System #	Tissue Frequency (MHz)	Tissue Type	Date	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Source SN	Probe SN	Measured SAR_{1g} (W/kg)	1 W Target SAR_{1g} (W/kg)	1 W Normalized SAR_{1g} (W/kg)	$Deviation_{1g}$ (%)
I	750	BODY	11/18/2018	21.4	20.4	0.200	1054	7406	1.780	8.610	8.900	3.37%
D	750	BODY	11/26/2018	22.6	20.6	0.200	1003	7357	1.730	8.580	8.650	0.82%
G	835	BODY	11/14/2018	23.5	21.4	0.200	4d047	7410	2.080	9.710	10.400	7.11%
I	835	BODY	11/26/2018	19.9	21.5	0.200	4d047	7406	2.100	9.710	10.500	8.14%
I	835	BODY	11/29/2018	21.4	19.9	0.200	4d047	7406	2.040	9.710	10.200	5.05%
J	835	BODY	12/07/2018	19.5	19.2	0.200	4d047	3347	1.980	9.710	9.900	1.96%
J	1750	BODY	11/12/2018	19.8	21.7	0.100	1148	3347	3.760	37.000	37.600	1.62%
J	1750	BODY	11/18/2018	19.9	21.0	0.100	1148	3347	3.730	37.000	37.300	0.81%
J	1750	BODY	12/10/2018	19.9	20.4	0.100	1150	3347	3.610	36.600	36.100	-1.37%
H	1900	BODY	11/12/2018	21.8	21.0	0.100	5d148	7409	4.170	39.600	41.700	5.30%
E	1900	BODY	11/14/2018	23.9	21.3	0.100	5d148	3213	4.230	39.600	42.300	6.82%
E	1900	BODY	11/16/2018	24.3	21.1	0.100	5d148	3213	3.840	39.600	38.400	-3.03%
E	1900	BODY	11/19/2018	24.4	21.8	0.100	5d148	3213	3.970	39.600	39.700	0.25%
E	1900	BODY	11/21/2018	24.3	21.2	0.100	5d148	3213	3.760	39.600	37.600	-5.05%
E	1900	BODY	11/28/2018	21.2	20.8	0.100	5d148	3213	3.890	39.600	38.900	-1.77%
E	1900	BODY	12/09/2018	21.6	21.1	0.100	5d149	3332	4.140	39.400	41.400	5.08%
K	2300	BODY	11/20/2018	23.2	23.5	0.100	1073	3319	5.080	47.700	50.800	6.50%
K	2450	BODY	11/12/2018	22.7	21.0	0.100	719	3319	5.130	50.100	51.300	2.40%
K	2450	BODY	11/14/2018	21.9	22.5	0.100	719	3319	5.090	50.100	50.900	1.60%
K	2450	BODY	11/26/2018	22.6	23.5	0.100	981	3319	5.040	50.900	50.400	-0.98%
K	2450	BODY	12/02/2018	21.6	23.3	0.100	719	3319	5.230	50.100	52.300	4.39%
K	2450	BODY	12/09/2018	21.8	22.8	0.100	719	3319	5.370	50.100	53.700	7.19%
I	2450	BODY	12/27/2018	22.5	21.9	0.100	719	7406	5.340	50.100	53.400	6.59%
K	2600	BODY	11/26/2018	22.6	23.5	0.100	1004	3319	5.540	54.800	55.400	1.09%
K	2600	BODY	12/02/2018	21.6	23.3	0.100	1126	3319	5.390	54.100	53.900	-0.37%
K	2600	BODY	12/09/2018	21.8	22.8	0.100	1126	3319	5.480	54.100	54.800	1.29%
K	2600	BODY	01/07/2019	22.6	21.6	0.100	1071	3319	5.520	54.200	55.200	1.85%
L	3500	BODY	11/27/2018	22.8	20.6	0.100	1055	3914	6.060	64.600	60.600	-6.19%
L	3700	BODY	11/27/2018	22.8	20.6	0.100	1002	3914	6.370	65.000	63.700	-2.00%
D	5250	BODY	12/03/2018	23.0	21.5	0.050	1191	7357	3.580	77.000	71.600	-7.01%
D	5600	BODY	12/03/2018	23.0	21.5	0.050	1191	7357	3.820	79.200	76.400	-3.54%
D	5750	BODY	12/03/2018	23.0	21.5	0.050	1191	7357	3.870	76.100	77.400	1.71%
L	5250	BODY	12/26/2018	21.3	21.5	0.050	1191	7308	3.600	77.000	72.000	-6.49%
L	5600	BODY	12/26/2018	21.3	21.5	0.050	1191	7308	3.890	79.200	77.800	-1.77%
L	5750	BODY	12/26/2018	21.3	21.5	0.050	1191	7308	3.470	76.100	69.400	-8.80%
L	5250	BODY	01/03/2019	21.5	21.0	0.050	1191	7308	3.580	77.000	71.600	-7.01%
L	5600	BODY	01/03/2019	21.5	21.0	0.050	1191	7308	3.900	79.200	78.000	-1.52%
L	5750	BODY	01/03/2019	21.5	21.0	0.050	1191	7308	3.500	76.100	70.000	-8.02%

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Table 10-6
System Verification Results – 10g

System Verification TARGET & MEASURED												
SAR System #	Tissue Frequency (MHz)	Tissue Type	Date	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Source SN	Probe SN	Measured SAR_{10g} (W/kg)	1 W Target SAR_{10g} (W/kg)	1 W Normalized SAR_{10g} (W/kg)	$Deviation_{10g}$ (%)
J	1750	BODY	11/18/2018	19.9	21.0	0.100	1148	3347	1.970	19.800	19.700	-0.51%
J	1750	BODY	12/10/2018	19.9	20.4	0.100	1150	3347	1.930	19.400	19.300	-0.52%
E	1900	BODY	11/19/2018	24.4	21.8	0.100	5d148	3213	2.060	20.900	20.600	-1.44%
E	1900	BODY	12/05/2018	24.5	23.3	0.100	5d148	3332	2.150	20.900	21.500	2.87%
E	1900	BODY	12/12/2018	23.6	22.0	0.100	5d080	3332	2.170	20.600	21.700	5.34%
K	2300	BODY	11/20/2018	23.2	23.5	0.100	1073	3319	2.410	23.200	24.100	3.88%
K	2450	BODY	12/02/2018	21.6	23.3	0.100	719	3319	2.410	23.700	24.100	1.69%
K	2450	BODY	12/05/2018	22.7	21.3	0.100	719	3319	2.400	23.700	24.000	1.27%
K	2600	BODY	12/02/2018	21.6	23.3	0.100	1126	3319	2.380	24.400	23.800	-2.46%
K	2600	BODY	12/05/2018	22.7	21.3	0.100	1126	3319	2.410	24.400	24.100	-1.23%
L	3500	BODY	11/27/2018	22.8	20.6	0.100	1055	3914	2.270	24.100	22.700	-5.81%
L	3700	BODY	11/27/2018	22.8	20.6	0.100	1002	3914	2.320	23.100	23.200	0.43%
D	5250	BODY	11/18/2018	23.0	21.5	0.050	1191	7357	1.010	21.600	20.200	-6.48%
D	5600	BODY	11/18/2018	23.0	21.5	0.050	1191	7357	1.080	22.200	21.600	-2.70%
D	5750	BODY	11/18/2018	23.0	21.5	0.050	1191	7357	1.020	21.200	20.400	-3.77%

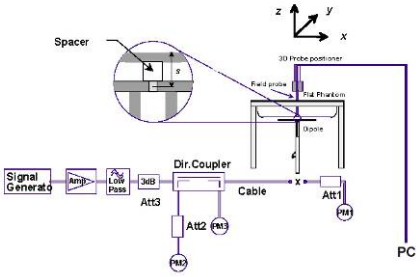

Figure 10-1
System Verification Setup Diagram

Figure 10-2
System Verification Setup Photo

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11 SAR DATA SUMMARY

11.1 Standalone Head SAR Data

Table 11-1
GSM 850 Head SAR

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)		(W/kg)	
836.60	190	GSM 850	GSM	33.5	33.08	-0.12	Right	Cheek	0481M	1:8.3	0.178	1.102	0.196	A1
836.60	190	GSM 850	GSM	33.5	33.08	0.13	Right	Tilt	0481M	1:8.3	0.077	1.102	0.085	
836.60	190	GSM 850	GSM	33.5	33.08	0.20	Left	Cheek	0481M	1:8.3	0.127	1.102	0.140	
836.60	190	GSM 850	GSM	33.5	33.08	0.21	Left	Tilt	0481M	1:8.3	0.076	1.102	0.084	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-2
GSM 1900 Head SAR

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)		(W/kg)	
1880.00	661	GSM 1900	GSM	30.5	29.24	0.01	Right	Cheek	0503M	1:8.3	0.043	1.337	0.057	
1880.00	661	GSM 1900	GSM	30.5	29.24	0.15	Right	Tilt	0503M	1:8.3	0.027	1.337	0.036	
1880.00	661	GSM 1900	GSM	30.5	29.24	0.00	Left	Cheek	0503M	1:8.3	0.060	1.337	0.080	A2
1880.00	661	GSM 1900	GSM	30.5	29.24	0.13	Left	Tilt	0503M	1:8.3	0.016	1.337	0.021	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-3
UMTS 850 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
836.60	4183	UMTS 850	RMC	25.8	24.85	57	-0.01	Right	Cheek	0481M	1:1	0.220	1.245	0.274	A3
836.60	4183	UMTS 850	RMC	25.8	24.85	57	0.04	Right	Tilt	0481M	1:1	0.105	1.245	0.131	
836.60	4183	UMTS 850	RMC	25.8	24.85	57	-0.16	Left	Cheek	0481M	1:1	0.192	1.245	0.239	
836.60	4183	UMTS 850	RMC	25.8	24.85	57	0.05	Left	Tilt	0481M	1:1	0.116	1.245	0.144	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram							

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Table 11-4
UMTS 1750 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1732.40	1412	UMTS 1750	RMC	25.0	24.29	35	0.20	Right	Cheek	0503M	1:1	0.055	1.178	0.065	
1732.40	1412	UMTS 1750	RMC	25.0	24.29	35	0.12	Right	Tilt	0503M	1:1	0.058	1.178	0.068	
1732.40	1412	UMTS 1750	RMC	25.0	24.29	35	0.09	Left	Cheek	0503M	1:1	0.099	1.178	0.117	A4
1732.40	1412	UMTS 1750	RMC	25.0	24.29	35	0.12	Left	Tilt	0503M	1:1	0.050	1.178	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 11-5
UMTS 1900 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1880.00	9400	UMTS 1900	RMC	25.0	24.21	34	0.01	Right	Cheek	0503M	1:1	0.112	1.199	0.134	
1880.00	9400	UMTS 1900	RMC	25.0	24.21	34	0.05	Right	Tilt	0503M	1:1	0.071	1.199	0.085	
1880.00	9400	UMTS 1900	RMC	25.0	24.21	34	0.06	Left	Cheek	0503M	1:1	0.137	1.199	0.164	A5
1880.00	9400	UMTS 1900	RMC	25.0	24.21	34	0.07	Left	Tilt	0503M	1:1	0.041	1.199	0.049	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-6
CDMA BC10 (§90S) Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
820.10	564	CDMA BC10 (§90S)	RC3 / SO55	26.0	25.13	20	0.10	Right	Cheek	0481M	1:1	0.213	1.222	0.260	A6
820.10	564	CDMA BC10 (§90S)	RC3 / SO55	26.0	25.13	20	-0.01	Right	Tilt	0481M	1:1	0.101	1.222	0.123	
820.10	564	CDMA BC10 (§90S)	RC3 / SO55	26.0	25.13	20	0.05	Left	Cheek	0481M	1:1	0.138	1.222	0.169	
820.10	564	CDMA BC10 (§90S)	RC3 / SO55	26.0	25.13	20	-0.04	Left	Tilt	0481M	1:1	0.101	1.222	0.123	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. A	26.0	25.19	20	0.02	Right	Cheek	0481M	1:1	0.200	1.205	0.241	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. A	26.0	25.19	20	0.16	Right	Tilt	0481M	1:1	0.104	1.205	0.125	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. A	26.0	25.19	20	-0.09	Left	Cheek	0481M	1:1	0.141	1.205	0.170	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. A	26.0	25.19	20	0.12	Left	Tilt	0481M	1:1	0.102	1.205	0.123	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram							

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Table 11-7
CDMA BC0 (§22H) Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
836.52	384	CDMA BC0 (§22H)	RC3 / SO55	26.0	25.24	20	0.00	Right	Cheek	0481M	1:1	0.259	1.191	0.308	A7
836.52	384	CDMA BC0 (§22H)	RC3 / SO55	26.0	25.24	20	-0.05	Right	Tilt	0481M	1:1	0.125	1.191	0.149	
836.52	384	CDMA BC0 (§22H)	RC3 / SO55	26.0	25.24	20	0.13	Left	Cheek	0481M	1:1	0.198	1.191	0.236	
836.52	384	CDMA BC0 (§22H)	RC3 / SO55	26.0	25.24	20	-0.09	Left	Tilt	0481M	1:1	0.127	1.191	0.151	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	26.0	25.27	20	0.00	Right	Cheek	0481M	1:1	0.237	1.183	0.280	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	26.0	25.27	20	-0.04	Right	Tilt	0481M	1:1	0.091	1.183	0.108	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	26.0	25.27	20	-0.21	Left	Cheek	0481M	1:1	0.208	1.183	0.246	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. A	26.0	25.27	20	0.21	Left	Tilt	0481M	1:1	0.140	1.183	0.166	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-8
PCS CDMA Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1880.00	600	PCS CDMA	RC3 / SO55	25.0	24.44	32	0.09	Right	Cheek	0503M	1:1	0.121	1.138	0.138	
1880.00	600	PCS CDMA	RC3 / SO55	25.0	24.44	32	0.13	Right	Tilt	0503M	1:1	0.079	1.138	0.090	
1880.00	600	PCS CDMA	RC3 / SO55	25.0	24.44	32	0.09	Left	Cheek	0503M	1:1	0.155	1.138	0.176	
1880.00	600	PCS CDMA	RC3 / SO55	25.0	24.44	32	0.14	Left	Tilt	0503M	1:1	0.051	1.138	0.058	
1880.00	600	PCS CDMA	EVDO Rev. A	25.0	24.51	32	0.18	Right	Cheek	0503M	1:1	0.110	1.119	0.123	
1880.00	600	PCS CDMA	EVDO Rev. A	25.0	24.51	32	0.12	Right	Tilt	0503M	1:1	0.047	1.119	0.053	
1880.00	600	PCS CDMA	EVDO Rev. A	25.0	24.51	32	0.10	Left	Cheek	0503M	1:1	0.175	1.119	0.196	A8
1880.00	600	PCS CDMA	EVDO Rev. A	25.0	24.51	32	0.15	Left	Tilt	0503M	1:1	0.040	1.119	0.045	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram							

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Table 11-9
LTE Band 71 Head SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
680.50	133297	Mid	LTE Band 71	20	25.5	24.97	51	0.17	0	Right	Cheek	QPSK	1	0	0484M	1:1	0.109	1.130	0.123	A9
680.50	133297	Mid	LTE Band 71	20	24.5	24.06	51	0.03	1	Right	Cheek	QPSK	50	0	0484M	1:1	0.100	1.107	0.111	
680.50	133297	Mid	LTE Band 71	20	25.5	24.97	51	0.00	0	Right	Tilt	QPSK	1	0	0484M	1:1	0.064	1.130	0.072	
680.50	133297	Mid	LTE Band 71	20	24.5	24.06	51	0.06	1	Right	Tilt	QPSK	50	0	0484M	1:1	0.054	1.107	0.060	
680.50	133297	Mid	LTE Band 71	20	25.5	24.97	51	-0.03	0	Left	Cheek	QPSK	1	0	0484M	1:1	0.103	1.130	0.116	
680.50	133297	Mid	LTE Band 71	20	24.5	24.06	51	0.05	1	Left	Cheek	QPSK	50	0	0484M	1:1	0.094	1.107	0.104	
680.50	133297	Mid	LTE Band 71	20	25.5	24.97	51	-0.02	0	Left	Tilt	QPSK	1	0	0484M	1:1	0.055	1.130	0.062	
680.50	133297	Mid	LTE Band 71	20	24.5	24.06	51	-0.03	1	Left	Tilt	QPSK	50	0	0484M	1:1	0.049	1.107	0.054	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-10
LTE Band 12 Head SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
707.50	23095	Mid	LTE Band 12	10	25.8	24.46	1	-0.20	0	Right	Cheek	QPSK	1	0	0484M	1:1	0.231	1.361	0.314	A10
707.50	23095	Mid	LTE Band 12	10	24.8	23.61	1	0.02	1	Right	Cheek	QPSK	25	0	0484M	1:1	0.179	1.315	0.235	
707.50	23095	Mid	LTE Band 12	10	25.8	24.46	1	-0.14	0	Right	Tilt	QPSK	1	0	0484M	1:1	0.078	1.361	0.106	
707.50	23095	Mid	LTE Band 12	10	24.8	23.61	1	0.04	1	Right	Tilt	QPSK	25	0	0484M	1:1	0.062	1.315	0.082	
707.50	23095	Mid	LTE Band 12	10	25.8	24.46	1	0.01	0	Left	Cheek	QPSK	1	0	0484M	1:1	0.151	1.361	0.206	
707.50	23095	Mid	LTE Band 12	10	24.8	23.61	1	0.08	1	Left	Cheek	QPSK	25	0	0484M	1:1	0.112	1.315	0.147	
707.50	23095	Mid	LTE Band 12	10	25.8	24.46	1	-0.01	0	Left	Tilt	QPSK	1	0	0484M	1:1	0.086	1.361	0.117	
707.50	23095	Mid	LTE Band 12	10	24.8	23.61	1	0.09	1	Left	Tilt	QPSK	25	0	0484M	1:1	0.069	1.315	0.091	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-11
LTE Band 13 Head SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
782.00	23230	Mid	LTE Band 13	10	25.8	24.45	24	0.03	0	Right	Cheek	QPSK	1	0	0484M	1:1	0.136	1.365	0.186	A11
782.00	23230	Mid	LTE Band 13	10	24.8	23.57	24	0.01	1	Right	Cheek	QPSK	25	0	0484M	1:1	0.131	1.327	0.174	
782.00	23230	Mid	LTE Band 13	10	25.8	24.45	24	0.01	0	Right	Tilt	QPSK	1	0	0484M	1:1	0.071	1.365	0.097	
782.00	23230	Mid	LTE Band 13	10	24.8	23.57	24	0.05	1	Right	Tilt	QPSK	25	0	0484M	1:1	0.069	1.327	0.092	
782.00	23230	Mid	LTE Band 13	10	25.8	24.45	24	0.04	0	Left	Cheek	QPSK	1	0	0484M	1:1	0.125	1.365	0.171	
782.00	23230	Mid	LTE Band 13	10	24.8	23.57	24	0.05	1	Left	Cheek	QPSK	25	0	0484M	1:1	0.110	1.327	0.146	
782.00	23230	Mid	LTE Band 13	10	25.8	24.45	24	0.02	0	Left	Tilt	QPSK	1	0	0484M	1:1	0.083	1.365	0.113	
782.00	23230	Mid	LTE Band 13	10	24.8	23.57	24	0.08	1	Left	Tilt	QPSK	25	0	0484M	1:1	0.074	1.327	0.098	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram										

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Table 11-12
LTE Band 14 Head SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
793.00	23330	Mid	LTE Band 14	10	25.8	24.62	0	0.03	0	Right	Cheek	QPSK	1	49	0484M	1:1	0.240	1.312	0.315	A12
793.00	23330	Mid	LTE Band 14	10	24.8	23.74	0	-0.01	1	Right	Cheek	QPSK	25	0	0484M	1:1	0.182	1.276	0.232	
793.00	23330	Mid	LTE Band 14	10	25.8	24.62	0	0.01	0	Right	Tilt	QPSK	1	49	0484M	1:1	0.105	1.312	0.138	
793.00	23330	Mid	LTE Band 14	10	24.8	23.74	0	0.06	1	Right	Tilt	QPSK	25	0	0484M	1:1	0.072	1.276	0.092	
793.00	23330	Mid	LTE Band 14	10	25.8	24.62	0	0.11	0	Left	Cheek	QPSK	1	49	0484M	1:1	0.180	1.312	0.236	
793.00	23330	Mid	LTE Band 14	10	24.8	23.74	0	0.05	1	Left	Cheek	QPSK	25	0	0484M	1:1	0.131	1.276	0.167	
793.00	23330	Mid	LTE Band 14	10	25.8	24.62	0	0.08	0	Left	Tilt	QPSK	1	49	0484M	1:1	0.097	1.312	0.127	
793.00	23330	Mid	LTE Band 14	10	24.8	23.74	0	0.01	1	Left	Tilt	QPSK	25	0	0484M	1:1	0.065	1.276	0.083	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-13
LTE Band 26 (Cell) Head SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.8	24.71	0	0.12	0	Right	Cheek	QPSK	1	0	0484M	1:1	0.206	1.285	0.265	A13
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.8	23.92	0	-0.07	1	Right	Cheek	QPSK	36	0	0484M	1:1	0.192	1.225	0.235	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.8	24.71	0	0.03	0	Right	Tilt	QPSK	1	0	0484M	1:1	0.107	1.285	0.137	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.8	23.92	0	0.19	1	Right	Tilt	QPSK	36	0	0484M	1:1	0.099	1.225	0.121	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.8	24.71	0	0.07	0	Left	Cheek	QPSK	1	0	0484M	1:1	0.141	1.285	0.181	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.8	23.92	0	0.04	1	Left	Cheek	QPSK	36	0	0484M	1:1	0.123	1.225	0.151	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.8	24.71	0	-0.02	0	Left	Tilt	QPSK	1	0	0484M	1:1	0.106	1.285	0.136	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.8	23.92	0	0.05	1	Left	Tilt	QPSK	36	0	0484M	1:1	0.090	1.225	0.110	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-14
LTE Band 5 (Cell) Head SAR

MEASUREMENT RESULTS																							
1 CC Uplink	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
		MHz	Ch.																(W/kg)		(W/kg)	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	24.83	16	0.16	0	Right	Cheek	QPSK	1	49	0484M	1:1	0.265	1.250	0.331	A14
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	23.98	16	0.06	1	Right	Cheek	QPSK	25	0	0484M	1:1	0.223	1.208	0.269	
2 CC Uplink	PCC	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	24.65	16	0.01	0	Right	Cheek	QPSK	1	49	0484M	1:1	0.243	1.303	0.317	
	SCC	843.70	20597	Mid	LTE Band 5 (Cell)	5									1	0						
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	24.83	16	0.09	0	Right	Tilt	QPSK	1	49	0484M	1:1	0.105	1.250	0.131	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	23.98	16	0.05	1	Right	Tilt	QPSK	25	0	0484M	1:1	0.086	1.208	0.104	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	24.83	16	0.08	0	Left	Cheek	QPSK	1	49	0484M	1:1	0.158	1.250	0.198	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	23.98	16	0.04	1	Left	Cheek	QPSK	25	0	0484M	1:1	0.137	1.208	0.165	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	24.83	16	-0.04	0	Left	Tilt	QPSK	1	49	0484M	1:1	0.100	1.250	0.125	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	23.98	16	0.02	1	Left	Tilt	QPSK	25	0	0484M	1:1	0.090	1.208	0.109	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Head 1.6 W/kg (mW/g) averaged over 1 gram										

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

MEASUREMENT RESULTS																							
1 CC Uplink	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
		MHz	Ch.																(W/kg)		(W/kg)	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.54	33	0.14	0	Right	Cheek	QPSK	1	50	0495M	1:1	0.077	1.112	0.086	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	23.57	33	0.17	1	Right	Cheek	QPSK	50	25	0495M	1:1	0.058	1.104	0.064	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.54	33	0.07	0	Right	Tilt	QPSK	1	50	0495M	1:1	0.092	1.112	0.102	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	23.57	33	0.06	1	Right	Tilt	QPSK	50	25	0495M	1:1	0.078	1.104	0.086	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.54	33	0.00	0	Left	Cheek	QPSK	1	50	0495M	1:1	0.138	1.112	0.153	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	23.58	33	0.00	0	Left	Cheek	QPSK	1	0	0495M	1:1	0.126	1.387	0.175	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	10	25.0	23.08	33	0.08	0	Left	Cheek	QPSK	1	0	0495M	1:1	0.124	1.556	0.193	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	23.57	33	0.02	1	Left	Cheek	QPSK	50	25	0495M	1:1	0.113	1.104	0.125	
CA_66C 2 CC Uplink	PCC	1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.20	33	-0.19	0	Left	Cheek	QPSK	1	0	0495M	1:1	0.152	1.202	0.183	
	SCC	1725.20	132124	Mid	LTE Band 66 (AWS)	20									1	99						
CA_66B 2 CC Uplink	PCC	1745.00	132322	Mid	LTE Band 66 (AWS)	10	25.0	24.02	33	-0.15	0	Left	Cheek	QPSK	1	0	0495M	1:1	0.161	1.253	0.202	A15
	SCC	1735.10	132223	Mid	LTE Band 66 (AWS)	10									1	49						
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.54	33	0.03	0	Left	Tilt	QPSK	1	50	0495M	1:1	0.111	1.112	0.123	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	23.57	33	0.06	1	Left	Tilt	QPSK	50	25	0495M	1:1	0.088	1.104	0.097	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Head 1.6 W/kg (mW/g) averaged over 1 gram										

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

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.34	34	-0.15	0	Right	Cheek	QPSK	1	0	0495M	1:1	0.095	1.164	0.111	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.44	34	-0.05	1	Right	Cheek	QPSK	50	0	0495M	1:1	0.080	1.138	0.091	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.34	34	-0.19	0	Right	Tilt	QPSK	1	0	0495M	1:1	0.094	1.164	0.109	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.44	34	0.05	1	Right	Tilt	QPSK	50	0	0495M	1:1	0.074	1.138	0.084	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.34	34	-0.01	0	Left	Cheek	QPSK	1	0	0495M	1:1	0.139	1.164	0.162	A16
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.44	34	0.01	1	Left	Cheek	QPSK	50	0	0495M	1:1	0.111	1.138	0.126	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.34	34	0.00	0	Left	Tilt	QPSK	1	0	0495M	1:1	0.039	1.164	0.045	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.44	34	0.08	1	Left	Tilt	QPSK	50	0	0495M	1:1	0.035	1.138	0.040	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram										

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Table 11-17
LTE Band 30 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
2310.00	27710	Mid	LTE Band 30	10	23.5	22.50	0.16	0	Right	Cheek	QPSK	1	0	0509M	1:1	0.056	1.259	0.071	
2310.00	27710	Mid	LTE Band 30	10	22.5	21.43	0.16	1	Right	Cheek	QPSK	25	0	0509M	1:1	0.041	1.279	0.052	
2310.00	27710	Mid	LTE Band 30	10	23.5	22.50	0.11	0	Right	Tilt	QPSK	1	0	0509M	1:1	0.070	1.259	0.088	
2310.00	27710	Mid	LTE Band 30	10	22.5	21.43	0.10	1	Right	Tilt	QPSK	25	0	0509M	1:1	0.059	1.279	0.075	
2310.00	27710	Mid	LTE Band 30	10	23.5	22.50	0.18	0	Left	Cheek	QPSK	1	0	0509M	1:1	0.071	1.259	0.089	A17
2310.00	27710	Mid	LTE Band 30	10	22.5	21.43	0.14	1	Left	Cheek	QPSK	25	0	0509M	1:1	0.055	1.279	0.070	
2310.00	27710	Mid	LTE Band 30	10	23.5	22.50	0.16	0	Left	Tilt	QPSK	1	0	0509M	1:1	0.041	1.259	0.052	
2310.00	27710	Mid	LTE Band 30	10	22.5	21.43	0.20	1	Left	Tilt	QPSK	25	0	0509M	1:1	0.034	1.279	0.043	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-18
LTE Band 7 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Antenna Config.	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
2510.00	20850	Low	LTE Band 7	20	24.5	23.77	0.06	0	Right	Cheek	Ant B	QPSK	1	99	0509M	1:1	0.060	1.183	0.071	
2510.00	20850	Low	LTE Band 7	20	23.5	22.85	0.13	1	Right	Cheek	Ant B	QPSK	50	50	0509M	1:1	0.043	1.161	0.050	
2510.00	20850	Low	LTE Band 7	20	24.5	23.77	0.09	0	Right	Tilt	Ant B	QPSK	1	99	0509M	1:1	0.023	1.183	0.027	
2510.00	20850	Low	LTE Band 7	20	23.5	22.85	0.14	1	Right	Tilt	Ant B	QPSK	50	50	0509M	1:1	0.020	1.161	0.023	
2510.00	20850	Low	LTE Band 7	20	24.5	23.77	-0.14	0	Left	Cheek	Ant B	QPSK	1	99	0509M	1:1	0.065	1.183	0.077	A18
2510.00	20850	Low	LTE Band 7	20	23.5	22.85	0.13	1	Left	Cheek	Ant B	QPSK	50	50	0509M	1:1	0.047	1.161	0.055	
2510.00	20850	Low	LTE Band 7	20	24.5	23.77	0.03	0	Left	Tilt	Ant B	QPSK	1	99	0509M	1:1	0.043	1.183	0.051	
2510.00	20850	Low	LTE Band 7	20	23.5	22.85	0.13	1	Left	Tilt	Ant B	QPSK	50	50	0509M	1:1	0.032	1.161	0.037	
2560.00	21350	High	LTE Band 7	20	24.5	23.76	0.08	0	Right	Cheek	Ant A	QPSK	1	0	0509M	1:1	0.032	1.186	0.038	
2560.00	21350	High	LTE Band 7	20	23.5	22.96	0.13	1	Right	Cheek	Ant A	QPSK	50	0	0509M	1:1	0.015	1.132	0.017	
2560.00	21350	High	LTE Band 7	20	24.5	23.76	0.04	0	Right	Tilt	Ant A	QPSK	1	0	0509M	1:1	0.035	1.186	0.042	
2560.00	21350	High	LTE Band 7	20	23.5	22.96	0.11	1	Right	Tilt	Ant A	QPSK	50	0	0509M	1:1	0.032	1.132	0.036	
2560.00	21350	High	LTE Band 7	20	24.5	23.76	0.16	0	Left	Cheek	Ant A	QPSK	1	0	0509M	1:1	0.032	1.186	0.038	
2560.00	21350	High	LTE Band 7	20	23.5	22.96	0.14	1	Left	Cheek	Ant A	QPSK	50	0	0509M	1:1	0.022	1.132	0.025	
2560.00	21350	High	LTE Band 7	20	24.5	23.76	0.11	0	Left	Tilt	Ant A	QPSK	1	0	0509M	1:1	0.032	1.186	0.038	
2560.00	21350	High	LTE Band 7	20	23.5	22.96	0.12	1	Left	Tilt	Ant A	QPSK	50	0	0509M	1:1	0.017	1.132	0.019	
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 11-19
LTE Band 48 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
3690.00	56640	High	LTE Band 48	20	24.5	23.74	0.18	0	Right	Cheek	QPSK	1	0	0509M	1:1.58	0.010	1.191	0.012	
3690.00	56640	High	LTE Band 48	20	23.5	22.97	0.14	1	Right	Cheek	QPSK	50	0	0509M	1:1.58	0.003	1.130	0.003	
3690.00	56640	High	LTE Band 48	20	24.5	23.74	0.13	0	Right	Tilt	QPSK	1	0	0509M	1:1.58	0.010	1.191	0.012	
3690.00	56640	High	LTE Band 48	20	23.5	22.97	0.07	1	Right	Tilt	QPSK	50	0	0509M	1:1.58	0.005	1.130	0.006	
3690.00	56640	High	LTE Band 48	20	24.5	23.74	0.17	0	Left	Cheek	QPSK	1	0	0509M	1:1.58	0.030	1.191	0.036	A19
3690.00	56640	High	LTE Band 48	20	23.5	22.97	0.12	1	Left	Cheek	QPSK	50	0	0509M	1:1.58	0.017	1.130	0.019	
3690.00	56640	High	LTE Band 48	20	24.5	23.74	0.13	0	Left	Tilt	QPSK	1	0	0509M	1:1.58	0.008	1.191	0.010	
3690.00	56640	High	LTE Band 48	20	23.5	22.97	0.15	1	Left	Tilt	QPSK	50	0	0509M	1:1.58	0.004	1.130	0.005	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram										

Note: Test results include LTE B48 but are for information purposes only.

Table 11-20
LTE Band 41 Head SAR

MEASUREMENT RESULTS																				
1 CC Uplink | 2 CC Uplink, Power Class	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	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	25.3	24.00	-0.05	0	Right	Cheek	QPSK	1	0	0482M	1:1.58	0.066	1.349	0.089	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.3	23.28	0.09	1	Right	Cheek	QPSK	50	0	0482M	1:1.58	0.047	1.265	0.059	
1 CC Uplink - Power Class 2	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	28.3	26.62	0.17	0	Right	Cheek	QPSK	1	0	0482M	1:2.31	0.087	1.472	0.128	
2 CC Uplink - Power Class 3	PCC	2549.50	40185	Low-Mid	LTE Band 41	20	25.3	25.18	0.13	0	Right	Cheek	QPSK	1	0	0482M	1:1.58	0.087	1.028	0.089	
	SCC	2529.70	39987	Low-Mid	LTE Band 41	20								1	99						
2 CC Uplink - Power Class 2	PCC	2549.50	40185	Low-Mid	LTE Band 41	20	28.3	27.90	0.14	0	Right	Cheek	QPSK	1	0	0321M	1:2.31	0.112	1.096	0.123	A20
	SCC	2529.70	39987	Low-Mid	LTE Band 41	20								1	99						
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	25.3	24.00	-0.12	0	Right	Tilt	QPSK	1	0	0482M	1:1.58	0.048	1.349	0.065	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.3	23.28	0.03	1	Right	Tilt	QPSK	50	0	0482M	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	25.3	24.00	0.19	0	Left	Cheek	QPSK	1	0	0482M	1:1.58	0.049	1.349	0.066	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.3	23.28	0.15	1	Left	Cheek	QPSK	50	0	0482M	1:1.58	0.042	1.265	0.053	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	25.3	24.00	0.10	0	Left	Tilt	QPSK	1	0	0482M	1:1.58	0.031	1.349	0.042	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.3	23.28	0.21	1	Left	Tilt	QPSK	50	0	0482M	1:1.58	0.021	1.265	0.027	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-21
DTS Head SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
2412	1	802.11b	DSSS	22	17.0	16.96	0.19	Right	Cheek	1	0539M	1	99.9	0.500	0.353	1.009	1.001	**0.357**	A21
2412	1	802.11b	DSSS	22	17.0	16.96	0.18	Right	Tilt	1	0539M	1	99.9	0.425	-	1.009	1.001	-	
2412	1	802.11b	DSSS	22	17.0	16.96	0.08	Left	Cheek	1	0539M	1	99.9	0.197	-	1.009	1.001	-	
2412	1	802.11b	DSSS	22	17.0	16.96	0.09	Left	Tilt	1	0539M	1	99.9	0.171	-	1.009	1.001	-	
2462	11	802.11b	DSSS	22	17.0	16.92	0.17	Right	Cheek	2	0539M	1	99.9	0.305	-	1.019	1.001	-	
2462	11	802.11b	DSSS	22	17.0	16.92	0.00	Right	Tilt	2	0539M	1	99.9	0.357	-	1.019	1.001	-	
2462	11	802.11b	DSSS	22	17.0	16.92	0.12	Left	Cheek	2	0539M	1	99.9	0.285	-	1.019	1.001	-	
2462	11	802.11b	DSSS	22	17.0	16.92	0.13	Left	Tilt	2	0539M	1	99.9	0.396	0.224	1.019	1.001	0.228	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram											

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Table 11-22
NII Head SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5270	54	802.11n	OFDM	40	14.0	13.90	-0.12	Right	Cheek	1	0539M	13.5	97.4	0.735	0.337	1.023	1.027	0.354	
5270	54	802.11n	OFDM	40	14.0	13.90	-0.16	Right	Tilt	1	0539M	13.5	97.4	0.856	0.385	1.023	1.027	**0.404**	A22
5270	54	802.11n	OFDM	40	14.0	13.90	0.18	Left	Cheek	1	0539M	13.5	97.4	0.463	-	1.023	1.027	-	
5270	54	802.11n	OFDM	40	14.0	13.90	-0.18	Left	Tilt	1	0539M	13.5	97.4	0.436	-	1.023	1.027	-	
5270	54	802.11n	OFDM	40	14.0	13.61	0.07	Right	Cheek	2	0539M	13.5	97.3	0.022	-	1.094	1.028	-	
5270	54	802.11n	OFDM	40	14.0	13.61	0.19	Right	Tilt	2	0539M	13.5	97.3	0.022	-	1.094	1.028	-	
5270	54	802.11n	OFDM	40	14.0	13.61	-0.21	Left	Cheek	2	0539M	13.5	97.3	0.020	-	1.094	1.028	-	
5270	54	802.11n	OFDM	40	14.0	13.61	0.19	Left	Tilt	2	0539M	13.5	97.3	0.031	0.012	1.094	1.028	0.013	
5610	122	802.11ac	OFDM	80	14.0	13.92	0.15	Right	Cheek	1	0539M	29.3	94.4	0.857	-	1.019	1.059	-	
5610	122	802.11ac	OFDM	80	14.0	13.92	-0.15	Right	Tilt	1	0539M	29.3	94.4	0.953	0.345	1.019	1.059	0.372	
5610	122	802.11ac	OFDM	80	14.0	13.92	0.21	Left	Cheek	1	0539M	29.3	94.4	0.394	-	1.019	1.059	-	
5610	122	802.11ac	OFDM	80	14.0	13.92	0.19	Left	Tilt	1	0539M	29.3	94.4	0.435	-	1.019	1.059	-	
5610	122	802.11ac	OFDM	80	14.0	13.99	0.14	Right	Cheek	2	0539M	29.3	94.5	0.026	-	1.002	1.058	-	
5610	122	802.11ac	OFDM	80	14.0	13.99	0.13	Right	Tilt	2	0539M	29.3	94.5	0.032	-	1.002	1.058	-	
5610	122	802.11ac	OFDM	80	14.0	13.99	-0.15	Left	Cheek	2	0539M	29.3	94.5	0.035	-	1.002	1.058	-	
5610	122	802.11ac	OFDM	80	14.0	13.99	0.19	Left	Tilt	2	0539M	29.3	94.5	0.043	0.016	1.002	1.058	0.017	
5775	155	802.11ac	OFDM	80	14.0	13.97	-0.14	Right	Cheek	1	0539M	29.3	94.4	0.649	-	1.007	1.059	-	
5775	155	802.11ac	OFDM	80	14.0	13.97	0.16	Right	Tilt	1	0539M	29.3	94.4	0.776	0.306	1.007	1.059	0.326	
5775	155	802.11ac	OFDM	80	14.0	13.97	-0.08	Left	Cheek	1	0539M	29.3	94.4	0.345	-	1.007	1.059	-	
5775	155	802.11ac	OFDM	80	14.0	13.97	0.14	Left	Tilt	1	0539M	29.3	94.4	0.381	-	1.007	1.059	-	
5775	155	802.11ac	OFDM	80	14.0	13.44	0.05	Right	Cheek	2	0539M	29.3	94.5	0.062	-	1.138	1.058	-	
5775	155	802.11ac	OFDM	80	14.0	13.44	0.19	Right	Tilt	2	0539M	29.3	94.5	0.063	0.024	1.138	1.058	0.029	
5775	155	802.11ac	OFDM	80	14.0	13.44	0.18	Left	Cheek	2	0539M	29.3	94.5	0.052	-	1.138	1.058	-	
5775	155	802.11ac	OFDM	80	14.0	13.44	0.09	Left	Tilt	2	0539M	29.3	94.5	0.054	-	1.138	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 11-23
DSS Head SAR

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	SAR (1g)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)			(W/kg)	
2441.00	39	Bluetooth	FHSS	18.5	18.37	0.21	Right	Cheek	0539M	1	77.1	0.579	1.030	1.297	0.773	
2402.00	0	Bluetooth	FHSS	18.5	17.69	0.10	Right	Tilt	0539M	1	77.1	0.299	1.205	1.297	0.467	
2441.00	39	Bluetooth	FHSS	18.5	18.37	0.09	Right	Tilt	0539M	1	77.1	0.621	1.030	1.297	**0.830**	A23
2480.00	78	Bluetooth	FHSS	18.5	17.48	-0.02	Right	Tilt	0539M	1	77.1	0.503	1.265	1.297	**0.825**	
2441.00	39	Bluetooth	FHSS	18.5	18.37	-0.13	Left	Cheek	0539M	1	77.1	0.128	1.030	1.297	0.171	
2441.00	39	Bluetooth	FHSS	18.5	18.37	0.12	Left	Tilt	0539M	1	77.1	0.186	1.030	1.297	0.248	
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 11-24
GSM/UMTS/CDMA Body-Worn SAR Data

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	Spacing	Device Serial Number	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
836.60	190	GSM 850	GSM	33.5	33.08	N/A	-0.05	15 mm	0481M	1:8.3	back	0.183	1.102	0.202	A24
1880.00	661	GSM 1900	GSM	30.5	29.24	N/A	-0.01	15 mm	0503M	1:8.3	back	0.190	1.337	0.254	A26
836.60	4183	UMTS 850	RMC	25.8	24.85	3	0.01	15 mm	0481M	1:1	back	0.277	1.245	0.345	A28
1732.40	1412	UMTS 1750	RMC	25.0	24.29	35	0.00	15 mm	0503M	1:1	back	0.386	1.178	0.455	A30
1852.40	9262	UMTS 1900	RMC	25.0	24.20	34	-0.07	15 mm	0503M	1:1	back	0.628	1.202	0.755	
1880.00	9400	UMTS 1900	RMC	25.0	24.21	34	0.08	15 mm	0503M	1:1	back	0.741	1.199	0.888	
1907.60	9538	UMTS 1900	RMC	25.0	23.93	34	-0.08	15 mm	0503M	1:1	back	0.812	1.279	**1.039**	A32
820.10	564	CDMA BC10 (§90S)	TDSO / SO32	26.0	25.17	2	-0.05	15 mm	0481M	1:1	back	0.248	1.211	0.300	A34
836.52	384	CDMA BC0 (§22H)	TDSO / SO32	26.0	25.24	2	0.02	15 mm	0481M	1:1	back	0.326	1.191	0.388	A36
1851.25	25	PCS CDMA	TDSO / SO32	25.0	24.19	32	0.05	15 mm	0503M	1:1	back	0.486	1.205	0.586	
1880.00	600	PCS CDMA	TDSO / SO32	25.0	24.39	32	-0.03	15 mm	0503M	1:1	back	0.524	1.151	0.603	
1908.75	1175	PCS CDMA	TDSO / SO32	25.0	24.13	32	0.05	15 mm	0503M	1:1	back	0.699	1.222	0.854	A38
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								**Body 1.6 W/kg (mW/g)** averaged over 1 gram							

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Table 11-25
LTE Body-Worn SAR

MEASUREMENT RESULTS																						
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																	(W/kg)		(W/kg)	
680.50	133297	Mid	LTE Band 71	20	25.5	24.97	17	-0.01	0	N/A	0484M	QPSK	1	0	15 mm	back	1:1	0.260	1.130	0.294	A40
680.50	133297	Mid	LTE Band 71	20	24.5	24.06	17	-0.04	1	N/A	0484M	QPSK	50	0	15 mm	back	1:1	0.228	1.107	0.252	
707.50	23095	Mid	LTE Band 12	10	25.8	24.46	51	0.02	0	N/A	0484M	QPSK	1	0	15 mm	back	1:1	0.300	1.361	0.408	A42
707.50	23095	Mid	LTE Band 12	10	24.8	23.61	51	0.03	1	N/A	0484M	QPSK	25	0	15 mm	back	1:1	0.236	1.315	0.310	
782.00	23230	Mid	LTE Band 13	10	25.8	24.45	16	-0.03	0	N/A	0484M	QPSK	1	0	15 mm	back	1:1	0.182	1.365	0.248	A44
782.00	23230	Mid	LTE Band 13	10	24.8	23.57	16	0.01	1	N/A	0484M	QPSK	25	0	15 mm	back	1:1	0.176	1.327	0.234	
793.00	23330	Mid	LTE Band 14	10	25.8	24.62	16	0.00	0	N/A	0484M	QPSK	1	49	15 mm	back	1:1	0.261	1.312	0.342	A46
793.00	23330	Mid	LTE Band 14	10	24.8	23.74	16	-0.02	1	N/A	0484M	QPSK	25	0	15 mm	back	1:1	0.201	1.276	0.256	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.8	24.71	19	-0.03	0	N/A	0484M	QPSK	1	0	15 mm	back	1:1	0.266	1.285	0.342	A48
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.8	23.92	19	0.02	1	N/A	0484M	QPSK	36	0	15 mm	back	1:1	0.240	1.225	0.294	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.34	42	0.01	0	N/A	0495M	QPSK	1	0	15 mm	back	1:1	0.540	1.164	0.629	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.0	24.24	42	0.06	0	N/A	0495M	QPSK	1	0	15 mm	back	1:1	0.571	1.191	0.680	
1905.00	26590	High	LTE Band 25 (PCS)	20	25.0	24.07	42	0.00	0	N/A	0495M	QPSK	1	99	15 mm	back	1:1	0.574	1.239	0.711	A54
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.44	42	-0.04	1	N/A	0495M	QPSK	50	0	15 mm	back	1:1	0.433	1.138	0.493	
2310.00	27710	Mid	LTE Band 30	10	23.5	22.50	N/A	-0.03	0	N/A	0509M	QPSK	1	0	15 mm	back	1:1	0.500	1.259	0.630	A56
2310.00	27710	Mid	LTE Band 30	10	22.5	21.43	N/A	0.01	1	N/A	0509M	QPSK	25	0	15 mm	back	1:1	0.429	1.279	0.549	
2510.00	20850	Low	LTE Band 7	20	24.5	23.77	N/A	0.06	0	Ant B	0509M	QPSK	1	99	15 mm	back	1:1	0.516	1.183	0.610	
2535.00	21100	Mid	LTE Band 7	20	24.5	23.38	N/A	-0.05	0	Ant B	0509M	QPSK	1	0	15 mm	back	1:1	0.499	1.294	0.646	
2560.00	21350	High	LTE Band 7	20	24.5	23.50	N/A	-0.12	0	Ant B	0509M	QPSK	1	99	15 mm	back	1:1	0.533	1.259	0.671	A58
2510.00	20850	Low	LTE Band 7	20	23.5	22.85	N/A	-0.02	1	Ant B	0509M	QPSK	50	50	15 mm	back	1:1	0.408	1.161	0.474	
2560.00	21350	High	LTE Band 7	20	24.5	23.76	N/A	-0.05	0	Ant A	0509M	QPSK	1	0	15 mm	back	1:1	0.504	1.186	0.598	
2560.00	21350	High	LTE Band 7	20	23.5	22.96	N/A	0.01	1	Ant A	0509M	QPSK	50	0	15 mm	back	1:1	0.417	1.132	0.472	
3690.00	56640	High	LTE Band 48	20	24.5	23.74	N/A	0.04	0	N/A	0509M	QPSK	1	0	15 mm	back	1:1.58	0.089	1.191	0.106	A60
3690.00	56640	High	LTE Band 48	20	23.5	22.97	N/A	0.15	1	N/A	0509M	QPSK	50	0	15 mm	back	1:1.58	0.071	1.130	0.080	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Body 1.6 W/kg (mW/g) averaged over 1 gram										

Note: Test results include LTE B48 but are for information purposes only.

Table 11-26
LTE Band 5 Body-Worn SAR

MEASUREMENT RESULTS																						
1 CC Uplink	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
		MHz	Ch.																(W/kg)		(W/kg)	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	24.83	51	-0.04	0	0484M	QPSK	1	49	15 mm	back	1:1	0.323	1.250	0.404	A50
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	23.98	51	0.02	1	0484M	QPSK	25	0	15 mm	back	1:1	0.241	1.208	0.291	
2 CC Uplink	PCC	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	24.65	51	-0.02	0	0484M	QPSK	1	49	15 mm	back	1:1	0.309	1.303	0.403	
	SCC	843.70	20597	Mid	LTE Band 5 (Cell)	5								1	0	15 mm						
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Body 1.6 W/kg (mW/g) averaged over 1 gram										

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Table 11-27
LTE Band 66 Body-Worn SAR

MEASUREMENT RESULTS																						
1 CC Uplink	Component Carrier	FREQUENCY MHz	FREQUENCY Ch.		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g) (W/kg)	Scaling Factor	Reported SAR (1g) (W/kg)	Plot #
1 CC Uplink	N/A	1720.00	132072	Low	LTE Band 66 (AWS)	20	25.0	24.28	39	-0.08	0	0495M	QPSK	1	50	15 mm	back	1:1	0.566	1.180	0.668	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.54	39	-0.03	0	0495M	QPSK	1	50	15 mm	back	1:1	0.612	1.112	0.681	A52
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	23.58	39	0.01	0	0495M	QPSK	1	0	15 mm	back	1:1	0.446	1.387	0.619	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	10	25.0	23.08	39	-0.05	0	0495M	QPSK	1	0	15 mm	back	1:1	0.450	1.556	0.700	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.52	39	0.05	0	0495M	QPSK	1	0	15 mm	back	1:1	0.605	1.117	0.676	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	23.57	39	-0.04	1	0495M	QPSK	50	25	15 mm	back	1:1	0.533	1.104	0.588	
CA_66C 2 CC Uplink	PCC	1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.20	39	-0.03	0	0495M	QPSK	1	0	15 mm	back	1:1	0.519	1.202	0.624	
	SCC	1725.20	132124	Mid	LTE Band 66 (AWS)	20								1	99	15 mm						
CA_66B 2 CC Uplink	PCC	1745.00	132322	Mid	LTE Band 66 (AWS)	10	25.0	24.02	39	-0.03	0	0495M	QPSK	1	0	15 mm	back	1:1	0.567	1.253	0.710	
	SCC	1735.10	132223	Mid	LTE Band 66 (AWS)	10								1	49	15 mm						
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Body 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-28
LTE Band 41 Body-Worn SAR

MEASUREMENT RESULTS																						
1 CC Uplink | 2 CC Uplink, Power Class	Component Carrier	FREQUENCY MHz	FREQUENCY Ch.		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g) (W/kg)	Scaling Factor	Reported SAR (1g) (W/kg)	Plot #
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	25.3	24.00	0.00	0	0482M	QPSK	1	0	15 mm	back	1:1.58	0.326	1.349	0.440	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.3	23.28	-0.12	1	0482M	QPSK	50	0	15 mm	back	1:1.58	0.271	1.265	0.343	
1 CC Uplink - Power Class 2	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	28.3	26.62	0.10	0	0482M	QPSK	1	0	15 mm	back	1:2.31	0.387	1.472	0.570	
2 CC Uplink - Power Class 3	PCC	2549.50	40185	Low-Mid	LTE Band 41	20	25.3	25.18	0.16	0	0482M	QPSK	1	0	15 mm	back	1:1.58	0.470	1.028	0.483	
	SCC	2529.70	39987	Low-Mid	LTE Band 41								1	99							
2 CC Uplink - Power Class 2	PCC	2549.50	40185	Low-Mid	LTE Band 41	20	28.3	27.90	-0.02	0	0321M	QPSK	1	0	15 mm	back	1:2.31	0.566	1.096	0.620	A62
	SCC	2529.70	39987	Low-Mid	LTE Band 41								1	99							
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Body 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-29
DTS Body-Worn SAR

MEASUREMENT RESULTS																			
FREQUENCY MHz	FREQUENCY Ch.	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 W/kg	SAR (1g) (W/kg)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g) (W/kg)	Plot #
2437	6	802.11b	DSSS	22	20.0	19.65	0.06	15 mm	1	0539M	1	back	99.9	0.170	0.144	1.084	1.001	**0.156**	A64
2437	6	802.11b	DSSS	22	19.0	18.89	0.02	15 mm	2	0539M	1	back	99.9	0.156	0.137	1.026	1.001	0.141	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram											

Table 11-30
DTS MIMO Body-Worn SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR

MEASUREMENT RESULTS																					
FREQUENCY MHz	FREQUENCY Ch.	Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan W/kg	SAR (1g) (W/kg)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g) (W/kg)	Plot #
2412	1	802.11n	OFDM	20	17.0	16.70	17.0	16.60	0.16	15 mm	MIMO	0539M	13	back	98.7	0.119	0.103	1.096	1.013	0.114	
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.

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Table 11-31
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)	
5300	60	802.11a	OFDM	20	18.0	17.97	0.15	15 mm	1	0539M	6	back	98.8	0.184	0.099	1.007	1.012	0.101	
5280	56	802.11a	OFDM	20	18.0	17.91	0.17	15 mm	2	0193M	6	back	98.9	0.350	0.181	1.021	1.011	0.187	
5620	124	802.11a	OFDM	20	18.0	17.89	0.19	15 mm	1	0539M	6	back	98.8	0.389	0.176	1.026	1.012	0.183	
5720	144	802.11a	OFDM	20	18.0	17.79	0.09	15 mm	2	0193M	6	back	98.9	0.570	0.266	1.050	1.011	0.282	
5745	149	802.11a	OFDM	20	18.0	17.93	0.18	15 mm	1	0539M	6	back	98.8	0.381	0.182	1.016	1.012	0.187	
5745	149	802.11a	OFDM	20	18.0	17.77	0.03	15 mm	2	0193M	6	back	98.9	0.643	0.292	1.054	1.011	0.311	
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 11-32
NII MIMO Body-Worn SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5300	60	802.11n	OFDM	20	18.0	17.74	18.0	17.60	0.02	15 mm	MIMO	0193M	13	back	98.7	0.676	0.312	1.096	1.013	0.346	
5600	120	802.11n	OFDM	20	18.0	17.94	18.0	17.81	0.06	15 mm	MIMO	0193M	13	back	98.7	0.761	0.315	1.045	1.013	0.333	
5785	157	802.11n	OFDM	20	18.0	17.97	18.0	17.84	-0.04	15 mm	MIMO	0193M	13	back	98.7	0.978	0.387	1.038	1.013	0.407	A66
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram											

For channels 60, 120, and 157, to achieve the 21 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 18 dBm.

Table 11-33
NII MIMO Body-worn SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5270	54	802.11n	OFDM	40	14.0	13.90	14.0	13.61	0.13	15 mm	MIMO	0193M	27	back	98.1	0.231	0.148	1.094	1.019	0.165	
5610	122	802.11ac	OFDM	80	14.0	13.92	14.0	13.99	0.13	15 mm	MIMO	0193M	58.5	back	98.0	0.360	0.223	1.019	1.020	0.232	
5775	155	802.11ac	OFDM	80	14.0	13.97	14.0	13.44	0.16	15 mm	MIMO	0193M	58.5	back	98.0	0.480	0.270	1.138	1.020	0.313	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) 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 11-34
DSS Body-Worn SAR

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	SAR (1g)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)			(W/kg)	
2441	39	Bluetooth	FHSS	18.5	18.37	0.20	15 mm	0486M	1	back	77.1	0.092	1.030	1.297	0.123	A68
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram									

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11.3 Standalone Hotspot SAR Data

Table 11-35
GPRS/UMTS/CDMA Hotspot SAR Data

MEASUREMENT RESULTS																	
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	Spacing	Device Serial Number	# of GPRS Slots	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.												(W/kg)		(W/kg)	
836.60	190	GSM 850	GPRS	30.5	29.80	N/A	-0.18	10 mm	0481M	3	1:2.76	back	0.384	1.175	0.451	A25
836.60	190	GSM 850	GPRS	30.5	29.80	N/A	-0.02	10 mm	0481M	3	1:2.76	front	0.339	1.175	0.398	
836.60	190	GSM 850	GPRS	30.5	29.80	N/A	-0.07	10 mm	0481M	3	1:2.76	bottom	0.258	1.175	0.303	
836.60	190	GSM 850	GPRS	30.5	29.80	N/A	0.08	10 mm	0481M	3	1:2.76	right	0.246	1.175	0.289	
836.60	190	GSM 850	GPRS	30.5	29.80	N/A	0.13	10 mm	0481M	3	1:2.76	left	0.138	1.175	0.162	
1880.00	661	GSM 1900	GPRS	25.5	24.39	N/A	-0.04	10 mm	0503M	3	1:2.76	back	0.310	1.291	0.400	
1880.00	661	GSM 1900	GPRS	25.5	24.39	N/A	-0.05	10 mm	0503M	3	1:2.76	front	0.295	1.291	0.381	
1850.20	512	GSM 1900	GPRS	25.5	24.12	N/A	-0.04	10 mm	0503M	3	1:2.76	bottom	0.499	1.374	0.686	
1880.00	661	GSM 1900	GPRS	25.5	24.39	N/A	-0.04	10 mm	0503M	3	1:2.76	bottom	0.572	1.291	0.738	
1909.80	810	GSM 1900	GPRS	25.5	24.38	N/A	-0.13	10 mm	0503M	3	1:2.76	bottom	0.695	1.294	0.899	A27
1880.00	661	GSM 1900	GPRS	25.5	24.39	N/A	0.03	10 mm	0503M	3	1:2.76	right	0.051	1.291	0.066	
1880.00	661	GSM 1900	GPRS	25.5	24.39	N/A	-0.02	10 mm	0503M	3	1:2.76	left	0.059	1.291	0.076	
826.40	4132	UMTS 850	RMC	25.8	24.97	3	-0.13	10 mm	0481M	N/A	1:1	back	0.554	1.211	0.671	
836.60	4183	UMTS 850	RMC	25.8	24.85	3	-0.05	10 mm	0481M	N/A	1:1	back	0.572	1.245	0.712	
846.60	4233	UMTS 850	RMC	25.8	24.77	3	-0.14	10 mm	0481M	N/A	1:1	back	0.572	1.268	0.725	A29
836.60	4183	UMTS 850	RMC	25.8	24.85	3	-0.01	10 mm	0481M	N/A	1:1	front	0.457	1.245	0.569	
836.60	4183	UMTS 850	RMC	25.8	24.85	3	-0.07	10 mm	0481M	N/A	1:1	bottom	0.403	1.245	0.502	
836.60	4183	UMTS 850	RMC	25.8	24.85	3	-0.01	10 mm	0481M	N/A	1:1	right	0.329	1.245	0.410	
836.60	4183	UMTS 850	RMC	25.8	24.85	3	-0.01	10 mm	0481M	N/A	1:1	left	0.150	1.245	0.187	
1732.40	1412	UMTS 1750	RMC	21.0	20.21	35	-0.03	10 mm	0503M	N/A	1:1	back	0.286	1.199	0.343	
1732.40	1412	UMTS 1750	RMC	21.0	20.21	35	-0.03	10 mm	0503M	N/A	1:1	front	0.247	1.199	0.296	
1712.40	1312	UMTS 1750	RMC	21.0	20.26	35	0.00	10 mm	0503M	N/A	1:1	bottom	0.528	1.186	0.626	
1732.40	1412	UMTS 1750	RMC	21.0	20.21	35	-0.03	10 mm	0503M	N/A	1:1	bottom	0.516	1.199	0.619	
1752.60	1513	UMTS 1750	RMC	21.0	20.17	35	-0.05	10 mm	0503M	N/A	1:1	bottom	0.544	1.211	0.659	A31
1732.40	1412	UMTS 1750	RMC	21.0	20.21	35	0.10	10 mm	0503M	N/A	1:1	right	0.041	1.199	0.049	
1732.40	1412	UMTS 1750	RMC	21.0	20.21	35	0.12	10 mm	0503M	N/A	1:1	left	0.056	1.199	0.067	
1880.00	9400	UMTS 1900	RMC	20.5	20.28	34	-0.05	10 mm	0503M	N/A	1:1	back	0.523	1.052	0.550	
1880.00	9400	UMTS 1900	RMC	20.5	20.28	34	-0.03	10 mm	0503M	N/A	1:1	front	0.545	1.052	0.573	
1852.40	9262	UMTS 1900	RMC	20.5	20.10	34	-0.06	10 mm	0503M	N/A	1:1	bottom	0.813	1.096	0.891	
1880.00	9400	UMTS 1900	RMC	20.5	20.28	34	-0.07	10 mm	0503M	N/A	1:1	bottom	0.916	1.052	0.964	
1907.60	9538	UMTS 1900	RMC	20.5	19.98	34	-0.17	10 mm	0503M	N/A	1:1	bottom	1.010	1.127	1.138	A33
1880.00	9400	UMTS 1900	RMC	20.5	20.28	34	-0.05	10 mm	0503M	N/A	1:1	right	0.095	1.052	0.100	
1880.00	9400	UMTS 1900	RMC	20.5	20.28	34	-0.04	10 mm	0503M	N/A	1:1	left	0.089	1.052	0.094	
1907.60	9538	UMTS 1900	RMC	20.5	19.98	34	-0.02	10 mm	0503M	N/A	1:1	bottom	1.000	1.127	1.127	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	26.0	25.22	2	-0.04	10 mm	0481M	N/A	1:1	back	0.525	1.197	0.628	A35
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	26.0	25.22	2	0.01	10 mm	0481M	N/A	1:1	front	0.386	1.197	0.462	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	26.0	25.22	2	-0.07	10 mm	0481M	N/A	1:1	bottom	0.375	1.197	0.449	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	26.0	25.22	2	0.02	10 mm	0481M	N/A	1:1	right	0.286	1.197	0.342	
820.10	564	CDMA BC10 (§90S)	EVDO Rev. 0	26.0	25.22	2	0.04	10 mm	0481M	N/A	1:1	left	0.143	1.197	0.171	
824.70	1013	CDMA BC0 (§22H)	EVDO Rev. 0	26.0	25.29	2	-0.01	10 mm	0481M	N/A	1:1	back	0.565	1.178	0.666	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	26.0	25.26	2	0.00	10 mm	0481M	N/A	1:1	back	0.635	1.186	0.753	A37
848.31	777	CDMA BC0 (§22H)	EVDO Rev. 0	26.0	25.17	2	-0.01	10 mm	0481M	N/A	1:1	back	0.618	1.211	0.748	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	26.0	25.26	2	0.00	10 mm	0481M	N/A	1:1	front	0.561	1.186	0.665	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	26.0	25.26	2	0.00	10 mm	0481M	N/A	1:1	bottom	0.460	1.186	0.546	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	26.0	25.26	2	0.01	10 mm	0481M	N/A	1:1	right	0.288	1.186	0.342	
836.52	384	CDMA BC0 (§22H)	EVDO Rev. 0	26.0	25.26	2	0.00	10 mm	0481M	N/A	1:1	left	0.125	1.186	0.148	
1880.00	600	PCS CDMA	EVDO Rev. 0	20.0	19.46	32	-0.02	10 mm	0503M	N/A	1:1	back	0.408	1.132	0.462	
1880.00	600	PCS CDMA	EVDO Rev. 0	20.0	19.46	32	0.02	10 mm	0503M	N/A	1:1	front	0.344	1.132	0.389	
1851.25	25	PCS CDMA	EVDO Rev. 0	20.0	19.22	32	-0.02	10 mm	0503M	N/A	1:1	bottom	0.566	1.197	0.678	
1880.00	600	PCS CDMA	EVDO Rev. 0	20.0	19.46	32	0.00	10 mm	0503M	N/A	1:1	bottom	0.660	1.132	0.747	
1908.75	1175	PCS CDMA	EVDO Rev. 0	20.0	19.15	32	0.01	10 mm	0503M	N/A	1:1	bottom	0.733	1.216	0.891	A39
1880.00	600	PCS CDMA	EVDO Rev. 0	20.0	19.46	32	-0.05	10 mm	0503M	N/A	1:1	right	0.057	1.132	0.065	
1880.00	600	PCS CDMA	EVDO Rev. 0	20.0	19.46	32	-0.05	10 mm	0503M	N/A	1:1	left	0.067	1.132	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								

Note: Blue entry represents variability measurement.

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Table 11-36
LTE Band 71 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
680.50	133297	Mid	LTE Band 71	20	25.5	24.97	17	0.06	0	0484M	QPSK	1	0	10 mm	back	1:1	0.330	1.130	0.373	A41
680.50	133297	Mid	LTE Band 71	20	24.5	24.06	17	0.01	1	0484M	QPSK	50	0	10 mm	back	1:1	0.287	1.107	0.318	
680.50	133297	Mid	LTE Band 71	20	25.5	24.97	17	-0.03	0	0484M	QPSK	1	0	10 mm	front	1:1	0.276	1.130	0.312	
680.50	133297	Mid	LTE Band 71	20	24.5	24.06	17	-0.04	1	0484M	QPSK	50	0	10 mm	front	1:1	0.241	1.107	0.267	
680.50	133297	Mid	LTE Band 71	20	25.5	24.97	17	-0.03	0	0484M	QPSK	1	0	10 mm	bottom	1:1	0.144	1.130	0.163	
680.50	133297	Mid	LTE Band 71	20	24.5	24.06	17	-0.02	1	0484M	QPSK	50	0	10 mm	bottom	1:1	0.130	1.107	0.144	
680.50	133297	Mid	LTE Band 71	20	25.5	24.97	17	0.04	0	0484M	QPSK	1	0	10 mm	right	1:1	0.240	1.130	0.271	
680.50	133297	Mid	LTE Band 71	20	24.5	24.06	17	0.00	1	0484M	QPSK	50	0	10 mm	right	1:1	0.223	1.107	0.247	
680.50	133297	Mid	LTE Band 71	20	25.5	24.97	17	-0.17	0	0484M	QPSK	1	0	10 mm	left	1:1	0.207	1.130	0.234	
680.50	133297	Mid	LTE Band 71	20	24.5	24.06	17	0.01	1	0484M	QPSK	50	0	10 mm	left	1:1	0.185	1.107	0.205	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Body 1.6 W/kg (mW/g) averaged over 1 gram											

Table 11-37
LTE Band 12 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
707.50	23095	Mid	LTE Band 12	10	25.8	24.46	51	-0.09	0	0484M	QPSK	1	0	10 mm	back	1:1	0.367	1.361	0.499	
707.50	23095	Mid	LTE Band 12	10	24.8	23.61	51	0.02	1	0484M	QPSK	25	0	10 mm	back	1:1	0.301	1.315	0.396	
707.50	23095	Mid	LTE Band 12	10	25.8	24.46	51	-0.02	0	0484M	QPSK	1	0	10 mm	front	1:1	0.336	1.361	0.457	
707.50	23095	Mid	LTE Band 12	10	24.8	23.61	51	-0.01	1	0484M	QPSK	25	0	10 mm	front	1:1	0.275	1.315	0.362	
707.50	23095	Mid	LTE Band 12	10	25.8	24.46	51	-0.03	0	0484M	QPSK	1	0	10 mm	bottom	1:1	0.201	1.361	0.274	
707.50	23095	Mid	LTE Band 12	10	24.8	23.61	51	-0.01	1	0484M	QPSK	25	0	10 mm	bottom	1:1	0.165	1.315	0.217	
707.50	23095	Mid	LTE Band 12	10	25.8	24.46	51	0.12	0	0484M	QPSK	1	0	10 mm	right	1:1	0.403	1.361	0.548	A43
707.50	23095	Mid	LTE Band 12	10	24.8	23.61	51	0.00	1	0484M	QPSK	25	0	10 mm	right	1:1	0.322	1.315	0.423	
707.50	23095	Mid	LTE Band 12	10	25.8	24.46	51	0.04	0	0484M	QPSK	1	0	10 mm	left	1:1	0.258	1.361	0.351	
707.50	23095	Mid	LTE Band 12	10	24.8	23.61	51	-0.01	1	0484M	QPSK	25	0	10 mm	left	1:1	0.200	1.315	0.263	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Body 1.6 W/kg (mW/g) averaged over 1 gram											

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Table 11-38
LTE Band 13 Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
782.00	23230	Mid	LTE Band 13	10	25.8	24.45	16	0.01	0	0484M	QPSK	1	0	10 mm	back	1:1	0.282	1.365	0.385	A45
782.00	23230	Mid	LTE Band 13	10	24.8	23.57	16	0.02	1	0484M	QPSK	25	0	10 mm	back	1:1	0.274	1.327	0.364	
782.00	23230	Mid	LTE Band 13	10	25.8	24.45	16	0.01	0	0484M	QPSK	1	0	10 mm	front	1:1	0.234	1.365	0.319	
782.00	23230	Mid	LTE Band 13	10	24.8	23.57	16	0.02	1	0484M	QPSK	25	0	10 mm	front	1:1	0.221	1.327	0.293	
782.00	23230	Mid	LTE Band 13	10	25.8	24.45	16	-0.03	0	0484M	QPSK	1	0	10 mm	bottom	1:1	0.193	1.365	0.263	
782.00	23230	Mid	LTE Band 13	10	24.8	23.57	16	-0.02	1	0484M	QPSK	25	0	10 mm	bottom	1:1	0.190	1.327	0.252	
782.00	23230	Mid	LTE Band 13	10	25.8	24.45	16	0.01	0	0484M	QPSK	1	0	10 mm	right	1:1	0.220	1.365	0.300	
782.00	23230	Mid	LTE Band 13	10	24.8	23.57	16	-0.03	1	0484M	QPSK	25	0	10 mm	right	1:1	0.204	1.327	0.271	
782.00	23230	Mid	LTE Band 13	10	25.8	24.45	16	0.00	0	0484M	QPSK	1	0	10 mm	left	1:1	0.124	1.365	0.169	
782.00	23230	Mid	LTE Band 13	10	24.8	23.57	16	0.00	1	0484M	QPSK	25	0	10 mm	left	1:1	0.116	1.327	0.154	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Body 1.6 W/kg (mW/g) averaged over 1 gram												

Table 11-39
LTE Band 14 Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
793.00	23330	Mid	LTE Band 14	10	25.8	24.62	16	-0.05	0	0484M	QPSK	1	49	10 mm	back	1:1	0.478	1.312	0.627	A47
793.00	23330	Mid	LTE Band 14	10	24.8	23.74	16	-0.06	1	0484M	QPSK	25	0	10 mm	back	1:1	0.388	1.276	0.495	
793.00	23330	Mid	LTE Band 14	10	25.8	24.62	16	0.01	0	0484M	QPSK	1	49	10 mm	front	1:1	0.349	1.312	0.458	
793.00	23330	Mid	LTE Band 14	10	24.8	23.74	16	0.00	1	0484M	QPSK	25	0	10 mm	front	1:1	0.292	1.276	0.373	
793.00	23330	Mid	LTE Band 14	10	25.8	24.62	16	-0.06	0	0484M	QPSK	1	49	10 mm	bottom	1:1	0.327	1.312	0.429	
793.00	23330	Mid	LTE Band 14	10	24.8	23.74	16	-0.05	1	0484M	QPSK	25	0	10 mm	bottom	1:1	0.251	1.276	0.320	
793.00	23330	Mid	LTE Band 14	10	25.8	24.62	16	-0.05	0	0484M	QPSK	1	49	10 mm	right	1:1	0.280	1.312	0.367	
793.00	23330	Mid	LTE Band 14	10	24.8	23.74	16	-0.01	1	0484M	QPSK	25	0	10 mm	right	1:1	0.194	1.276	0.248	
793.00	23330	Mid	LTE Band 14	10	25.8	24.62	16	-0.03	0	0484M	QPSK	1	49	10 mm	left	1:1	0.139	1.312	0.182	
793.00	23330	Mid	LTE Band 14	10	24.8	23.74	16	-0.02	1	0484M	QPSK	25	0	10 mm	left	1:1	0.105	1.276	0.134	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Body 1.6 W/kg (mW/g) averaged over 1 gram												

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Table 11-40
LTE Band 26 (Cell) Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.8	24.71	19	0.02	0	0484M	QPSK	1	0	10 mm	back	1:1	0.508	1.285	0.653	A49
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.8	23.92	19	-0.02	1	0484M	QPSK	36	0	10 mm	back	1:1	0.456	1.225	0.559	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.8	24.71	19	0.03	0	0484M	QPSK	1	0	10 mm	front	1:1	0.455	1.285	0.585	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.8	23.92	19	0.01	1	0484M	QPSK	36	0	10 mm	front	1:1	0.393	1.225	0.481	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.8	24.71	19	-0.05	0	0484M	QPSK	1	0	10 mm	bottom	1:1	0.308	1.285	0.396	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.8	23.92	19	0.00	1	0484M	QPSK	36	0	10 mm	bottom	1:1	0.280	1.225	0.343	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.8	24.71	19	-0.01	0	0484M	QPSK	1	0	10 mm	right	1:1	0.267	1.285	0.343	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.8	23.92	19	0.01	1	0484M	QPSK	36	0	10 mm	right	1:1	0.217	1.225	0.266	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.8	24.71	19	0.08	0	0484M	QPSK	1	0	10 mm	left	1:1	0.138	1.285	0.177	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.8	23.92	19	0.01	1	0484M	QPSK	36	0	10 mm	left	1:1	0.105	1.225	0.129	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Body 1.6 W/kg (mW/g) averaged over 1 gram												

Table 11-41
LTE Band 5 (Cell) Hotspot SAR

MEASUREMENT RESULTS																					
1 CC Uplink	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
		MHz	Ch.																(W/kg)		(W/kg)	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	24.83	51	0.03	0	0484M	QPSK	1	49	10 mm	back	1:1	0.743	1.250	0.929	A51
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	23.98	51	-0.02	1	0484M	QPSK	25	0	10 mm	back	1:1	0.568	1.208	0.686	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	23.93	51	0.03	1	0484M	QPSK	50	0	10 mm	back	1:1	0.575	1.222	0.703	
2 CC Uplink	PCC	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	24.65	51	-0.04	0	0484M	QPSK	1	49	10 mm	back	1:1	0.706	1.303	0.920	
	SCC	843.70	20597	Mid	LTE Band 5 (Cell)	5								1	0							
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	24.83	51	0.00	0	0484M	QPSK	1	49	10 mm	front	1:1	0.559	1.250	0.699	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	23.98	51	0.02	1	0484M	QPSK	25	0	10 mm	front	1:1	0.471	1.208	0.569	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	24.83	51	-0.08	0	0484M	QPSK	1	49	10 mm	bottom	1:1	0.479	1.250	0.599	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	23.98	51	0.00	1	0484M	QPSK	25	0	10 mm	bottom	1:1	0.365	1.208	0.441	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	24.83	51	0.02	0	0484M	QPSK	1	49	10 mm	right	1:1	0.311	1.250	0.389	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	23.98	51	0.03	1	0484M	QPSK	25	0	10 mm	right	1:1	0.243	1.208	0.294	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	24.83	51	-0.02	0	0484M	QPSK	1	49	10 mm	left	1:1	0.134	1.250	0.168	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	23.98	51	0.01	1	0484M	QPSK	25	0	10 mm	left	1:1	0.124	1.208	0.150	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Body 1.6 W/kg (mW/g) averaged over 1 gram										

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Table 11-42
LTE Band 66 (AWS) Hotspot SAR

MEASUREMENT RESULTS																						
1 CC Uplink	Component Carrier	FREQUENCY MHz	FREQUENCY Ch.		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g) (W/kg)	Scaling Factor	Reported SAR (1g) (W/kg)	Plot #
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	20.5	19.64	39	-0.02	0	0495M	QPSK	1	0	10 mm	back	1:1	0.291	1.219	0.355	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	20.5	19.70	39	0.01	0	0495M	QPSK	50	25	10 mm	back	1:1	0.285	1.202	0.343	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	20.5	19.64	39	-0.09	0	0495M	QPSK	1	0	10 mm	front	1:1	0.248	1.219	0.302	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	20.5	19.70	39	-0.06	0	0495M	QPSK	50	25	10 mm	front	1:1	0.245	1.202	0.294	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	20.5	19.64	39	-0.03	0	0495M	QPSK	1	0	10 mm	bottom	1:1	0.471	1.219	0.574	
1 CC Uplink	N/A	1775.00	132622	High	LTE Band 66 (AWS)	10	20.5	18.53	39	-0.03	0	0495M	QPSK	1	0	10 mm	bottom	1:1	0.377	1.574	0.593	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	20.5	19.70	39	-0.06	0	0495M	QPSK	50	25	10 mm	bottom	1:1	0.468	1.202	0.563	
CA_66C 2 CC Uplink	PCC	1770.00	132572	High	LTE Band 66 (AWS)	20	20.5	19.82	39	-0.04	0	0495M	QPSK	1	0	10 mm	bottom	1:1	0.470	1.169	0.549	
	SCC	1750.20	132374	High	LTE Band 66 (AWS)	20								1	99							
CA_66B 2 CC Uplink	PCC	1775.00	132622	High	LTE Band 66 (AWS)	10	20.5	20.22	39	-0.02	0	0495M	QPSK	1	0	10 mm	bottom	1:1	0.582	1.067	0.621	A53
	SCC	1765.10	132523	High	LTE Band 66 (AWS)	10								1	49							
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	20.5	19.64	39	-0.14	0	0495M	QPSK	1	0	10 mm	right	1:1	0.057	1.219	0.069	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	20.5	19.70	39	-0.02	0	0495M	QPSK	50	25	10 mm	right	1:1	0.061	1.202	0.073	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	20.5	19.64	39	-0.07	0	0495M	QPSK	1	0	10 mm	left	1:1	0.100	1.219	0.122	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	20.5	19.70	39	0.03	0	0495M	QPSK	50	25	10 mm	left	1:1	0.103	1.202	0.124	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Body 1.6 W/kg (mW/g) averaged over 1 gram											

Table 11-43
LTE Band 25 (PCS) Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY MHz	FREQUENCY Ch.		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g) (W/kg)	Scaling Factor	Reported SAR (1g) (W/kg)	Plot #
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.5	20.35	42	0.01	0	0495M	QPSK	1	0	10 mm	back	1:1	0.468	1.035	0.484	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.5	20.45	42	0.02	0	0495M	QPSK	50	0	10 mm	back	1:1	0.500	1.012	0.506	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.5	20.35	42	0.05	0	0495M	QPSK	1	0	10 mm	front	1:1	0.476	1.035	0.493	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.5	20.45	42	0.04	0	0495M	QPSK	50	0	10 mm	front	1:1	0.508	1.012	0.514	
1860.00	26140	Low	LTE Band 25 (PCS)	20	20.5	20.24	42	-0.11	0	0495M	QPSK	1	0	10 mm	bottom	1:1	0.797	1.062	0.846	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.5	20.35	42	-0.04	0	0495M	QPSK	1	0	10 mm	bottom	1:1	0.875	1.035	0.906	
1905.00	26590	High	LTE Band 25 (PCS)	20	20.5	20.22	42	0.05	0	0495M	QPSK	1	0	10 mm	bottom	1:1	0.836	1.067	0.892	
1860.00	26140	Low	LTE Band 25 (PCS)	20	20.5	20.26	42	-0.06	0	0495M	QPSK	50	0	10 mm	bottom	1:1	0.819	1.057	0.866	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.5	20.45	42	-0.01	0	0495M	QPSK	50	0	10 mm	bottom	1:1	0.897	1.012	0.908	A55
1905.00	26590	High	LTE Band 25 (PCS)	20	20.5	20.25	42	0.00	0	0495M	QPSK	50	0	10 mm	bottom	1:1	0.861	1.059	0.912	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.5	20.34	42	-0.08	0	0495M	QPSK	100	0	10 mm	bottom	1:1	0.876	1.038	0.909	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.5	20.35	42	-0.01	0	0495M	QPSK	1	0	10 mm	right	1:1	0.081	1.035	0.084	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.5	20.45	42	0.01	0	0495M	QPSK	50	0	10 mm	right	1:1	0.085	1.012	0.086	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.5	20.35	42	0.05	0	0495M	QPSK	1	0	10 mm	left	1:1	0.068	1.035	0.070	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	20.5	20.45	42	0.02	0	0495M	QPSK	50	0	10 mm	left	1:1	0.073	1.012	0.074	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Body 1.6 W/kg (mW/g) averaged over 1 gram											

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Table 11-44
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	21.0	20.09	0.00	0	0509M	QPSK	1	0	10 mm	back	1:1	0.450	1.233	0.555	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.15	-0.01	0	0509M	QPSK	25	0	10 mm	back	1:1	0.461	1.216	0.561	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.09	-0.03	0	0509M	QPSK	1	0	10 mm	front	1:1	0.287	1.233	0.354	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.15	0.03	0	0509M	QPSK	25	0	10 mm	front	1:1	0.296	1.216	0.360	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.09	0.18	0	0509M	QPSK	1	0	10 mm	bottom	1:1	0.832	1.233	1.026	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.15	0.19	0	0509M	QPSK	25	0	10 mm	bottom	1:1	0.903	1.216	1.098	A57
2310.00	27710	Mid	LTE Band 30	10	21.0	20.07	0.01	0	0509M	QPSK	50	0	10 mm	bottom	1:1	0.782	1.239	0.969	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.09	0.00	0	0509M	QPSK	1	0	10 mm	right	1:1	0.049	1.233	0.060	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.15	0.01	0	0509M	QPSK	25	0	10 mm	right	1:1	0.052	1.216	0.063	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.09	-0.13	0	0509M	QPSK	1	0	10 mm	left	1:1	0.058	1.233	0.072	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.15	0.12	0	0509M	QPSK	25	0	10 mm	left	1:1	0.057	1.216	0.069	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.15	0.04	0	0509M	QPSK	25	0	10 mm	bottom	1:1	0.863	1.216	1.049	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram												

Note: Blue entry represents variability measurement.

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Table 11-45
LTE Band 7 Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
2510.00	20850	Low	LTE Band 7	20	21.0	20.32	0.02	0	Ant B	0509M	QPSK	1	0	10 mm	back	1:1	0.330	1.169	0.386	
2510.00	20850	Low	LTE Band 7	20	21.0	20.47	-0.03	0	Ant B	0509M	QPSK	50	50	10 mm	back	1:1	0.362	1.130	0.409	
2510.00	20850	Low	LTE Band 7	20	21.0	20.32	0.00	0	Ant B	0509M	QPSK	1	0	10 mm	front	1:1	0.179	1.169	0.209	
2510.00	20850	Low	LTE Band 7	20	21.0	20.47	0.04	0	Ant B	0509M	QPSK	50	50	10 mm	front	1:1	0.196	1.130	0.221	
2510.00	20850	Low	LTE Band 7	20	21.0	20.32	-0.01	0	Ant B	0509M	QPSK	1	0	10 mm	bottom	1:1	0.412	1.169	0.482	
2510.00	20850	Low	LTE Band 7	20	21.0	20.47	0.01	0	Ant B	0509M	QPSK	50	50	10 mm	bottom	1:1	0.450	1.130	0.509	
2510.00	20850	Low	LTE Band 7	20	21.0	20.32	-0.03	0	Ant B	0509M	QPSK	1	0	10 mm	left	1:1	0.129	1.169	0.151	
2510.00	20850	Low	LTE Band 7	20	21.0	20.47	0.02	0	Ant B	0509M	QPSK	50	50	10 mm	left	1:1	0.139	1.130	0.157	
2560.00	21350	High	LTE Band 7	20	21.0	20.25	-0.03	0	Ant A	0509M	QPSK	1	99	10 mm	back	1:1	0.367	1.189	0.436	
2560.00	21350	High	LTE Band 7	20	21.0	20.35	-0.04	0	Ant A	0509M	QPSK	50	0	10 mm	back	1:1	0.399	1.161	0.463	
2560.00	21350	High	LTE Band 7	20	21.0	20.25	-0.01	0	Ant A	0509M	QPSK	1	99	10 mm	front	1:1	0.293	1.189	0.348	
2560.00	21350	High	LTE Band 7	20	21.0	20.35	-0.01	0	Ant A	0509M	QPSK	50	0	10 mm	front	1:1	0.314	1.161	0.365	
2510.00	20850	Low	LTE Band 7	20	21.0	19.89	0.12	0	Ant A	0509M	QPSK	1	0	10 mm	bottom	1:1	0.970	1.291	**1.252**	A59
2535.00	21100	Mid	LTE Band 7	20	21.0	19.75	0.12	0	Ant A	0509M	QPSK	1	0	10 mm	bottom	1:1	0.832	1.334	1.110	
2560.00	21350	High	LTE Band 7	20	21.0	20.25	-0.02	0	Ant A	0509M	QPSK	1	99	10 mm	bottom	1:1	0.823	1.189	0.979	
2510.00	20850	Low	LTE Band 7	20	21.0	19.93	0.15	0	Ant A	0509M	QPSK	50	0	10 mm	bottom	1:1	0.946	1.279	1.210	
2535.00	21100	Mid	LTE Band 7	20	21.0	19.92	0.13	0	Ant A	0509M	QPSK	50	50	10 mm	bottom	1:1	0.835	1.282	1.070	
2560.00	21350	High	LTE Band 7	20	21.0	20.35	-0.04	0	Ant A	0509M	QPSK	50	0	10 mm	bottom	1:1	0.828	1.161	0.961	
2560.00	21350	High	LTE Band 7	20	21.0	20.24	0.15	0	Ant A	0509M	QPSK	100	0	10 mm	bottom	1:1	0.835	1.191	0.994	
2560.00	21350	High	LTE Band 7	20	21.0	20.25	0.20	0	Ant A	0509M	QPSK	1	99	10 mm	right	1:1	0.044	1.189	0.052	
2560.00	21350	High	LTE Band 7	20	21.0	20.35	-0.03	0	Ant A	0509M	QPSK	50	0	10 mm	right	1:1	0.059	1.161	0.068	
2560.00	21350	High	LTE Band 7	20	21.0	20.25	0.14	0	Ant A	0509M	QPSK	1	99	10 mm	left	1:1	0.032	1.189	0.038	
2560.00	21350	High	LTE Band 7	20	21.0	20.35	-0.02	0	Ant A	0509M	QPSK	50	0	10 mm	left	1:1	0.038	1.161	0.044	
2510.00	20850	Low	LTE Band 7	20	21.0	19.89	0.13	0	Ant A	0509M	QPSK	1	0	10 mm	bottom	1:1	0.963	1.291	1.243	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Body 1.6 W/kg (mW/g) averaged over 1 gram												

Note: Blue entry represents variability measurement.

Table 11-46
LTE Band 48 Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
3560.00	55340	Low	LTE Band 48	20	21.0	20.52	0.19	0	0509M	QPSK	1	99	10 mm	back	1:1.58	0.116	1.117	0.130	
3560.00	55340	Low	LTE Band 48	20	21.0	20.53	0.04	0	0509M	QPSK	50	50	10 mm	back	1:1.58	0.124	1.114	0.138	
3560.00	55340	Low	LTE Band 48	20	21.0	20.52	0.21	0	0509M	QPSK	1	99	10 mm	front	1:1.58	0.088	1.117	0.098	
3560.00	55340	Low	LTE Band 48	20	21.0	20.53	0.14	0	0509M	QPSK	50	50	10 mm	front	1:1.58	0.089	1.114	0.099	
3560.00	55340	Low	LTE Band 48	20	21.0	20.52	0.11	0	0509M	QPSK	1	99	10 mm	bottom	1:1.58	0.179	1.117	0.200	
3560.00	55340	Low	LTE Band 48	20	21.0	20.53	0.01	0	0509M	QPSK	50	50	10 mm	bottom	1:1.58	0.189	1.114	0.211	A61
3560.00	55340	Low	LTE Band 48	20	21.0	20.52	0.13	0	0509M	QPSK	1	99	10 mm	left	1:1.58	0.069	1.117	0.077	
3560.00	55340	Low	LTE Band 48	20	21.0	20.53	-0.01	0	0509M	QPSK	50	50	10 mm	left	1:1.58	0.071	1.114	0.079	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Body 1.6 W/kg (mW/g) averaged over 1 gram										

Note: Test results include LTE B48 but are for information purposes only.

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Table 11-47
LTE Band 41 Hotspot SAR

MEASUREMENT RESULTS																					
1 CC Uplink | 2 CC Uplink, Power Class	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
		MHz	Ch.															(W/kg)		(W/kg)	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	22.5	21.65	-0.03	0	0482M	QPSK	1	0	10 mm	back	1:1.58	0.426	1.216	0.518	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	22.5	21.64	-0.05	0	0482M	QPSK	50	25	10 mm	back	1:1.58	0.417	1.219	0.508	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	22.5	21.65	0.01	0	0482M	QPSK	1	0	10 mm	front	1:1.58	0.297	1.216	0.361	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	22.5	21.64	-0.05	0	0482M	QPSK	50	25	10 mm	front	1:1.58	0.300	1.219	0.366	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	22.5	21.51	0.08	0	0482M	QPSK	1	0	10 mm	bottom	1:1.58	0.618	1.256	0.776	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	22.5	21.65	0.12	0	0482M	QPSK	1	0	10 mm	bottom	1:1.58	0.695	1.216	0.845	
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	22.5	21.33	-0.02	0	0482M	QPSK	1	50	10 mm	bottom	1:1.58	0.563	1.309	0.737	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	22.5	21.26	0.01	0	0482M	QPSK	1	50	10 mm	bottom	1:1.58	0.640	1.330	0.851	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	22.5	21.22	0.19	0	0482M	QPSK	1	50	10 mm	bottom	1:1.58	0.518	1.343	0.696	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	22.5	21.50	-0.11	0	0482M	QPSK	50	50	10 mm	bottom	1:1.58	0.582	1.259	0.733	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	22.5	21.64	0.11	0	0482M	QPSK	50	25	10 mm	bottom	1:1.58	0.701	1.219	0.855	
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	22.5	21.48	0.08	0	0482M	QPSK	50	25	10 mm	bottom	1:1.58	0.653	1.265	0.826	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	22.5	21.32	0.12	0	0482M	QPSK	50	50	10 mm	bottom	1:1.58	0.675	1.312	0.886	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	22.5	21.41	0.20	0	0482M	QPSK	50	25	10 mm	bottom	1:1.58	0.574	1.285	0.738	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	22.5	21.45	-0.19	0	0482M	QPSK	100	0	10 mm	bottom	1:1.58	0.638	1.274	0.813	
1 CC Uplink - Power Class 2	N/A	2636.50	41055	Mid-High	LTE Band 41	20	22.5	21.27	0.16	0	0482M	QPSK	50	50	10 mm	bottom	1:2.31	0.438	1.327	0.581	
2 CC Uplink - Power Class 3	PCC	2636.50	41055	Mid-High	LTE Band 41	20	22.5	22.50	0.07	0	0482M	QPSK	50	50	10 mm	bottom	1:1.58	0.923	1.000	0.923	A63
	SCC	2656.30	41253	Mid-High	LTE Band 41								50	0							
2 CC Uplink - Power Class 2	PCC	2636.50	41055	Mid-High	LTE Band 41	20	22.5	22.27	-0.08	0	0321M	QPSK	50	50	10 mm	bottom	1:2.31	0.588	1.054	0.620	
	SCC	2656.30	41253	Mid-High	LTE Band 41								50	0							
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	22.5	21.65	-0.03	0	0482M	QPSK	1	0	10 mm	left	1:1.58	0.054	1.216	0.066	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	22.5	21.64	-0.12	0	0482M	QPSK	50	25	10 mm	left	1:1.58	0.050	1.219	0.061	
2 CC Uplink - Power Class 3	PCC	2636.50	41055	Mid-High	LTE Band 41	20	22.5	22.50	-0.18	0	0482M	QPSK	50	50	10 mm	bottom	1:1.58	0.919	1.000	0.919	
	SCC	2656.30	41253	Mid-High	LTE Band 41								50	0							
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram								

Note: Blue entry represents variability measurement.

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Table 11-48
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	20.0	19.65	0.13	10 mm	1	0539M	1	back	99.9	0.331	0.271	1.084	1.001	0.294	
2437	6	802.11b	DSSS	22	20.0	19.65	-0.07	10 mm	1	0539M	1	front	99.9	0.220	-	1.084	1.001	-	
2437	6	802.11b	DSSS	22	20.0	19.65	0.14	10 mm	1	0539M	1	top	99.9	0.240	-	1.084	1.001	-	
2437	6	802.11b	DSSS	22	20.0	19.65	0.09	10 mm	1	0539M	1	left	99.9	0.311	-	1.084	1.001	-	
2437	6	802.11b	DSSS	22	19.0	18.89	0.15	10 mm	2	0539M	1	back	99.9	0.321	-	1.026	1.001	-	
2437	6	802.11b	DSSS	22	19.0	18.89	0.11	10 mm	2	0539M	1	front	99.9	0.112	-	1.026	1.001	-	
2437	6	802.11b	DSSS	22	19.0	18.89	0.06	10 mm	2	0539M	1	top	99.9	0.396	0.310	1.026	1.001	**0.318**	A65
2437	6	802.11b	DSSS	22	19.0	18.89	0.11	10 mm	2	0539M	1	left	99.9	0.020	-	1.026	1.001	-	
5745	149	802.11a	OFDM	20	18.0	17.93	-0.16	10 mm	1	0539M	6	back	98.8	0.646	0.376	1.016	1.012	0.387	
5745	149	802.11a	OFDM	20	18.0	17.93	0.13	10 mm	1	0539M	6	front	98.8	0.124	-	1.016	1.012	-	
5745	149	802.11a	OFDM	20	18.0	17.93	0.17	10 mm	1	0539M	6	top	98.8	0.350	-	1.016	1.012	-	
5745	149	802.11a	OFDM	20	18.0	17.93	0.08	10 mm	1	0539M	6	left	98.8	0.644	0.292	1.016	1.012	0.300	
5745	149	802.11a	OFDM	20	18.0	17.77	0.11	10 mm	2	0193M	6	back	98.9	1.110	0.512	1.054	1.011	0.546	
5785	157	802.11a	OFDM	20	18.0	17.42	-0.09	10 mm	2	0193M	6	back	98.9	1.261	0.601	1.143	1.011	**0.694**	
5825	165	802.11a	OFDM	20	18.0	17.40	0.01	10 mm	2	0193M	6	back	98.9	1.429	0.575	1.148	1.011	0.667	
5745	149	802.11a	OFDM	20	18.0	17.77	-0.11	10 mm	2	0193M	6	front	98.9	0.027	-	1.054	1.011	-	
5745	149	802.11a	OFDM	20	18.0	17.77	0.21	10 mm	2	0193M	6	top	98.9	0.085	-	1.054	1.011	-	
5745	149	802.11a	OFDM	20	18.0	17.77	0.18	10 mm	2	0193M	6	left	98.9	0.211	0.075	1.054	1.011	0.080	
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 11-49
MIMO Hotspot SAR

MEASUREMENT RESULTS																						
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5745	149	802.11n	OFDM	20	18.0	17.84	18.0	17.76	0.14	10 mm	MIMO	0193M	13	back	98.7	1.427	0.709	1.057	1.013	0.759	
5785	157	802.11n	OFDM	20	18.0	17.97	18.0	17.84	0.21	10 mm	MIMO	0193M	13	back	98.7	1.644	0.752	1.038	1.013	0.791	A67
5825	165	802.11n	OFDM	20	18.0	17.84	18.0	17.35	0.13	10 mm	MIMO	0193M	13	back	98.7	1.394	0.676	1.161	1.013	0.795	
5785	157	802.11n	OFDM	20	18.0	17.97	18.0	17.84	-0.12	10 mm	MIMO	0193M	13	front	98.7	0.243	0.241	1.038	1.013	0.253	
5785	157	802.11n	OFDM	20	18.0	17.97	18.0	17.84	0.16	10 mm	MIMO	0193M	13	top	98.7	0.463	-	1.038	1.013	-	
5785	157	802.11n	OFDM	20	18.0	17.97	18.0	17.84	0.06	10 mm	MIMO	0193M	13	left	98.7	0.810	0.399	1.038	1.013	0.420	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram											

To achieve the 21 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 18 dBm.

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Table 11-50
DTS/NII MIMO Hotspot SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
2412	1	802.11n	OFDM	20	17.0	16.70	17.0	16.60	0.16	10 mm	MIMO	0539M	13	back	98.7	0.179	0.161	1.096	1.013	0.179	
2412	1	802.11n	OFDM	20	17.0	16.70	17.0	16.60	0.12	10 mm	MIMO	0539M	13	front	98.7	0.102	-	1.096	1.013	-	
2412	1	802.11n	OFDM	20	17.0	16.70	17.0	16.60	0.13	10 mm	MIMO	0539M	13	top	98.7	0.184	0.158	1.096	1.013	0.175	
2412	1	802.11n	OFDM	20	17.0	16.70	17.0	16.60	0.05	10 mm	MIMO	0539M	13	left	98.7	0.148	-	1.096	1.013	-	
5775	155	802.11ac	OFDM	80	14.0	13.97	14.0	13.44	0.18	10 mm	MIMO	0193M	58.5	back	98.0	0.693	0.397	1.138	1.020	0.461	
5775	155	802.11ac	OFDM	80	14.0	13.97	14.0	13.44	0.04	10 mm	MIMO	0193M	58.5	front	98.0	0.126	-	1.138	1.020	-	
5775	155	802.11ac	OFDM	80	14.0	13.97	14.0	13.44	0.16	10 mm	MIMO	0193M	58.5	top	98.0	0.251	-	1.138	1.020	-	
5775	155	802.11ac	OFDM	80	14.0	13.97	14.0	13.44	0.15	10 mm	MIMO	0193M	58.5	left	98.0	0.369	0.201	1.138	1.020	0.233	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram											

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

Table 11-51
DSS Hotspot SAR

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	SAR (1g)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)			(W/kg)	
2441	39	Bluetooth	FHSS	18.5	18.37	-0.04	10 mm	0486M	1	back	77.1	0.185	1.030	1.297	0.247	
2441	39	Bluetooth	FHSS	18.5	18.37	0.07	10 mm	0486M	1	front	77.1	0.107	1.030	1.297	0.143	
2441	39	Bluetooth	FHSS	18.5	18.37	0.00	10 mm	0486M	1	top	77.1	0.169	1.030	1.297	0.226	
2441	39	Bluetooth	FHSS	18.5	18.37	0.03	10 mm	0486M	1	left	77.1	0.207	1.030	1.297	**0.277**	A69
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram									

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11.4 Standalone Phablet SAR Data

Table 11-52
GPRS/UMTS/CDMA Phablet SAR Data

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	Power Drift [dB]	Spacing	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	661	GSM 1900	GPRS	27.5	25.60	N/A	0.04	7 mm	0503M	3	1:2.76	back	0.423	1.549	0.655	
1880.00	661	GSM 1900	GPRS	27.5	25.60	N/A	0.04	5 mm	0503M	3	1:2.76	front	0.527	1.549	0.816	
1880.00	661	GSM 1900	GPRS	27.5	25.60	N/A	-0.05	9 mm	0503M	3	1:2.76	bottom	0.602	1.549	0.932	
1880.00	661	GSM 1900	GPRS	27.5	25.60	N/A	0.10	0 mm	0503M	3	1:2.76	right	0.144	1.549	0.223	
1880.00	661	GSM 1900	GPRS	27.5	25.60	N/A	-0.02	0 mm	0503M	3	1:2.76	left	0.277	1.549	0.429	
1880.00	661	GSM 1900	GPRS	25.5	24.39	N/A	0.01	0 mm	0503M	3	1:2.76	back	1.450	1.291	1.872	
1880.00	661	GSM 1900	GPRS	25.5	24.39	N/A	0.00	0 mm	0503M	3	1:2.76	front	0.994	1.291	1.283	
1850.20	512	GSM 1900	GPRS	25.5	24.12	N/A	-0.19	0 mm	0503M	3	1:2.76	bottom	1.970	1.374	2.707	
1880.00	661	GSM 1900	GPRS	25.5	24.39	N/A	-0.16	0 mm	0503M	3	1:2.76	bottom	2.080	1.291	2.685	
1909.80	810	GSM 1900	GPRS	25.5	24.38	N/A	-0.02	0 mm	0503M	3	1:2.76	bottom	2.540	1.294	**3.287**	A70
1732.40	1412	UMTS 1750	RMC	25.0	24.29	35	-0.05	7 mm	0503M	N/A	1:1	back	0.599	1.178	0.706	
1732.40	1412	UMTS 1750	RMC	25.0	24.29	35	-0.03	5 mm	0503M	N/A	1:1	front	0.692	1.178	0.815	
1732.40	1412	UMTS 1750	RMC	25.0	24.29	35	-0.06	9 mm	0503M	N/A	1:1	bottom	0.833	1.178	0.981	
1732.40	1412	UMTS 1750	RMC	25.0	24.29	35	-0.12	0 mm	0503M	N/A	1:1	right	0.174	1.178	0.205	
1732.40	1412	UMTS 1750	RMC	25.0	24.29	35	-0.03	0 mm	0503M	N/A	1:1	left	0.321	1.178	0.378	
1732.40	1412	UMTS 1750	RMC	22.0	21.24	35	0.01	0 mm	0503M	N/A	1:1	back	1.330	1.191	1.584	
1732.40	1412	UMTS 1750	RMC	22.0	21.24	35	0.12	0 mm	0503M	N/A	1:1	front	1.070	1.191	1.274	
1712.40	1312	UMTS 1750	RMC	22.0	21.31	35	-0.09	0 mm	0503M	N/A	1:1	bottom	2.120	1.172	2.485	
1732.40	1412	UMTS 1750	RMC	22.0	21.24	35	-0.10	0 mm	0503M	N/A	1:1	bottom	2.130	1.191	2.537	
1752.60	1513	UMTS 1750	RMC	22.0	21.22	35	-0.08	0 mm	0503M	N/A	1:1	bottom	2.210	1.197	2.645	A71
1752.60	1513	UMTS 1750	RMC	22.0	21.22	35	-0.03	0 mm	0503M	N/A	1:1	bottom	2.060	1.197	2.466	
1880.00	9400	UMTS 1900	RMC	25.0	24.21	34	0.02	7 mm	0503M	N/A	1:1	back	0.835	1.199	1.001	
1880.00	9400	UMTS 1900	RMC	25.0	24.21	34	0.17	5 mm	0503M	N/A	1:1	front	0.879	1.199	1.054	
1852.40	9262	UMTS 1900	RMC	25.0	24.20	34	0.00	9 mm	0503M	N/A	1:1	bottom	1.260	1.202	1.515	
1880.00	9400	UMTS 1900	RMC	25.0	24.21	34	-0.02	9 mm	0503M	N/A	1:1	bottom	1.390	1.199	1.667	
1907.60	9538	UMTS 1900	RMC	25.0	23.93	34	-0.01	9 mm	0503M	N/A	1:1	bottom	1.510	1.279	1.931	
1880.00	9400	UMTS 1900	RMC	25.0	24.21	34	-0.03	0 mm	0503M	N/A	1:1	right	0.267	1.199	0.320	
1880.00	9400	UMTS 1900	RMC	25.0	24.21	34	-0.20	0 mm	0503M	N/A	1:1	left	0.491	1.199	0.589	
1880.00	9400	UMTS 1900	RMC	21.5	21.29	34	0.08	0 mm	0503M	N/A	1:1	back	1.200	1.050	1.260	
1880.00	9400	UMTS 1900	RMC	21.5	21.29	34	0.11	0 mm	0503M	N/A	1:1	front	1.120	1.050	1.176	
1852.40	9262	UMTS 1900	RMC	21.5	21.12	34	-0.03	0 mm	0503M	N/A	1:1	bottom	2.270	1.091	2.477	
1880.00	9400	UMTS 1900	RMC	21.5	21.29	34	-0.05	0 mm	0503M	N/A	1:1	bottom	2.320	1.050	2.436	A72
1907.60	9538	UMTS 1900	RMC	21.5	21.00	34	0.10	0 mm	0503M	N/A	1:1	bottom	2.120	1.122	2.379	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.0	24.50	32	-0.02	7 mm	0503M	N/A	1:1	back	1.080	1.122	1.212	
1851.25	25	PCS CDMA	EVDO Rev. 0	25.0	24.26	32	0.07	5 mm	0503M	N/A	1:1	front	1.200	1.186	1.423	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.0	24.50	32	0.02	5 mm	0503M	N/A	1:1	front	1.380	1.122	1.548	
1908.75	1175	PCS CDMA	EVDO Rev. 0	25.0	24.19	32	-0.01	5 mm	0503M	N/A	1:1	front	1.410	1.205	1.699	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.0	24.50	32	-0.04	9 mm	0503M	N/A	1:1	bottom	1.160	1.122	1.302	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.0	24.50	32	-0.16	0 mm	0503M	N/A	1:1	right	0.371	1.122	0.416	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.0	24.50	32	-0.01	0 mm	0503M	N/A	1:1	left	0.627	1.122	0.703	
1880.00	600	PCS CDMA	EVDO Rev. 0	21.0	20.43	32	0.11	0 mm	0503M	N/A	1:1	back	1.510	1.140	1.721	
1880.00	600	PCS CDMA	EVDO Rev. 0	21.0	20.43	32	0.00	0 mm	0503M	N/A	1:1	front	1.410	1.140	1.607	
1851.25	25	PCS CDMA	EVDO Rev. 0	21.0	20.14	32	-0.03	0 mm	0503M	N/A	1:1	bottom	2.270	1.219	2.767	
1880.00	600	PCS CDMA	EVDO Rev. 0	21.0	20.43	32	-0.03	0 mm	0503M	N/A	1:1	bottom	2.300	1.140	2.622	A73
1908.75	1175	PCS CDMA	EVDO Rev. 0	21.0	20.12	32	-0.02	0 mm	0503M	N/A	1:1	bottom	2.190	1.225	2.683	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Phablet 4.0 W/kg (mW/g) averaged over 10 grams								

Note: Blue entry represents variability measurement.

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Table 11-53
LTE Band 66 Phablet SAR

MEASUREMENT RESULTS																							
1 CC Uplink	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	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)	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.54	39	-0.10	0	0495M	QPSK	1	50	7 mm	back	1:1	0.978	1.112	1.088	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	23.57	39	-0.13	1	0495M	QPSK	50	25	7 mm	back	1:1	0.799	1.104	0.882	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.54	39	-0.04	0	0495M	QPSK	1	50	5 mm	front	1:1	1.050	1.112	1.168	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	23.57	39	-0.08	1	0495M	QPSK	50	25	5 mm	front	1:1	0.855	1.104	0.944	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.54	39	-0.03	0	0495M	QPSK	1	50	9 mm	bottom	1:1	0.805	1.112	0.895	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	23.57	39	-0.16	1	0495M	QPSK	50	25	9 mm	bottom	1:1	0.608	1.104	0.671	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.54	39	-0.13	0	0495M	QPSK	1	50	0 mm	right	1:1	0.335	1.112	0.373	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	23.57	39	-0.01	1	0495M	QPSK	50	25	0 mm	right	1:1	0.272	1.104	0.300	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.54	39	-0.16	0	0495M	QPSK	1	50	0 mm	left	1:1	0.533	1.112	0.593	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	23.57	39	-0.18	1	0495M	QPSK	50	25	0 mm	left	1:1	0.426	1.104	0.470	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	20.5	19.64	39	-0.09	0	0495M	QPSK	1	0	0 mm	back	1:1	1.120	1.219	1.365	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	20.5	19.70	39	-0.10	0	0495M	QPSK	50	25	0 mm	back	1:1	1.060	1.202	1.274	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	20.5	19.64	39	0.03	0	0495M	QPSK	1	0	0 mm	front	1:1	0.796	1.219	0.970	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	20.5	19.70	39	0.08	0	0495M	QPSK	50	25	0 mm	front	1:1	0.806	1.202	0.969	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	20.5	19.64	39	-0.05	0	0495M	QPSK	1	0	0 mm	bottom	1:1	1.510	1.219	1.841	
1 CC Uplink	N/A	1720.00	132072	Low	LTE Band 66 (AWS)	20	20.5	19.34	39	-0.04	0	0495M	QPSK	50	50	0 mm	bottom	1:1	1.490	1.306	1.946	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	20.5	19.69	39	-0.03	0	0495M	QPSK	50	25	0 mm	bottom	1:1	1.580	1.205	1.904	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	20.5	19.70	39	-0.06	0	0495M	QPSK	50	25	0 mm	bottom	1:1	1.550	1.202	1.863	
1 CC Uplink	N/A	1715.00	132022	Low	LTE Band 66 (AWS)	10	20.5	19.21	39	0.10	0	0495M	QPSK	25	25	0 mm	bottom	1:1	1.350	1.346	1.817	
CA_66C 2 CC Uplink	PCC	1720.00	132072	Low	LTE Band 66 (AWS)	20	20.5	20.06	39	0.07	0	0495M	QPSK	50	50	0 mm	bottom	1:1	1.690	1.107	1.871	A74
	SCC	1739.80	132270	Low	LTE Band 66 (AWS)	20								50	0							
CA_66B 2 CC Uplink	PCC	1715.00	132022	Low	LTE Band 66 (AWS)	10	20.5	19.31	39	-0.19	0	0495M	QPSK	25	25	0 mm	bottom	1:1	1.320	1.315	1.736	
	SCC	1724.90	132121	Low	LTE Band 66 (AWS)	10								25	0							
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Phablet 4.0 W/kg (mW/g) averaged over 10 grams											

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Table 11-54
LTE Band 25 Phablet SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Ant State	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)	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.34	42	-0.05	0	0495M	QPSK	1	0	7 mm	back	1:1	0.979	1.164	1.140	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.44	42	-0.08	1	0495M	QPSK	50	0	7 mm	back	1:1	0.789	1.138	0.898	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.34	42	-0.06	0	0495M	QPSK	1	0	5 mm	front	1:1	1.310	1.164	1.525	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	25.0	24.24	42	-0.21	0	0495M	QPSK	1	0	5 mm	front	1:1	1.350	1.191	1.608	
1905.00	26590	High	LTE Band 25 (PCS)	20	25.0	24.07	42	-0.05	0	0495M	QPSK	1	99	5 mm	front	1:1	1.140	1.239	1.412	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.44	42	-0.08	1	0495M	QPSK	50	0	5 mm	front	1:1	1.070	1.138	1.218	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.34	42	-0.01	0	0495M	QPSK	1	0	9 mm	bottom	1:1	1.210	1.164	1.408	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.44	42	-0.01	1	0495M	QPSK	50	0	9 mm	bottom	1:1	0.930	1.138	1.058	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.34	42	-0.05	0	0495M	QPSK	1	0	0 mm	right	1:1	0.392	1.164	0.456	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.44	42	0.00	1	0495M	QPSK	50	0	0 mm	right	1:1	0.329	1.138	0.374	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	24.34	42	-0.10	0	0495M	QPSK	1	0	0 mm	left	1:1	0.533	1.164	0.620	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.44	42	-0.15	1	0495M	QPSK	50	0	0 mm	left	1:1	0.433	1.138	0.493	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.5	21.42	42	0.13	0	0495M	QPSK	1	0	0 mm	back	1:1	1.590	1.019	1.620	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.5	21.48	42	0.10	0	0495M	QPSK	50	0	0 mm	back	1:1	1.720	1.005	1.729	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.5	21.42	42	0.02	0	0495M	QPSK	1	0	0 mm	front	1:1	1.650	1.019	1.681	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.5	21.48	42	-0.01	0	0495M	QPSK	50	0	0 mm	front	1:1	1.770	1.005	1.779	
1860.00	26140	Low	LTE Band 25 (PCS)	20	21.5	21.21	42	0.07	0	0495M	QPSK	1	0	0 mm	bottom	1:1	2.730	1.069	2.918	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.5	21.42	42	-0.08	0	0495M	QPSK	1	0	0 mm	bottom	1:1	2.750	1.019	2.802	
1905.00	26590	High	LTE Band 25 (PCS)	20	21.5	21.30	42	-0.05	0	0495M	QPSK	1	0	0 mm	bottom	1:1	2.780	1.047	2.911	
1860.00	26140	Low	LTE Band 25 (PCS)	20	21.5	21.39	42	-0.07	0	0495M	QPSK	50	0	0 mm	bottom	1:1	2.830	1.026	2.904	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.5	21.48	42	-0.07	0	0495M	QPSK	50	0	0 mm	bottom	1:1	2.960	1.005	2.975	A75
1905.00	26590	High	LTE Band 25 (PCS)	20	21.5	21.41	42	-0.04	0	0495M	QPSK	50	0	0 mm	bottom	1:1	2.870	1.021	2.930	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.5	21.41	42	-0.09	0	0495M	QPSK	100	0	0 mm	bottom	1:1	2.710	1.021	2.767	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.5	21.48	42	-0.07	0	0495M	QPSK	50	0	0 mm	bottom	1:1	2.740	1.005	2.754	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Phablet 4.0 W/kg (mW/g) averaged over 10 grams												

Note: Blue entry represents variability measurement.

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Table 11-55
LTE Band 30 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)	
2310.00	27710	Mid	LTE Band 30	10	23.5	22.50	-0.05	0	0509M	QPSK	1	0	7 mm	back	1:1	0.631	1.259	0.794	
2310.00	27710	Mid	LTE Band 30	10	22.5	21.43	-0.08	1	0509M	QPSK	25	0	7 mm	back	1:1	0.545	1.279	0.697	
2310.00	27710	Mid	LTE Band 30	10	23.5	22.50	-0.03	0	0509M	QPSK	1	0	5 mm	front	1:1	0.545	1.259	0.686	
2310.00	27710	Mid	LTE Band 30	10	22.5	21.43	-0.02	1	0509M	QPSK	25	0	5 mm	front	1:1	0.478	1.279	0.611	
2310.00	27710	Mid	LTE Band 30	10	23.5	22.50	-0.03	0	0509M	QPSK	1	0	9 mm	bottom	1:1	0.782	1.259	0.985	
2310.00	27710	Mid	LTE Band 30	10	22.5	21.43	0.02	1	0509M	QPSK	25	0	9 mm	bottom	1:1	0.674	1.279	0.862	
2310.00	27710	Mid	LTE Band 30	10	23.5	22.50	-0.13	0	0509M	QPSK	1	0	0 mm	right	1:1	0.257	1.259	0.324	
2310.00	27710	Mid	LTE Band 30	10	22.5	21.43	-0.08	1	0509M	QPSK	25	0	0 mm	right	1:1	0.227	1.279	0.290	
2310.00	27710	Mid	LTE Band 30	10	23.5	22.50	-0.01	0	0509M	QPSK	1	0	0 mm	left	1:1	0.316	1.259	0.398	
2310.00	27710	Mid	LTE Band 30	10	22.5	21.43	-0.03	1	0509M	QPSK	25	0	0 mm	left	1:1	0.273	1.279	0.349	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.09	-0.10	0	0509M	QPSK	1	0	0 mm	back	1:1	1.050	1.233	1.295	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.15	-0.09	0	0509M	QPSK	25	0	0 mm	back	1:1	1.060	1.216	1.289	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.09	-0.04	0	0509M	QPSK	1	0	0 mm	front	1:1	0.791	1.233	0.975	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.15	-0.07	0	0509M	QPSK	25	0	0 mm	front	1:1	0.819	1.216	0.996	
2310.00	27710	Mid	LTE Band 30	10	21.0	20.09	-0.12	0	0509M	QPSK	1	0	0 mm	bottom	1:1	1.140	1.233	1.406	A76
2310.00	27710	Mid	LTE Band 30	10	21.0	20.15	-0.12	0	0509M	QPSK	25	0	0 mm	bottom	1:1	1.140	1.216	1.386	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Phablet 4.0 W/kg (mW/g) averaged over 10 grams											

Table 11-56
LTE Band 7 Ant A Phablet SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	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)	
2560.00	21350	High	LTE Band 7	20	24.5	23.76	0.18	0	Ant A	0509M	QPSK	1	0	7 mm	back	1:1	0.712	1.186	0.844	
2560.00	21350	High	LTE Band 7	20	23.5	22.96	-0.01	1	Ant A	0509M	QPSK	50	0	7 mm	back	1:1	0.576	1.132	0.652	
2560.00	21350	High	LTE Band 7	20	24.5	23.76	-0.01	0	Ant A	0509M	QPSK	1	0	5 mm	front	1:1	0.654	1.186	0.776	
2560.00	21350	High	LTE Band 7	20	23.5	22.96	-0.02	1	Ant A	0509M	QPSK	50	0	5 mm	front	1:1	0.546	1.132	0.618	
2560.00	21350	High	LTE Band 7	20	24.5	23.76	-0.05	0	Ant A	0509M	QPSK	1	0	9 mm	bottom	1:1	1.030	1.186	1.222	
2560.00	21350	High	LTE Band 7	20	23.5	22.96	0.04	1	Ant A	0509M	QPSK	50	0	9 mm	bottom	1:1	0.830	1.132	0.940	
2560.00	21350	High	LTE Band 7	20	24.5	23.76	-0.16	0	Ant A	0509M	QPSK	1	0	0 mm	right	1:1	0.419	1.186	0.497	
2560.00	21350	High	LTE Band 7	20	23.5	22.96	-0.15	1	Ant A	0509M	QPSK	50	0	0 mm	right	1:1	0.318	1.132	0.360	
2560.00	21350	High	LTE Band 7	20	24.5	23.76	-0.04	0	Ant A	0509M	QPSK	1	0	0 mm	left	1:1	0.353	1.186	0.419	
2560.00	21350	High	LTE Band 7	20	23.5	22.96	0.00	1	Ant A	0509M	QPSK	50	0	0 mm	left	1:1	0.285	1.132	0.323	
2560.00	21350	High	LTE Band 7	20	21.0	20.25	-0.09	0	Ant A	0509M	QPSK	1	99	0 mm	back	1:1	0.748	1.189	0.889	
2560.00	21350	High	LTE Band 7	20	21.0	20.35	-0.14	0	Ant A	0509M	QPSK	50	0	0 mm	back	1:1	0.796	1.161	0.924	
2560.00	21350	High	LTE Band 7	20	21.0	20.25	-0.21	0	Ant A	0509M	QPSK	1	99	0 mm	front	1:1	0.622	1.189	0.740	
2560.00	21350	High	LTE Band 7	20	21.0	20.35	-0.21	0	Ant A	0509M	QPSK	50	0	0 mm	front	1:1	0.661	1.161	0.767	
2560.00	21350	High	LTE Band 7	20	21.0	20.25	-0.07	0	Ant A	0509M	QPSK	1	99	0 mm	bottom	1:1	0.852	1.189	1.013	
2560.00	21350	High	LTE Band 7	20	21.0	20.35	-0.04	0	Ant A	0509M	QPSK	50	0	0 mm	bottom	1:1	0.924	1.161	1.073	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Phablet 4.0 W/kg (mW/g) averaged over 10 grams											

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Table 11-57
LTE Band 7 Ant B Phablet SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	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)	
2510.00	20850	Low	LTE Band 7	20	24.5	23.77	0.03	0	Ant B	0509M	QPSK	1	99	7 mm	back	1:1	0.709	1.183	0.839	
2510.00	20850	Low	LTE Band 7	20	23.5	22.85	-0.07	1	Ant B	0509M	QPSK	50	50	7 mm	back	1:1	0.559	1.161	0.649	
2510.00	20850	Low	LTE Band 7	20	24.5	23.77	-0.02	0	Ant B	0509M	QPSK	1	99	5 mm	front	1:1	0.491	1.183	0.581	
2510.00	20850	Low	LTE Band 7	20	23.5	22.85	-0.02	1	Ant B	0509M	QPSK	50	50	5 mm	front	1:1	0.378	1.161	0.439	
2510.00	20850	Low	LTE Band 7	20	24.5	23.77	0.05	0	Ant B	0509M	QPSK	1	99	9 mm	bottom	1:1	1.200	1.183	1.420	
2510.00	20850	Low	LTE Band 7	20	23.5	22.85	-0.04	1	Ant B	0509M	QPSK	50	50	9 mm	bottom	1:1	0.982	1.161	1.140	
2510.00	20850	Low	LTE Band 7	20	24.5	23.77	0.20	0	Ant B	0509M	QPSK	1	99	0 mm	right	1:1	0.298	1.183	0.353	
2510.00	20850	Low	LTE Band 7	20	23.5	22.85	0.02	1	Ant B	0509M	QPSK	50	50	0 mm	right	1:1	0.230	1.161	0.267	
2510.00	20850	Low	LTE Band 7	20	24.5	23.77	-0.03	0	Ant B	0509M	QPSK	1	99	0 mm	left	1:1	1.180	1.183	1.396	
2510.00	20850	Low	LTE Band 7	20	23.5	22.85	-0.13	1	Ant B	0509M	QPSK	50	50	0 mm	left	1:1	0.921	1.161	1.069	
2510.00	20850	Low	LTE Band 7	20	21.0	20.32	-0.18	0	Ant B	0509M	QPSK	1	0	0 mm	back	1:1	1.730	1.169	2.022	
2535.00	21100	Mid	LTE Band 7	20	21.0	20.05	-0.15	0	Ant B	0509M	QPSK	1	0	0 mm	back	1:1	1.660	1.245	2.067	
2560.00	21350	High	LTE Band 7	20	21.0	20.01	-0.11	0	Ant B	0509M	QPSK	1	99	0 mm	back	1:1	1.610	1.256	2.022	
2510.00	20850	Low	LTE Band 7	20	21.0	20.47	-0.05	0	Ant B	0509M	QPSK	50	50	0 mm	back	1:1	1.790	1.130	2.023	
2535.00	21100	Mid	LTE Band 7	20	21.0	20.14	-0.14	0	Ant B	0509M	QPSK	50	0	0 mm	back	1:1	1.690	1.219	2.060	
2560.00	21350	High	LTE Band 7	20	21.0	20.22	-0.19	0	Ant B	0509M	QPSK	50	0	0 mm	back	1:1	1.620	1.197	1.939	
2510.00	20850	Low	LTE Band 7	20	21.0	20.31	-0.18	0	Ant B	0509M	QPSK	100	0	0 mm	back	1:1	1.680	1.172	1.969	
2510.00	20850	Low	LTE Band 7	20	21.0	20.32	-0.04	0	Ant B	0509M	QPSK	1	0	0 mm	front	1:1	0.953	1.169	1.114	
2510.00	20850	Low	LTE Band 7	20	21.0	20.47	0.10	0	Ant B	0509M	QPSK	50	50	0 mm	front	1:1	0.981	1.130	1.109	
2510.00	20850	Low	LTE Band 7	20	21.0	20.32	-0.01	0	Ant B	0509M	QPSK	1	0	0 mm	bottom	1:1	1.740	1.169	2.034	
2535.00	21100	Mid	LTE Band 7	20	21.0	20.05	0.04	0	Ant B	0509M	QPSK	1	0	0 mm	bottom	1:1	1.610	1.245	2.004	
2560.00	21350	High	LTE Band 7	20	21.0	20.01	-0.03	0	Ant B	0509M	QPSK	1	99	0 mm	bottom	1:1	1.490	1.256	1.871	
2510.00	20850	Low	LTE Band 7	20	21.0	20.47	-0.05	0	Ant B	0509M	QPSK	50	50	0 mm	bottom	1:1	1.800	1.130	2.034	
2535.00	21100	Mid	LTE Band 7	20	21.0	20.14	-0.05	0	Ant B	0509M	QPSK	50	0	0 mm	bottom	1:1	1.680	1.219	2.048	
2560.00	21350	High	LTE Band 7	20	21.0	20.22	-0.07	0	Ant B	0509M	QPSK	50	0	0 mm	bottom	1:1	1.580	1.197	1.891	
2510.00	20850	Low	LTE Band 7	20	21.0	20.31	-0.05	0	Ant B	0509M	QPSK	100	0	0 mm	bottom	1:1	1.830	1.172	2.145	A77
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Phablet 4.0 W/kg (mW/g) averaged over 10 grams												

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Table 11-58
LTE Band 48 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)	
3690.00	56640	High	LTE Band 48	20	24.5	23.74	0.05	0	0509M	QPSK	1	0	7 mm	back	1:1.58	0.147	1.191	0.175	
3690.00	56640	High	LTE Band 48	20	23.5	22.97	0.02	1	0509M	QPSK	50	0	7 mm	back	1:1.58	0.122	1.130	0.138	
3690.00	56640	High	LTE Band 48	20	24.5	23.74	0.00	0	0509M	QPSK	1	0	5 mm	front	1:1.58	0.144	1.191	0.172	
3690.00	56640	High	LTE Band 48	20	23.5	22.97	0.01	1	0509M	QPSK	50	0	5 mm	front	1:1.58	0.118	1.130	0.133	
3690.00	56640	High	LTE Band 48	20	24.5	23.74	-0.03	0	0509M	QPSK	1	0	9 mm	bottom	1:1.58	0.112	1.191	0.133	
3690.00	56640	High	LTE Band 48	20	23.5	22.97	-0.04	1	0509M	QPSK	50	0	9 mm	bottom	1:1.58	0.087	1.130	0.098	
3690.00	56640	High	LTE Band 48	20	24.5	23.74	0.17	0	0509M	QPSK	1	0	0 mm	right	1:1.58	0.104	1.191	0.124	
3690.00	56640	High	LTE Band 48	20	23.5	22.97	0.10	1	0509M	QPSK	50	0	0 mm	right	1:1.58	0.087	1.130	0.098	
3690.00	56640	High	LTE Band 48	20	24.5	23.74	0.06	0	0509M	QPSK	1	0	0 mm	left	1:1.58	0.384	1.191	0.457	
3690.00	56640	High	LTE Band 48	20	23.5	22.97	0.08	1	0509M	QPSK	50	0	0 mm	left	1:1.58	0.317	1.130	0.358	
3560.00	55340	Low	LTE Band 48	20	21.0	20.52	-0.14	0	0509M	QPSK	1	99	0 mm	back	1:1.58	0.711	1.117	0.794	
3560.00	55340	Low	LTE Band 48	20	21.0	20.53	-0.15	0	0509M	QPSK	50	50	0 mm	back	1:1.58	0.755	1.114	0.841	
3560.00	55340	Low	LTE Band 48	20	21.0	20.52	-0.13	0	0509M	QPSK	1	99	0 mm	front	1:1.58	0.445	1.117	0.497	
3560.00	55340	Low	LTE Band 48	20	21.0	20.53	0.01	0	0509M	QPSK	50	50	0 mm	front	1:1.58	0.462	1.114	0.515	
3560.00	55340	Low	LTE Band 48	20	21.0	20.52	-0.03	0	0509M	QPSK	1	99	0 mm	bottom	1:1.58	0.773	1.117	0.863	
3560.00	55340	Low	LTE Band 48	20	21.0	20.53	-0.07	0	0509M	QPSK	50	50	0 mm	bottom	1:1.58	0.830	1.114	0.925	A78
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Phablet 4.0 W/kg (mW/g) averaged over 10 grams											

Note: Test results include LTE B48 but are for information purposes only.

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Table 11-59
LTE Band 41 Phablet SAR

MEASUREMENT RESULTS																						
1 CC Uplink | 2 CC Uplink, Power Class	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
		MHz	Ch.															(W/kg)		(W/kg)	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	25.3	24.00	-0.01	0	0482M	QPSK	1	0	7 mm	back	1:1.58	0.486	1.349	0.656	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.3	23.28	0.17	1	0482M	QPSK	50	0	7 mm	back	1:1.58	0.374	1.265	0.473	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	25.3	24.00	-0.08	0	0482M	QPSK	1	0	5 mm	front	1:1.58	0.510	1.349	0.688	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.3	23.28	0.00	1	0482M	QPSK	50	0	5 mm	front	1:1.58	0.399	1.265	0.505	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	25.3	24.00	-0.01	0	0482M	QPSK	1	0	9 mm	bottom	1:1.58	0.659	1.349	0.889	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.3	23.28	-0.05	1	0482M	QPSK	50	0	9 mm	bottom	1:1.58	0.519	1.265	0.657	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	25.3	24.00	-0.21	0	0482M	QPSK	1	0	0 mm	left	1:1.58	0.448	1.349	0.604	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.3	23.28	-0.20	1	0482M	QPSK	50	0	0 mm	left	1:1.58	0.336	1.265	0.425	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	24.0	23.25	-0.14	0	0482M	QPSK	1	0	0 mm	back	1:1.58	1.440	1.189	1.712	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.0	23.45	-0.19	0	0482M	QPSK	1	0	0 mm	back	1:1.58	1.760	1.135	1.998	
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	24.0	23.00	-0.18	0	0482M	QPSK	1	50	0 mm	back	1:1.58	1.360	1.259	1.712	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	24.0	22.99	-0.13	0	0482M	QPSK	1	50	0 mm	back	1:1.58	1.240	1.262	1.565	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	24.0	22.84	-0.18	0	0482M	QPSK	1	0	0 mm	back	1:1.58	1.330	1.306	1.737	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	24.0	23.02	-0.12	0	0482M	QPSK	50	25	0 mm	back	1:1.58	1.270	1.253	1.591	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.0	23.09	-0.14	0	0482M	QPSK	50	25	0 mm	back	1:1.58	1.580	1.233	1.948	
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	24.0	22.90	-0.13	0	0482M	QPSK	50	25	0 mm	back	1:1.58	1.300	1.288	1.674	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	24.0	22.89	-0.18	0	0482M	QPSK	50	25	0 mm	back	1:1.58	1.180	1.291	1.523	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	24.0	22.77	-0.15	0	0482M	QPSK	50	25	0 mm	back	1:1.58	1.260	1.327	1.672	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.0	22.89	-0.17	0	0482M	QPSK	100	0	0 mm	back	1:1.58	1.150	1.291	1.485	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.0	23.45	-0.02	0	0482M	QPSK	1	0	0 mm	front	1:1.58	1.010	1.135	1.146	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.0	23.09	0.05	0	0482M	QPSK	50	25	0 mm	front	1:1.58	0.904	1.233	1.115	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	24.0	23.25	-0.09	0	0482M	QPSK	1	0	0 mm	bottom	1:1.58	1.870	1.189	2.223	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.0	23.45	-0.14	0	0482M	QPSK	1	0	0 mm	bottom	1:1.58	1.800	1.135	2.043	
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	24.0	23.00	-0.16	0	0482M	QPSK	1	50	0 mm	bottom	1:1.58	1.720	1.259	2.165	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	24.0	22.99	-0.08	0	0482M	QPSK	1	50	0 mm	bottom	1:1.58	1.790	1.262	2.259	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	24.0	22.84	-0.07	0	0482M	QPSK	1	0	0 mm	bottom	1:1.58	1.760	1.306	2.299	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	24.0	23.02	-0.14	0	0482M	QPSK	50	25	0 mm	bottom	1:1.58	1.690	1.253	2.118	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.0	23.09	-0.11	0	0482M	QPSK	50	25	0 mm	bottom	1:1.58	1.620	1.233	1.997	
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	24.0	22.90	-0.11	0	0482M	QPSK	50	25	0 mm	bottom	1:1.58	1.600	1.288	2.061	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	24.0	22.89	-0.02	0	0482M	QPSK	50	25	0 mm	bottom	1:1.58	1.720	1.291	2.221	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	24.0	22.77	-0.18	0	0482M	QPSK	50	25	0 mm	bottom	1:1.58	1.690	1.327	2.243	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	24.0	22.89	-0.15	0	0482M	QPSK	100	0	0 mm	bottom	1:1.58	1.550	1.291	2.001	
1 CC Uplink - Power Class 2	N/A	2680.00	41490	High	LTE Band 41	20	24.0	22.88	-0.04	0	0482M	QPSK	1	0	0 mm	bottom	1:2.31	1.190	1.294	1.540	
2 CC Uplink - Power Class 3	PCC	2680.00	41490	High	LTE Band 41	20	24.0	23.47	-0.17	0	0482M	QPSK	1	0	0 mm	bottom	1:1.58	2.110	1.130	2.384	A79
	SCC	2660.20	41292	High	LTE Band 41	20							1	99							
2 CC Uplink - Power Class 2	PCC	2680.00	41490	High	LTE Band 41	20	24.0	23.35	-0.13	0	0321M	QPSK	1	0	0 mm	bottom	1:2.31	1.270	1.161	1.474	
	SCC	2660.20	41292	High	LTE Band 41	20							1	99							
2 CC Uplink - Power Class 3	PCC	2680.00	41490	High	LTE Band 41	20	24.0	23.47	0.15	0	0482M	QPSK	1	0	0 mm	bottom	1:1.58	2.100	1.130	2.373	
	SCC	2660.20	41292	High	LTE Band 41	20							1	99							
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Phablet 4.0 W/kg (mW/g) averaged over 10 grams										

Note: Blue entry represents variability measurement.

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Table 11-60
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)	
5300	60	802.11a	OFDM	20	18.0	17.97	0.19	0 mm	1	0539M	6	back	98.8	5.599	0.634	1.007	1.012	0.646	
5300	60	802.11a	OFDM	20	18.0	17.97	0.07	0 mm	1	0539M	6	front	98.8	4.703	-	1.007	1.012	-	
5300	60	802.11a	OFDM	20	18.0	17.97	0.14	0 mm	1	0539M	6	top	98.8	7.037	0.500	1.007	1.012	0.510	
5300	60	802.11a	OFDM	20	18.0	17.97	0.17	0 mm	1	0539M	6	left	98.8	10.193	0.983	1.007	1.012	1.002	
5280	56	802.11a	OFDM	20	18.0	17.91	-0.13	0 mm	2	0539M	6	back	98.9	45.913	1.540	1.021	1.011	1.590	
5280	56	802.11a	OFDM	20	18.0	17.91	-0.17	0 mm	2	0539M	6	front	98.9	0.228	0.066	1.021	1.011	0.068	
5280	56	802.11a	OFDM	20	18.0	17.91	0.19	0 mm	2	0539M	6	top	98.9	0.174	-	1.021	1.011	-	
5280	56	802.11a	OFDM	20	18.0	17.91	-0.05	0 mm	2	0539M	6	left	98.9	1.011	0.083	1.021	1.011	0.086	
5620	124	802.11a	OFDM	20	18.0	17.89	0.11	0 mm	1	0539M	6	back	98.8	10.654	0.946	1.026	1.012	0.982	
5620	124	802.11a	OFDM	20	18.0	17.89	0.19	0 mm	1	0539M	6	front	98.8	3.802	-	1.026	1.012	-	
5620	124	802.11a	OFDM	20	18.0	17.89	0.15	0 mm	1	0539M	6	top	98.8	7.871	-	1.026	1.012	-	
5620	124	802.11a	OFDM	20	18.0	17.89	0.19	0 mm	1	0539M	6	left	98.8	11.518	1.040	1.026	1.012	1.080	
5500	100	802.11a	OFDM	20	18.0	17.56	-0.03	0 mm	2	0539M	6	back	98.9	45.702	1.810	1.107	1.011	2.026	
5600	120	802.11a	OFDM	20	18.0	17.78	0.01	0 mm	2	0539M	6	back	98.9	46.465	1.910	1.052	1.011	2.031	
5720	144	802.11a	OFDM	20	18.0	17.79	-0.02	0 mm	2	0539M	6	back	98.9	46.826	1.980	1.050	1.011	**2.102**	
5720	144	802.11a	OFDM	20	18.0	17.79	-0.18	0 mm	2	0539M	6	front	98.9	0.324	0.088	1.050	1.011	0.093	
5720	144	802.11a	OFDM	20	18.0	17.79	0.19	0 mm	2	0539M	6	top	98.9	0.385	-	1.050	1.011	-	
5720	144	802.11a	OFDM	20	18.0	17.79	-0.13	0 mm	2	0539M	6	left	98.9	1.891	0.170	1.050	1.011	0.180	
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 11-61
WLAN MIMO Phablet SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (10g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (10g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5300	60	802.11n	OFDM	20	18.0	17.74	18.0	17.60	-0.14	0 mm	MIMO	0486M	13	back	98.7	38.834	1.880	1.096	1.013	2.087	
5280	56	802.11n	OFDM	20	18.0	17.61	18.0	17.64	0.19	0 mm	MIMO	0486M	13	back	98.7	34.540	1.750	1.094	1.013	1.939	
5300	60	802.11n	OFDM	20	18.0	17.74	18.0	17.60	0.20	0 mm	MIMO	0486M	13	front	98.7	6.531	0.769	1.096	1.013	0.854	
5300	60	802.11n	OFDM	20	18.0	17.74	18.0	17.60	0.13	0 mm	MIMO	0486M	13	top	98.7	8.088	-	1.096	1.013	-	
5300	60	802.11n	OFDM	20	18.0	17.74	18.0	17.60	0.18	0 mm	MIMO	0486M	13	left	98.7	13.007	1.170	1.096	1.013	1.299	
5500	100	802.11n	OFDM	20	18.0	17.73	18.0	17.61	0.05	0 mm	MIMO	0486M	13	back	98.7	45.169	2.210	1.094	1.013	2.449	
5600	120	802.11n	OFDM	20	18.0	17.94	18.0	17.81	-0.01	0 mm	MIMO	0486M	13	back	98.7	53.614	2.380	1.045	1.013	2.519	A80
5720	144	802.11n	OFDM	20	18.0	17.98	18.0	17.75	-0.03	0 mm	MIMO	0486M	13	back	98.7	51.639	2.320	1.059	1.013	2.489	
5600	120	802.11n	OFDM	20	18.0	17.94	18.0	17.81	0.17	0 mm	MIMO	0486M	13	front	98.7	5.678	0.569	1.045	1.013	0.602	
5600	120	802.11n	OFDM	20	18.0	17.94	18.0	17.81	0.14	0 mm	MIMO	0486M	13	top	98.7	11.707	-	1.045	1.013	-	
5600	120	802.11n	OFDM	20	18.0	17.94	18.0	17.81	0.16	0 mm	MIMO	0486M	13	left	98.7	14.787	1.340	1.045	1.013	1.419	
5600	120	802.11n	OFDM	20	18.0	17.94	18.0	17.81	0.12	0 mm	MIMO	0486M	13	back	98.7	51.703	2.350	1.045	1.013	2.488	
5720	144	802.11n	OFDM	20	18.0	17.98	18.0	17.75	0.10	0 mm	MIMO	0486M	13	back	98.7	50.268	2.200	1.059	1.013	2.360	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Phablet 4.0 W/kg (mW/g) averaged over 10 grams											

To achieve the 21 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 18 dBm.

Note: Blue entry represents variability measurement.

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11.5 SAR Test Notes

General Notes:

1. The test data reported are the worst-case SAR values according to test procedures specified in IEEE 1528-2013, and FCC KDB Publication 447498 D01v06.
2. Batteries are fully charged at the beginning of the SAR measurements.
3. Liquid tissue depth was at least 15.0 cm for all frequencies.
4. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
5. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D01v06.
6. Device was tested using a fixed spacing for body-worn accessory testing. A separation distance of 15 mm was considered because the manufacturer has determined that there will be body-worn accessories available in the marketplace for users to support this separation distance.
7. Per FCC KDB 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 12 for variability analysis.
8. 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 13 for more details).
9. 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.
10. This device supports dynamic antenna tuning for some bands. Per FCC Guidance, SAR was measured according to the normally required SAR measurement configurations with tuner active. The auto-tune state determined by the device was verified before and after each SAR measurement and is listed in tables above. Please see Section 14 for supplemental data.
11. This device utilizes power reduction for some wireless modes and technologies, as outlined in Section 1.3. The maximum output power allowed for each transmitter and exposure condition was evaluated for SAR compliance based on expected use conditions and simultaneous transmission scenarios.
12. Unless otherwise noted, when 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds below.
13. Additional SAR tests for phablet SAR were evaluated per KDB 616217 Section 6 (See Section 6.9 for more information).

GSM Test Notes:

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

CDMA Notes:

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

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

UMTS Notes:

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

LTE Notes:

1. LTE Considerations: LTE test configurations are determined according to SAR Evaluation Considerations for LTE Devices in FCC KDB Publication 941225 D05v02r04. The general test procedures used for testing can be found in Section 8.6.4.
2. MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.
3. A-MPR was disabled for all SAR tests by setting NS=01 and MCC=001 on the base station simulator. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).
4. Per FCC KDB Publication 447498 D01v06, when the reported LTE Band 41 or LTE Band 48 SAR measured at the highest output power channel in a given a test configuration was > 0.6 W/kg for 1g evaluations, testing at the other channels was required for such test configurations.
5. TDD LTE was tested per the guidance provided in FCC KDB Publication 941225 D05v02r04. Testing was performed using UL-DL configuration 0 with 6 UL subframes and 2 S subframes using extended cyclic prefix only and special subframe configuration 6. SAR tests were performed at maximum output power and worst-case transmission duty factor in extended cyclic prefix. Per 3GPP 36.211 Section 4, the duty factor for special subframe configuration 6 using extended cyclic prefix is 0.633.
6. Per KDB Publication 941225 D05Av01r02, SAR for downlink only LTE CA operations was not needed since the maximum average output power in LTE CA mode was not >0.25 dB higher than the maximum output power when downlink carrier aggregation was inactive.
7. This device supports Power Class 2 and Power Class 3 operations for LTE Band 41. The highest available duty cycle for Power Class 2 operations is 43.3 % using UL-DL configuration 1. Per FCC Guidance, all SAR tests were performed using Power Class 3. SAR with power class 2 at the available duty factor was additionally performed for the power class 3 configuration with the highest SAR configuration for each exposure conditions. Please see Section 14 for linearity results.

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8. For LTE Band 5, LTE Band 66, and LTE Band 41, per FCC guidance, SAR was first measured with only a single carrier active in the uplink (carrier aggregation not active). For each exposure condition, the uplink CA scenario with two component carriers was additionally tested for the configuration with the highest SAR when carrier aggregation was not active. The SCC was configured with the closest available contiguous channel. The two component carriers were configured so the resource blocks are physically allocated side by side to achieve the maximum output power.
9. For LTE Band 7 Antenna A operations, the device was connected in a radiated downlink carrier aggregation scenario per FCC Guidance. Combination CA_2A-7A was used for LTE Band 7 Antenna A.
10. This device supports ULCA active with Power Class 2. Highest SAR test configuration for each exposure condition in Power Class 3 with ULCA active was repeated with Power Class 2 with ULCA active.

WLAN Notes:

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

Bluetooth Notes

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

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12 FCC MULTI-TX AND ANTENNA SAR CONSIDERATIONS

12.1 Introduction

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

12.2 Simultaneous Transmission Procedures

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

(*) For test positions that were not required to be evaluated for WLAN SAR per FCC KDB Publication 248227, the worst case WLAN SAR result for the applicable exposure condition 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 (“-“).

Note: Test results include LTE B48 but are for information purposes only.

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12.3 Head SAR Simultaneous Transmission Analysis

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Head SAR	GSM 850	0.196	0.357	0.228	0.553	0.424	0.781
	GSM 1900	0.080	0.357	0.228	0.437	0.308	0.665
	UMTS 850	0.274	0.357	0.228	0.631	0.502	0.859
	UMTS 1750	0.117	0.357	0.228	0.474	0.345	0.702
	UMTS 1900	0.164	0.357	0.228	0.521	0.392	0.749
	CDMA/EVDO BC10 (§90S)	0.260	0.357	0.228	0.617	0.488	0.845
	CDMA/EVDO BC0 (§22H)	0.308	0.357	0.228	0.665	0.536	0.893
	PCS CDMA/EVDO	0.196	0.357	0.228	0.553	0.424	0.781
	LTE Band 71	0.123	0.357	0.228	0.480	0.351	0.708
	LTE Band 12	0.314	0.357	0.228	0.671	0.542	0.899
	LTE Band 13	0.186	0.357	0.228	0.543	0.414	0.771
	LTE Band 14	0.315	0.357	0.228	0.672	0.543	0.900
	LTE Band 26 (Cell)	0.265	0.357	0.228	0.622	0.493	0.850
	LTE Band 5 (Cell)	0.331	0.357	0.228	0.688	0.559	**0.916**
	LTE Band 66 (AWS)	0.202	0.357	0.228	0.559	0.430	0.787
	LTE Band 25 (PCS)	0.162	0.357	0.228	0.519	0.390	0.747
	LTE Band 30	0.089	0.357	0.228	0.446	0.317	0.674
	LTE Band 7	0.077	0.357	0.228	0.434	0.305	0.662
	LTE Band 48	0.036	0.357	0.228	0.393	0.264	0.621
	LTE Band 41	0.128	0.357	0.228	0.485	0.356	0.713

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Head SAR	GSM 850	0.196	0.404	0.029	0.600	0.225	0.629
	GSM 1900	0.080	0.404	0.029	0.484	0.109	0.513
	UMTS 850	0.274	0.404	0.029	0.678	0.303	0.707
	UMTS 1750	0.117	0.404	0.029	0.521	0.146	0.550
	UMTS 1900	0.164	0.404	0.029	0.568	0.193	0.597
	CDMA/EVDO BC10 (§90S)	0.260	0.404	0.029	0.664	0.289	0.693
	CDMA/EVDO BC0 (§22H)	0.308	0.404	0.029	0.712	0.337	0.741
	PCS CDMA/EVDO	0.196	0.404	0.029	0.600	0.225	0.629
	LTE Band 71	0.123	0.404	0.029	0.527	0.152	0.556
	LTE Band 12	0.314	0.404	0.029	0.718	0.343	0.747
	LTE Band 13	0.186	0.404	0.029	0.590	0.215	0.619
	LTE Band 14	0.315	0.404	0.029	0.719	0.344	0.748
	LTE Band 26 (Cell)	0.265	0.404	0.029	0.669	0.294	0.698
	LTE Band 5 (Cell)	0.331	0.404	0.029	0.735	0.360	**0.764**
	LTE Band 66 (AWS)	0.202	0.404	0.029	0.606	0.231	0.635
	LTE Band 25 (PCS)	0.162	0.404	0.029	0.566	0.191	0.595
	LTE Band 30	0.089	0.404	0.029	0.493	0.118	0.522
	LTE Band 7	0.077	0.404	0.029	0.481	0.106	0.510
	LTE Band 48	0.036	0.404	0.029	0.440	0.065	0.469
	LTE Band 41	0.128	0.404	0.029	0.532	0.157	0.561

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Table 12-3
Simultaneous Transmission Scenario with 2.4 GHz WLAN MIMO and 5 GHz WLAN MIMO (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)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	5	1+2+3+4+5
Head SAR	GSM 850	0.196	0.357	0.228	0.404	0.029	1.214
	GSM 1900	0.080	0.357	0.228	0.404	0.029	1.098
	UMTS 850	0.274	0.357	0.228	0.404	0.029	1.292
	UMTS 1750	0.117	0.357	0.228	0.404	0.029	1.135
	UMTS 1900	0.164	0.357	0.228	0.404	0.029	1.182
	CDMA/EVDO BC10 (§90S)	0.260	0.357	0.228	0.404	0.029	1.278
	CDMA/EVDO BC0 (§22H)	0.308	0.357	0.228	0.404	0.029	1.326
	PCS CDMA/EVDO	0.196	0.357	0.228	0.404	0.029	1.214
	LTE Band 71	0.123	0.357	0.228	0.404	0.029	1.141
	LTE Band 12	0.314	0.357	0.228	0.404	0.029	1.332
	LTE Band 13	0.186	0.357	0.228	0.404	0.029	1.204
	LTE Band 14	0.315	0.357	0.228	0.404	0.029	1.333
	LTE Band 26 (Cell)	0.265	0.357	0.228	0.404	0.029	1.283
	LTE Band 5 (Cell)	0.331	0.357	0.228	0.404	0.029	**1.349**
	LTE Band 66 (AWS)	0.202	0.357	0.228	0.404	0.029	1.220
	LTE Band 25 (PCS)	0.162	0.357	0.228	0.404	0.029	1.180
	LTE Band 30	0.089	0.357	0.228	0.404	0.029	1.107
	LTE Band 7	0.077	0.357	0.228	0.404	0.029	1.095
	LTE Band 48	0.036	0.357	0.228	0.404	0.029	1.054
	LTE Band 41	0.128	0.357	0.228	0.404	0.029	1.146

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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	GSM 850	0.196	0.830	1.026
	GSM 1900	0.080	0.830	0.910
	UMTS 850	0.274	0.830	1.104
	UMTS 1750	0.117	0.830	0.947
	UMTS 1900	0.164	0.830	0.994
	CDMA/EVDO BC10 (§90S)	0.260	0.830	1.090
	CDMA/EVDO BC0 (§22H)	0.308	0.830	1.138
	PCS CDMA/EVDO	0.196	0.830	1.026
	LTE Band 71	0.123	0.830	0.953
	LTE Band 12	0.314	0.830	1.144
	LTE Band 13	0.186	0.830	1.016
	LTE Band 14	0.315	0.830	1.145
	LTE Band 26 (Cell)	0.265	0.830	1.095
	LTE Band 5 (Cell)	0.331	0.830	**1.161**
	LTE Band 66 (AWS)	0.202	0.830	1.032
	LTE Band 25 (PCS)	0.162	0.830	0.992
	LTE Band 30	0.089	0.830	0.919
	LTE Band 7	0.077	0.830	0.907
	LTE Band 48	0.036	0.830	0.866
	LTE Band 41	0.128	0.830	0.958

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	GSM 850	0.196	0.830	0.404	1.430
	GSM 1900	0.080	0.830	0.404	1.314
	UMTS 850	0.274	0.830	0.404	1.508
	UMTS 1750	0.117	0.830	0.404	1.351
	UMTS 1900	0.164	0.830	0.404	1.398
	CDMA/EVDO BC10 (§90S)	0.260	0.830	0.404	1.494
	CDMA/EVDO BC0 (§22H)	0.308	0.830	0.404	1.542
	PCS CDMA/EVDO	0.196	0.830	0.404	1.430
	LTE Band 71	0.123	0.830	0.404	1.357
	LTE Band 12	0.314	0.830	0.404	1.548
	LTE Band 13	0.186	0.830	0.404	1.420
	LTE Band 14	0.315	0.830	0.404	1.549
	LTE Band 26 (Cell)	0.265	0.830	0.404	1.499
	LTE Band 5 (Cell)	0.331	0.830	0.404	**1.565**
	LTE Band 66 (AWS)	0.202	0.830	0.404	1.436
	LTE Band 25 (PCS)	0.162	0.830	0.404	1.396
	LTE Band 30	0.089	0.830	0.404	1.323
	LTE Band 7	0.077	0.830	0.404	1.311
	LTE Band 48	0.036	0.830	0.404	1.270
	LTE Band 41	0.128	0.830	0.404	1.362

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Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	GSM 850	0.196	0.830	0.029	1.055
	GSM 1900	0.080	0.830	0.029	0.939
	UMTS 850	0.274	0.830	0.029	1.133
	UMTS 1750	0.117	0.830	0.029	0.976
	UMTS 1900	0.164	0.830	0.029	1.023
	CDMA/EVDO BC10 (§90S)	0.260	0.830	0.029	1.119
	CDMA/EVDO BC0 (§22H)	0.308	0.830	0.029	1.167
	PCS CDMA/EVDO	0.196	0.830	0.029	1.055
	LTE Band 71	0.123	0.830	0.029	0.982
	LTE Band 12	0.314	0.830	0.029	1.173
	LTE Band 13	0.186	0.830	0.029	1.045
	LTE Band 14	0.315	0.830	0.029	1.174
	LTE Band 26 (Cell)	0.265	0.830	0.029	1.124
	LTE Band 5 (Cell)	0.331	0.830	0.029	**1.190**
	LTE Band 66 (AWS)	0.202	0.830	0.029	1.061
	LTE Band 25 (PCS)	0.162	0.830	0.029	1.021
	LTE Band 30	0.089	0.830	0.029	0.948
	LTE Band 7	0.077	0.830	0.029	0.936
	LTE Band 48	0.036	0.830	0.029	0.895
	LTE Band 41	0.128	0.830	0.029	0.987

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Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	GSM 850	0.196	0.830	0.404	0.029	1.459
	GSM 1900	0.080	0.830	0.404	0.029	1.343
	UMTS 850	0.274	0.830	0.404	0.029	1.537
	UMTS 1750	0.117	0.830	0.404	0.029	1.380
	UMTS 1900	0.164	0.830	0.404	0.029	1.427
	CDMA/EVDO BC10 (§90S)	0.260	0.830	0.404	0.029	1.523
	CDMA/EVDO BC0 (§22H)	0.308	0.830	0.404	0.029	1.571
	PCS CDMA/EVDO	0.196	0.830	0.404	0.029	1.459
	LTE Band 71	0.123	0.830	0.404	0.029	1.386
	LTE Band 12	0.314	0.830	0.404	0.029	1.577
	LTE Band 13	0.186	0.830	0.404	0.029	1.449
	LTE Band 14	0.315	0.830	0.404	0.029	1.578
	LTE Band 26 (Cell)	0.265	0.830	0.404	0.029	1.528
	LTE Band 5 (Cell)	0.331	0.830	0.404	0.029	**1.594**
	LTE Band 66 (AWS)	0.202	0.830	0.404	0.029	1.465
	LTE Band 25 (PCS)	0.162	0.830	0.404	0.029	1.425
	LTE Band 30	0.089	0.830	0.404	0.029	1.352
	LTE Band 7	0.077	0.830	0.404	0.029	1.340
	LTE Band 48	0.036	0.830	0.404	0.029	1.299
	LTE Band 41	0.128	0.830	0.404	0.029	1.391

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12.4 Body-Worn Simultaneous Transmission Analysis

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body-Worn	GSM 850	0.202	0.156	0.141	0.358	0.343	0.499
	GSM 1900	0.254	0.156	0.141	0.410	0.395	0.551
	UMTS 850	0.345	0.156	0.141	0.501	0.486	0.642
	UMTS 1750	0.455	0.156	0.141	0.611	0.596	0.752
	UMTS 1900	1.039	0.156	0.141	1.195	1.180	**1.336**
	CDMA BC10 (§90S)	0.300	0.156	0.141	0.456	0.441	0.597
	CDMA BC0 (§22H)	0.388	0.156	0.141	0.544	0.529	0.685
	PCS CDMA	0.854	0.156	0.141	1.010	0.995	1.151
	LTE Band 71	0.294	0.156	0.141	0.450	0.435	0.591
	LTE Band 12	0.408	0.156	0.141	0.564	0.549	0.705
	LTE Band 13	0.248	0.156	0.141	0.404	0.389	0.545
	LTE Band 14	0.342	0.156	0.141	0.498	0.483	0.639
	LTE Band 26 (Cell)	0.342	0.156	0.141	0.498	0.483	0.639
	LTE Band 5 (Cell)	0.404	0.156	0.141	0.560	0.545	0.701
	LTE Band 66 (AWS)	0.710	0.156	0.141	0.866	0.851	1.007
	LTE Band 25 (PCS)	0.711	0.156	0.141	0.867	0.852	1.008
	LTE Band 30	0.630	0.156	0.141	0.786	0.771	0.927
	LTE Band 7	0.671	0.156	0.141	0.827	0.812	0.968
	LTE Band 48	0.106	0.156	0.141	0.262	0.247	0.403
	LTE Band 41	0.620	0.156	0.141	0.776	0.761	0.917

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body-Worn	GSM 850	0.202	0.187	0.389
	GSM 1900	0.254	0.187	0.441
	UMTS 850	0.345	0.187	0.532
	UMTS 1750	0.455	0.187	0.642
	UMTS 1900	1.039	0.187	**1.226**
	CDMA BC10 (§90S)	0.300	0.187	0.487
	CDMA BC0 (§22H)	0.388	0.187	0.575
	PCS CDMA	0.854	0.187	1.041
	LTE Band 71	0.294	0.187	0.481
	LTE Band 12	0.408	0.187	0.595
	LTE Band 13	0.248	0.187	0.435
	LTE Band 14	0.342	0.187	0.529
	LTE Band 26 (Cell)	0.342	0.187	0.529
	LTE Band 5 (Cell)	0.404	0.187	0.591
	LTE Band 66 (AWS)	0.710	0.187	0.897
	LTE Band 25 (PCS)	0.711	0.187	0.898
	LTE Band 30	0.630	0.187	0.817
	LTE Band 7	0.671	0.187	0.858
	LTE Band 48	0.106	0.187	0.293
	LTE Band 41	0.620	0.187	0.807

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Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body-Worn	GSM 850	0.202	0.311	0.513
	GSM 1900	0.254	0.311	0.565
	UMTS 850	0.345	0.311	0.656
	UMTS 1750	0.455	0.311	0.766
	UMTS 1900	1.039	0.311	**1.350**
	CDMA BC10 (§90S)	0.300	0.311	0.611
	CDMA BC0 (§22H)	0.388	0.311	0.699
	PCS CDMA	0.854	0.311	1.165
	LTE Band 71	0.294	0.311	0.605
	LTE Band 12	0.408	0.311	0.719
	LTE Band 13	0.248	0.311	0.559
	LTE Band 14	0.342	0.311	0.653
	LTE Band 26 (Cell)	0.342	0.311	0.653
	LTE Band 5 (Cell)	0.404	0.311	0.715
	LTE Band 66 (AWS)	0.710	0.311	1.021
	LTE Band 25 (PCS)	0.711	0.311	1.022
	LTE Band 30	0.630	0.311	0.941
	LTE Band 7	0.671	0.311	0.982
	LTE Band 48	0.106	0.311	0.417
	LTE Band 41	0.620	0.311	0.931

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Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body-Worn	GSM 850	0.202	0.407	0.609
	GSM 1900	0.254	0.407	0.661
	UMTS 850	0.345	0.407	0.752
	UMTS 1750	0.455	0.407	0.862
	UMTS 1900	1.039	0.407	**1.446**
	CDMA BC10 (§90S)	0.300	0.407	0.707
	CDMA BC0 (§22H)	0.388	0.407	0.795
	PCS CDMA	0.854	0.407	1.261
	LTE Band 71	0.294	0.407	0.701
	LTE Band 12	0.408	0.407	0.815
	LTE Band 13	0.248	0.407	0.655
	LTE Band 14	0.342	0.407	0.749
	LTE Band 26 (Cell)	0.342	0.407	0.749
	LTE Band 5 (Cell)	0.404	0.407	0.811
	LTE Band 66 (AWS)	0.710	0.407	1.117
	LTE Band 25 (PCS)	0.711	0.407	1.118
	LTE Band 30	0.630	0.407	1.037
	LTE Band 7	0.671	0.407	1.078
	LTE Band 48	0.106	0.407	0.513
	LTE Band 41	0.620	0.407	1.027

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Table 12-8
Simultaneous Transmission Scenario with 2.4 GHz WLAN MIMO and 5 GHz WLAN MIMO (Body-Worn at 1.5 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN MIMO at 19 dBm SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body-Worn	GSM 850	0.202	0.114	0.313	0.629
	GSM 1900	0.254	0.114	0.313	0.681
	UMTS 850	0.345	0.114	0.313	0.772
	UMTS 1750	0.455	0.114	0.313	0.882
	UMTS 1900	1.039	0.114	0.313	**1.466**
	CDMA BC10 (§90S)	0.300	0.114	0.313	0.727
	CDMA BC0 (§22H)	0.388	0.114	0.313	0.815
	PCS CDMA	0.854	0.114	0.313	1.281
	LTE Band 71	0.294	0.114	0.313	0.721
	LTE Band 12	0.408	0.114	0.313	0.835
	LTE Band 13	0.248	0.114	0.313	0.675
	LTE Band 14	0.342	0.114	0.313	0.769
	LTE Band 26 (Cell)	0.342	0.114	0.313	0.769
	LTE Band 5 (Cell)	0.404	0.114	0.313	0.831
	LTE Band 66 (AWS)	0.710	0.114	0.313	1.137
	LTE Band 25 (PCS)	0.711	0.114	0.313	1.138
	LTE Band 30	0.630	0.114	0.313	1.057
	LTE Band 7	0.671	0.114	0.313	1.098
	LTE Band 48	0.106	0.114	0.313	0.533
	LTE Band 41	0.620	0.114	0.313	1.047

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Table 12-9
Simultaneous Transmission Scenario with Bluetooth (Body-Worn at 1.5 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body-Worn	GSM 850	0.202	0.123	0.325
	GSM 1900	0.254	0.123	0.377
	UMTS 850	0.345	0.123	0.468
	UMTS 1750	0.455	0.123	0.578
	UMTS 1900	1.039	0.123	**1.162**
	CDMA BC10 (§90S)	0.300	0.123	0.423
	CDMA BC0 (§22H)	0.388	0.123	0.511
	PCS CDMA	0.854	0.123	0.977
	LTE Band 71	0.294	0.123	0.417
	LTE Band 12	0.408	0.123	0.531
	LTE Band 13	0.248	0.123	0.371
	LTE Band 14	0.342	0.123	0.465
	LTE Band 26 (Cell)	0.342	0.123	0.465
	LTE Band 5 (Cell)	0.404	0.123	0.527
	LTE Band 66 (AWS)	0.710	0.123	0.833
	LTE Band 25 (PCS)	0.711	0.123	0.834
	LTE Band 30	0.630	0.123	0.753
	LTE Band 7	0.671	0.123	0.794
	LTE Band 48	0.106	0.123	0.229
	LTE Band 41	0.620	0.123	0.743

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body-Worn	GSM 850	0.202	0.123	0.187	0.512
	GSM 1900	0.254	0.123	0.187	0.564
	UMTS 850	0.345	0.123	0.187	0.655
	UMTS 1750	0.455	0.123	0.187	0.765
	UMTS 1900	1.039	0.123	0.187	**1.349**
	CDMA BC10 (§90S)	0.300	0.123	0.187	0.610
	CDMA BC0 (§22H)	0.388	0.123	0.187	0.698
	PCS CDMA	0.854	0.123	0.187	1.164
	LTE Band 71	0.294	0.123	0.187	0.604
	LTE Band 12	0.408	0.123	0.187	0.718
	LTE Band 13	0.248	0.123	0.187	0.558
	LTE Band 14	0.342	0.123	0.187	0.652
	LTE Band 26 (Cell)	0.342	0.123	0.187	0.652
	LTE Band 5 (Cell)	0.404	0.123	0.187	0.714
	LTE Band 66 (AWS)	0.710	0.123	0.187	1.020
	LTE Band 25 (PCS)	0.711	0.123	0.187	1.021
	LTE Band 30	0.630	0.123	0.187	0.940
	LTE Band 7	0.671	0.123	0.187	0.981
	LTE Band 48	0.106	0.123	0.187	0.416
	LTE Band 41	0.620	0.123	0.187	0.930

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Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body-Worn	GSM 850	0.202	0.123	0.311	0.636
	GSM 1900	0.254	0.123	0.311	0.688
	UMTS 850	0.345	0.123	0.311	0.779
	UMTS 1750	0.455	0.123	0.311	0.889
	UMTS 1900	1.039	0.123	0.311	**1.473**
	CDMA BC10 (§90S)	0.300	0.123	0.311	0.734
	CDMA BC0 (§22H)	0.388	0.123	0.311	0.822
	PCS CDMA	0.854	0.123	0.311	1.288
	LTE Band 71	0.294	0.123	0.311	0.728
	LTE Band 12	0.408	0.123	0.311	0.842
	LTE Band 13	0.248	0.123	0.311	0.682
	LTE Band 14	0.342	0.123	0.311	0.776
	LTE Band 26 (Cell)	0.342	0.123	0.311	0.776
	LTE Band 5 (Cell)	0.404	0.123	0.311	0.838
	LTE Band 66 (AWS)	0.710	0.123	0.311	1.144
	LTE Band 25 (PCS)	0.711	0.123	0.311	1.145
	LTE Band 30	0.630	0.123	0.311	1.064
	LTE Band 7	0.671	0.123	0.311	1.105
	LTE Band 48	0.106	0.123	0.311	0.540
	LTE Band 41	0.620	0.123	0.311	1.054

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Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body-Worn	GSM 850	0.202	0.123	0.407	0.732
	GSM 1900	0.254	0.123	0.407	0.784
	UMTS 850	0.345	0.123	0.407	0.875
	UMTS 1750	0.455	0.123	0.407	0.985
	UMTS 1900	1.039	0.123	0.407	**1.569**
	CDMA BC10 (§90S)	0.300	0.123	0.407	0.830
	CDMA BC0 (§22H)	0.388	0.123	0.407	0.918
	PCS CDMA	0.854	0.123	0.407	1.384
	LTE Band 71	0.294	0.123	0.407	0.824
	LTE Band 12	0.408	0.123	0.407	0.938
	LTE Band 13	0.248	0.123	0.407	0.778
	LTE Band 14	0.342	0.123	0.407	0.872
	LTE Band 26 (Cell)	0.342	0.123	0.407	0.872
	LTE Band 5 (Cell)	0.404	0.123	0.407	0.934
	LTE Band 66 (AWS)	0.710	0.123	0.407	1.240
	LTE Band 25 (PCS)	0.711	0.123	0.407	1.241
	LTE Band 30	0.630	0.123	0.407	1.160
	LTE Band 7	0.671	0.123	0.407	1.201
	LTE Band 48	0.106	0.123	0.407	0.636
	LTE Band 41	0.620	0.123	0.407	1.150

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12.5 Hotspot SAR Simultaneous Transmission Analysis

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot SAR	GPRS 850	0.451	0.294	0.318	0.745	0.769	1.063
	GPRS 1900	0.899	0.294	0.318	1.193	1.217	1.511
	UMTS 850	0.725	0.294	0.318	1.019	1.043	1.337
	UMTS 1750	0.659	0.294	0.318	0.953	0.977	1.271
	UMTS 1900	1.138	0.294	0.318	1.432	1.456	See Table Below
	EVDO BC10 (§90S)	0.628	0.294	0.318	0.922	0.946	1.240
	EVDO BC0 (§22H)	0.753	0.294	0.318	1.047	1.071	1.365
	PCS EVDO	0.891	0.294	0.318	1.185	1.209	1.503
	LTE Band 71	0.373	0.294	0.318	0.667	0.691	0.985
	LTE Band 12	0.548	0.294	0.318	0.842	0.866	1.160
	LTE Band 13	0.385	0.294	0.318	0.679	0.703	0.997
	LTE Band 14	0.627	0.294	0.318	0.921	0.945	1.239
	LTE Band 26 (Cell)	0.653	0.294	0.318	0.947	0.971	1.265
	LTE Band 5 (Cell)	0.929	0.294	0.318	1.223	1.247	1.541
	LTE Band 66 (AWS)	0.621	0.294	0.318	0.915	0.939	1.233
	LTE Band 25 (PCS)	0.912	0.294	0.318	1.206	1.230	1.524
	LTE Band 30	1.098	0.294	0.318	1.392	1.416	See Table Below
	LTE Band 7	1.252	0.294	0.318	1.546	**1.570**	See Table Below
	LTE Band 48	0.211	0.294	0.318	0.505	0.529	0.823
	LTE Band 41	0.923	0.294	0.318	1.217	1.241	1.535

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.550	0.294	0.318*	1.162
	Front	0.573	0.294*	0.318*	**1.185**
	Top	-	0.294*	0.318	0.612
	Bottom	1.138	-	-	1.138
	Right	0.100	-	-	0.100
	Left	0.094	0.294*	0.318*	0.706

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.561	0.294	0.318*	**1.173**
	Front	0.360	0.294*	0.318*	0.972
	Top	-	0.294*	0.318	0.612
	Bottom	1.098	-	-	1.098
	Right	0.063	-	-	0.063
	Left	0.072	0.294*	0.318*	0.684

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.463	0.294	0.318*	1.075
	Front	0.365	0.294*	0.318*	0.977
	Top	-	0.294*	0.318	0.612
	Bottom	1.252	-	-	**1.252**
	Right	0.068	-	-	0.068
	Left	0.157	0.294*	0.318*	0.769

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Table 12-12
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)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	GPRS 850	0.451	0.387	0.838
	GPRS 1900	0.899	0.387	1.286
	UMTS 850	0.725	0.387	1.112
	UMTS 1750	0.659	0.387	1.046
	UMTS 1900	1.138	0.387	**1.525**
	EVDO BC10 (§90S)	0.628	0.387	1.015
	EVDO BC0 (§22H)	0.753	0.387	1.140
	PCS EVDO	0.891	0.387	1.278
	LTE Band 71	0.373	0.387	0.760
	LTE Band 12	0.548	0.387	0.935
	LTE Band 13	0.385	0.387	0.772
	LTE Band 14	0.627	0.387	1.014
	LTE Band 26 (Cell)	0.653	0.387	1.040
	LTE Band 5 (Cell)	0.929	0.387	1.316
	LTE Band 66 (AWS)	0.621	0.387	1.008
	LTE Band 25 (PCS)	0.912	0.387	1.299
	LTE Band 30	1.098	0.387	1.485
	LTE Band 7	1.252	0.387	See Table Below
	LTE Band 48	0.211	0.387	0.598
	LTE Band 41	0.923	0.387	1.310

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.463	0.387	0.850
	Front	0.365	0.387*	0.752
	Top	-	0.387*	0.387
	Bottom	1.252	-	**1.252**
	Right	0.068	-	0.068
	Left	0.157	0.300	0.457

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Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	GPRS 850	0.451	0.694	1.145
	GPRS 1900	0.899	0.694	**1.593**
	UMTS 850	0.725	0.694	1.419
	UMTS 1750	0.659	0.694	1.353
	UMTS 1900	1.138	0.694	See Table Below
	EVDO BC10 (§90S)	0.628	0.694	1.322
	EVDO BC0 (§22H)	0.753	0.694	1.447
	PCS EVDO	0.891	0.694	1.585
	LTE Band 71	0.373	0.694	1.067
	LTE Band 12	0.548	0.694	1.242
	LTE Band 13	0.385	0.694	1.079
	LTE Band 14	0.627	0.694	1.321
	LTE Band 26 (Cell)	0.653	0.694	1.347
	LTE Band 5 (Cell)	0.929	0.694	See Table Below
	LTE Band 66 (AWS)	0.621	0.694	1.315
	LTE Band 25 (PCS)	0.912	0.694	See Table Below
	LTE Band 30	1.098	0.694	See Table Below
	LTE Band 7	1.252	0.694	See Table Below
	LTE Band 48	0.211	0.694	0.905
	LTE Band 41	0.923	0.694	See Table Below

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.550	0.694	1.244
	Front	0.573	0.694*	**1.267**
	Top	-	0.694*	0.694
	Bottom	1.138	-	1.138
	Right	0.100	-	0.100
	Left	0.094	0.080	0.174

Simult Tx	Configuration	LTE Band 5 (Cell) SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Hotspot SAR	Back	0.929	0.694	See Note 1	0.01
	Front	0.699	0.694*	**1.393**	N/A
	Top	-	0.694*	0.694	N/A
	Bottom	0.599	-	0.599	N/A
	Right	0.389	-	0.389	N/A
	Left	0.168	0.080	0.248	N/A

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Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2			1	2	1+2
Hotspot SAR	Back	0.506	0.694	1.200	Hotspot SAR	Back	0.561	0.694	**1.255**
	Front	0.514	0.694*	**1.208**		Front	0.360	0.694*	1.054
	Top	-	0.694*	0.694		Top	-	0.694*	0.694
	Bottom	0.912	-	0.912		Bottom	1.098	-	1.098
	Right	0.086	-	0.086		Right	0.063	-	0.063
	Left	0.074	0.080	0.154		Left	0.072	0.080	0.152

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2			1	2	1+2
Hotspot SAR	Back	0.463	0.694	1.157	Hotspot SAR	Back	0.518	0.694	**1.212**
	Front	0.365	0.694*	1.059		Front	0.366	0.694*	1.060
	Top	-	0.694*	0.694		Top	-	0.694*	0.694
	Bottom	1.252	-	**1.252**		Bottom	0.923	-	0.923
	Right	0.068	-	0.068		Right	-	-	-
	Left	0.157	0.080	0.237		Left	0.066	0.080	0.146

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Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	GPRS 850	0.451	0.795	1.246
	GPRS 1900	0.899	0.795	See Table Below
	UMTS 850	0.725	0.795	1.520
	UMTS 1750	0.659	0.795	1.454
	UMTS 1900	1.138	0.795	See Table Below
	EVDO BC10 (§90S)	0.628	0.795	1.423
	EVDO BC0 (§22H)	0.753	0.795	**1.548**
	PCS EVDO	0.891	0.795	See Table Below
	LTE Band 71	0.373	0.795	1.168
	LTE Band 12	0.548	0.795	1.343
	LTE Band 13	0.385	0.795	1.180
	LTE Band 14	0.627	0.795	1.422
	LTE Band 26 (Cell)	0.653	0.795	1.448
	LTE Band 5 (Cell)	0.929	0.795	See Table Below
	LTE Band 66 (AWS)	0.621	0.795	1.416
	LTE Band 25 (PCS)	0.912	0.795	See Table Below
	LTE Band 30	1.098	0.795	See Table Below
	LTE Band 7	1.252	0.795	See Table Below
	LTE Band 48	0.211	0.795	1.006
	LTE Band 41	0.923	0.795	See Table Below

Simult Tx	Configuration	GSM 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.400	0.795	**1.195**
	Front	0.381	0.253	0.634
	Top	-	0.795*	0.795
	Bottom	0.899	-	0.899
	Right	0.066	-	0.066
	Left	0.076	0.420	0.496

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.550	0.795	**1.345**
	Front	0.573	0.253	0.826
	Top	-	0.795*	0.795
	Bottom	1.138	-	1.138
	Right	0.100	-	0.100
	Left	0.094	0.420	0.514

Simult Tx	Configuration	PCS CDMA SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.462	0.795	**1.257**
	Front	0.389	0.253	0.642
	Top	-	0.795*	0.795
	Bottom	0.891	-	0.891
	Right	0.065	-	0.065
	Left	0.076	0.420	0.496

Simult Tx	Configuration	LTE Band 5 (Cell) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Hotspot SAR	Back	0.929	0.795	See Note 1	0.02
	Front	0.699	0.253	**0.952**	N/A
	Top	-	0.795*	0.795	N/A
	Bottom	0.599	-	0.599	N/A
	Right	0.389	-	0.389	N/A
	Left	0.168	0.420	0.588	N/A

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Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2			1	2	1+2
Hotspot SAR	Back	0.506	0.795	**1.301**	Hotspot SAR	Back	0.561	0.795	**1.356**
	Front	0.514	0.253	0.767		Front	0.360	0.253	0.613
	Top	-	0.795*	0.795		Top	-	0.795*	0.795
	Bottom	0.912	-	0.912		Bottom	1.098	-	1.098
	Right	0.086	-	0.086		Right	0.063	-	0.063
	Left	0.074	0.420	0.494		Left	0.072	0.420	0.492

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2			1	2	1+2
Hotspot SAR	Back	0.463	0.795	**1.258**	Hotspot SAR	Back	0.518	0.795	**1.313**
	Front	0.365	0.253	0.618		Front	0.366	0.253	0.619
	Top	-	0.795*	0.795		Top	-	0.795*	0.795
	Bottom	1.252	-	1.252		Bottom	0.923	-	0.923
	Right	0.068	-	0.068		Right	-	-	-
	Left	0.157	0.420	0.577		Left	0.066	0.420	0.486

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Table 12-13
Simultaneous Transmission Scenario with 2.4 GHz WLAN MIMO and 5 GHz WLAN MIMO (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN MIMO at 19 dBm SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	GPRS 850	0.451	0.179	0.461	1.091
	GPRS 1900	0.899	0.179	0.461	1.539
	UMTS 850	0.725	0.179	0.461	1.365
	UMTS 1750	0.659	0.179	0.461	1.299
	UMTS 1900	1.138	0.179	0.461	See Table Below
	EVDO BC10 (§90S)	0.628	0.179	0.461	1.268
	EVDO BC0 (§22H)	0.753	0.179	0.461	1.393
	PCS EVDO	0.891	0.179	0.461	1.531
	LTE Band 71	0.373	0.179	0.461	1.013
	LTE Band 12	0.548	0.179	0.461	1.188
	LTE Band 13	0.385	0.179	0.461	1.025
	LTE Band 14	0.627	0.179	0.461	1.267
	LTE Band 26 (Cell)	0.653	0.179	0.461	1.293
	LTE Band 5 (Cell)	0.929	0.179	0.461	**1.569**
	LTE Band 66 (AWS)	0.621	0.179	0.461	1.261
	LTE Band 25 (PCS)	0.912	0.179	0.461	1.552
	LTE Band 30	1.098	0.179	0.461	See Table Below
	LTE Band 7	1.252	0.179	0.461	See Table Below
	LTE Band 48	0.211	0.179	0.461	0.851
	LTE Band 41	0.923	0.179	0.461	1.563

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	2.4 GHz WLAN MIMO at 19 dBm SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.550	0.179	0.461	1.190
	Front	0.573	0.179*	0.461*	**1.213**
	Top	-	0.175	0.461*	0.636
	Bottom	1.138	-	-	1.138
	Right	0.100	-	-	0.100
	Left	0.094	0.179*	0.233	0.506

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	2.4 GHz WLAN MIMO at 19 dBm SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.561	0.179	0.461	**1.201**
	Front	0.360	0.179*	0.461*	1.000
	Top	-	0.175	0.461*	0.636
	Bottom	1.098	-	-	1.098
	Right	0.063	-	-	0.063
	Left	0.072	0.179*	0.233	0.484

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	2.4 GHz WLAN MIMO at 19 dBm SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.463	0.179	0.461	1.103
	Front	0.365	0.179*	0.461*	1.005
	Top	-	0.175	0.461*	0.636
	Bottom	1.252	-	-	**1.252**
	Right	0.068	-	-	0.068
	Left	0.157	0.179*	0.233	0.569

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Table 12-14
Simultaneous Transmission Scenario with Bluetooth (Hotspot at 1.0 cm)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	GPRS 850	0.451	0.277	0.728
	GPRS 1900	0.899	0.277	1.176
	UMTS 850	0.725	0.277	1.002
	UMTS 1750	0.659	0.277	0.936
	UMTS 1900	1.138	0.277	1.415
	EVDO BC10 (§90S)	0.628	0.277	0.905
	EVDO BC0 (§22H)	0.753	0.277	1.030
	PCS EVDO	0.891	0.277	1.168
	LTE Band 71	0.373	0.277	0.650
	LTE Band 12	0.548	0.277	0.825
	LTE Band 13	0.385	0.277	0.662
	LTE Band 14	0.627	0.277	0.904
	LTE Band 26 (Cell)	0.653	0.277	0.930
	LTE Band 5 (Cell)	0.929	0.277	1.206
	LTE Band 66 (AWS)	0.621	0.277	0.898
	LTE Band 25 (PCS)	0.912	0.277	1.189
	LTE Band 30	1.098	0.277	1.375
	LTE Band 7	1.252	0.277	**1.529**
	LTE Band 48	0.211	0.277	0.488
	LTE Band 41	0.923	0.277	1.200

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	GPRS 850	0.451	0.277	0.387	1.115
	GPRS 1900	0.899	0.277	0.387	1.563
	UMTS 850	0.725	0.277	0.387	1.389
	UMTS 1750	0.659	0.277	0.387	1.323
	UMTS 1900	1.138	0.277	0.387	See Table Below
	EVDO BC10 (§90S)	0.628	0.277	0.387	1.292
	EVDO BC0 (§22H)	0.753	0.277	0.387	1.417
	PCS EVDO	0.891	0.277	0.387	1.555
	LTE Band 71	0.373	0.277	0.387	1.037
	LTE Band 12	0.548	0.277	0.387	1.212
	LTE Band 13	0.385	0.277	0.387	1.049
	LTE Band 14	0.627	0.277	0.387	1.291
	LTE Band 26 (Cell)	0.653	0.277	0.387	1.317
	LTE Band 5 (Cell)	0.929	0.277	0.387	**1.593**
	LTE Band 66 (AWS)	0.621	0.277	0.387	1.285
	LTE Band 25 (PCS)	0.912	0.277	0.387	1.576
	LTE Band 30	1.098	0.277	0.387	See Table Below
	LTE Band 7	1.252	0.277	0.387	See Table Below
	LTE Band 48	0.211	0.277	0.387	0.875
	LTE Band 41	0.923	0.277	0.387	1.587

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.550	0.247	0.387	**1.184**
	Front	0.573	0.143	0.387*	1.103
	Top	-	0.226	0.387*	0.613
	Bottom	1.138	-	-	1.138
	Right	0.100	-	-	0.100
	Left	0.094	0.277	0.300	0.671

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.561	0.247	0.387	**1.195**
	Front	0.360	0.143	0.387*	0.890
	Top	-	0.226	0.387*	0.613
	Bottom	1.098	-	-	1.098
	Right	0.063	-	-	0.063
	Left	0.072	0.277	0.300	0.649

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.463	0.247	0.387	1.097
	Front	0.365	0.143	0.387*	0.895
	Top	-	0.226	0.387*	0.613
	Bottom	1.252	-	-	**1.252**
	Right	0.068	-	-	0.068
	Left	0.157	0.277	0.300	0.734

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Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	GPRS 850	0.451	0.277	0.694	1.422
	GPRS 1900	0.899	0.277	0.694	See Table Below
	UMTS 850	0.725	0.277	0.694	See Table Below
	UMTS 1750	0.659	0.277	0.694	See Table Below
	UMTS 1900	1.138	0.277	0.694	See Table Below
	EVDO BC10 (§90S)	0.628	0.277	0.694	See Table Below
	EVDO BC0 (§22H)	0.753	0.277	0.694	See Table Below
	PCS EVDO	0.891	0.277	0.694	See Table Below
	LTE Band 71	0.373	0.277	0.694	1.344
	LTE Band 12	0.548	0.277	0.694	1.519
	LTE Band 13	0.385	0.277	0.694	1.356
	LTE Band 14	0.627	0.277	0.694	See Table Below
	LTE Band 26 (Cell)	0.653	0.277	0.694	See Table Below
	LTE Band 5 (Cell)	0.929	0.277	0.694	See Table Below
	LTE Band 66 (AWS)	0.621	0.277	0.694	**1.592**
	LTE Band 25 (PCS)	0.912	0.277	0.694	See Table Below
	LTE Band 30	1.098	0.277	0.694	See Table Below
	LTE Band 7	1.252	0.277	0.694	See Table Below
	LTE Band 48	0.211	0.277	0.694	1.182
	LTE Band 41	0.923	0.277	0.694	See Table Below

Simult Tx	Configuration	GSM 1900 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.400	0.247	0.694	**1.341**
	Front	0.381	0.143	0.694*	1.218
	Top	-	0.226	0.694*	0.920
	Bottom	0.899	-	-	0.899
	Right	0.066	-	-	0.066
	Left	0.076	0.277	0.080	0.433

Simult Tx	Configuration	UMTS 850 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.725	0.247	0.694	See Note 1
	Front	0.569	0.143	0.694*	**1.406**
	Top	-	0.226	0.694*	0.920
	Bottom	0.502	-	-	0.502
	Right	0.410	-	-	0.410
	Left	0.187	0.277	0.080	0.544

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.343	0.247	0.694	**1.284**
	Front	0.296	0.143	0.694*	1.133
	Top	-	0.226	0.694*	0.920
	Bottom	0.659	-	-	0.659
	Right	0.049	-	-	0.049
	Left	0.067	0.277	0.080	0.424

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.550	0.247	0.694	**1.491**
	Front	0.573	0.143	0.694*	1.410
	Top	-	0.226	0.694*	0.920
	Bottom	1.138	-	-	1.138
	Right	0.100	-	-	0.100
	Left	0.094	0.277	0.080	0.451

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Simult Tx	Configuration	CDMA BC10 (§90S) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.628	0.247	0.694	**1.569**
	Front	0.462	0.143	0.694*	1.299
	Top	-	0.226	0.694*	0.920
	Bottom	0.449	-	-	0.449
	Right	0.342	-	-	0.342
	Left	0.171	0.277	0.080	0.528

Simult Tx	Configuration	CDMA BC0 (§22H) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.753	0.247	0.694	See Note 1
	Front	0.665	0.143	0.694*	**1.502**
	Top	-	0.226	0.694*	0.920
	Bottom	0.546	-	-	0.546
	Right	0.342	-	-	0.342
	Left	0.148	0.277	0.080	0.505

Simult Tx	Configuration	PCS CDMA SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.462	0.247	0.694	**1.403**
	Front	0.389	0.143	0.694*	1.226
	Top	-	0.226	0.694*	0.920
	Bottom	0.891	-	-	0.891
	Right	0.065	-	-	0.065
	Left	0.076	0.277	0.080	0.433

Simult Tx	Configuration	LTE Band 14 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.627	0.247	0.694	**1.568**
	Front	0.458	0.143	0.694*	1.295
	Top	-	0.226	0.694*	0.920
	Bottom	0.429	-	-	0.429
	Right	0.367	-	-	0.367
	Left	0.182	0.277	0.080	0.539

Simult Tx	Configuration	LTE Band 26 (Cell) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.653	0.247	0.694	**1.594**
	Front	0.585	0.143	0.694*	1.422
	Top	-	0.226	0.694*	0.920
	Bottom	0.396	-	-	0.396
	Right	0.343	-	-	0.343
	Left	0.177	0.277	0.080	0.534

Simult Tx	Configuration	LTE Band 5 (Cell) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.929	0.247	0.694	See Note 1
	Front	0.699	0.143	0.694*	**1.536**
	Top	-	0.226	0.694*	0.920
	Bottom	0.599	-	-	0.599
	Right	0.389	-	-	0.389
	Left	0.168	0.277	0.080	0.525

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.506	0.247	0.694	**1.447**
	Front	0.514	0.143	0.694*	1.351
	Top	-	0.226	0.694*	0.920
	Bottom	0.912	-	-	0.912
	Right	0.086	-	-	0.086
	Left	0.074	0.277	0.080	0.431

Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.561	0.247	0.694	**1.502**
	Front	0.360	0.143	0.694*	1.197
	Top	-	0.226	0.694*	0.920
	Bottom	1.098	-	-	1.098
	Right	0.063	-	-	0.063
	Left	0.072	0.277	0.080	0.429

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.463	0.247	0.694	**1.404**
	Front	0.365	0.143	0.694*	1.202
	Top	-	0.226	0.694*	0.920
	Bottom	1.252	-	-	1.252
	Right	0.068	-	-	0.068
	Left	0.157	0.277	0.080	0.514

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.518	0.247	0.694	**1.459**
	Front	0.366	0.143	0.694*	1.203
	Top	-	0.226	0.694*	0.920
	Bottom	0.923	-	-	0.923
	Right	-	-	-	-
	Left	0.066	0.277	0.080	0.423

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Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	GPRS 850	0.451	0.277	0.795	**1.523**
	GPRS 1900	0.899	0.277	0.795	See Table Below
	UMTS 850	0.725	0.277	0.795	See Table Below
	UMTS 1750	0.659	0.277	0.795	See Table Below
	UMTS 1900	1.138	0.277	0.795	See Table Below
	EVDO BC10 (§90S)	0.628	0.277	0.795	See Table Below
	EVDO BC0 (§22H)	0.753	0.277	0.795	See Table Below
	PCS EVDO	0.891	0.277	0.795	See Table Below
	LTE Band 71	0.373	0.277	0.795	1.445
	LTE Band 12	0.548	0.277	0.795	See Table Below
	LTE Band 13	0.385	0.277	0.795	1.457
	LTE Band 14	0.627	0.277	0.795	See Table Below
	LTE Band 26 (Cell)	0.653	0.277	0.795	See Table Below
	LTE Band 5 (Cell)	0.929	0.277	0.795	See Table Below
	LTE Band 66 (AWS)	0.621	0.277	0.795	See Table Below
	LTE Band 25 (PCS)	0.912	0.277	0.795	See Table Below
	LTE Band 30	1.098	0.277	0.795	See Table Below
	LTE Band 7	1.252	0.277	0.795	See Table Below
	LTE Band 48	0.211	0.277	0.795	1.283
	LTE Band 41	0.923	0.277	0.795	See Table Below

Simult Tx	Configuration	GSM 1900 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.400	0.247	0.795	**1.442**
	Front	0.381	0.143	0.253	0.777
	Top	-	0.226	0.795*	1.021
	Bottom	0.899	-	-	0.899
	Right	0.066	-	-	0.066
	Left	0.076	0.277	0.420	0.773

Simult Tx	Configuration	UMTS 850 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.725	0.247	0.795	See Note 1
	Front	0.569	0.143	0.253	0.965
	Top	-	0.226	0.795*	**1.021**
	Bottom	0.502	-	-	0.502
	Right	0.410	-	-	0.410
	Left	0.187	0.277	0.420	0.884

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.343	0.247	0.795	1.385
	Front	0.296	0.143	0.253	0.692
	Top	-	0.226	0.795*	1.021
	Bottom	0.659	-	-	0.659
	Right	0.049	-	-	0.049
	Left	0.067	0.277	0.420	0.764

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.550	0.247	0.795	**1.592**
	Front	0.573	0.143	0.253	0.969
	Top	-	0.226	0.795*	1.021
	Bottom	1.138	-	-	1.138
	Right	0.100	-	-	0.100
	Left	0.094	0.277	0.420	0.791

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Simult Tx	Configuration	CDMA BC10 (§90S) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	CDMA BC0 (§22H) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Hotspot SAR	Back	0.628	0.247	0.795	See Note 1	Hotspot SAR	Back	0.753	0.247	0.795	See Note 1
	Front	0.462	0.143	0.253	0.858		Front	0.665	0.143	0.253	**1.061**
	Top	-	0.226	0.795*	**1.021**		Top	-	0.226	0.795*	1.021
	Bottom	0.449	-	-	0.449		Bottom	0.546	-	-	0.546
	Right	0.342	-	-	0.342		Right	0.342	-	-	0.342
	Left	0.171	0.277	0.420	0.868		Left	0.148	0.277	0.420	0.845

Simult Tx	Configuration	PCS CDMA SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 12 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Hotspot SAR	Back	0.462	0.247	0.795	**1.504**	Hotspot SAR	Back	0.499	0.247	0.795	**1.541**
	Front	0.389	0.143	0.253	0.785		Front	0.457	0.143	0.253	0.853
	Top	-	0.226	0.795*	1.021		Top	-	0.226	0.795*	1.021
	Bottom	0.891	-	-	0.891		Bottom	0.274	-	-	0.274
	Right	0.065	-	-	0.065		Right	0.548	-	-	0.548
	Left	0.076	0.277	0.420	0.773		Left	0.351	0.277	0.420	1.048

Simult Tx	Configuration	LTE Band 14 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 26 (Cell) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Hotspot SAR	Back	0.627	0.247	0.795	See Note 1	Hotspot SAR	Back	0.653	0.247	0.795	See Note 1
	Front	0.458	0.143	0.253	0.854		Front	0.585	0.143	0.253	0.981
	Top	-	0.226	0.795*	**1.021**		Top	-	0.226	0.795*	**1.021**
	Bottom	0.429	-	-	0.429		Bottom	0.396	-	-	0.396
	Right	0.367	-	-	0.367		Right	0.343	-	-	0.343
	Left	0.182	0.277	0.420	0.879		Left	0.177	0.277	0.420	0.874

Simult Tx	Configuration	LTE Band 5 (Cell) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Hotspot SAR	Back	0.929	0.247	0.795	See Note 1	Hotspot SAR	Back	0.355	0.247	0.795	**1.397**
	Front	0.699	0.143	0.253	**1.095**		Front	0.302	0.143	0.253	0.698
	Top	-	0.226	0.795*	1.021		Top	-	0.226	0.795*	1.021
	Bottom	0.599	-	-	0.599		Bottom	0.621	-	-	0.621
	Right	0.389	-	-	0.389		Right	0.073	-	-	0.073
	Left	0.168	0.277	0.420	0.865		Left	0.124	0.277	0.420	0.821

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Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 30 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Hotspot SAR	Back	0.506	0.247	0.795	**1.548**	Hotspot SAR	Back	0.561	0.247	0.795	See Note 1
	Front	0.514	0.143	0.253	0.910		Front	0.360	0.143	0.253	0.756
	Top	-	0.226	0.795*	1.021		Top	-	0.226	0.795*	1.021
	Bottom	0.912	-	-	0.912		Bottom	1.098	-	-	**1.098**
	Right	0.086	-	-	0.086		Right	0.063	-	-	0.063
	Left	0.074	0.277	0.420	0.771		Left	0.072	0.277	0.420	0.769

Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Hotspot SAR	Back	0.463	0.247	0.795	**1.505**	Hotspot SAR	Back	0.518	0.247	0.795	**1.560**
	Front	0.365	0.143	0.253	0.761		Front	0.366	0.143	0.253	0.762
	Top	-	0.226	0.795*	1.021		Top	-	0.226	0.795*	1.021
	Bottom	1.252	-	-	1.252		Bottom	0.923	-	-	0.923
	Right	0.068	-	-	0.068		Right	-	-	-	-
	Left	0.157	0.277	0.420	0.854		Left	0.066	0.277	0.420	0.763

Note 1 - No evaluation was performed to determine the aggregate 1g SAR for these configurations as the SPLS ratio between the distribution pairs was not greater than 0.04 per FCC KDB 447498 D01v06. See Section 12.8 for detailed SPLS ratio analysis.

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12.6 Phablet Simultaneous Transmission Analysis

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

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

Table 12-16
Simultaneous Transmission Scenario with 5 GHz WLAN SISO (Phablet)

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	GPRS 1900	3.287	1.080	See Table Below
	UMTS 1750	2.645	1.080	3.725
	UMTS 1900	2.477	1.080	3.557
	PCS EVDO	2.767	1.080	**3.847**
	LTE Band 66 (AWS)	1.946	1.080	3.026
	LTE Band 25 (PCS)	2.975	1.080	See Table Below
	LTE Band 30	1.406	1.080	2.486
	LTE Band 7	2.145	1.080	3.225
	LTE Band 48	0.925	1.080	2.005
	LTE Band 41	2.384	1.080	3.464

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	1.872	0.982	2.854
	Front	1.283	1.080*	2.363
	Top	-	0.510	0.510
	Bottom	3.287	-	**3.287**
	Right	0.223	-	0.223
	Left	0.429	1.080	1.509

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	1.729	0.982	2.711
	Front	1.779	1.080*	2.859
	Top	-	0.510	0.510
	Bottom	2.975	-	**2.975**
	Right	0.456	-	0.456
	Left	0.620	1.080	1.700

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Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	GPRS 1900	3.287	2.102	See Table Below
	UMTS 1750	2.645	2.102	See Table Below
	UMTS 1900	2.477	2.102	See Table Below
	PCS EVDO	2.767	2.102	See Table Below
	LTE Band 66 (AWS)	1.946	2.102	See Table Below
	LTE Band 25 (PCS)	2.975	2.102	See Table Below
	LTE Band 30	1.406	2.102	**3.508**
	LTE Band 7	2.145	2.102	See Table Below
	LTE Band 48	0.925	2.102	3.027
	LTE Band 41	2.384	2.102	See Table Below

Simult Tx	Configuration	GSM 1900 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	1.872	2.102	**3.974**
	Front	1.283	0.093	1.376
	Top	-	2.102*	2.102
	Bottom	3.287	-	3.287
	Right	0.223	-	0.223
	Left	0.429	0.180	0.609

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	1.584	2.102	**3.686**
	Front	1.274	0.093	1.367
	Top	-	2.102*	2.102
	Bottom	2.645	-	2.645
	Right	0.205	-	0.205
	Left	0.378	0.180	0.558

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	1.260	2.102	**3.362**
	Front	1.176	0.093	1.269
	Top	-	2.102*	2.102
	Bottom	2.477	-	2.477
	Right	0.320	-	0.320
	Left	0.589	0.180	0.769

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	1.721	2.102	**3.823**
	Front	1.699	0.093	1.792
	Top	-	2.102*	2.102
	Bottom	2.767	-	2.767
	Right	0.416	-	0.416
	Left	0.703	0.180	0.883

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	1.365	2.102	**3.467**
	Front	1.168	0.093	1.261
	Top	-	2.102*	2.102
	Bottom	1.946	-	1.946
	Right	0.373	-	0.373
	Left	0.593	0.180	0.773

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	1.729	2.102	**3.831**
	Front	1.779	0.093	1.872
	Top	-	2.102*	2.102
	Bottom	2.975	-	2.975
	Right	0.456	-	0.456
	Left	0.620	0.180	0.800

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Simult Tx	Configuration	LTE Band 7 Ant A SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 7 Ant B SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2			1	2	1+2	1+2
Phablet SAR	Back	0.924	2.102	**3.026**	Phablet SAR	Back	2.067	2.102	See Note 1	0.07
	Front	0.776	0.093	0.869		Front	1.114	0.093	1.207	N/A
	Top	-	2.102*	2.102		Top	-	2.102*	2.102	N/A
	Bottom	1.222	-	1.222		Bottom	2.145	-	**2.145**	N/A
	Right	0.497	-	0.497		Right	0.353	-	0.353	N/A
	Left	0.419	0.180	0.599		Left	1.396	0.180	1.576	N/A

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	1.998	2.102	See Note 1	0.06
	Front	1.146	0.093	1.239	N/A
	Top	-	2.102*	2.102	N/A
	Bottom	2.384	-	**2.384**	N/A
	Right	-	-	-	N/A
	Left	0.604	0.180	0.784	N/A

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	GPRS 1900	3.287	2.519	See Table Below
	UMTS 1750	2.645	2.519	See Table Below
	UMTS 1900	2.477	2.519	See Table Below
	PCS EVDO	2.767	2.519	See Table Below
	LTE Band 66 (AWS)	1.946	2.519	See Table Below
	LTE Band 25 (PCS)	2.975	2.519	See Table Below
	LTE Band 30	1.406	2.519	**3.925**
	LTE Band 7	2.145	2.519	See Table Below
	LTE Band 48	0.925	2.519	3.444
	LTE Band 41	2.384	2.519	See Table Below

Simult Tx	Configuration	GSM 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	1.872	2.519	See Note 1	0.07
	Front	1.283	0.854	2.137	N/A
	Top	-	2.519*	2.519	N/A
	Bottom	3.287	-	**3.287**	N/A
	Right	0.223	-	0.223	N/A
	Left	0.429	1.419	1.848	N/A

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	1.584	2.519	See Note 1	0.07
	Front	1.274	0.854	2.128	N/A
	Top	-	2.519*	2.519	N/A
	Bottom	2.645	-	**2.645**	N/A
	Right	0.205	-	0.205	N/A
	Left	0.378	1.419	1.797	N/A

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	1.260	2.519	**3.779**
	Front	1.176	0.854	2.030
	Top	-	2.519*	2.519
	Bottom	2.477	-	2.477
	Right	0.320	-	0.320
	Left	0.589	1.419	2.008

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	1.721	2.519	See Note 1	0.06
	Front	1.699	0.854	2.553	N/A
	Top	-	2.519*	2.519	N/A
	Bottom	2.767	-	**2.767**	N/A
	Right	0.416	-	0.416	N/A
	Left	0.703	1.419	2.122	N/A

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	1.365	2.519	**3.884**
	Front	1.168	0.854	2.022
	Top	-	2.519*	2.519
	Bottom	1.946	-	1.946
	Right	0.373	-	0.373
	Left	0.593	1.419	2.012

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	1.729	2.519	See Note 1	0.06
	Front	1.779	0.854	2.633	N/A
	Top	-	2.519*	2.519	N/A
	Bottom	2.975	-	**2.975**	N/A
	Right	0.456	-	0.456	N/A
	Left	0.620	1.419	2.039	N/A

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Simult Tx	Configuration	LTE Band 7 Ant A SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 7 Ant B SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2			1	2	1+2	1+2
Phablet SAR	Back	0.924	2.519	**3.443**	Phablet SAR	Back	2.067	2.519	See Note 1	0.08
	Front	0.776	0.854	1.630		Front	1.114	0.854	1.968	N/A
	Top	-	2.519*	2.519		Top	-	2.519*	2.519	N/A
	Bottom	1.222	-	1.222		Bottom	2.145	-	2.145	N/A
	Right	0.497	-	0.497		Right	0.353	-	0.353	N/A
	Left	0.419	1.419	1.838		Left	1.396	1.419	**2.815**	N/A

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	1.998	2.519	See Note 1	0.07
	Front	1.146	0.854	2.000	N/A
	Top	-	2.519*	**2.519**	N/A
	Bottom	2.384	-	2.384	N/A
	Right	-	-	-	N/A
	Left	0.604	1.419	2.023	N/A

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

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12.7 SPLSR Evaluation and Analysis

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

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

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

12.7.1 Hotspot Back Side SPLSR Evaluation and Analysis

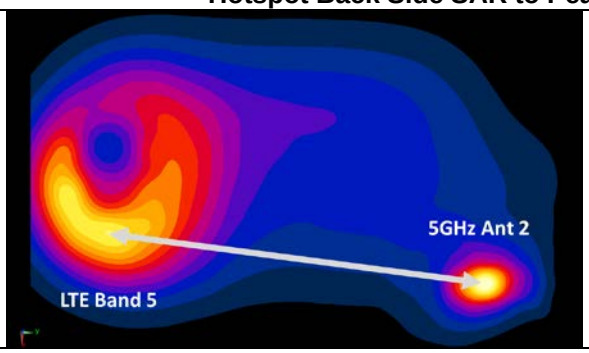
Table 12-18
Peak SAR Locations for Hotspot Back Side

Mode/Band	x (mm)	y (mm)
5 GHz WLAN Ant 2	6.00	52.00
5 GHz WLAN MIMO	14.00	55.00
LTE Band 5 (Cell)	-23.50	-87.00

Table 12-19
Hotspot Back Side SAR to Peak Location Separation Ratio Calculations

Antenna Pair		Standalone SAR (W/kg)		Standalone SAR Sum (W/kg)	Peak SAR Separation Distance (mm)	SPLS Ratio	Plot Number
Ant "a"	Ant "b"	a	b	a+b	D_{a-b}	$(a+b)^{1.5}/D_{a-b}$	
5 GHz WLAN Ant 2	LTE Band 5 (Cell)	0.694	0.929	1.623	142.10	0.01	1
5 GHz WLAN MIMO	LTE Band 5 (Cell)	0.795	0.929	1.724	146.87	0.02	2

Table 12-20
Hotspot Back Side SAR to Peak Location Separation Ratio Plots



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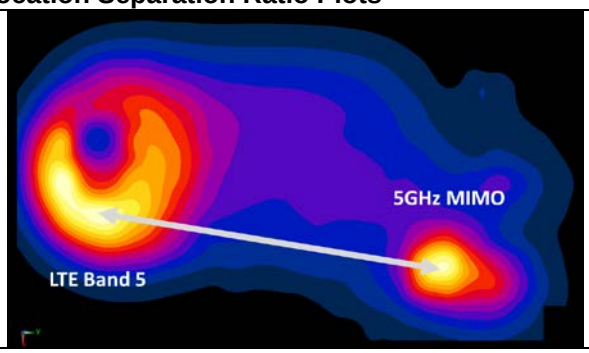

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12.7.2 Phablet Back Side SPLSR Evaluation and Analysis

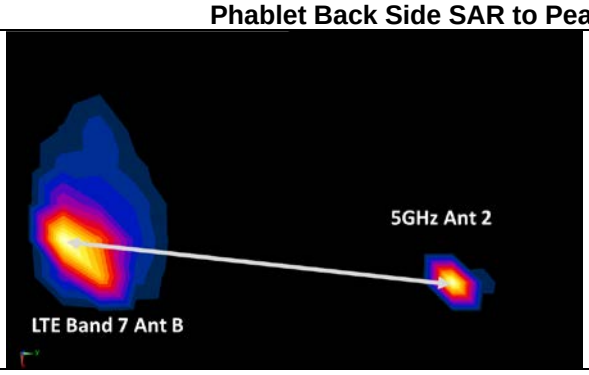
Table 12-21
Peak SAR Locations for Phablet Back Side

Mode/Band	x (mm)	y (mm)
5 GHz WLAN Ant 2	13.00	51.00
5 GHz WLAN MIMO	13.00	50.00
GSM 1900	-27.50	-78.00
UMTS 1750	-25.00	-72.00
PCS EVDO	-27.50	-81.00
LTE Band 25 (PCS)	-29.00	-84.00
LTE Band 7 Ant B	6.40	-68.20
LTE Band 41	-4.70	-83.00

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

Antenna Pair		Standalone SAR (W/kg)		Standalone SAR Sum (W/kg)	Peak SAR Separation Distance (mm)	SPLS Ratio	Plot Number
Ant "a"	Ant "b"	a	b	a+b	D_{a-b}	$(a+b)^{1.5}/D_{a-b}$	
5 GHz WLAN Ant 2	LTE Band 7 Ant B	2.102	2.067	4.169	119.38	0.07	1
5 GHz WLAN Ant 2	LTE Band 41	2.102	1.998	4.100	135.16	0.06	2
5 GHz WLAN MIMO	GSM 1900	2.519	1.872	4.391	134.25	0.07	3
5 GHz WLAN MIMO	UMTS 1750	2.519	1.584	4.103	127.78	0.07	4
5 GHz WLAN MIMO	PCS EVDO	2.519	1.721	4.240	137.12	0.06	5
5 GHz WLAN MIMO	LTE Band 25 (PCS)	2.519	1.729	4.248	140.43	0.06	6
5 GHz WLAN MIMO	LTE Band 7 Ant B	2.519	2.067	4.586	118.38	0.08	7
5 GHz WLAN MIMO	LTE Band 41	2.519	1.998	4.517	134.17	0.07	8

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



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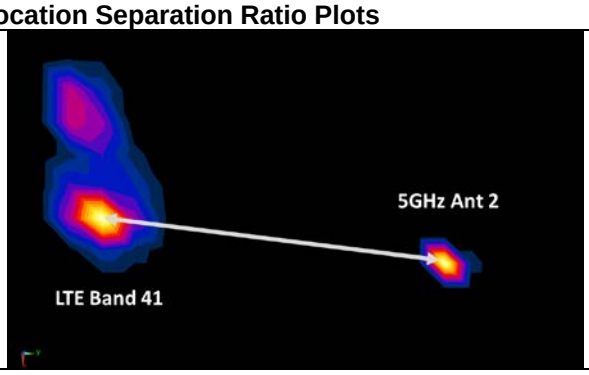

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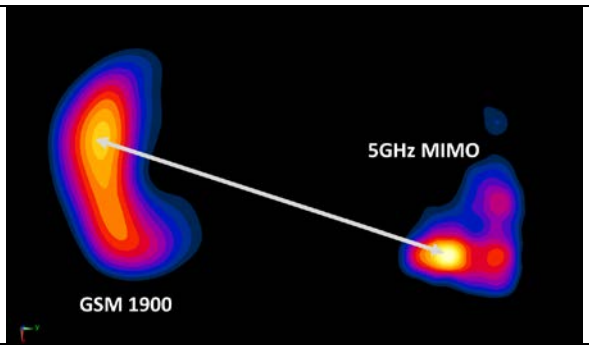

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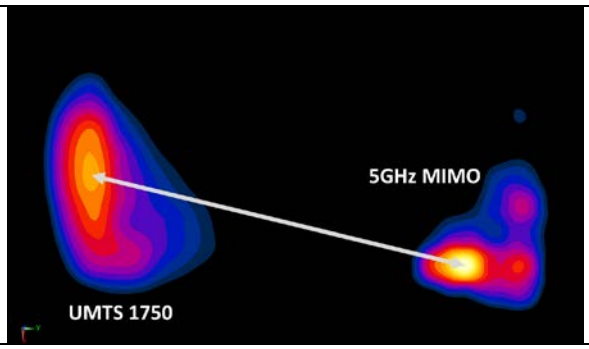

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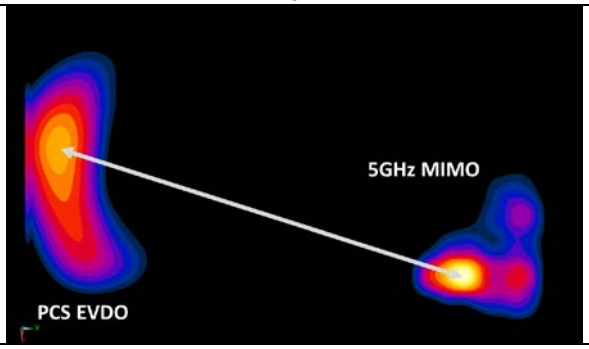

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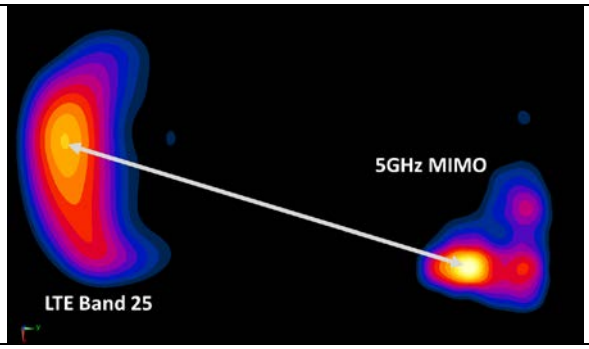

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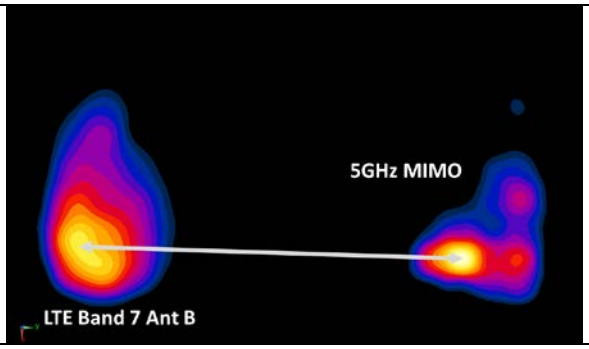

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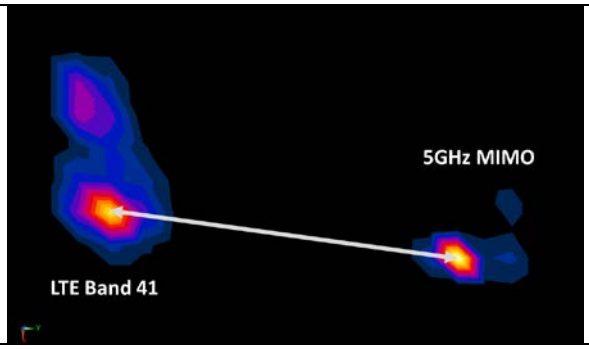

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12.8 Additional Simultaneous SAR Evaluation and Analysis for Main Band, Bluetooth and 5 GHz WLAN Operations

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

The Bluetooth and 5 GHz WLAN transmitters are spatially separated from the 2G/3G/4G antenna. Therefore, simultaneous transmission SAR evaluations (Volumetric SAR Evaluations) were performed for the transmitters with the overlapping distributions - Bluetooth and 5 GHz WIFI. The SPLSR procedures in FCC KDB Publication 447498 was applied to the 2G/3G/4G transmitter and the aggregate Bluetooth and 5 GHz WLAN distribution to determine simultaneous SAR compliance.

12.8.1 Hotspot Volumetric SAR Evaluation and Analysis for Bluetooth and 5GHz WLAN Simultaneous Transmission

Table 12-24
Simultaneous Transmission SAR Analysis

Band/ Mode	Configuration	Frequency [MHz]	Measured Standalone 1g SAR [W/kg]	Maximum Allowed Power [dBm]	Conducted Power (Ant 1) [dBm]	Conducted Power (Ant 2) [dBm]	Duty Cycle (%)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Volumetric 1g SAR [W/kg]	Scaled Volumetric 1g SAR [W/kg]	Volumetric SAR Plot Number
Bluetooth	Back side, Ch. 39, 1 Mbps, 10 mm	2441	0.185	18.5	18.37	N/A	77.1	1.030	1.297	0.152	0.203	A81
5GHz WLAN Ant 2	Back side, 802.11a, 20 MHz, Ch. 157, 6 Mbps, 10 mm	5785	0.601	18.0	17.42	N/A	98.9	1.143	1.011	0.57	0.659	A82
5GHz WLAN MIMO	Back side, 802.11n, 20 MHz, Ch. 165, 13 Mbps, 10 mm	5825	0.676	18.0	17.84	17.35	98.7	1.161	1.013	0.658	0.774	A83

Simultaneous Transmission Bands/Modes		Scaled Multi-Band SAR (W/kg)	Simultaneous SAR Plot Number
Bluetooth	5GHz WLAN Ant 2	0.850	A84
Bluetooth	5GHz WLAN MIMO	0.964	A85

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

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12.8.2 Hotspot Back Side SPLSR Evaluation and Analysis for Main Band, Bluetooth, and 5GHz WLAN Simultaneous Transmission

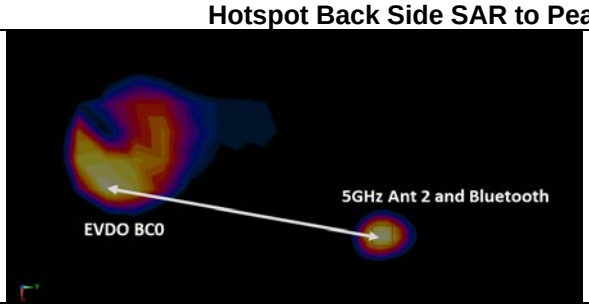
Table 12-25
Peak SAR Locations for Hotspot Back Side

Mode/Band	x (mm)	y (mm)
5 GHz WLAN Ant 2 and Bluetooth	7.00	48.00
5 GHz WLAN MIMO and Bluetooth	7.00	52.00
EVDO BC0 (§22H)	-22.50	-80.00
UMTS 850	-11.50	-81.50
LTE Band 26 (Cell)	-14.50	-72.00
LTE Band 5 (Cell)	-23.50	-87.00

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

Antenna Pair		Standalone SAR (W/kg)		Standalone SAR Sum (W/kg)	Peak SAR Separation Distance (mm)	SPLS Ratio	Plot Number
Ant "a"	Ant "b"	a	b	a+b	D_{a-b}	$(a+b)^{1.5}/D_{a-b}$	
5 GHz WLAN Ant 2 and Bluetooth	EVDO BC0 (§22H)	0.850	0.753	1.603	131.36	0.02	1
5 GHz WLAN Ant 2 and Bluetooth	LTE Band 5 (Cell)	0.850	0.929	1.779	138.40	0.02	2
5 GHz WLAN MIMO and Bluetooth	UMTS 850	0.964	0.725	1.689	134.78	0.02	3
5 GHz WLAN MIMO and Bluetooth	EVDO BC0 (§22H)	0.964	0.753	1.717	135.26	0.02	4
5 GHz WLAN MIMO and Bluetooth	LTE Band 26 (Cell)	0.964	0.653	1.617	125.85	0.02	5
5 GHz WLAN MIMO and Bluetooth	LTE Band 5 (Cell)	0.964	0.929	1.893	142.31	0.02	6

Table 12-27
Hotspot Back Side SAR to Peak Location Separation Ratio Plots



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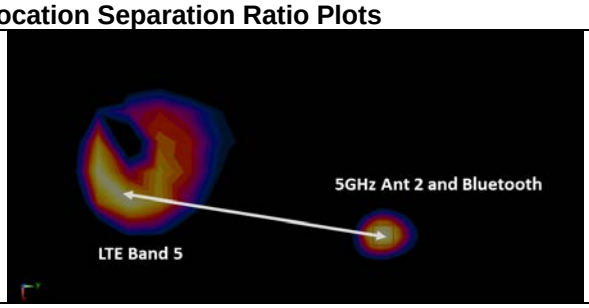

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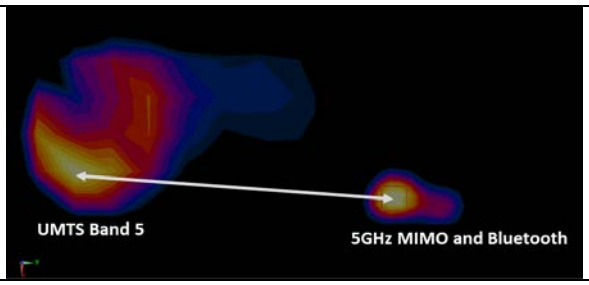

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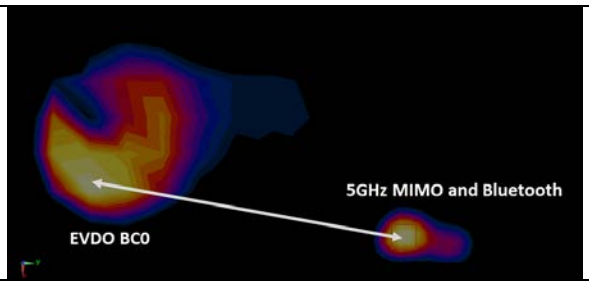

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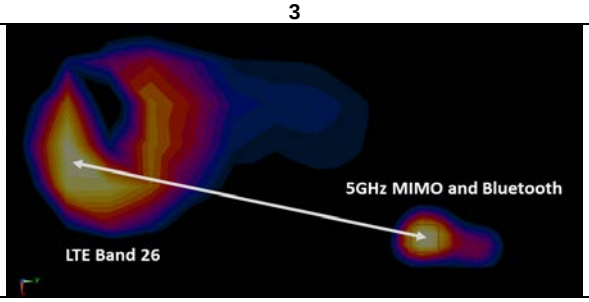

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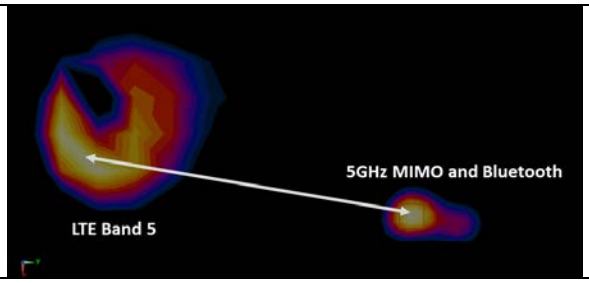

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Table 12-28
Hotspot Back Side Simultaneous Transmission SAR Analysis

Antenna Pair		Standalone SAR (W/kg)		Standalone SAR Sum (W/kg)
Ant "a"	Ant "b"	a	b	a+b
5 GHz WLAN Ant 2 and Bluetooth	UMTS 850	0.850	0.725	1.575
5 GHz WLAN MIMO and Bluetooth	EVDO BC10 (§90S)	0.964	0.628	1.592
5 GHz WLAN MIMO and Bluetooth	LTE Band 14	0.964	0.627	1.591
5 GHz WLAN MIMO and Bluetooth	LTE Band 30	0.964	0.561	1.525

12.9 Simultaneous Transmission Conclusion

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

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13 SAR MEASUREMENT VARIABILITY

13.1 Measurement Variability

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

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

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

Table 13-1
Body SAR Measurement Variability Results

BODY VARIABILITY RESULTS															
Band	FREQUENCY		Mode	Service	Data Rate (Mbps)	Side	Spacing	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	Ratio	3rd Repeated SAR (1g)	Ratio
	MHz	Ch.						(W/kg)	(W/kg)		(W/kg)		(W/kg)	
1900	1907.60	9538	UMTS 1900	RMC	N/A	bottom	10 mm	1.010	1.000	1.01	N/A	N/A	N/A	N/A
2300	2310.00	27710	LTE Band 30, 10 MHz Bandwidth	QPSK, 25 RB, 0 RB Offset	N/A	bottom	10 mm	0.903	0.863	1.05	N/A	N/A	N/A	N/A
2450	2510.00	20850	LTE Band 7, Ant A, 20 MHz Bandwidth	QPSK, 1 RB, 0 RB Offset	N/A	bottom	10 mm	0.970	0.963	1.01	N/A	N/A	N/A	N/A
2600	2636.50	41055	LTE Band 41, ULCA, 20 MHz Bandwidth	QPSK, 50 RB, 50 RB Offset	N/A	bottom	10 mm	0.923	0.919	1.00	N/A	N/A	N/A	N/A
	2656.30	41253		QPSK, 50 RB, 0 RB Offset										
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 13-2
Phablet SAR Measurement Variability Results

PHABLET VARIABILITY RESULTS														
Band	FREQUENCY		Mode	Service	Data Rate (Mbps)	Side	Spacing	Measured SAR (10g)	1st Repeated SAR (10g)	Ratio	2nd Repeated SAR (10g)	Ratio	3rd Repeated SAR (10g)	Ratio
	MHz	Ch.						(W/kg)	(W/kg)		(W/kg)		(W/kg)	
1750	1752.60	1513	UMTS 1750	RMC	N/A	bottom	0 mm	2.210	2.060	1.07	N/A	N/A	N/A	N/A
1900	1882.50	26365	LTE Band 25 (PCS), 20 MHz Bandwidth	QPSK, 50 RB, 0 RB Offset	N/A	bottom	0 mm	2.960	2.740	1.08	N/A	N/A	N/A	N/A
2600	2680.00	41490	LTE Band 41, ULCA, 20 MHz Bandwidth	QPSK, 1 RB, 0 RB Offset	N/A	bottom	0 mm	2.110	2.100	1.00	N/A	N/A	N/A	N/A
	2660.20	41292		QPSK, 1 RB, 99 RB Offset										
5600	5600.00	120	802.11n, 20 MHz Bandwidth	OFDM, MIMO	13	back	0 mm	2.380	2.350	1.01	N/A	N/A	N/A	N/A
5750	5720.00	144	802.11n, 20 MHz Bandwidth	OFDM, MIMO	13	back	0 mm	2.320	2.200	1.05	N/A	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT **Spatial Peak** **Uncontrolled Exposure/General Population**							**Phablet** **4.0 W/kg (mW/g)** averaged over 10 grams							

13.2 Measurement Uncertainty

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

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14 ADDITIONAL TESTING PER FCC GUIDANCE

14.1 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 on the antenna characteristics, other than impedance matching.

To evaluate all the tuner states, the 60 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 60 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. Additionally, LTE bands 12 and 13 were considered as an aggregated band to select single point measurement configurations. The wireless configuration and exposure condition combinations were divided evenly among the two 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 Band 5		UMTS Band 4		UMTS Band 2		CDMA BC0		CDMA BC1	
RMC		RMC		RMC		RC3/SO55		EVDO Rev. A	
Test Position	Right Cheek	Test Position	Left Cheek	Test Position	Left Cheek	Test Position	Right Cheek	Test Position	Left Cheek
Frequency (MHz)	836.6	Frequency (MHz)	1732.4	Frequency (MHz)	1880	Frequency (MHz)	836.52	Frequency (MHz)	1880
Channel	4183	Channel	1412	Channel	9400	Channel	384	Channel	600
Measured 1g SAR (W/kg)	0.220	Measured 1g SAR (W/kg)	0.099	Measured 1g SAR (W/kg)	0.137	Measured 1g SAR (W/kg)	0.259	Measured 1g SAR (W/kg)	0.175
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 57)	0.317	Auto-tune (State 35)	0.133	Auto-tune (State 34)	0.176	Auto-tune (State 20)	0.32	Auto-tune (State 32)	0.271
Default (State 0)	0.317	Default (State 0)	0.119	Default (State 0)	0.165	Default (State 0)	0.317	Default (State 0)	0.19
State 0	0.317	State 0	0.119	State 0	0.165	State 0	0.317	State 0	0.190
State 1	0.316	State 4	0.104	State 4	0.143	State 2	0.313	State 2	0.160
State 5	0.303	State 7	0.095	State 6	0.130	State 3	0.305	State 5	0.150
State 10	0.193	State 10	0.081	State 9	0.114	State 9	0.242	State 7	0.130
State 11	0.159	State 11	0.073	State 11	0.089	State 11	0.172	State 11	0.094
State 16	0.318	State 13	0.055	State 13	0.061	State 16	0.309	State 12	0.077
State 18	0.309	State 14	0.044	State 17	0.15	State 19	0.291	State 17	0.175
State 21	0.29	State 17	0.106	State 21	0.121	State 20	0.307	State 18	0.14
State 22	0.265	State 21	0.086	State 23	0.108	State 22	0.275	State 22	0.12
State 25	0.209	State 24	0.079	State 24	0.110	State 23	0.262	State 25	0.106
State 27	0.145	State 27	0.059	State 26	0.087	State 25	0.217	State 27	0.081
State 28	0.107	State 30	0.034	State 29	0.051	State 29	0.092	State 31	0.031
State 29	0.087	State 33	0.131	State 32	0.182	State 32	0.074	State 32	0.28
State 33	0.078	State 35	0.14	State 33	0.18	State 39	0.110	State 34	0.243
State 37	0.115	State 36	0.138	State 34	0.179	State 41	0.079	State 36	0.236
State 40	0.101	State 39	0.135	State 36	0.177	State 44	0.028	State 37	0.234
State 42	0.057	State 42	0.123	State 38	0.171	State 46	0.014	State 43	0.166
State 47	0.008	State 45	0.092	State 41	0.158	State 47	0.008	State 45	0.115
State 51	0.316	State 48	0.107	State 44	0.11	State 51	0.314	State 48	0.153
State 52	0.317	State 55	0.104	State 45	0.094	State 54	0.311	State 53	0.246
State 53	0.078	State 57	0.119	State 54	0.149	State 56	0.073	State 55	0.163
State 57	0.320	State 58	0.104	State 56	0.16	State 57	0.309	State 58	0.168

Table 14-2
LTE Supplemental Head SAR Data

Supplemental Head SAR Data															
LTE Band 71		LTE Band 12		LTE Band 13		LTE Band 14		LTE Band 26		LTE Band 5		LTE Band 66		LTE Band 25	
QPSK, 20 MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 10 MHz Bandwidth, 1 RB, 49 RB Offsets		QPSK, 15 MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 10 MHz Bandwidth, 1 RB, 49 RB Offsets		QPSK, 20 MHz Bandwidth, 1 RB, 50 RB Offsets		QPSK, 20 MHz Bandwidth, 1 RB, 0 RB Offsets	
Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Left Cheek	Test Position	Left Cheek
Frequency (MHz)	680.5	Frequency (MHz)	707.5	Frequency (MHz)	782	Frequency (MHz)	793	Frequency (MHz)	831.5	Frequency (MHz)	836.5	Frequency (MHz)	1745	Frequency (MHz)	1860
Channel	133297	Channel	23095	Channel	23230	Channel	23330	Channel	26865	Channel	20525	Channel	132322	Channel	26140
Measured 1g SAR (W/kg)	0.109	Measured 1g SAR (W/kg)	0.231	Measured 1g SAR (W/kg)	0.136	Measured 1g SAR (W/kg)	0.240	Measured 1g SAR (W/kg)	0.206	Measured 1g SAR (W/kg)	0.265	Measured 1g SAR (W/kg)	0.138	Measured 1g SAR (W/kg)	0.139
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 51)	0.127	Auto-tune (State 1)	0.254	Auto-tune (State 24)	0.153	Auto-tune (State 0)	0.277	Auto-tune (State 0)	0.241	Auto-tune (State 16)	0.315	Auto-tune (State 33)	0.168	Auto-tune (State 34)	0.183
Default (State 0)	0.129	Default (State 0)	0.258	Default (State 0)	0.155	Default (State 0)	0.265	Default (State 0)	0.243	Default (State 0)	0.315	Default (State 0)	0.124	Default (State 0)	0.162
State 0	0.129	State 0	0.259	State 0	0.155	State 0	0.265	State 0	0.243	State 0	0.315	State 0	0.124	State 0	0.162
State 1	0.129	State 1	0.258	State 1	0.153	State 2	0.265	State 5	0.251	State 1	0.313	State 1	0.123	State 3	0.141
State 2	0.122	State 2	0.190	State 8	0.160	State 3	0.237	State 8	0.250	State 3	0.310	State 4	0.106	State 5	0.138
State 5	0.116	State 10	0.091	State 17	0.149	State 4	0.235	State 9	0.245	State 6	0.285	State 5	0.106	State 8	0.128
State 8	0.107	State 12	0.053	State 20	0.159	State 11	0.129	State 12	0.184	State 10	0.194	State 11	0.075	State 10	0.106
State 9	0.096	State 14	0.032	State 22	0.150	State 12	0.096	State 14	0.132	State 13	0.094	State 15	0.035	State 12	0.076
State 15	0.027	State 22	0.138	State 24	0.15	State 14	0.058	State 17	0.25	State 16	0.320	State 16	0.102	State 14	0.054
State 16	0.131	State 27	0.064	State 33	0.025	State 22	0.213	State 21	0.252	State 17	0.311	State 19	0.090	State 23	0.109
State 21	0.108	State 40	0.047	State 34	0.040	State 24	0.198	State 25	0.227	State 19	0.299	State 20	0.088	State 28	0.064
State 22	0.102	State 45	0.006	State 39	0.038	State 26	0.144	State 30	0.112	State 23	0.252	State 21	0.095	State 34	0.183
State 25	0.083	State 46	0.004	State 50	0.024	State 29	0.069	State 31	0.08	State 26	0.178	State 25	0.078	State 35	0.176
State 28	0.048	State 51	0.258	State 56	0.025	State 36	0.084	State 36	0.058	State 30	0.063	State 31	0.027	State 40	0.174
State 29	0.04	State 59	0.064	State 57	0.157	State 38	0.085	State 39	0.062	State 31	0.042	State 32	0.124	State 41	0.165
State 32	0.015					State 41	0.073	State 41	0.052	State 35	0.103	State 33	0.164	State 44	0.123
State 33	0.015					State 44	0.023	State 45	0.01	State 38	0.108	State 37	0.170	State 46	0.095
State 37	0.014					State 48	0.255	State 47	0.003	State 42	0.065	State 40	0.125	State 48	0.131
State 51	0.128					State 53	0.061	State 50	0.036	State 49	0.312	State 43	0.168	State 52	0.142
State 52	0.127					State 54	0.256	State 53	0.037	State 52	0.313	State 49	0.102	State 54	0.152
State 53	0.014					State 56	0.062	State 54	0.243	State 55	0.313	State 53	0.126	State 56	0.16
State 57	0.132					State 57	0.266	State 56	0.037	State 59	0.073	State 58	0.113	State 59	0.177

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Table 14-3
UMTS/CDMA Supplemental Body SAR Data

Supplemental Body SAR Data	
UMTS Band 2	
RMC	
Test Position	Bottom Edge
Spacing	10 mm
Frequency (MHz)	1907.6
Channel	9538
Measured 1g SAR (W/kg)	1.010
Average Value of Time Sweep (W/kg)	
Auto-tune (State 34)	1.369
Default (State 0)	1.220
State 0	1.22
State 1	1.220
State 2	1.104
State 3	1.085
State 4	1.07
State 5	1.063
State 6	1.007
State 7	0.983
State 8	1.013
State 9	0.924
State 10	0.857
State 11	0.755
State 12	0.63
State 13	0.547
State 14	0.448
State 15	0.339
State 16	1.145
State 17	1.15
State 18	1.026
State 19	0.995
State 20	0.978
State 21	0.966
State 22	0.914
State 23	0.886
State 24	0.903
State 25	0.812
State 26	0.743
State 27	0.649
State 28	0.533
State 29	0.456
State 30	0.370
State 31	0.276
State 32	1.342
State 33	1.321
State 34	1.371
State 35	1.366
State 36	1.36
State 37	1.358
State 38	1.342
State 39	1.328
State 40	1.337
State 41	1.288
State 42	1.241
State 43	1.15
State 44	1.001
State 45	0.887
State 46	0.738
State 47	0.551
State 48	0.999
State 49	0.908
State 50	1.085
State 51	1.212
State 52	1.124
State 53	1.320
State 54	1.150
State 55	1.064
State 56	1.182
State 57	1.230
State 58	1.135
State 59	1.334

Supplemental Body SAR Data							
UMTS Band 5		UMTS Band 4		CDMA BC0		CDMA BC1	
RMC		RMC		EVDO Rev. 0		EVDO Rev. 0	
Test Position	Back Side	Test Position	Bottom Edge	Test Position	Back Side	Test Position	Bottom Edge
Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm
Frequency (MHz)	846.6	Frequency (MHz)	1752.6	Frequency (MHz)	836.52	Frequency (MHz)	1908.75
Channel	4233	Channel	1513	Channel	384	Channel	1175
Measured 1g SAR (W/kg)	0.572	Measured 1g SAR (W/kg)	0.544	Measured 1g SAR (W/kg)	0.635	Measured 1g SAR (W/kg)	0.733
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 3)	0.776	Auto-tune (State 35)	0.742	Auto-tune (State 2)	0.874	Auto-tune (State 32)	1.073
Default (State 0)	0.775	Default (State 0)	0.662	Default (State 0)	0.87	Default (State 0)	0.99
State 0	0.775	State 0	0.662	State 0	0.87	State 0	0.99
State 2	0.774	State 1	0.664	State 1	0.858	State 3	0.882
State 3	0.779	State 3	0.598	State 2	0.874	State 6	0.821
State 4	0.770	State 7	0.554	State 3	0.058	State 8	0.811
State 7	0.725	State 9	0.52	State 4	0.201	State 12	0.502
State 10	0.584	State 12	0.392	State 8	0.797	State 16	0.912
State 11	0.497	State 16	0.579	State 13	0.312	State 17	0.920
State 14	0.237	State 17	0.586	State 17	0.871	State 20	0.784
State 24	0.685	State 18	0.517	State 19	0.852	State 23	0.712
State 27	0.457	State 23	0.460	State 22	0.801	State 26	0.594
State 31	0.145	State 27	0.354	State 28	0.348	State 31	0.22
State 32	0.177	State 29	0.269	State 33	0.206	State 32	1.067
State 34	0.237	State 35	0.742	State 34	0.286	State 35	1.026
State 36	0.246	State 36	0.739	State 35	0.293	State 39	1.055
State 43	0.149	State 39	0.736	State 40	0.281	State 43	0.915
State 46	0.046	State 41	0.712	State 45	0.059	State 45	0.7
State 47	0.027	State 48	0.597	State 48	0.856	State 47	0.434
State 49	0.768	State 49	0.521	State 50	0.204	State 52	0.899
State 52	0.776	State 52	0.573	State 51	0.869	State 55	0.846
State 55	0.769	State 56	0.622	State 55	0.87	State 57	0.979
State 58	0.773	State 59	0.686	State 57	0.87	State 58	0.906

Table 14-4
LTE Supplemental Body SAR Data

Supplemental Body SAR Data															
LTE Band 71		LTE Band 12		LTE Band 13		LTE Band 14		LTE Band 26		LTE Band 5		LTE Band 66		LTE Band 25	
QPSK, 20 MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 10 MHz Bandwidth, 1 RB, 49 RB Offsets		QPSK, 15 MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 10 MHz Bandwidth, 1 RB, 49 RB Offsets		QPSK, 20 MHz Bandwidth, 1 RB, 50 RB Offsets		QPSK, 20 MHz Bandwidth, 50 RB, 0 RB Offsets	
Test Position	Back Side	Test Position	Right Edge	Test Position	Back Side	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	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	15 mm	Spacing	10 mm
Frequency (MHz)	680.5	Frequency (MHz)	707.5	Frequency (MHz)	782	Frequency (MHz)	793	Frequency (MHz)	836.5	Frequency (MHz)	836.5	Frequency (MHz)	1745	Frequency (MHz)	1905
Channel	133297	Channel	23095	Channel	23230	Channel	23330	Channel	26865	Channel	20525	Channel	132322	Channel	26590
Measured 1g SAR (W/kg)	0.330	Measured 1g SAR (W/kg)	0.403	Measured 1g SAR (W/kg)	0.282	Measured 1g SAR (W/kg)	0.478	Measured 1g SAR (W/kg)	0.508	Measured 1g SAR (W/kg)	0.743	Measured 1g SAR (W/kg)	0.612	Measured 1g SAR (W/kg)	0.861
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 17)	0.498	Auto-tune (State 51)	0.524	Auto-tune (State 16)	0.526	Auto-tune (State 16)	0.843	Auto-tune (State 19)	0.674	Auto-tune (State 51)	1.092	Auto-tune (State 39)	0.716	Auto-tune (State 42)	1.126
Default (State 0)	0.5	Default (State 0)	0.527	Default (State 0)	0.514	Default (State 0)	0.854	Default (State 0)	0.62	Default (State 0)	1.098	Default (State 0)	0.549	Default (State 0)	0.998
State 0	0.5	State 0	0.527	State 0	0.514	State 0	0.854	State 0	0.62	State 0	1.098	State 0	0.549	State 0	0.998
State 2	0.463	State 1	0.516	State 1	0.506	State 2	0.829	State 1	0.561	State 3	0.972	State 2	0.504	State 1	1.008
State 8	0.401	State 6	0.323	State 6	0.534	State 3	0.814	State 3	0.608	State 8	0.849	State 6	0.456	State 3	0.888
State 9	0.359	State 9	0.240	State 13	0.286	State 5	0.796	State 6	0.666	State 9	0.260	State 8	0.458	State 6	0.824
State 17	0.506	State 13	0.090	State 16	0.533	State 8	0.72	State 7	0.670	State 15	1.105	State 13	0.272	State 8	0.818
State 19	0.435	State 15	0.047	State 19	0.530	State 10	0.544	State 10	0.573	State 16	1.097	State 14	0.228	State 9	0.747
State 20	0.429	State 21	0.339	State 21	0.524	State 14	0.201	State 13	0.398	State 18	1.070	State 17	0.491	State 11	0.615
State 22	0.396	State 23	0.284	State 26	0.422	State 16	0.852	State 17	0.591	State 20	0.982	State 19	0.408	State 13	0.452
State 28	0.179	State 31	0.042	State 30	0.195	State 18	0.805	State 18	0.667	State 24	0.663	State 20	0.403	State 17	0.911
State 33	0.066	State 34	0.166	State 35	0.137	State 21	0.768	State 19	0.666	State 26	0.318	State 22	0.378	State 19	0.775
State 34	0.069	State 38	0.124	State 45	0.018	State 25	0.598	State 22	0.597	State 29	0.349	State 28	0.225	State 26	0.573
State 36	0.067	State 43	0.034	State 49	0.521	State 30	0.184	State 23	0.591	State 34	0.377	State 33	0.646	State 30	0.288
State 40	0.056	State 51	0.524	State 54	0.502	State 33	0.211	State 27	0.481	State 38	0.369	State 39	0.712	State 32	1.099
State 43	0.019					State 37	0.278	State 30	0.279	State 40	0.314	State 40	0.716	State 38	1.144
State 47	0.003					State 39	0.279	State 37	0.134	State 41	0.093	State 42	0.695	State 42	1.110
State 49	0.506					State 42	0.180	State 38	0.138	State 44	1.073	State 47	0.325	State 45	0.864
State 51	0.508					State 44	0.078	State 41	0.118	State 48	0.251	State 49	0.429	State 47	0.567
State 53	0.065					State 48	0.842	State 42	0.087	State 50	1.086	State 51	0.56	State 49	0.720
State 54	0.507					State 50	0.208	State 49	0.589	State 51	1.086	State 53	0.658	State 51	0.993
State 58	0.510					State 54	0.843	State 50	0.088	State 56	0.254	State 55	0.482	State 54	0.946
State 59	0.065					State 57	0.847	State 52	0.594	State 57	1.086	State 59	0.660	State 58	0.998

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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. When ULCA is active, the linearity between the Power Class 2 with ULCA active and Power Class 3 with ULCA active SAR results and the respective frame averaged powers was calculated to determine that the results were linear. Per May 2017 TCB Workshop, no additional SAR measurements were required since the linearity between power classes was < 10% and all reported SAR values were < 1.4 W/kg for 1g and < 3.5 W/kg for 10g.

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)	25.3	28.3
Measured Output Power (dBm)	24.00	26.62
Measured SAR (W/kg)	0.0662	0.087
Measured Power (mW)	251.19	459.20
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	159.00	198.83
% deviation from expected linearity		5.09%

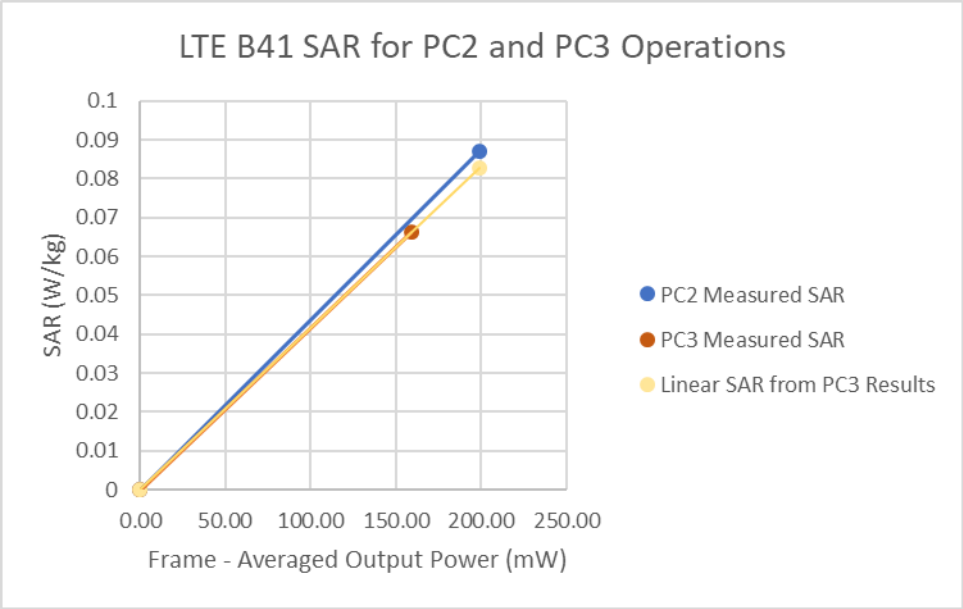

Table 14-6
LTE Band 41 Head Linearity

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Table 14-7
LTE Band 41 ULCA Head Linearity Data

	LTE Band 41 PC3 ULCA	LTE Band 41 PC2 ULCA
Maximum Allowed Output Power (dBm)	25.3	28.3
Measured Output Power (dBm)	25.18	27.9
Measured SAR (W/kg)	0.087	0.112
Measured Power (mW)	329.61	616.60
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	208.64	266.99
% deviation from expected linearity		1.07%

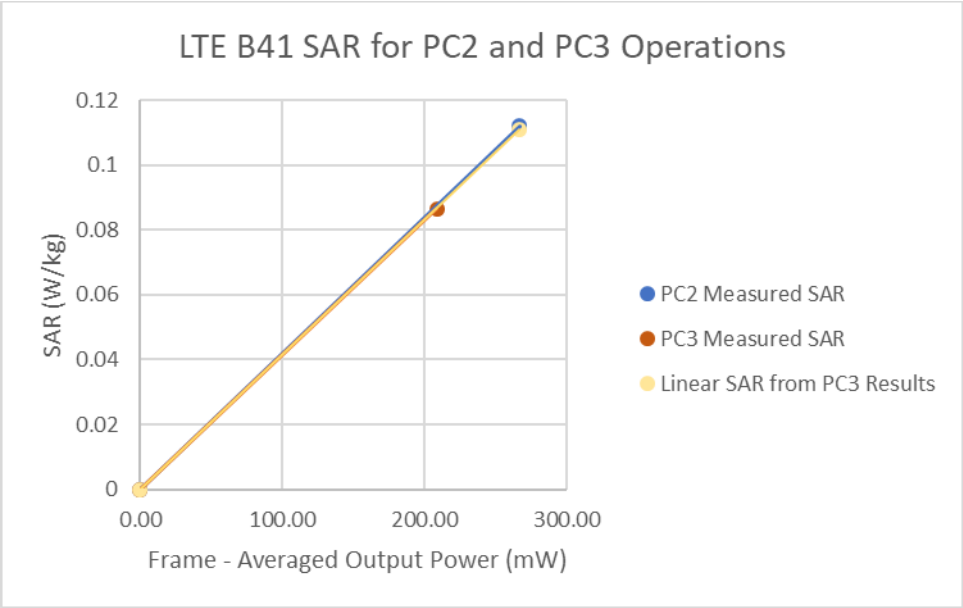

Table 14-8
LTE Band 41 ULCA Head Linearity

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Table 14-9
LTE Band 41 Body-Worn Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	25.3	28.3
Measured Output Power (dBm)	24.00	26.62
Measured SAR (W/kg)	0.326	0.387
Measured Power (mW)	251.19	459.20
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	159.00	198.83
% deviation from expected linearity		-5.07%

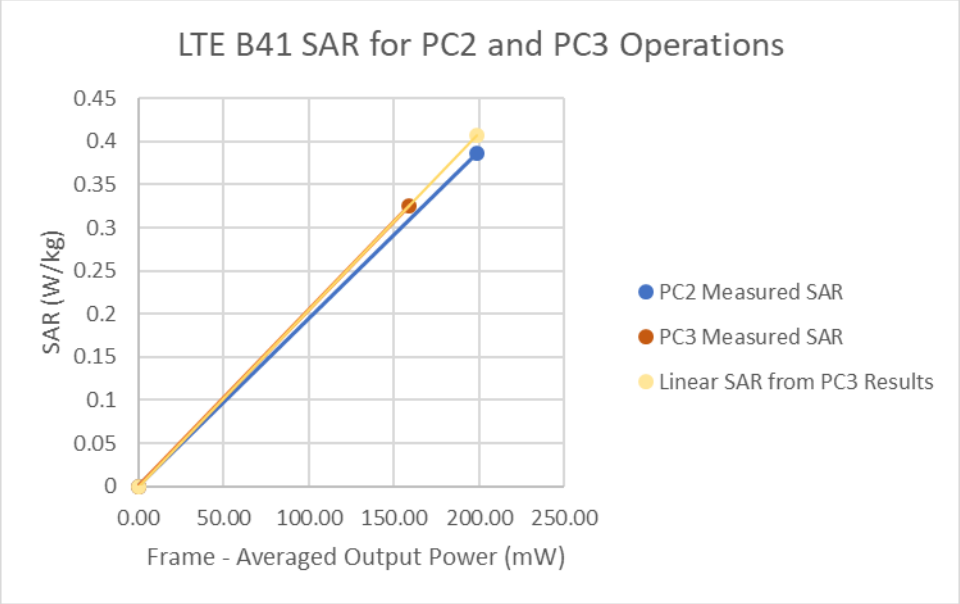

Table 14-10
LTE Band 41 Body-Worn Linearity

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Table 14-11
LTE Band 41 ULCA Body-Worn Linearity Data

	LTE Band 41 PC3 ULCA	LTE Band 41 PC2 ULCA
Maximum Allowed Output Power (dBm)	25.3	28.3
Measured Output Power (dBm)	25.18	27.9
Measured SAR (W/kg)	0.47	0.566
Measured Power (mW)	329.61	616.60
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	208.64	266.99
% deviation from expected linearity		-5.89%

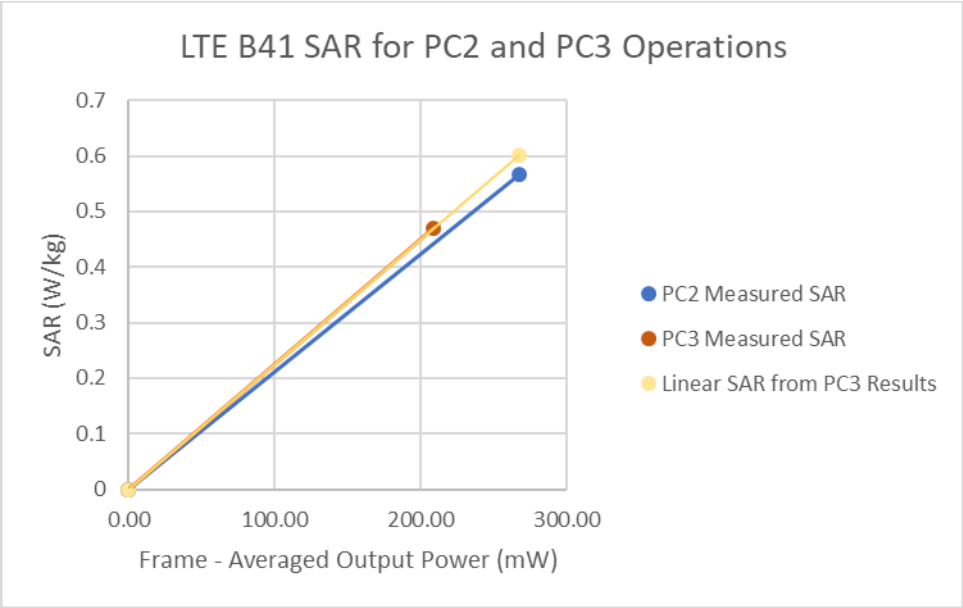

Table 14-12
LTE Band 41 ULCA Body-Worn Linearity

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Table 14-13
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)	21.32	21.27
Measured SAR (W/kg)	0.675	0.438
Measured Power (mW)	135.52	133.97
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	85.78	58.01
% deviation from expected linearity		-4.04%

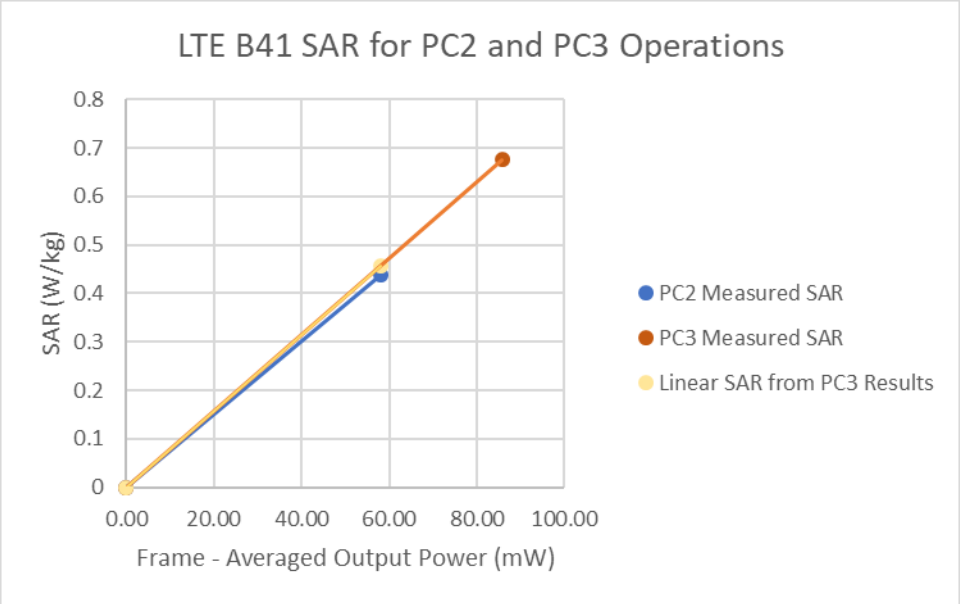

Table 14-14
LTE Band 41 Hotspot Linearity

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Table 14-15
LTE Band 41 ULCA Hotspot Linearity Data

	LTE Band 41 PC3 ULCA	LTE Band 41 PC2 ULCA
Maximum Allowed Output Power (dBm)	22.5	22.5
Measured Output Power (dBm)	22.5	22.27
Measured SAR (W/kg)	0.923	0.588
Measured Power (mW)	177.83	168.66
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	112.57	73.03
% deviation from expected linearity		-1.80%

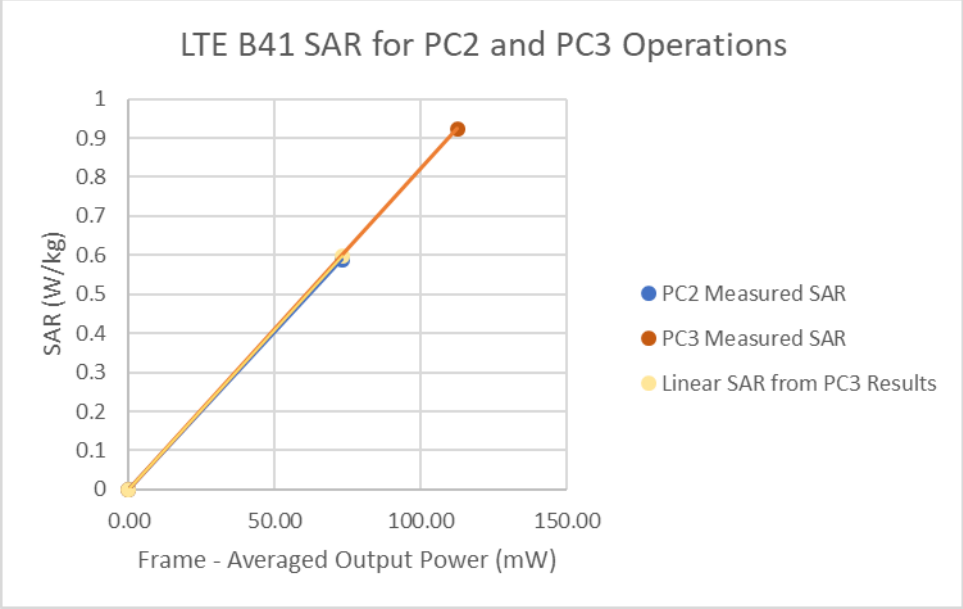

Table 14-16
LTE Band 41 ULCA Hotspot Linearity

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Table 14-17
LTE Band 41 Phablet Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	24	24
Measured Output Power (dBm)	22.84	22.88
Measured SAR (W/kg)	1.76	1.19
Measured Power (mW)	192.31	194.09
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	121.73	84.04
% deviation from expected linearity		-2.06%

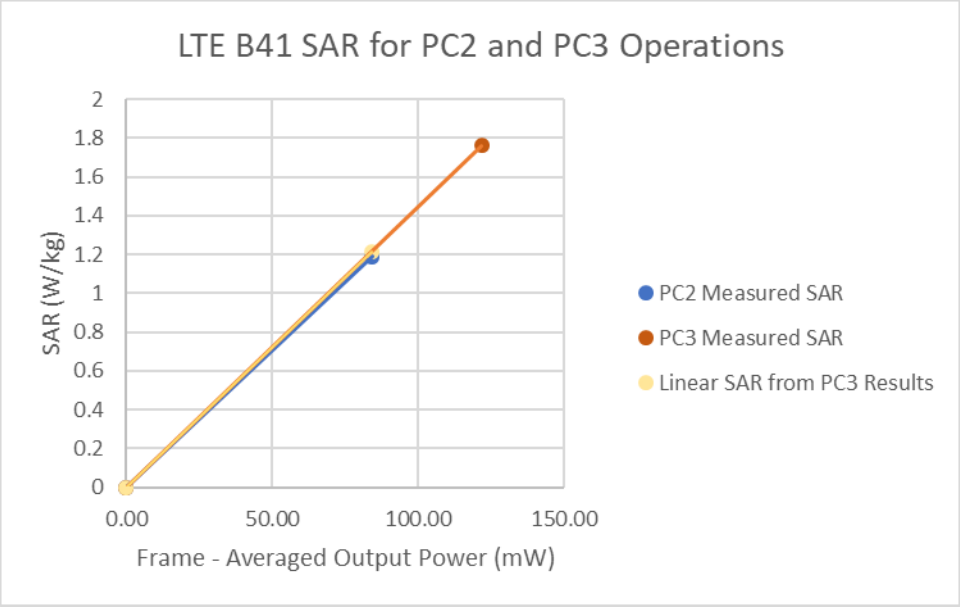

Table 14-18
LTE Band 41 Phablet Linearity

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Table 14-19
LTE Band 41 ULCA Phablet Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	24	24
Measured Output Power (dBm)	23.47	23.35
Measured SAR (W/kg)	2.11	1.27
Measured Power (mW)	222.33	216.27
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	140.74	93.65
% deviation from expected linearity		-9.54%

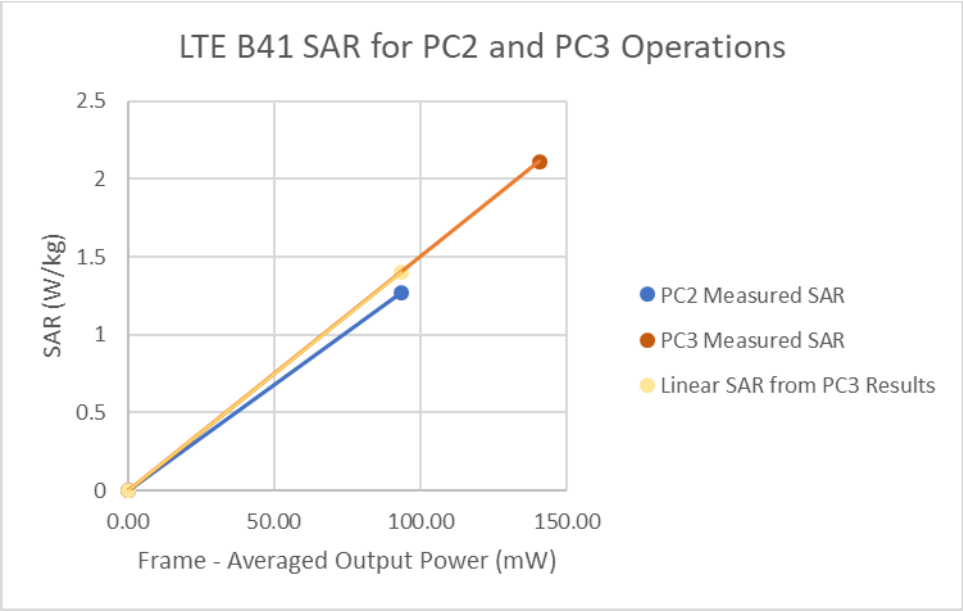

Table 14-20
LTE Band 41 ULCA Phablet Linearity

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15 EQUIPMENT LIST

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	85033E	3.5mm Standard Calibration Kit	8/13/2018	Annual	8/13/2019	MY53402352
Agilent	E4404B	Spectrum Analyzer	N/A	N/A	N/A	MY45113238
Agilent	8753E	(30kHz-6GHz) Network Analyzer	9/28/2018	Annual	9/28/2019	JP38020182
Agilent	8753ES	S-Parameter Network Analyzer	2/8/2018	Annual	2/8/2019	US39170122
Agilent	8753ES	Network Analyzer	2/21/2018	Annual	2/21/2019	MY40001472
Agilent	8753ES	S-Parameter Network Analyzer	7/30/2018	Annual	7/30/2019	MY40000670
Agilent	8753ES	S-Parameter Vector Network Analyzer	8/30/2018	Annual	8/30/2019	MY40003841
Agilent	E4432B	ESG-D Series Signal Generator	4/19/2018	Annual	4/19/2019	US40053896
Agilent	E4438C	ESG Vector Signal Generator	3/21/2017	Biennial	3/21/2019	MY45090700
Agilent	E4440A	PSA Series Spectrum Analyzer	11/14/2018	Annual	11/14/2019	MY46186272
Agilent	E5515C	Wireless Communications Test Set	1/24/2018	Annual	1/24/2019	GB44400860
Agilent	N4010A	Wireless Connectivity Test Set	N/A	N/A	N/A	GB44450273
Agilent	N5182A	MXG Vector Signal Generator	1/24/2018	Annual	1/24/2019	MY47420651
Agilent	N5182A	MXG Vector Signal Generator	4/18/2018	Annual	4/18/2019	MY47420800
Agilent	N5182A	MXG Vector Signal Generator	6/15/2018	Annual	6/15/2019	MY47420837
Agilent	N5182A	MXG Vector Signal Generator	11/28/2018	Annual	11/28/2019	MY47420603
Agilent	N5182A-506	MXG Vector Signal Generator	6/19/2018	Annual	6/19/2019	MY48180366
Agilent	N9020A	MXA Signal Analyzer	1/24/2018	Annual	1/24/2019	US46470561
Agilent	N9030A	PXA Signal Analyzer (44GHz)	5/25/2018	Annual	5/25/2019	MY52350166
Amplifier Research	150A100C	Amplifier	CBT	N/A	CBT	350132
Anritsu	MA24106A	USB Power Sensor	7/17/2018	Annual	7/17/2019	1827527
Anritsu	MA24106A	USB Power Sensor	1/19/2018	Annual	1/19/2019	1349509
Anritsu	MA2411B	Pulse Power Sensor	3/2/2018	Annual	3/2/2019	1339018
Anritsu	MA2411B	Pulse Power Sensor	10/30/2018	Annual	10/30/2019	1126066
Anritsu	ML2495A	Power Meter	10/21/2018	Annual	10/21/2019	941001
Anritsu	ML2495A	Power Meter	11/20/2018	Annual	11/20/2019	1039008
Anritsu	MT8820C	Radio Communication Analyzer	3/20/2018	Annual	3/20/2019	6201144419
Anritsu	MT8821C	Radio Communication Analyzer	7/24/2018	Annual	7/24/2019	6201664756
Anritsu	MT8821C	Radio Communication Analyzer	7/26/2018	Annual	7/26/2019	6201144418
Anritsu	MT8821C	Radio Communication Analyzer	11/6/2018	Annual	11/6/2019	6200901190
Anritsu	MT8862A	Wireless Connectivity Test Set	7/3/2018	Annual	7/3/2019	6261782395
Control Company	4040	Therm./ Clock/ Humidity Monitor	1/8/2018	Annual	1/8/2019	160574418
Control Company	4040	Therm./ Clock/ Humidity Monitor	10/9/2018	Biennial	10/9/2020	181647812
Control Company	4352	Ultra Long Stem Thermometer	1/8/2018	Annual	1/8/2019	160508097
Control Company	4352	Ultra Long Stem Thermometer	6/6/2018	Biennial	6/6/2020	181334694
Keysight	772D	Dual Directional Coupler	CBT	N/A	CBT	MY52180215
Keysight Technologies	85033E	Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm)	6/4/2018	Annual	6/4/2019	MY53401181
Keysignt Technologies	U3401A	Digital Multimeter	5/17/2018	Annual	5/17/2019	MY57201470
MiniCircuits	SLP-2400+	Low Pass Filter	CBT	N/A	CBT	R8979500903
MiniCircuits	VLF-6000+	Low Pass Filter	CBT	N/A	CBT	N/A
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
Mitutoyo	CD-6"CSX	Digital Caliper	4/18/2018	Biennial	4/18/2020	13264165
Narda	4014C-6	4 - 8 GHz SMA 6 dB Directional Coupler	CBT	N/A	CBT	N/A
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Narda	BW-S3W2	Attenuator (3dB)	CBT	N/A	CBT	120
Pasternack	NC-100	Torque Wrench	4/18/2018	Annual	4/18/2019	N/A
Pasternack	PE2208-6	Bidirectional Coupler	CBT	N/A	CBT	N/A
Rohde & Schwarz	CMU200	Base Station Simulator	5/18/2018	Annual	5/18/2019	109892
Rohde & Schwarz	CMW500	Radio Communication Tester	4/5/2018	Annual	4/5/2019	128633
Rohde & Schwarz	CMW500	Radio Communication Tester	4/20/2018	Annual	4/20/2019	128635
SPEAG	DAK-3.5	Dielectric Assessment Kit	5/15/2018	Annual	5/15/2019	1070
SPEAG	EX3DV4	SAR Probe	5/22/2018	Annual	5/22/2019	7406
SPEAG	ES3DV3	SAR Probe	10/22/2018	Annual	10/22/2019	3287
SPEAG	EX3DV4	SAR Probe	8/23/2018	Annual	8/23/2019	7308
SPEAG	ES3DV3	SAR Probe	2/13/2018	Annual	2/13/2019	3213
SPEAG	EX3DV4	SAR Probe	7/20/2018	Annual	7/20/2019	7410
SPEAG	EX3DV4	SAR Probe	8/24/2018	Annual	8/24/2019	3949
SPEAG	EX3DV4	SAR Probe	6/25/2018	Annual	6/25/2019	7409
SPEAG	EX3DV4	SAR Probe	4/18/2018	Annual	4/18/2019	7357
SPEAG	ES3DV3	SAR Probe	3/27/2018	Annual	3/27/2019	3347
SPEAG	ES3DV3	SAR Probe	8/22/2018	Annual	8/22/2019	3332
SPEAG	ES3DV3	SAR Probe	3/13/2018	Annual	3/13/2019	3319
SPEAG	EX3DV4	SAR Probe	2/14/2018	Annual	2/14/2019	3914
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/22/2018	Annual	5/22/2019	859
SPEAG	DAE4	Dasy Data Acquisition Electronics	10/18/2018	Annual	10/18/2019	1333
SPEAG	DAE4	Dasy Data Acquisition Electronics	10/3/2018	Annual	10/3/2019	1558
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/9/2018	Annual	2/9/2019	1272
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/11/2018	Annual	7/11/2019	1322
SPEAG	DAE4	Dasy Data Acquisition Electronics	6/18/2018	Annual	6/18/2019	1334
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/11/2018	Annual	4/11/2019	1407
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/15/2018	Annual	2/15/2019	665
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/7/2018	Annual	3/7/2019	1368
SPEAG	D750V3	750 MHz Dipole	3/7/2017	Biennial	3/7/2019	1054
SPEAG	D750V3	750 MHz SAR Dipole	1/15/2018	Annual	1/15/2019	1003
SPEAG	D835V2	835 MHz SAR Dipole	10/19/2018	Annual	10/19/2019	4d047
SPEAG	D835V2	835 MHz SAR Dipole	10/19/2018	Annual	10/19/2019	4d133
SPEAG	D1750V2	1750 MHz SAR Dipole	10/22/2018	Annual	10/22/2019	1150
SPEAG	D1900V2	1900 MHz SAR Dipole	2/7/2018	Annual	2/7/2019	5d148
SPEAG	D2300V2	2300 MHz SAR Dipole	8/13/2018	Annual	8/13/2019	1073
SPEAG	D2450V2	2450 MHz SAR Dipole	8/16/2018	Annual	8/16/2019	981
SPEAG	D2450V2	2450 MHz SAR Dipole	9/11/2017	Biennial	9/11/2019	797
SPEAG	D2600V2	2600 MHz SAR Dipole	9/13/2016	Triennial	9/13/2019	1071
SPEAG	D3500V2	3500 MHz SAR Dipole	8/15/2018	Annual	8/15/2019	1055
SPEAG	D3700V2	3700 MHz SAR Dipole	9/13/2018	Annual	9/13/2019	1002
SPEAG	D5GHzV2	5 GHz SAR Dipole	9/21/2016	Triennial	9/21/2019	1191
SPEAG	D1750V2	1750 MHz SAR Dipole	5/9/2017	Biennial	5/9/2019	1148
SPEAG	D1900V2	1900 MHz SAR Dipole	10/23/2018	Annual	10/23/2019	5d080
SPEAG	D1900V2	1900 MHz SAR Dipole	10/23/2018	Annual	10/23/2019	5d149
SPEAG	D2450V2	2450 MHz SAR Dipole	8/17/2017	Biennial	8/17/2019	719
SPEAG	D2600V2	2600 MHz SAR Dipole	4/11/2018	Annual	4/11/2019	1004
SPEAG	D2600V2	2600 MHz SAR Dipole	8/13/2018	Annual	8/13/2019	1126

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

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16 MEASUREMENT UNCERTAINTIES

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

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REV 21.2 M
12/05/2018

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17 CONCLUSION

17.1 Measurement Conclusion

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

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

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APPENDIX A: SAR TEST DATA

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PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0481M

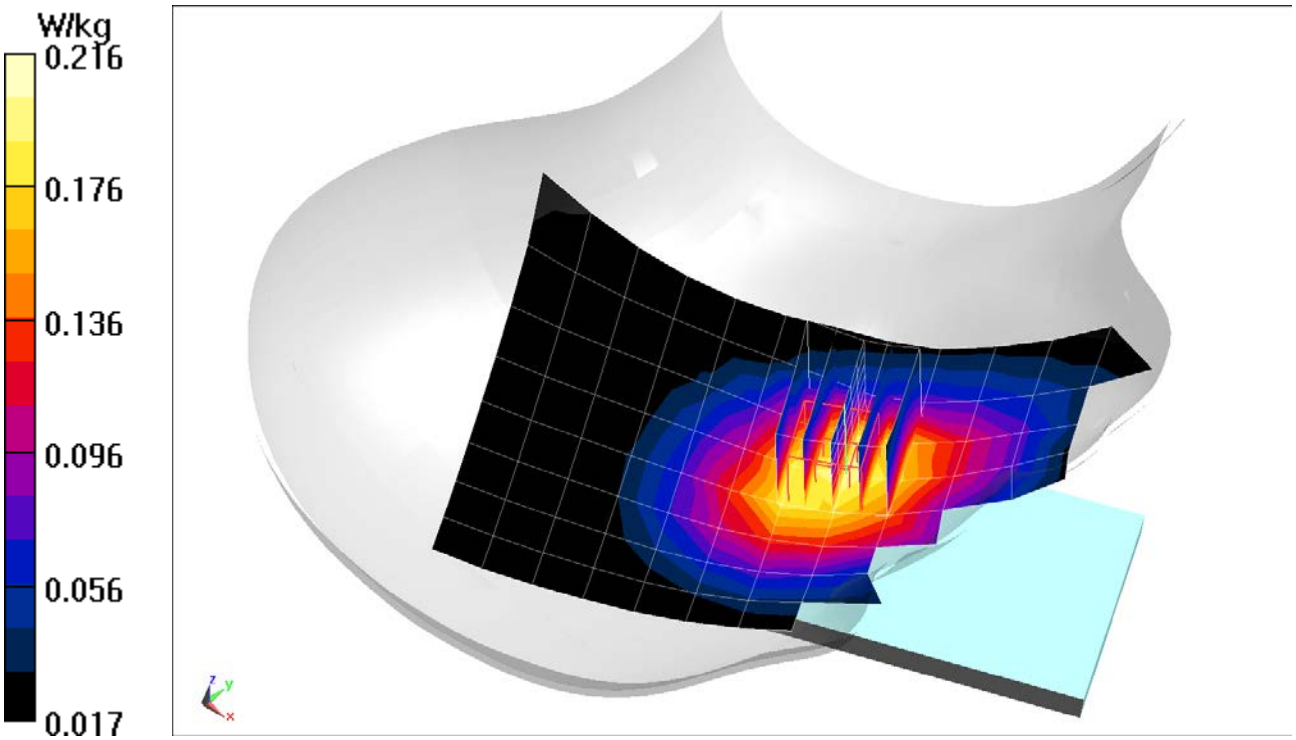
Communication System: UID 0, GSM; Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: 835 Head Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.897 S/m; ε_r = 43.144; ρ = 1000 kg/m^3
Phantom section: Right Section;

Test Date: 11-13-2018; Ambient Temp: 18.9°C; Tissue Temp: 19.7°C

Probe: EX3DV4 - SN7308; ConvF(9.96, 9.96, 9.96) @ 836.6 MHz; Calibrated: 8/23/2018
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 10/3/2018
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: GSM 850, 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 = 14.03 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.233 W/kg
SAR(1 g) = 0.178 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0503M

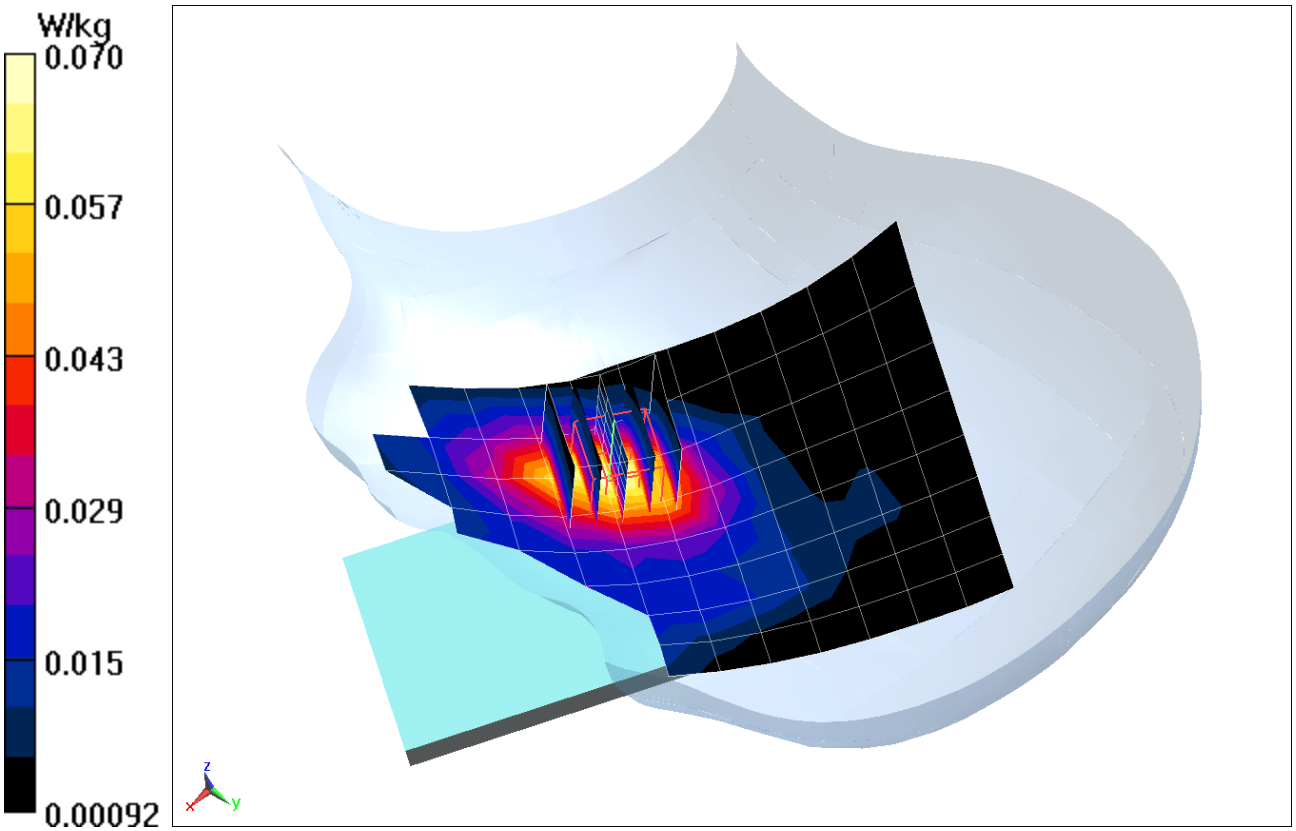
Communication System: UID 0, _GSM; Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: 1900 Head Medium parameters used:
f = 1880 MHz; σ = 1.431 S/m; ε_r = 41.278; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 11-12-2018; Ambient Temp: 22.5°C; Tissue Temp: 21.0°C

Probe: ES3DV3 - SN3213; ConvF(5.3, 5.3, 5.3) @ 1880 MHz; Calibrated: 2/13/2018
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 2/9/2018
Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: 1648
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.971 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.0920 W/kg
SAR(1 g) = 0.060 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0481M

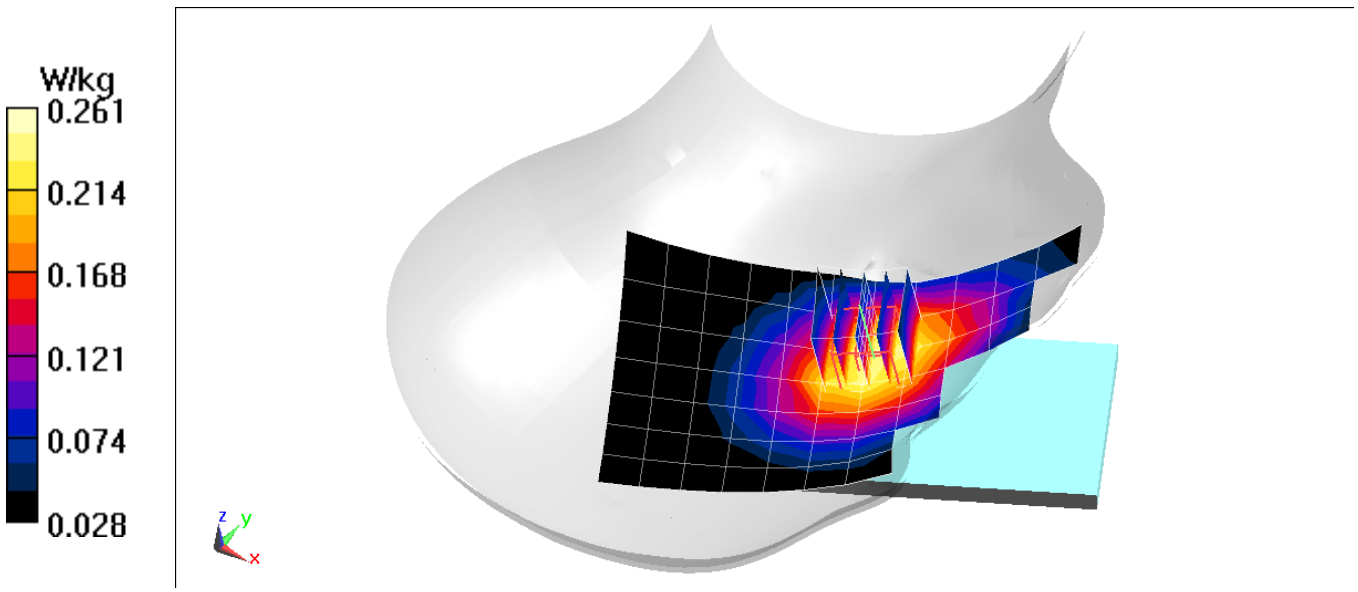
Communication System: UID 0, UMTS; Frequency: 836.6 MHz; Duty Cycle: 1:1
Medium: 835 Head Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.909 S/m; ε_r = 42.341; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 11-19-2018; Ambient Temp: 23.3°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN7308; ConvF(9.96, 9.96, 9.96) @ 836.6 MHz; Calibrated: 8/23/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 10/3/2018
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

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

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.17 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.282 W/kg
SAR(1 g) = 0.220 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0503M

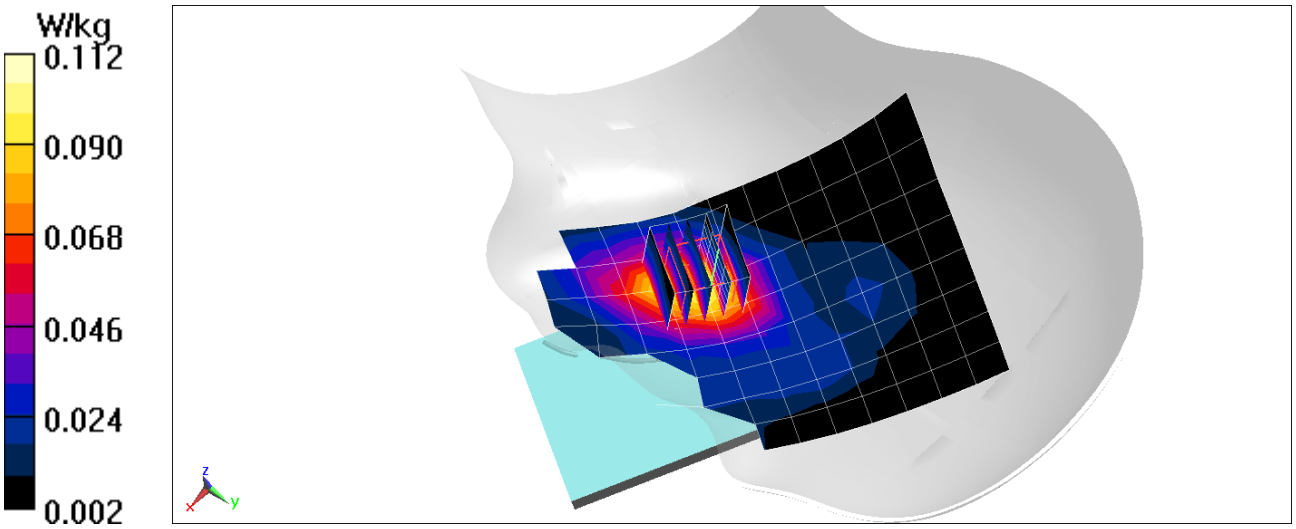
Communication System: UID 0, UMTS; Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium: 1750 Head Medium parameters used (interpolated):
f = 1732.4 MHz; σ = 1.336 S/m; ε_r = 39.538; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 11-26-2018; Ambient Temp: 20.7°C; Tissue Temp: 21.6°C

Probe: ES3DV3 - SN3287; ConvF(5.48, 5.48, 5.48) @ 1732.4 MHz; Calibrated: 10/22/2018;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 10/18/2018
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.776 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 0.148 W/kg
SAR(1 g) = 0.099 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0503M

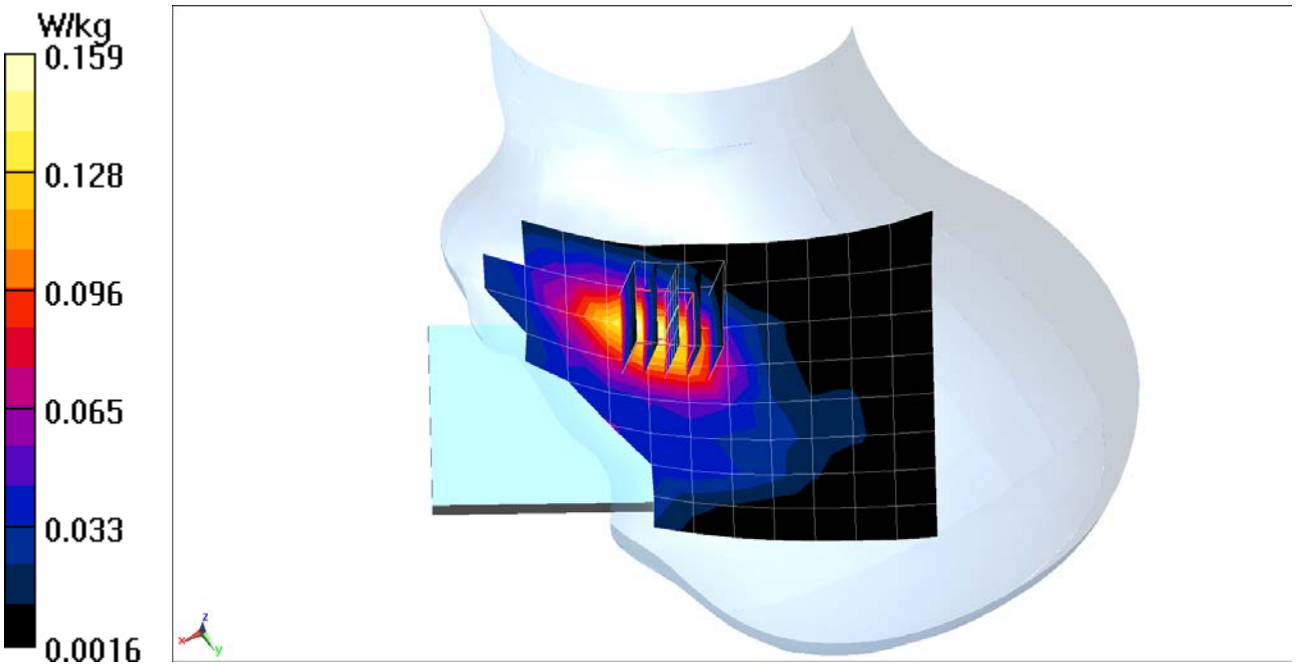
Communication System: UID 0, UMTS; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used:
f = 1880 MHz; σ = 1.431 S/m; ε_r = 41.278; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 11-12-2018; Ambient Temp: 22.5°C; Tissue Temp: 21.0°C

Probe: ES3DV3 - SN3213; ConvF(5.3, 5.3, 5.3) @ 1880 MHz; Calibrated: 2/13/2018;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 2/9/2018
Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: 1648
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.29 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.213 W/kg
SAR(1 g) = 0.137 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0481M

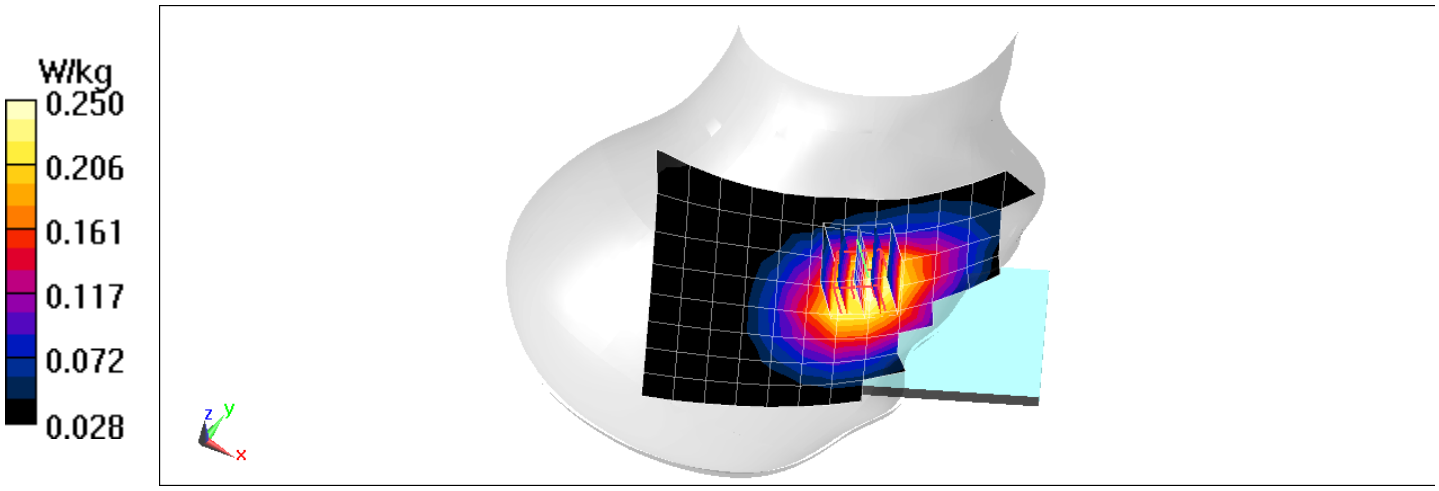
Communication System: UID 0, Cellular CDMA; Frequency: 820.1 MHz; Duty Cycle: 1:1
Medium: 835 Head Medium parameters used (interpolated):
f = 820.1 MHz; σ = 0.879 S/m; ε_r = 43.36; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 11-13-2018; Ambient Temp: 18.9°C; Tissue Temp: 19.7°C

Probe: EX3DV4 - SN7308; ConvF(9.96, 9.96, 9.96) @ 820.1 MHz; Calibrated: 8/23/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 10/3/2018
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: 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 = 15.89 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 0.274 W/kg
SAR(1 g) = 0.213 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0481M

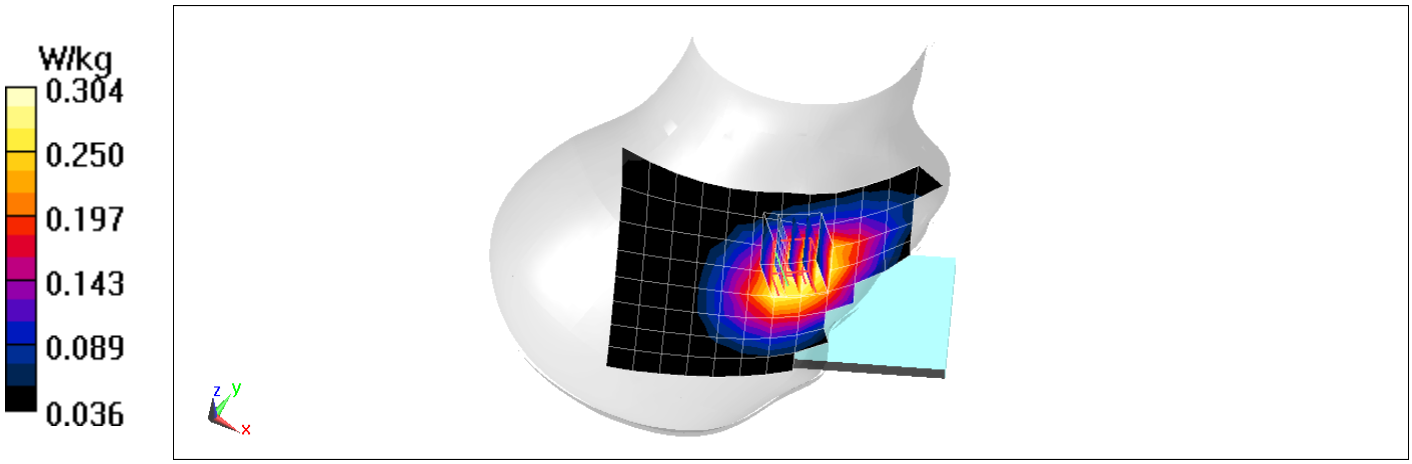
Communication System: UID 0, CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1
Medium: 835 Head Medium parameters used (interpolated):
f = 836.52 MHz; σ = 0.897 S/m; ε_r = 43.145; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 11-13-2018; Ambient Temp: 18.9°C; Tissue Temp: 19.7°C

Probe: EX3DV4 - SN7308; ConvF(9.96, 9.96, 9.96) @ 836.52 MHz; Calibrated: 8/23/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 10/3/2018
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: 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 = 17.36 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.329 W/kg
SAR(1 g) = 0.259 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0503M

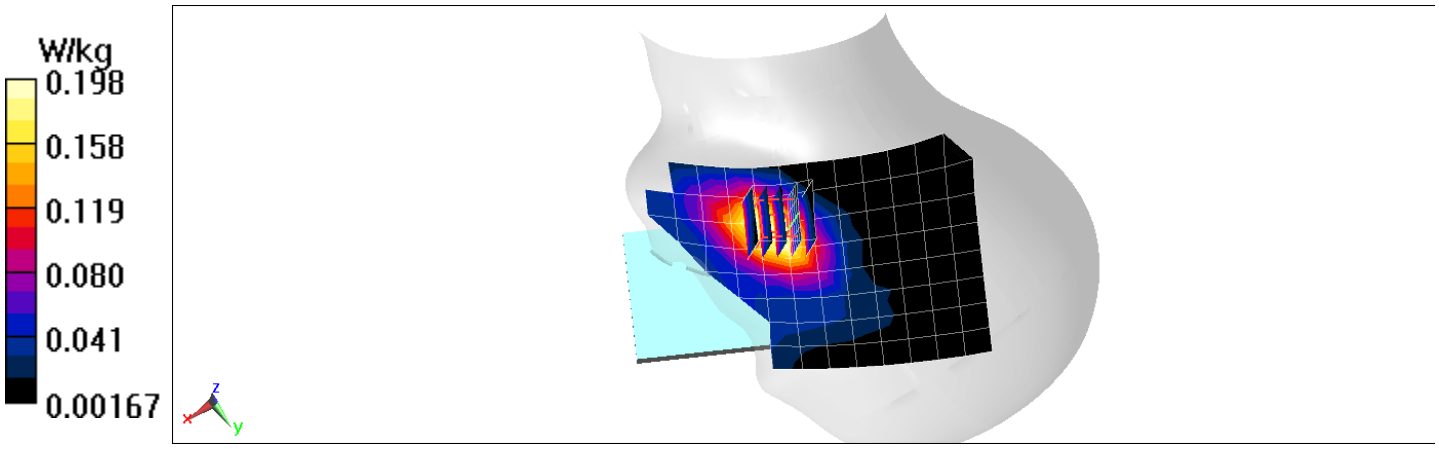
Communication System: UID 0, PCS CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used:
f = 1880 MHz; σ = 1.43 S/m; ε_r = 38.983; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 12-03-2018; Ambient Temp: 21.7°C; Tissue Temp: 20.5°C

Probe: ES3DV3 - SN3287; ConvF(5.24, 5.24, 5.24) @ 1880 MHz; Calibrated: 10/22/2018;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 10/18/2018
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.43 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 0.264 W/kg
SAR(1 g) = 0.175 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0484M

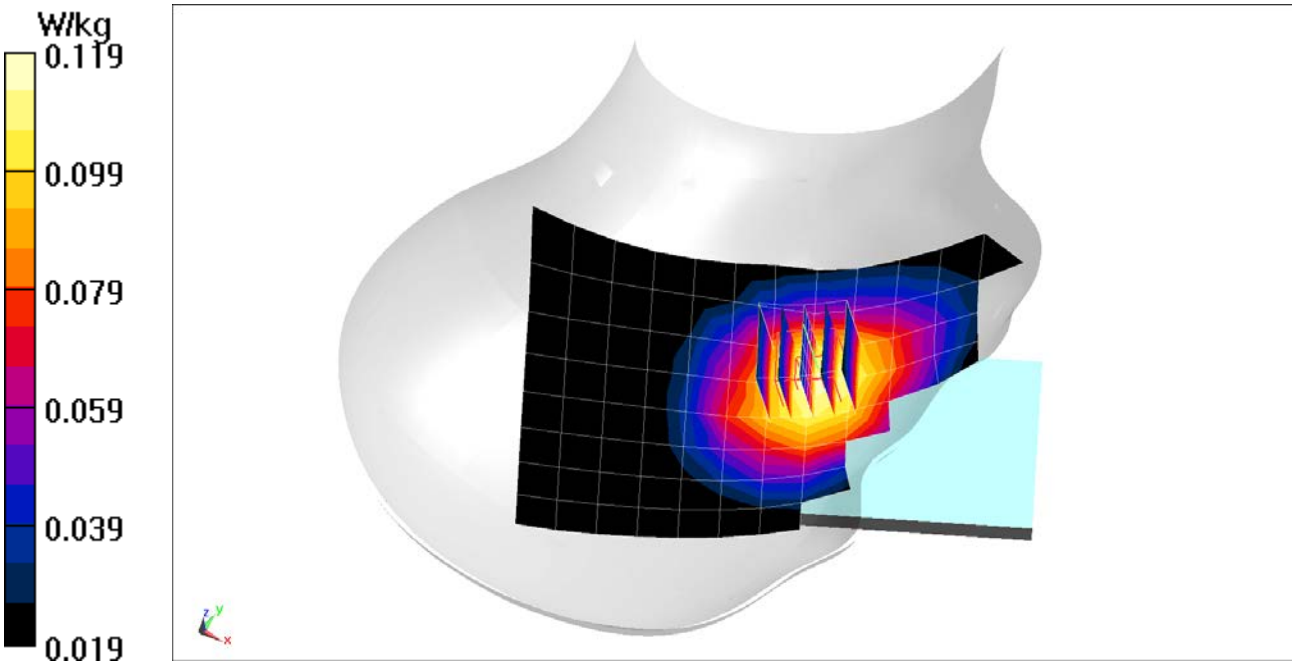
Communication System: UID 0, LTE Band 71; Frequency: 680.5 MHz; Duty Cycle: 1:1
Medium: 750 Head Medium parameters used (interpolated):
f = 680.5 MHz; σ = 0.862 S/m; ε_r = 40.738; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 12-10-2018; Ambient Temp: 22.3°C; Tissue Temp: 20.5°C

Probe: ES3DV3 - SN3287; ConvF(6.76, 6.76, 6.76) @ 680.5 MHz; Calibrated: 10/22/2018
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 10/18/2018
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 71, Right Head, Cheek, Mid.ch, 20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.97 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 0.135 W/kg
SAR(1 g) = 0.109 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0484M

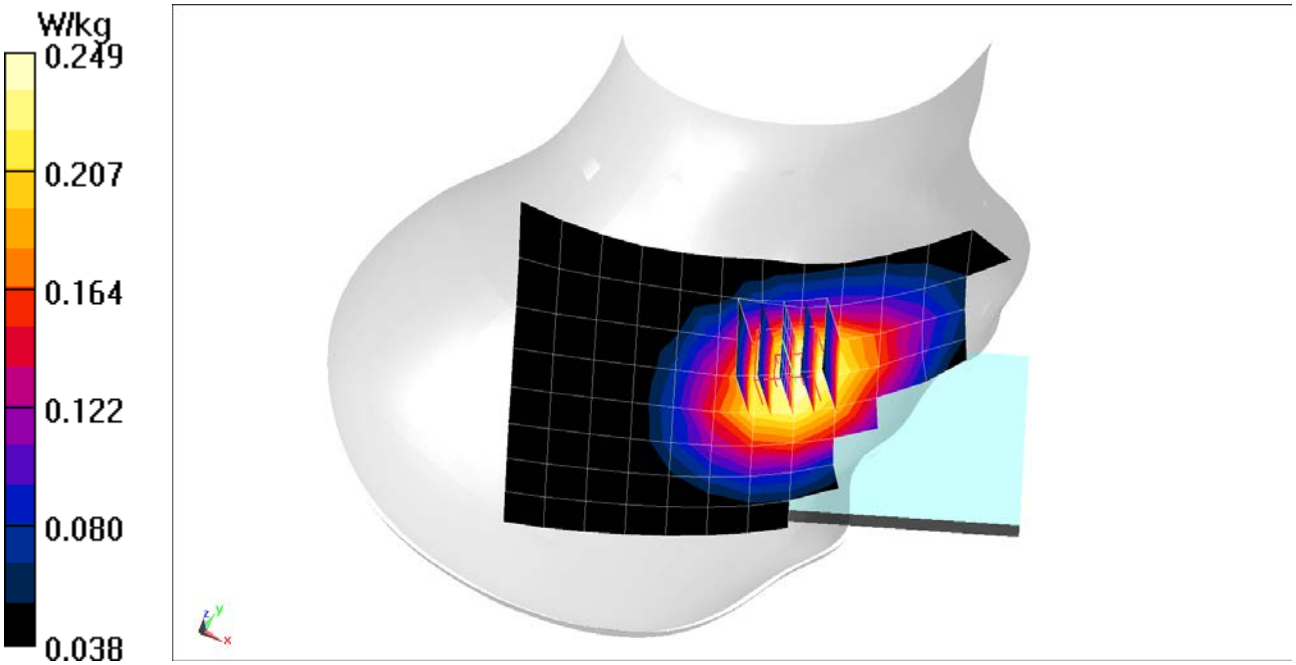
Communication System: UID 0, _LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: 750 Head Medium parameters used (interpolated):
f = 707.5 MHz; σ = 0.87 S/m; ε_r = 40.625; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 12-10-2018; Ambient Temp: 22.3°C; Tissue Temp: 20.5°C

Probe: ES3DV3 - SN3287; ConvF(6.76, 6.76, 6.76) @ 707.5 MHz; Calibrated: 10/22/2018
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 10/18/2018
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 12, 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 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.55 V/m; Power Drift = -0.20 dB
Peak SAR (extrapolated) = 0.285 W/kg
SAR(1 g) = 0.231 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0484M

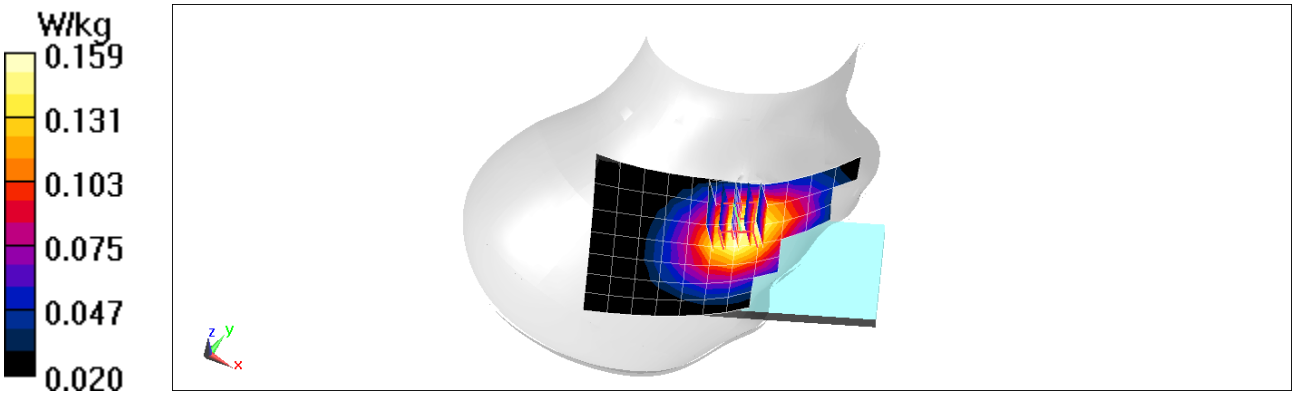
Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1
Medium: 750 Head Medium parameters used (interpolated):
f = 782 MHz; σ = 0.905 S/m; ε_r = 42.53; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 11-15-2018; Ambient Temp: 21.8°C; Tissue Temp: 20.6°C

Probe: EX3DV4 - SN7406; ConvF(10.09, 10.09, 10.09) @ 782 MHz; Calibrated: 5/22/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/22/2018
Phantom: Twin-SAM V4.0 Front Right; Type: QD 000 P40 CC; Serial: 1167
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

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

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.91 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.169 W/kg
SAR(1 g) = 0.136 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0484M

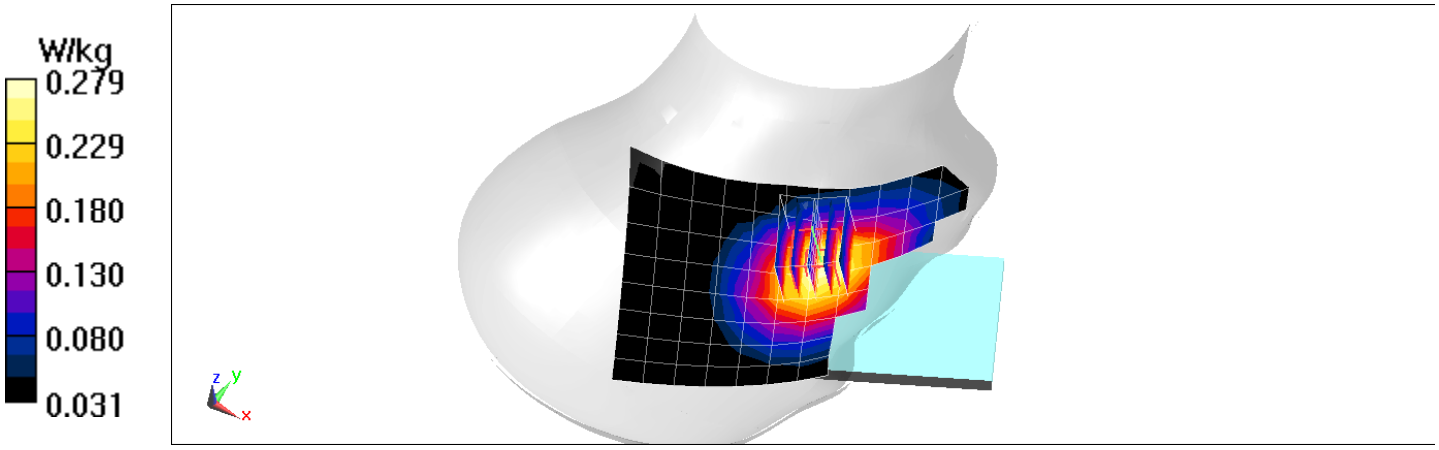
Communication System: UID 0, LTE Band 14; Frequency: 793 MHz; Duty Cycle: 1:1
Medium: 750 Head Medium parameters used (interpolated):
f = 793 MHz; σ = 0.909 S/m; ε_r = 42.501; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 11-15-2018; Ambient Temp: 21.8°C; Tissue Temp: 20.6°C

Probe: EX3DV4 - SN7406; ConvF(10.09, 10.09, 10.09) @ 793 MHz; Calibrated: 5/22/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/22/2018
Phantom: Twin-SAM V4.0 Front Right; Type: QD 000 P40 CC; Serial: 1167
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 14, Right Head, Cheek, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 49 RB Offset

Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.10 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.297 W/kg
SAR(1 g) = 0.240 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0484M

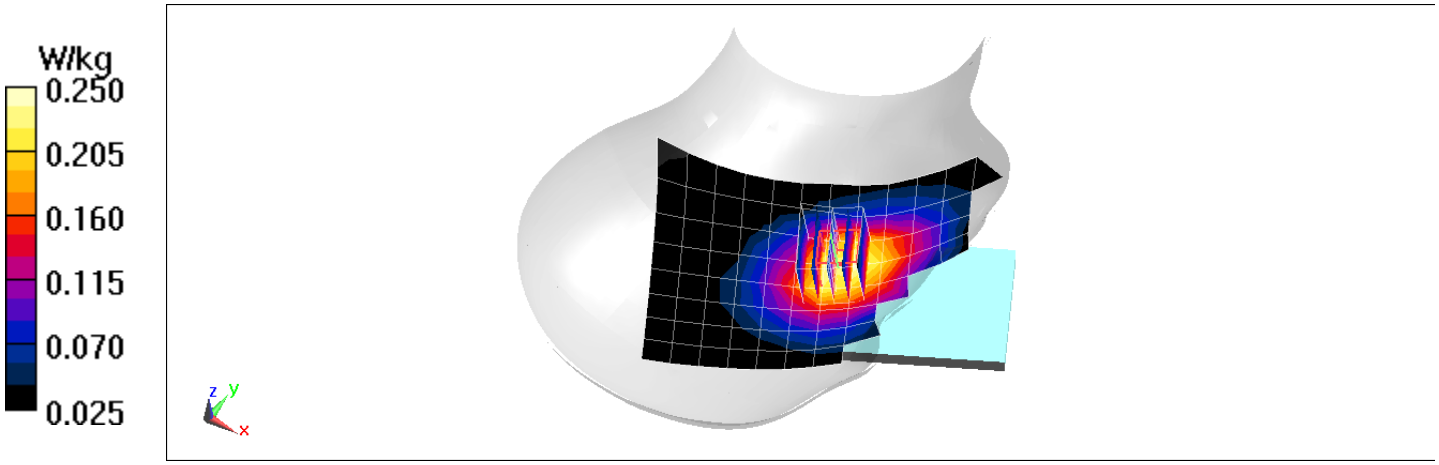
Communication System: UID 0, LTE Band 26; Frequency: 831.5 MHz; Duty Cycle: 1:1
Medium: 835 Head Medium parameters used (interpolated):
f = 831.5 MHz; σ = 0.891 S/m; ε_r = 43.21; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 11-13-2018; Ambient Temp: 18.9°C; Tissue Temp: 19.7°C

Probe: EX3DV4 - SN7308; ConvF(9.96, 9.96, 9.96) @ 831.5 MHz; Calibrated: 8/23/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 10/3/2018
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

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=15mm, dy=15mm
Zoom Scan (6x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.91 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 0.270 W/kg
SAR(1 g) = 0.206 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0484M

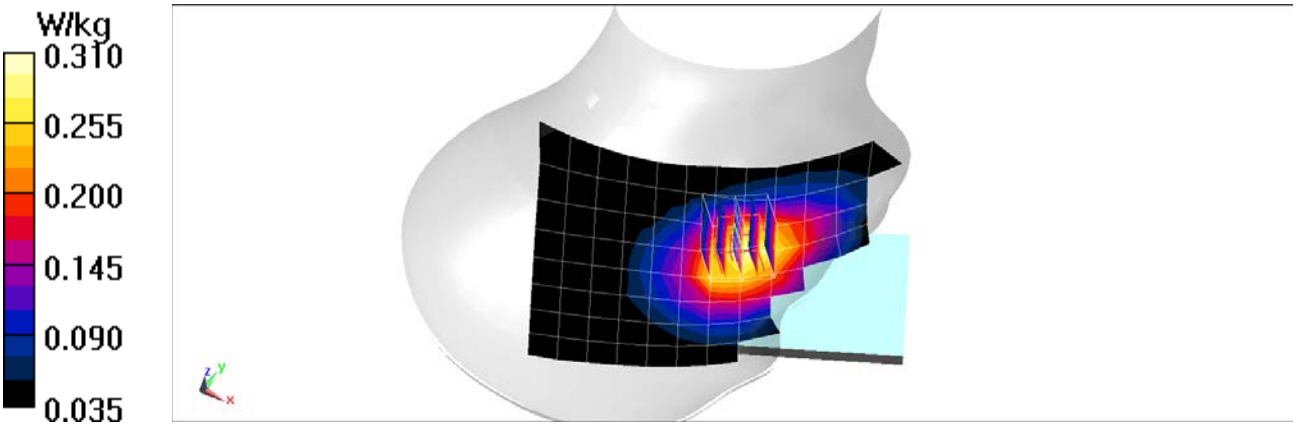
Communication System: UID 0, LTE Band 5 (Cell.); Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: 835 Head Medium parameters used (interpolated):
f = 836.5 MHz; σ = 0.913 S/m; ε_r = 41.287; ρ = 1000 kg/m^3
Phantom section: Right Section;

Test Date: 11-23-2018; Ambient Temp: 20.3°C; Tissue Temp: 19.5°C

Probe: EX3DV4 - SN7308; ConvF(9.96, 9.96, 9.96) @ 836.5 MHz; Calibrated: 8/23/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 10/3/2018
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 5 (Cell.), Right Head, Cheek, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 49 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.32 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 0.338 W/kg
SAR(1 g) = 0.265 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0495M

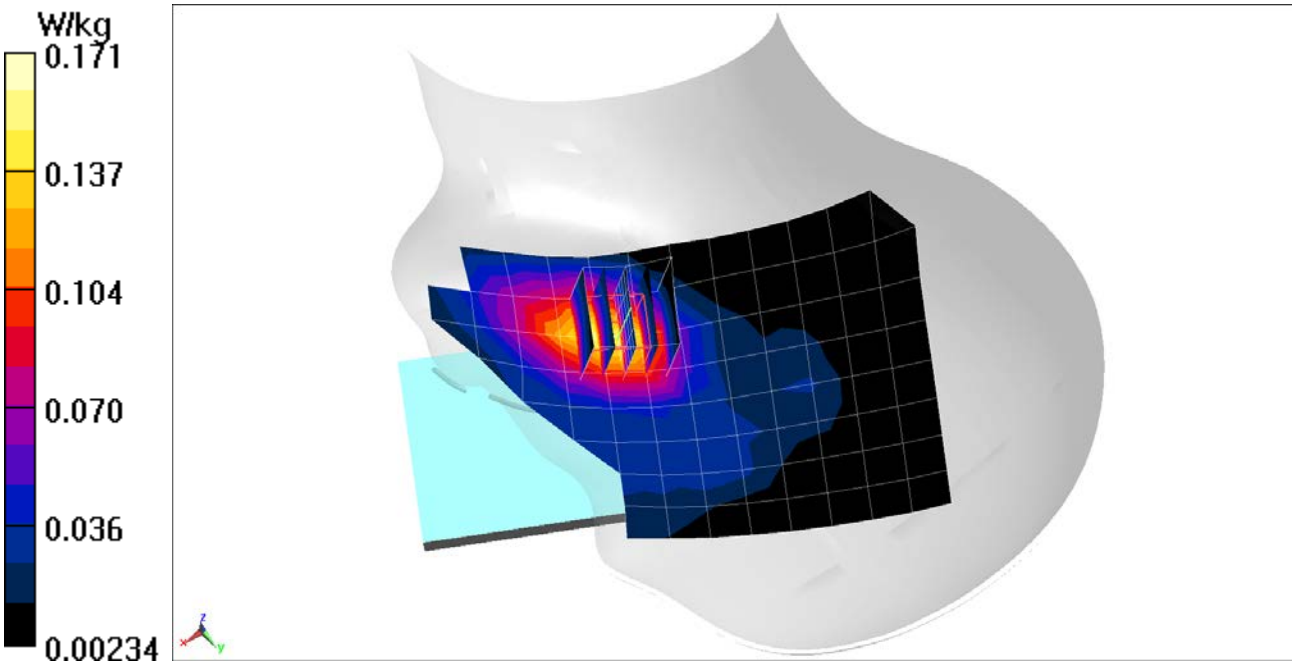
Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1745 MHz; Duty Cycle: 1:1
Medium: 1750 Head Medium parameters used (interpolated):
f = 1745 MHz; σ = 1.337 S/m; ε_r = 38.408; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 12-10-2018; Ambient Temp: 22.3°C; Tissue Temp: 20.5°C

Probe: ES3DV3 - SN3287; ConvF(5.48, 5.48, 5.48) @ 1745 MHz; Calibrated: 10/22/2018
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1333; Calibrated: 10/18/2018
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1964
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 66 (AWS) ULCA, Left Head, Cheek,
PCC: 10 MHz Bandwidth, QPSK, Ch. 132322, 1 RB, 0 RB Offset
SCC: 10 MHz Bandwidth, QPSK, Ch. 132223, 1 RB, 49 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 = 12.51 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 0.246 W/kg
SAR(1 g) = 0.161 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0495M

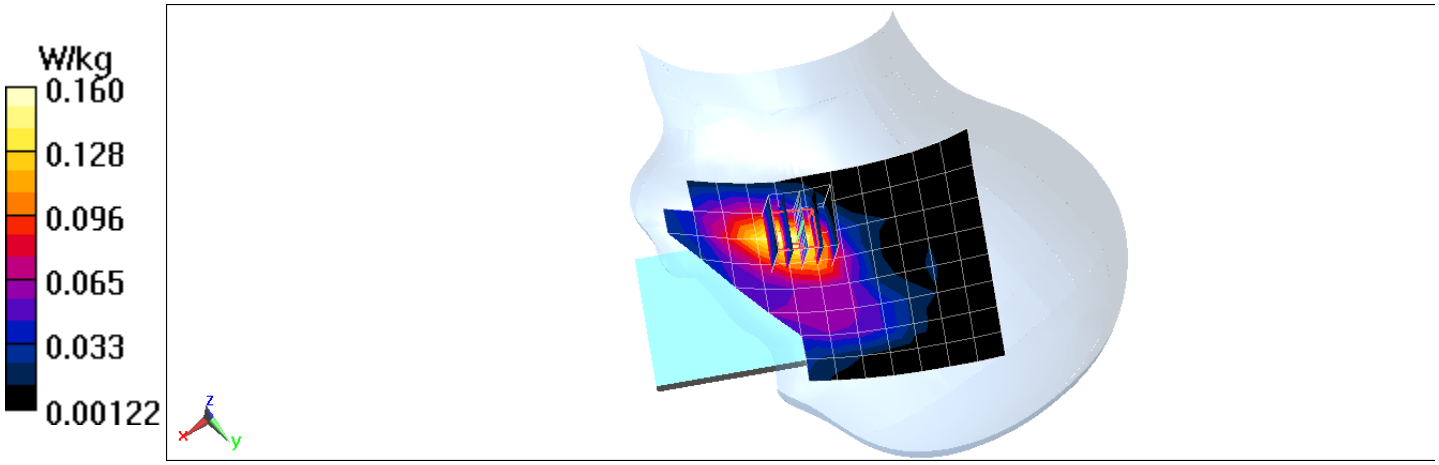
Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1860 MHz; Duty Cycle: 1:1
Medium: 1900 Head Medium parameters used (interpolated):
f = 1860 MHz; σ = 1.41 S/m; ε_r = 41.367; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 11-12-2018; Ambient Temp: 22.5°C; Tissue Temp: 21.0°C

Probe: ES3DV3 - SN3213; ConvF(5.3, 5.3, 5.3) @ 1860 MHz; Calibrated: 2/13/2018;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 2/9/2018
Phantom: SAM 5.0 front; Type: QD000P40CD; Serial: 1648
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

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

Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.02 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.210 W/kg
SAR(1 g) = 0.139 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0509M

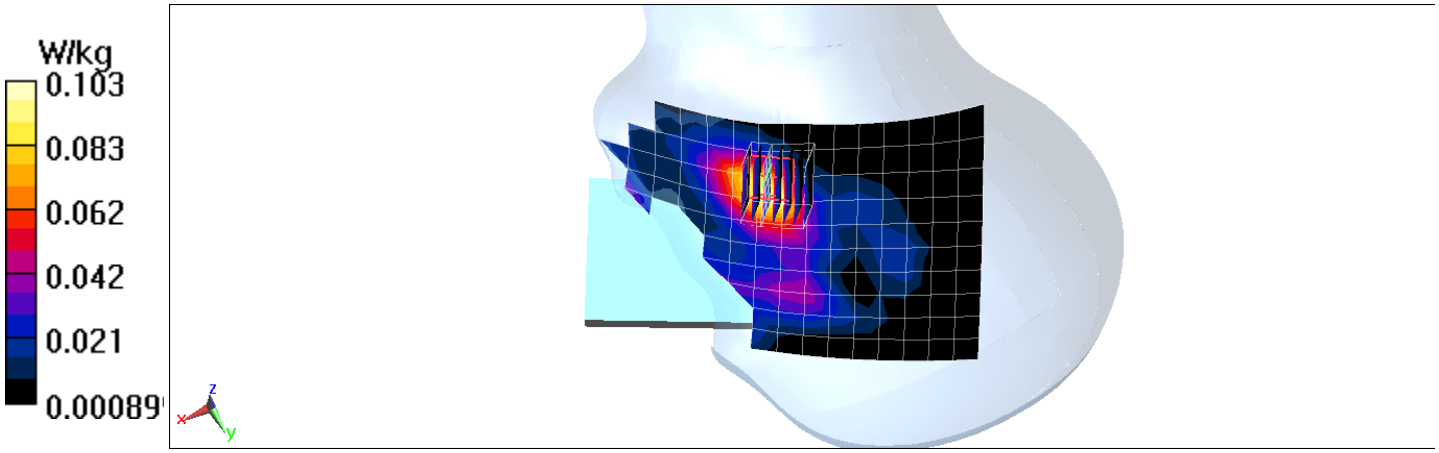
Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used:
f = 2310 MHz; σ = 1.715 S/m; ε_r = 39.136; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 11-16-2018; Ambient Temp: 22.4°C; Tissue Temp: 23.1°C

Probe: EX3DV4 - SN7410; ConvF(7.78, 7.78, 7.78) @ 2310 MHz; Calibrated: 7/20/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2018
Phantom: SAM Front; Type: SAM; Serial: 1686
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 30, Left Head, Cheek, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.037 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 0.122 W/kg
SAR(1 g) = 0.071 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0509M

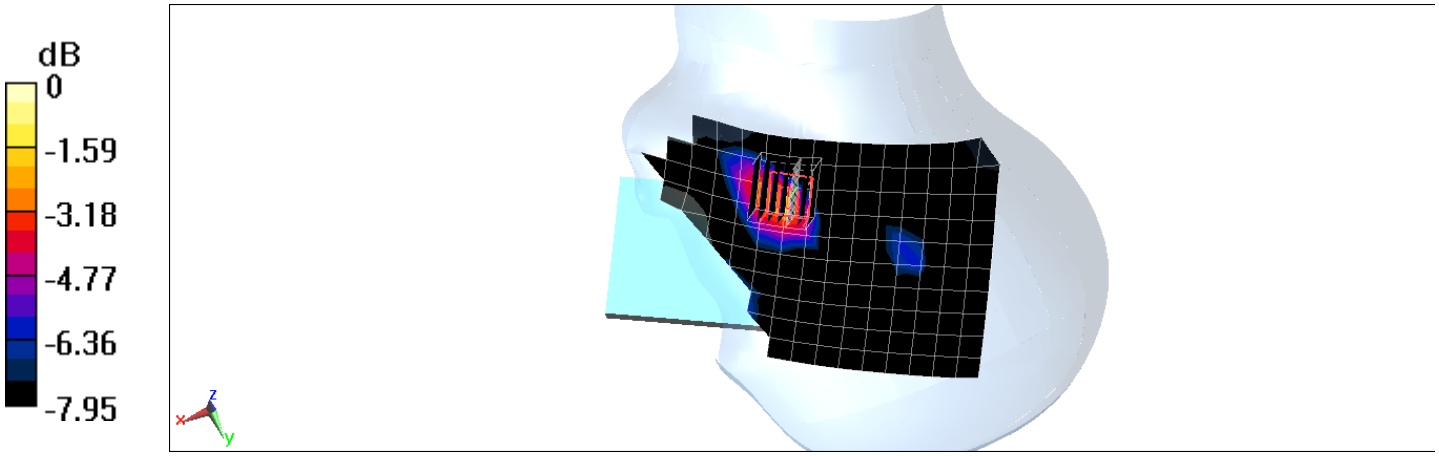
Communication System: UID 0, _LTE Band 7; Frequency: 2510 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used (interpolated):
f = 2510 MHz; σ = 1.836 S/m; ε_r = 38.641; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 11-28-2018; Ambient Temp: 23.0°C; Tissue Temp: 23.9°C

Probe: EX3DV4 - SN7410; ConvF(7.5, 7.5, 7.5) @ 2510 MHz; Calibrated: 7/20/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2018
Phantom: SAM Front; Type: SAM; Serial: 1686
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 7, Antenna B, Left Head, Cheek, Low.ch,
QPSK, 20 MHz Bandwidth, 1 RB, 99 RB Offset

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.853 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 0.131 W/kg
SAR(1 g) = 0.065 W/kg



0 dB = 0.103 W/kg = -9.87 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0509M

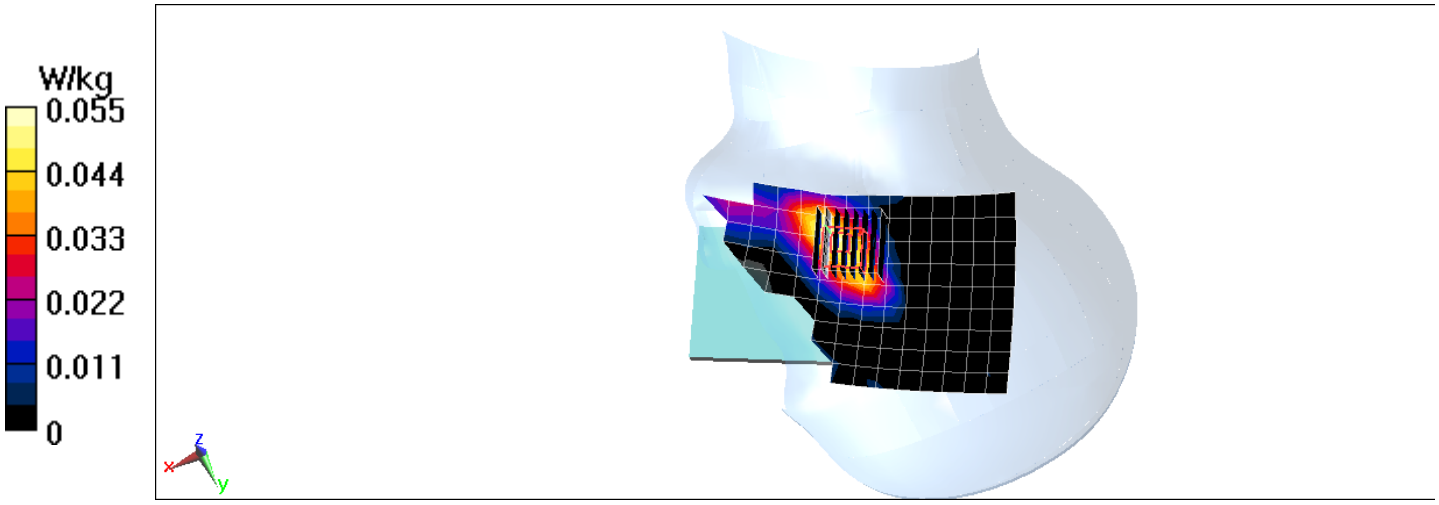
Communication System: UID 0, LTE Band 48; Frequency: 3690 MHz; Duty Cycle: 1:1.58
Medium: 3500 - 3700 Head Medium parameters used (interpolated):
f = 3690 MHz; σ = 3.074 S/m; ε_r = 37.159; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 11-27-2018; Ambient Temp: 22.7°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN3949; ConvF(7.24, 7.24, 7.24) @ 3690 MHz; Calibrated: 8/24/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 6/18/2018
Phantom: SAM with CRP (Left); Type: SAM; Serial: 1715
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 48, Left Head, Cheek, High.ch, QPSK,
20 MHz Bandwidth, 1 RB, 0 RB Offset

Area Scan (10x17x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (8x8x8)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 3.341 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 0.0860 W/kg
SAR(1 g) = 0.030 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0321M

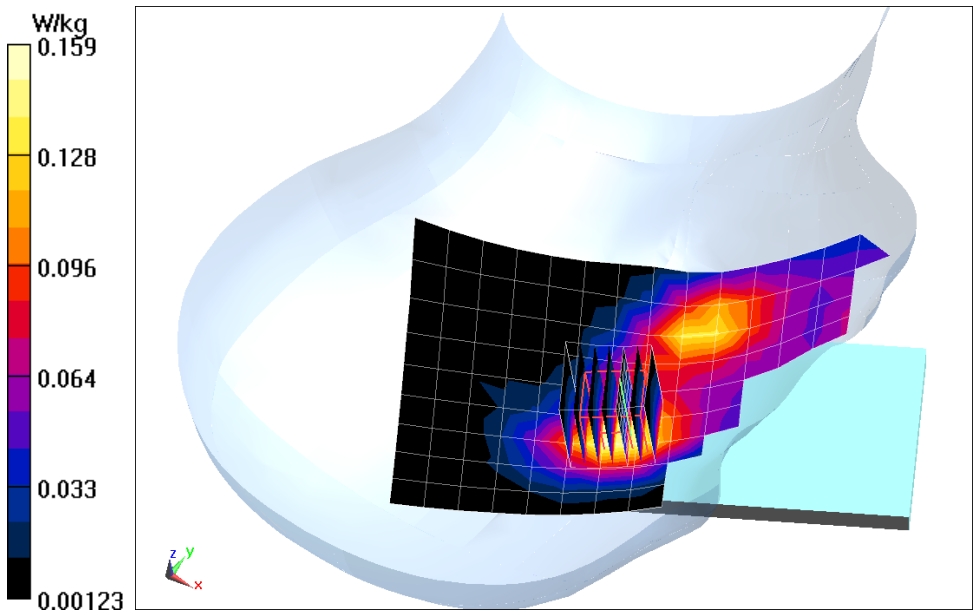
Communication System: UID 0, LTE Band 41 (Class 2) (0); Frequency: 2549.5 MHz; Duty Cycle: 1:2.31
Medium: 2450 Head Medium parameters used:
f = 2550 MHz; σ = 1.907 S/m; ε_r = 39.929; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 01-07-2019; Ambient Temp: 21.70°C; Tissue Temp: 20.80°C

Probe: EX3DV4 - SN7410; ConvF(7.24, 7.24, 7.24) @ 2549.5 MHz; Calibrated: 7/20/2018
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2018
Phantom: SAM Front; Type: SAM; Serial: 1686
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 41 PC2 ULCA, Right Head, Cheek,
PCC: 20 MHz Bandwidth, QPSK, Ch. 40185, 1 RB, 0 RB Offset
SCC: 20 MHz Bandwidth, QPSK, Ch. 39987, 1 RB, 99 RB Offset

Area Scan (10x17x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.598 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 0.191 W/kg
SAR(1 g) = 0.112 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0539M

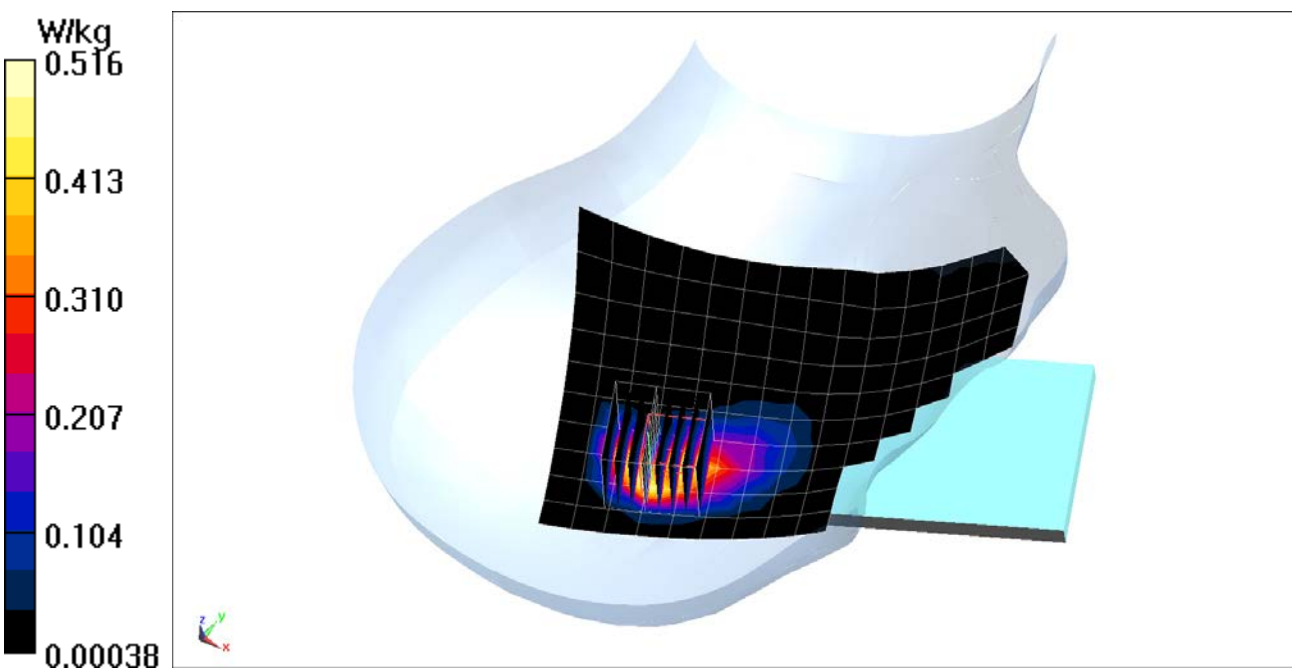
Communication System: UID 0, _IEEE 802.11b; Frequency: 2412 MHz; Duty Cycle: 1:1
Medium: 2450 Head Medium parameters used (interpolated):
f = 2412 MHz; σ = 1.805 S/m; ε_r = 38.601; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 11-18-2018; Ambient Temp: 23.2°C; Tissue Temp: 23.4°C

Probe: EX3DV4 - SN7410; ConvF(7.5, 7.5, 7.5) @ 2412 MHz; Calibrated: 7/20/2018
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2018
Phantom: SAM Front; Type: SAM; Serial: 1686
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

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

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.220 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 0.749 W/kg
SAR(1 g) = 0.353 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0539M

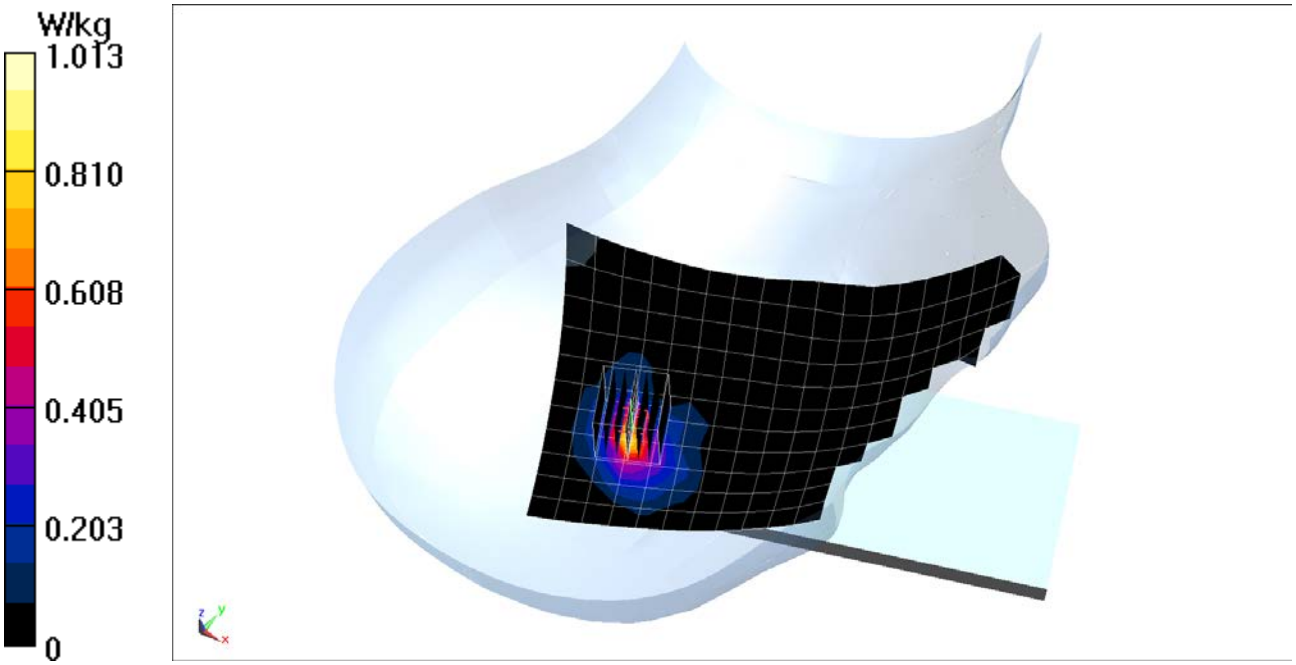
Communication System: UID 0, 802.11n 5.2-5.8 GHz Band; Frequency: 5270 MHz; Duty Cycle: 1:1
Medium: 5 GHz Head Medium parameters used (interpolated):
f = 5270 MHz; σ = 4.678 S/m; ε_r = 35.483; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 11-14-2018; Ambient Temp: 22.3°C; Tissue Temp: 18.7°C

Probe: EX3DV4 - SN7409; ConvF(5.2, 5.2, 5.2) @ 5270 MHz; Calibrated: 6/25/2018
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 6/18/2018
Phantom: SAM with CRP v5.0 (Right); Type: QD000P40CD; Serial: TP:1759
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: IEEE 802.11n, U-NII-2A, Antenna 1, 40 MHz Bandwidth, Right Head, Tilt, Ch 54, 13.5 Mbps

Area Scan (12x22x1): 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 = 3.428 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 1.68 W/kg
SAR(1 g) = 0.385 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0539M

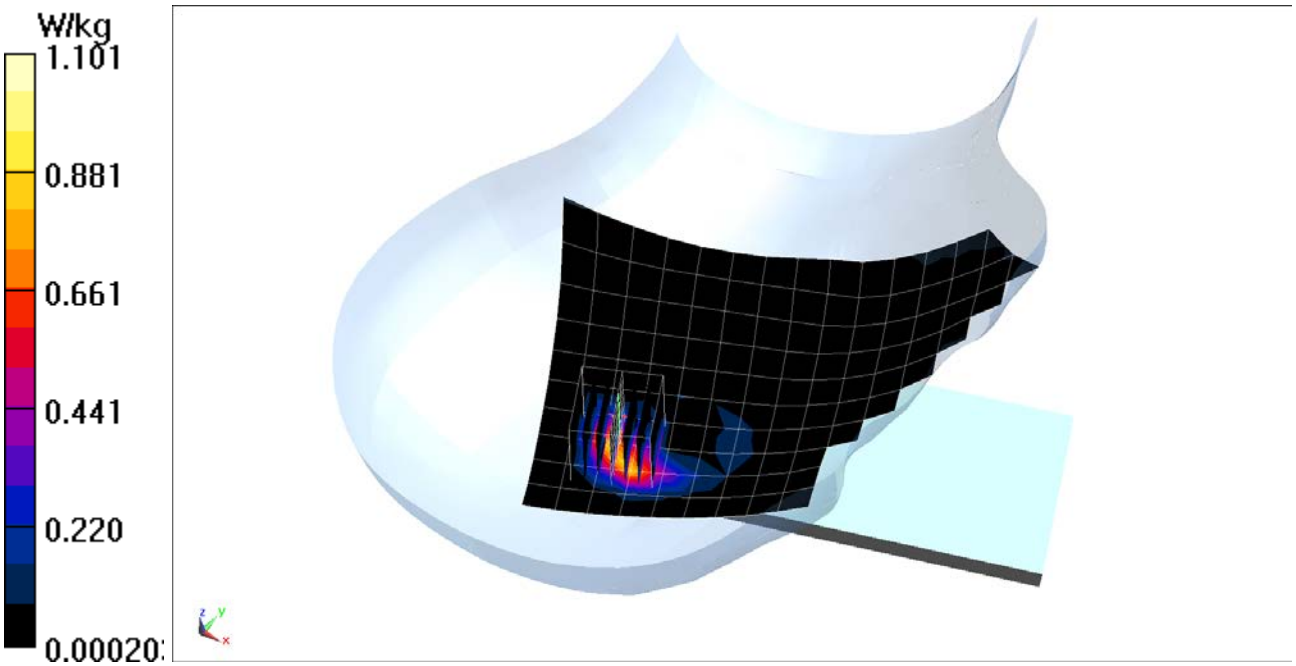
Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.297
Medium: 2450 Head Medium parameters used (interpolated):
f = 2441 MHz; σ = 1.836 S/m; ε_r = 38.481; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 11-18-2018; Ambient Temp: 23.2°C; Tissue Temp: 23.4°C

Probe: EX3DV4 - SN7410; ConvF(7.5, 7.5, 7.5) @ 2441 MHz; Calibrated: 7/20/2018
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2018
Phantom: SAM Front; Type: SAM; Serial: 1686
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

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

Area Scan (11x19x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.59 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 2.71 W/kg
SAR(1 g) = 0.621 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0481M

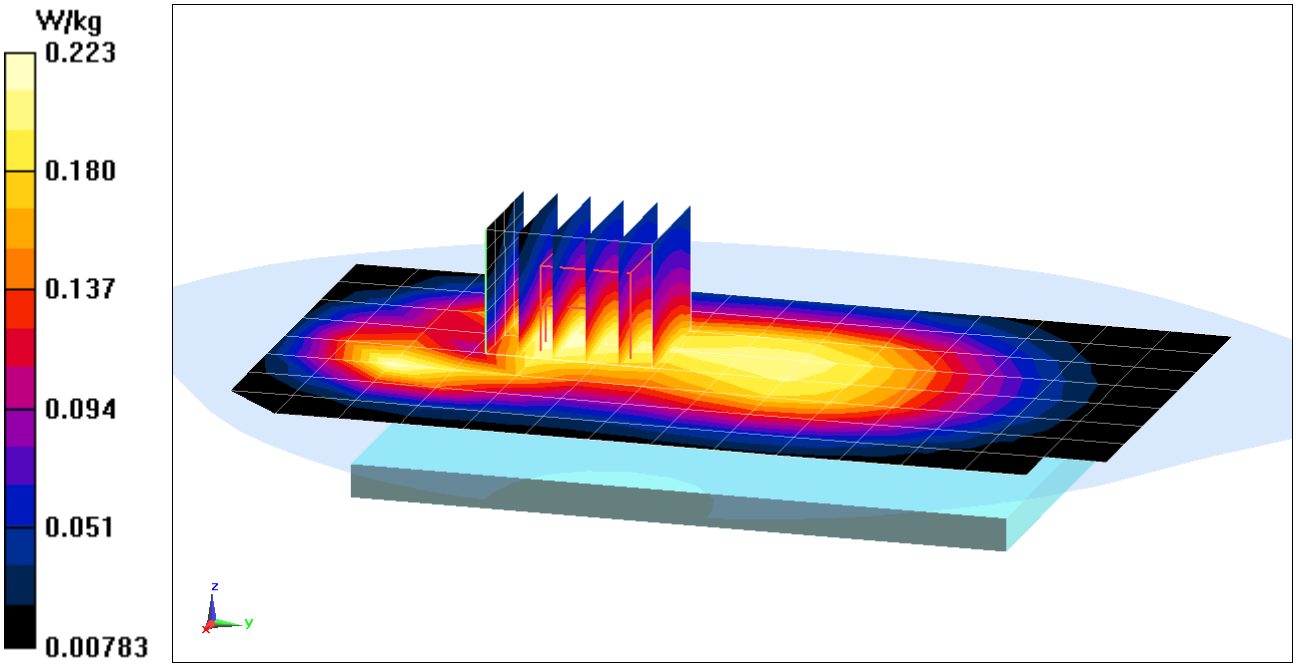
Communication System: UID 0, GSM; Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: 835 Body Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.959 S/m; ε_r = 53.778; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11-14-2018; Ambient Temp: 23.5°C; Tissue Temp: 21.4°C

Probe: EX3DV4 - SN7410; ConvF(9.63, 9.63, 9.63) @ 836.6 MHz; Calibrated: 7/20/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2018
Phantom: SAM Front; Type: SAM; Serial: 1686
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.17 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.251 W/kg
SAR(1 g) = 0.183 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0481M

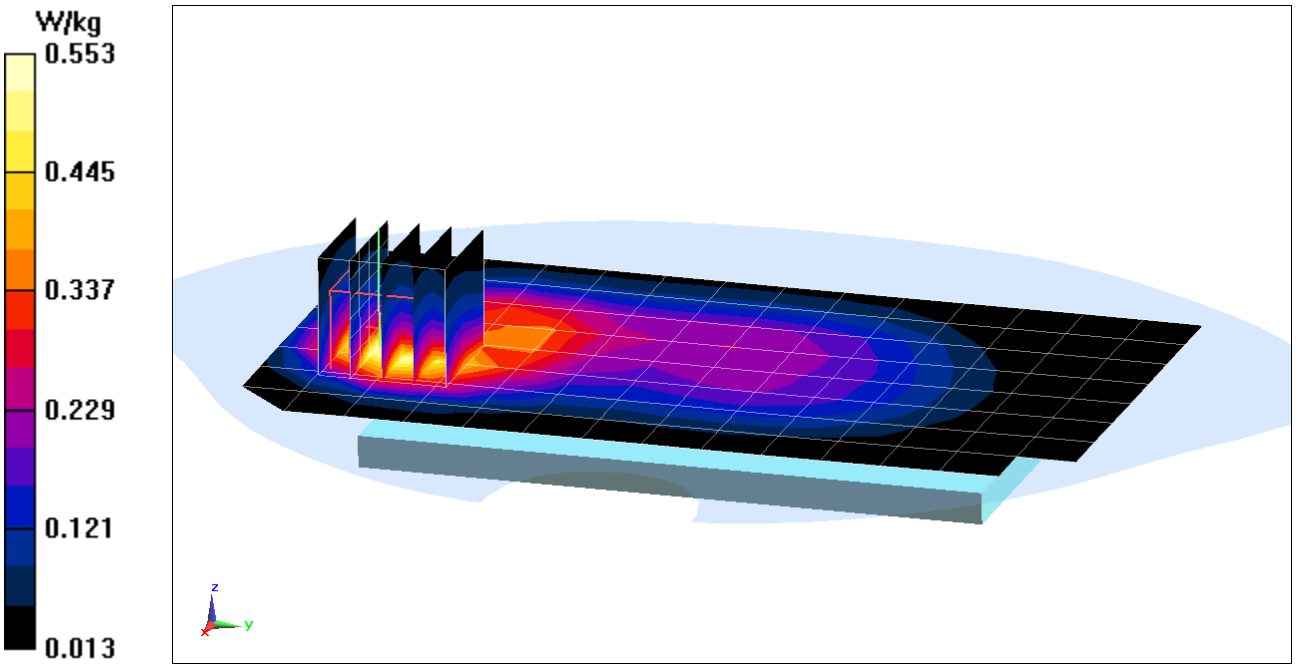
Communication System: UID 0, _GSM GPRS; 3 Tx slots; Frequency: 836.6 MHz; Duty Cycle: 1:2.76
Medium: 835 Body Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.959 S/m; ε_r = 53.778; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11-14-2018; Ambient Temp: 23.5°C; Tissue Temp: 21.4°C

Probe: EX3DV4 - SN7410; ConvF(9.63, 9.63, 9.63) @ 836.6 MHz; Calibrated: 7/20/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2018
Phantom: SAM Front; Type: SAM; Serial: 1686
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.39 V/m; Power Drift = -0.18 dB
Peak SAR (extrapolated) = 0.671 W/kg
SAR(1 g) = 0.384 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0503M

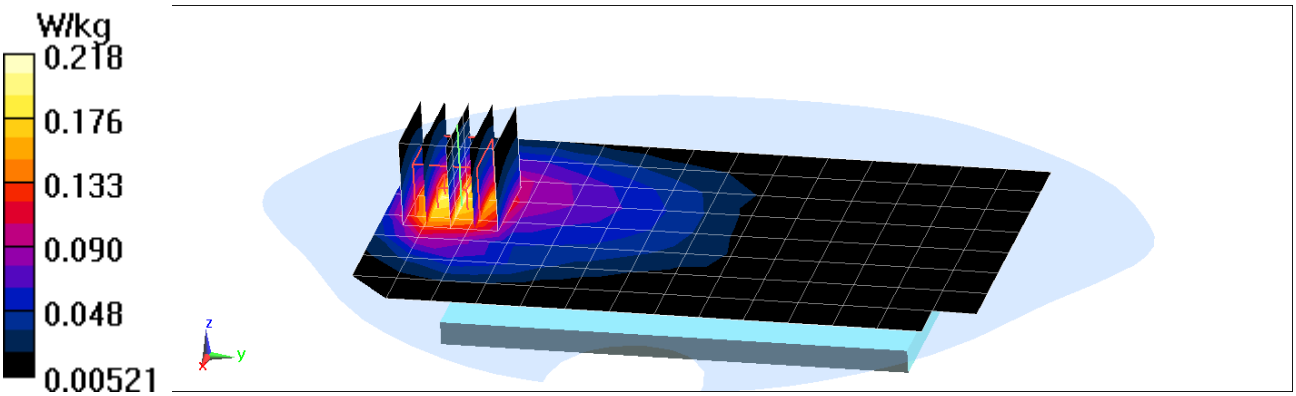
Communication System: UID 0, GSM; Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: 1900 Body Medium parameters used:
f = 1880 MHz; σ = 1.528 S/m; ε_r = 51.975; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11-21-2018; Ambient Temp: 24.3°C; Tissue Temp: 21.2°C

Probe: ES3DV3 - SN3213; ConvF(4.88, 4.88, 4.88) @ 1880 MHz; Calibrated: 2/13/2018;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 2/9/2018
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: GSM 1900, 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 = 11.71 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.302 W/kg
SAR(1 g) = 0.190 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0503M

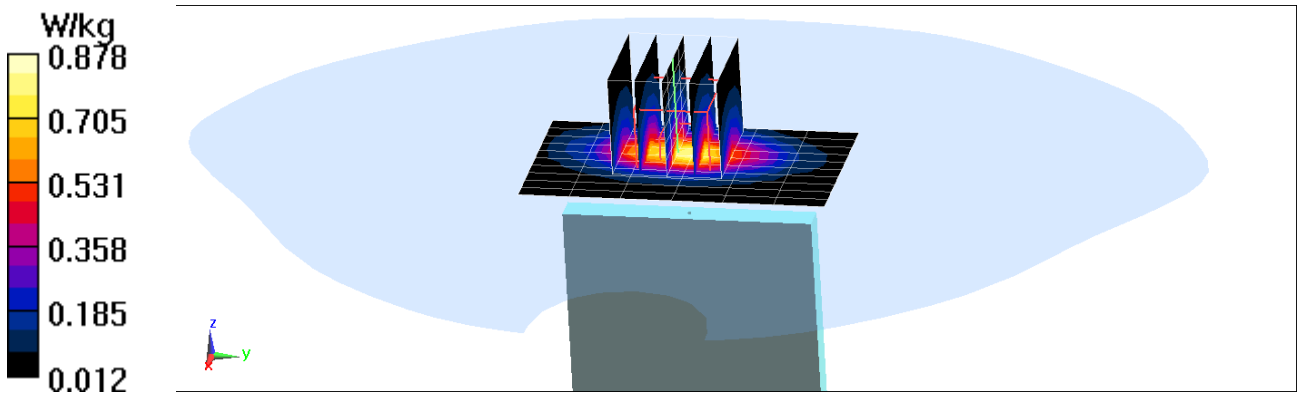
Communication System: UID 0, _GSM GPRS; 3 Tx slots; Frequency: 1909.8 MHz; Duty Cycle: 1:2.76
Medium: 1900 Body Medium parameters used:
f = 1910 MHz; σ = 1.59 S/m; ε_r = 51.164; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11-28-2018; Ambient Temp: 21.2°C; Tissue Temp: 20.8°C

Probe: ES3DV3 - SN3213; ConvF(4.88, 4.88, 4.88) @ 1910 MHz; Calibrated: 2/13/2018;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 2/9/2018
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: GPRS 1900, Body SAR, Bottom Edge, High.ch, 3 Tx Slots

Area Scan (11x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.86 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 1.22 W/kg
SAR(1 g) = 0.695 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0481M

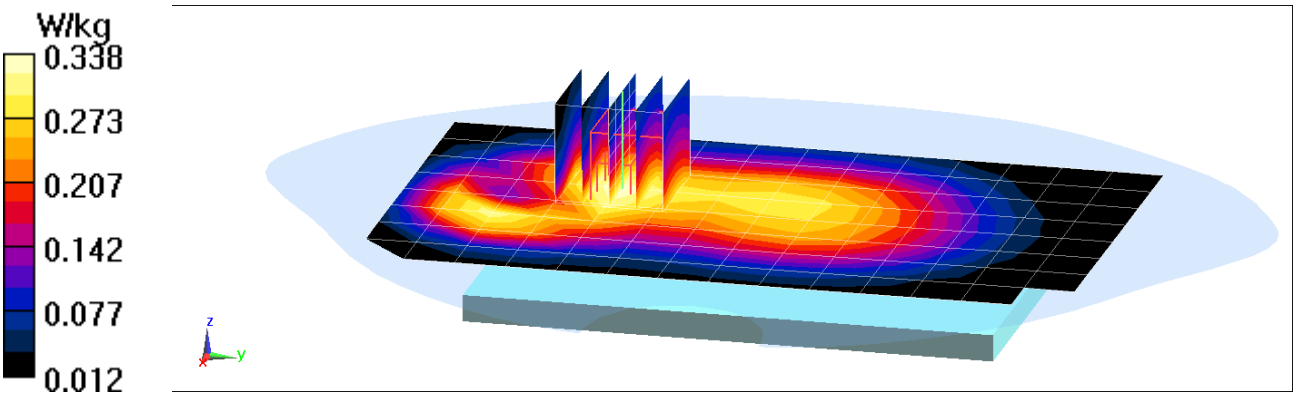
Communication System: UID 0, UMTS; Frequency: 836.6 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.959 S/m; ε_r = 53.778; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11-14-2018; Ambient Temp: 23.5°C; Tissue Temp: 21.4°C

Probe: EX3DV4 - SN7410; ConvF(9.63, 9.63, 9.63) @ 836.6 MHz; Calibrated: 7/20/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2018
Phantom: SAM Front; Type: SAM; Serial: 1686
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.40 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.376 W/kg
SAR(1 g) = 0.277 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0481M

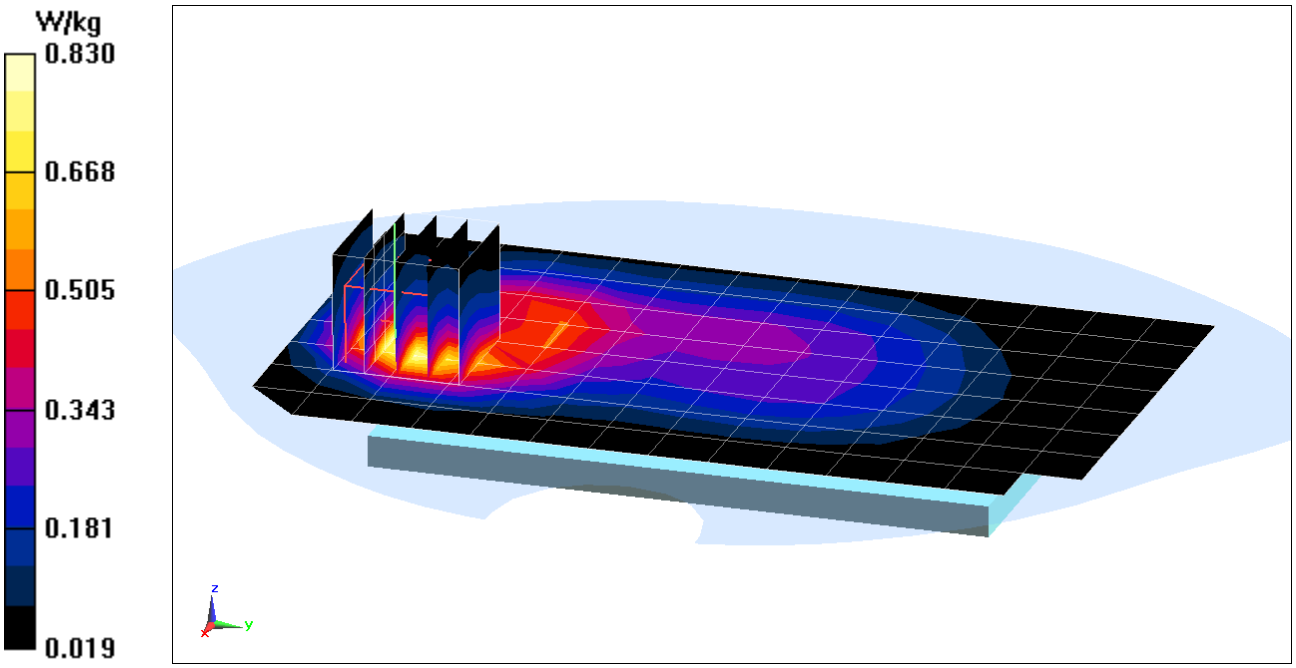
Communication System: UID 0, UMTS; Frequency: 846.6 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 846.6 MHz; σ = 0.97 S/m; ε_r = 53.674; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11-14-2018; Ambient Temp: 23.5°C; Tissue Temp: 21.4°C

Probe: EX3DV4 - SN7410; ConvF(9.63, 9.63, 9.63) @ 846.6 MHz; Calibrated: 7/20/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/11/2018
Phantom: SAM Front; Type: SAM; Serial: 1686
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: UMTS 850, Body SAR, Back side, High.ch

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.91 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 0.996 W/kg
SAR(1 g) = 0.572 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0503M

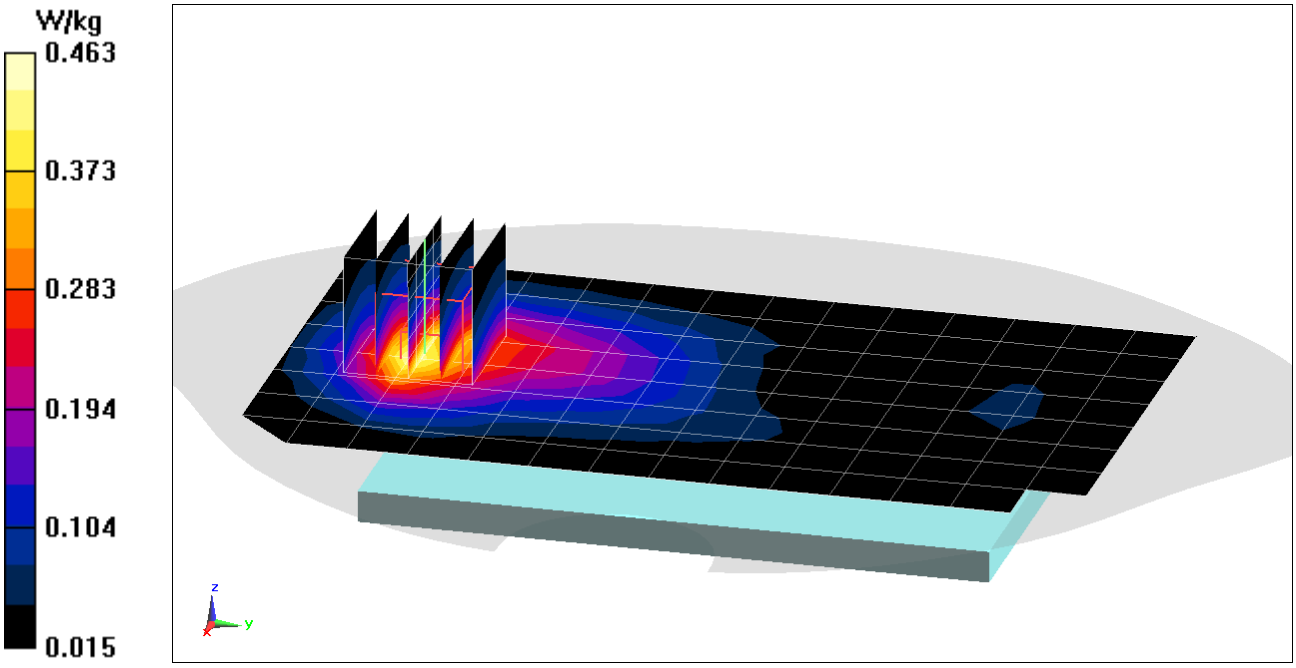
Communication System: UID 0, UMTS; Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used (interpolated):
f = 1732.4 MHz; σ = 1.472 S/m; ε_r = 50.925; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11-18-2018; Ambient Temp: 19.9°C; Tissue Temp: 21.0°C

Probe: ES3DV3 - SN3347; ConvF(5.17, 5.17, 5.17) @ 1732.4 MHz; Calibrated: 3/27/2018;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/15/2018
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1800
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.31 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.596 W/kg
SAR(1 g) = 0.386 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0503M

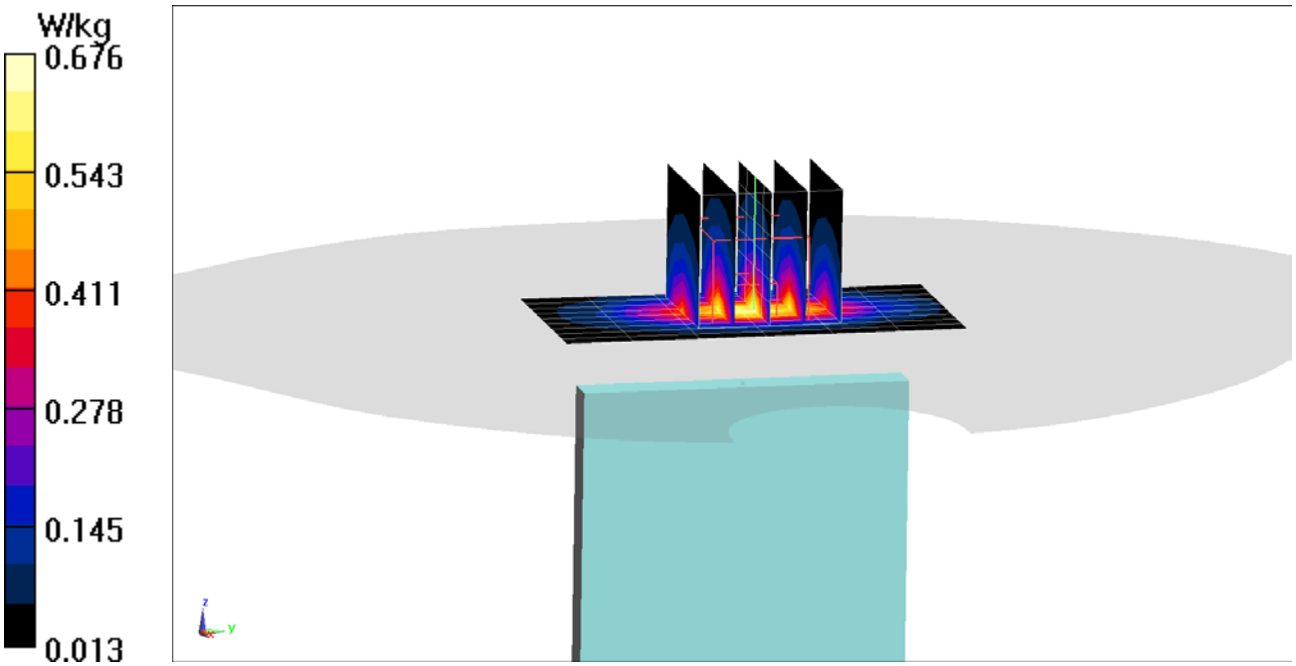
Communication System: UID 0, UMTS; Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used (interpolated):
f= 1752.6 MHz; σ = 1.445 S/m; ε_r = 53.742; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12-10-2018; Ambient Temp: 19.9 C; Tissue Temp: 20.4°C

Probe: ES3DV3 - SN3347; ConvF(5.17, 5.17, 5.17) @ 1752.6 MHz; Calibrated: 3/27/2018
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/15/2018
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1800
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: UMTS 1750, Body SAR, Bottom Edge, High.ch

Area Scan (10x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.07 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.906 W/kg
SAR(1 g) = 0.544 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0503M

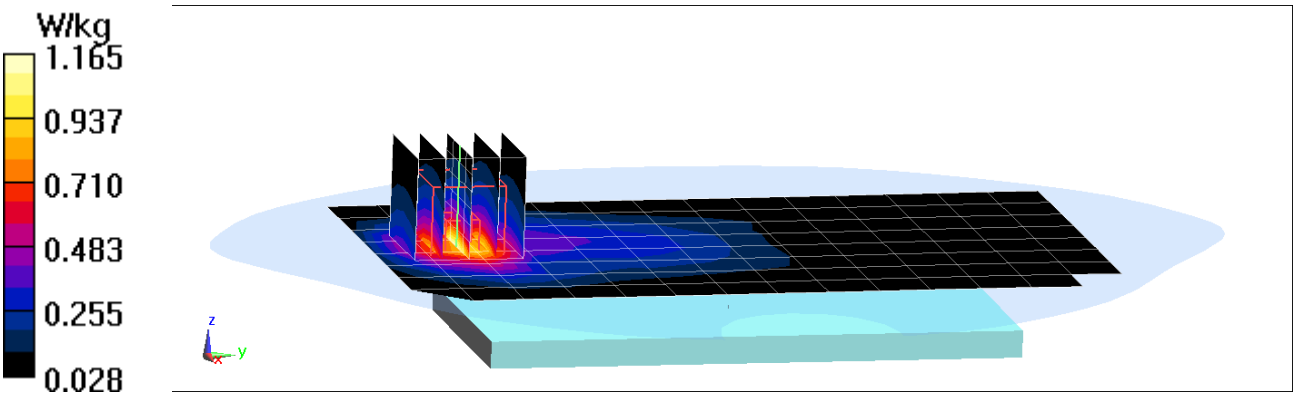
Communication System: UID 0, UMTS; Frequency: 1907.6 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used (interpolated):
f = 1907.6 MHz; σ = 1.581 S/m; ε_r = 51.502; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11-12-2018; Ambient Temp: 21.8°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7409; ConvF(7.6, 7.6, 7.6) @ 1907.6 MHz; Calibrated: 6/25/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1334; Calibrated: 6/18/2018
Phantom: SAM with CRP (Left); Type: SAM; Serial: 1715
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.69 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 1.36 W/kg
SAR(1 g) = 0.812 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0503M

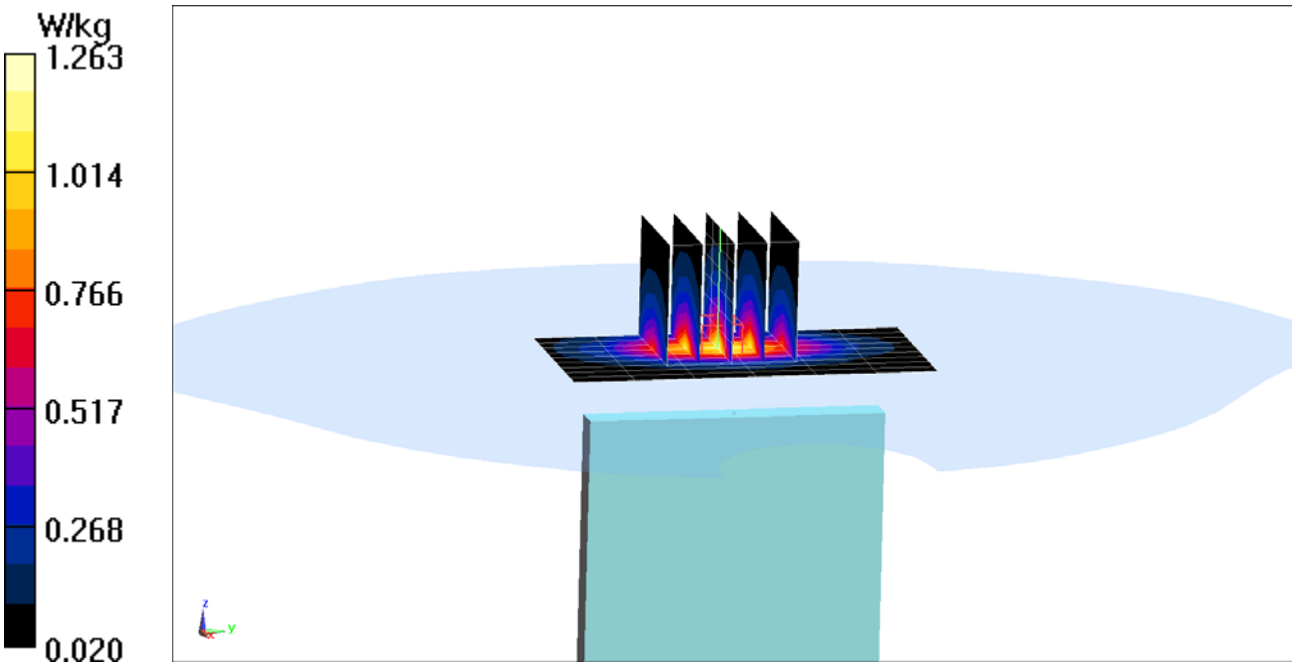
Communication System: UID 0, _UMTS; Frequency: 1907.6 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used:
f = 1907.6 MHz; σ = 1.573 S/m; ε_r = 52.702; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12-09-2018; Ambient Temp: 21.6°C; Tissue Temp: 21.1°C

Probe: ES3DV3 - SN3332; ConvF(4.77, 4.77, 4.77) @ 1907.6 MHz; Calibrated: 8/22/2018
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 2/9/2018
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

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

Area Scan (10x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.50 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 1.72 W/kg
SAR(1 g) = 1.01 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0481M

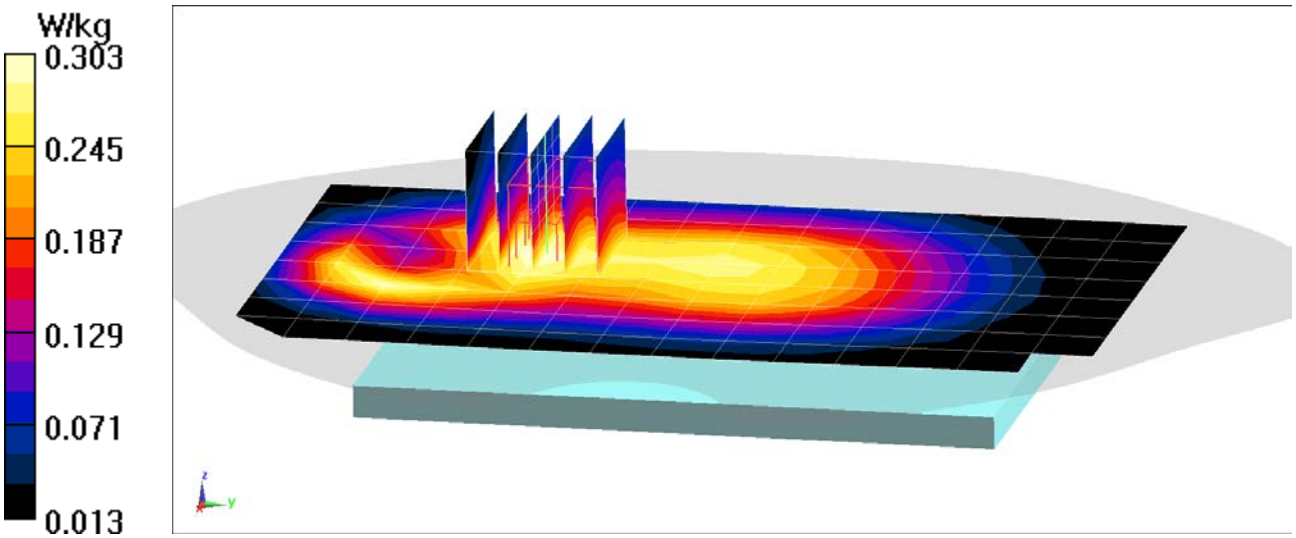
Communication System: UID 0, CDMA; Frequency: 820.1 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 820.1 MHz; σ = 1.004 S/m; ε_r = 54.133; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11-26-2018; Ambient Temp: 19.9°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7406; ConvF(9.61, 9.61, 9.61) @ 820.1 MHz; Calibrated: 5/22/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/22/2018
Phantom: Twin-SAM V4.0 Front Right; Type: QD 000 P40 CC; Serial: 1167
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.06 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.343 W/kg
SAR(1 g) = 0.248 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0481M

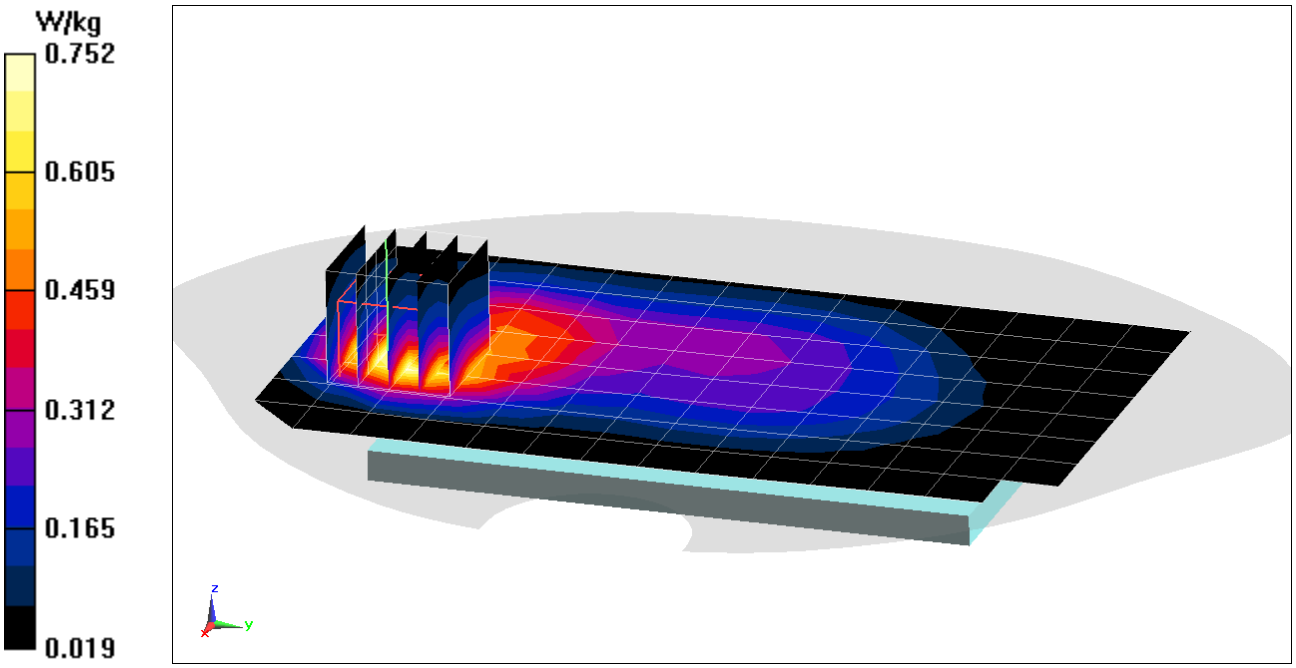
Communication System: UID 0, CDMA; Frequency: 820.1 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 820.1 MHz; σ = 1.004 S/m; ε_r = 54.133; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11-26-2018; Ambient Temp: 19.9°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7406; ConvF(9.61, 9.61, 9.61) @ 820.1 MHz; Calibrated: 5/22/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/22/2018
Phantom: Twin-SAM V4.0 Front Right; Type: QD 000 P40 CC; Serial: 1167
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.36 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.935 W/kg
SAR(1 g) = 0.525 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0481M

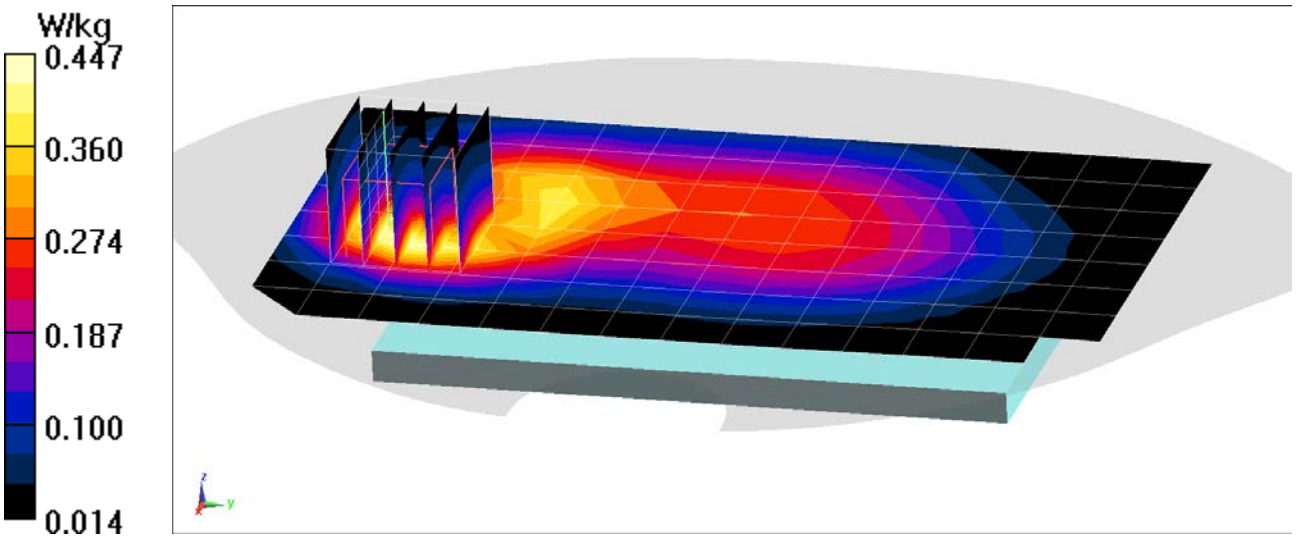
Communication System: UID 0, CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 836.52 MHz; σ = 1.02 S/m; ε_r = 53.96; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11-26-2018; Ambient Temp: 19.9°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7406; ConvF(9.61, 9.61, 9.61) @ 836.52 MHz; Calibrated: 5/22/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/22/2018
Phantom: Twin-SAM V4.0 Front Right; Type: QD 000 P40 CC; Serial: 1167
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

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 = 18.28 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.540 W/kg
SAR(1 g) = 0.326 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0481M

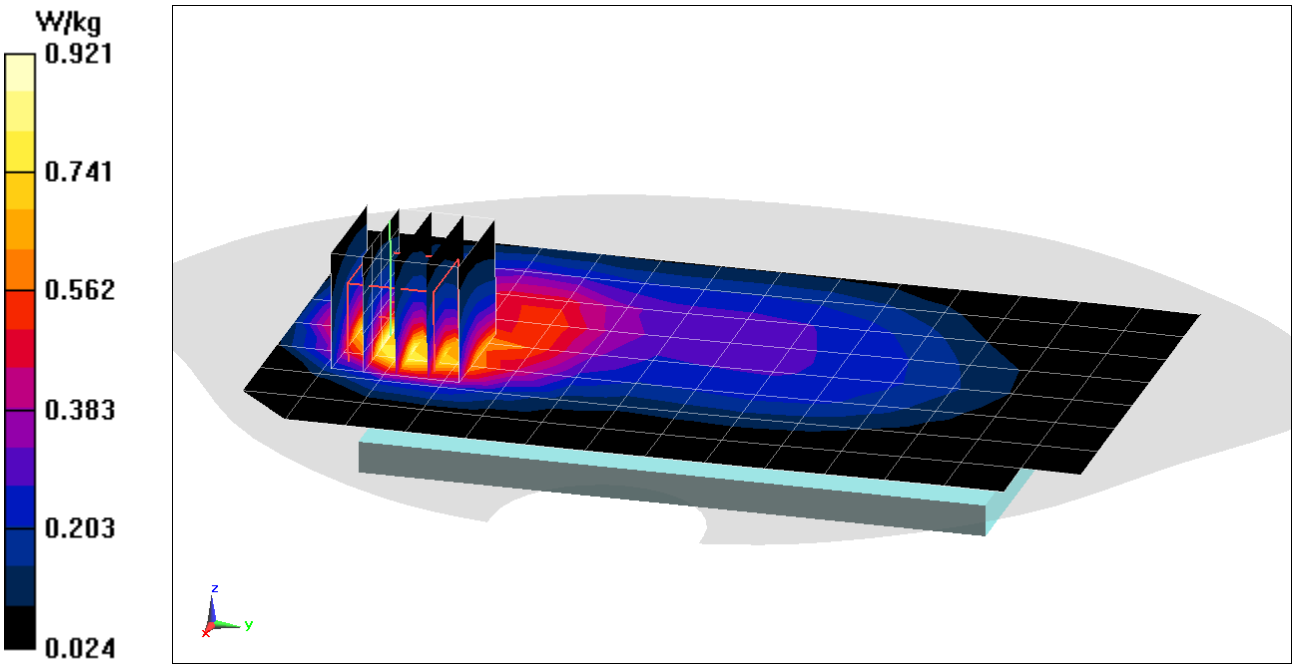
Communication System: UID 0, CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 836.52 MHz; σ = 1.02 S/m; ε_r = 53.96; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11-26-2018; Ambient Temp: 19.9°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7406; ConvF(9.61, 9.61, 9.61) @ 836.52 MHz; Calibrated: 5/22/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/22/2018
Phantom: Twin-SAM V4.0 Front Right; Type: QD 000 P40 CC; Serial: 1167
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: Cell. EVDO, 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 = 25.63 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 1.12 W/kg
SAR(1 g) = 0.635 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0503M

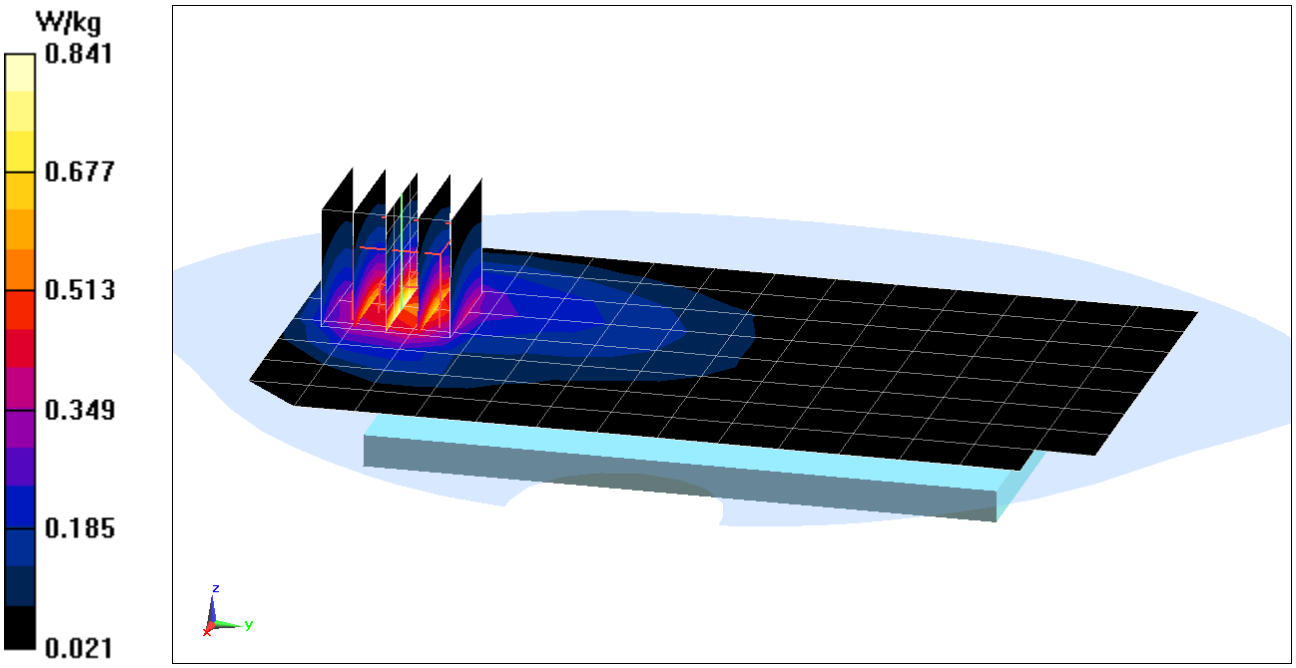
Communication System: UID 0, CDMA; Frequency: 1908.75 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used (interpolated):
f = 1908.75 MHz; σ = 1.554 S/m; ε_r = 51.452; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11-19-2018; Ambient Temp: 24.4°C; Tissue Temp: 21.8°C

Probe: ES3DV3 - SN3213; ConvF(4.88, 4.88, 4.88) @ 1908.75 MHz; Calibrated: 2/13/2018;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 2/9/2018
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: PCS CDMA, 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 = 22.68 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 1.12 W/kg
SAR(1 g) = 0.699 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0503M

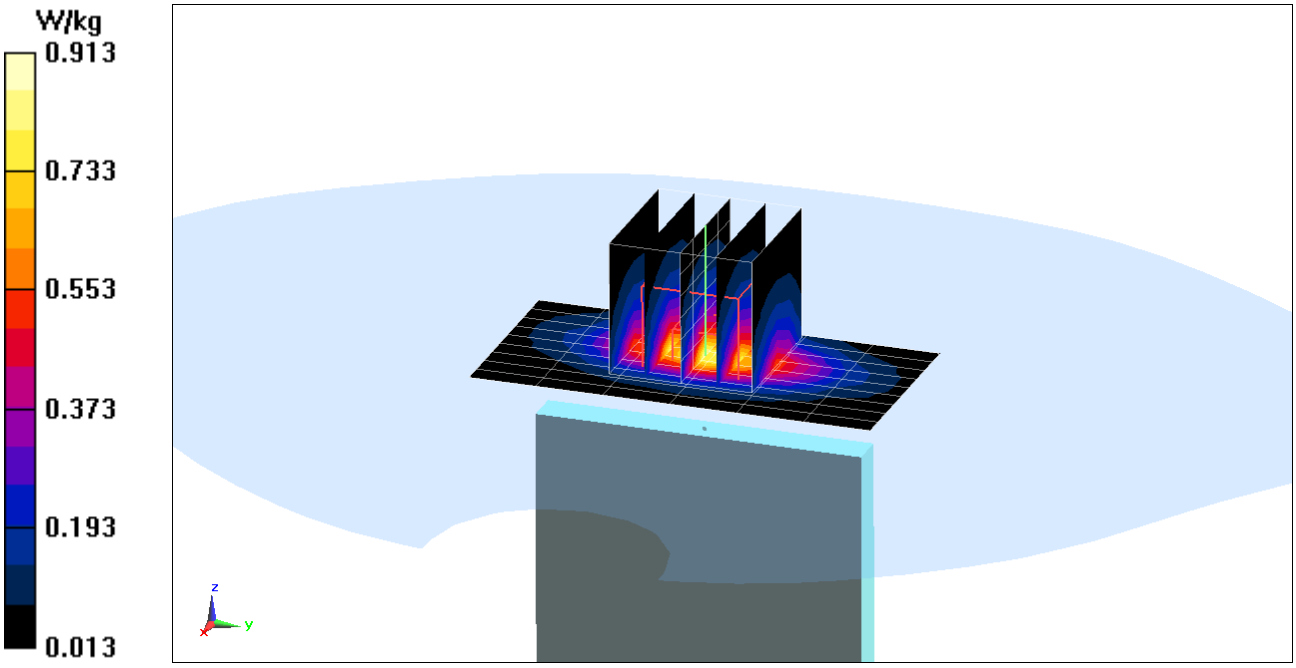
Communication System: UID 0, CDMA; Frequency: 1908.75 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used (interpolated):
f = 1908.75 MHz; σ = 1.589 S/m; ε_r = 51.168; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11-28-2018; Ambient Temp: 21.2°C; Tissue Temp: 20.8°C

Probe: ES3DV3 - SN3213; ConvF(4.88, 4.88, 4.88) @ 1908.75 MHz; Calibrated: 2/13/2018;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 2/9/2018
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

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

Area Scan (10x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.33 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 1.23 W/kg
SAR(1 g) = 0.733 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0484M

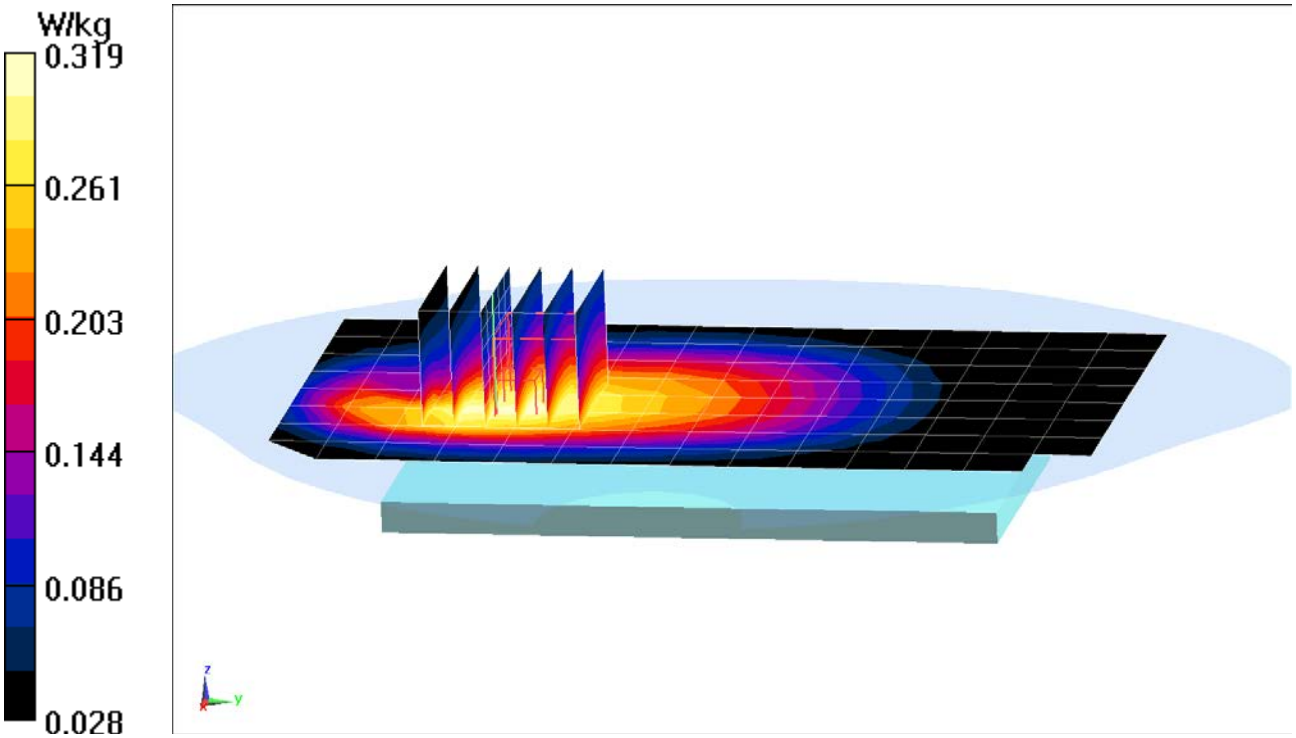
Communication System: UID 0, LTE Band 71; Frequency: 680.5 MHz; Duty Cycle: 1:1
Medium: 750 Body Medium parameters used (interpolated):
f = 680.5 MHz; σ = 0.927 S/m; ε_r = 53.396; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11-26-2018; Ambient Temp: 22.6°C; Tissue Temp: 20.6°C

Probe: EX3DV4 - SN7357; ConvF(10.37, 10.37, 10.37) @ 680.5 MHz; Calibrated: 4/18/2018
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/11/2018
Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: 1646
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 71, Body SAR, Back side, Mid.ch, 20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.11 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.354 W/kg
SAR(1 g) = 0.260 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0484M

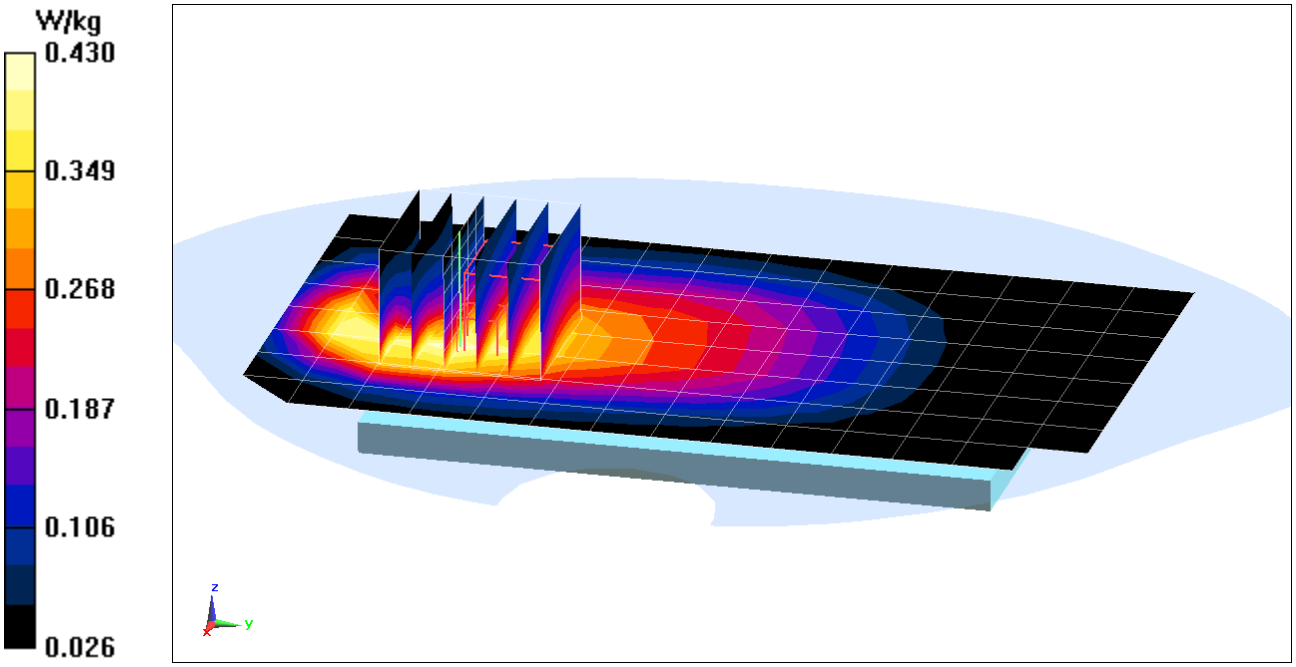
Communication System: UID 0, LTE Band 71; Frequency: 680.5 MHz; Duty Cycle: 1:1
Medium: 750 Body Medium parameters used (interpolated):
f = 680.5 MHz; σ = 0.927 S/m; ε_r = 53.396; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11-26-2018; Ambient Temp: 22.6°C; Tissue Temp: 20.6°C

Probe: EX3DV4 - SN7357; ConvF(10.37, 10.37, 10.37) @ 680.5 MHz; Calibrated: 4/18/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/11/2018
Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: 1646
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 71, Body SAR, Back side, Mid.ch, 20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.29 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.504 W/kg
SAR(1 g) = 0.330 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0484M

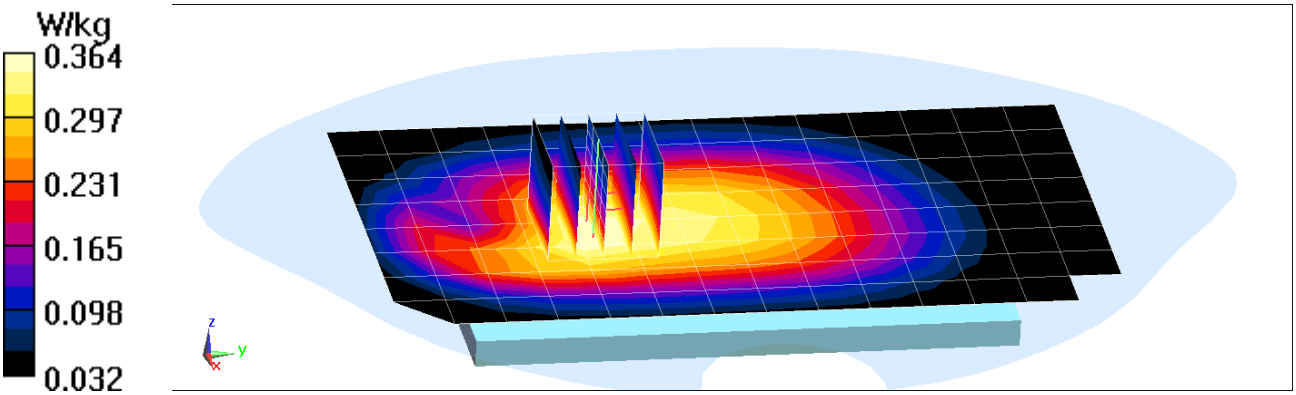
Communication System: UID 0, LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: 750 Body Medium parameters used (interpolated):
f = 707.5 MHz; σ = 0.936 S/m; ε_r = 53.374; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11-26-2018; Ambient Temp: 22.6°C; Tissue Temp: 20.6°C

Probe: EX3DV4 - SN7357; ConvF(10.37, 10.37, 10.37) @ 707.5 MHz; Calibrated: 4/18/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/11/2018
Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: 1646
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 12, Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.19 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.397 W/kg
SAR(1 g) = 0.300 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0484M

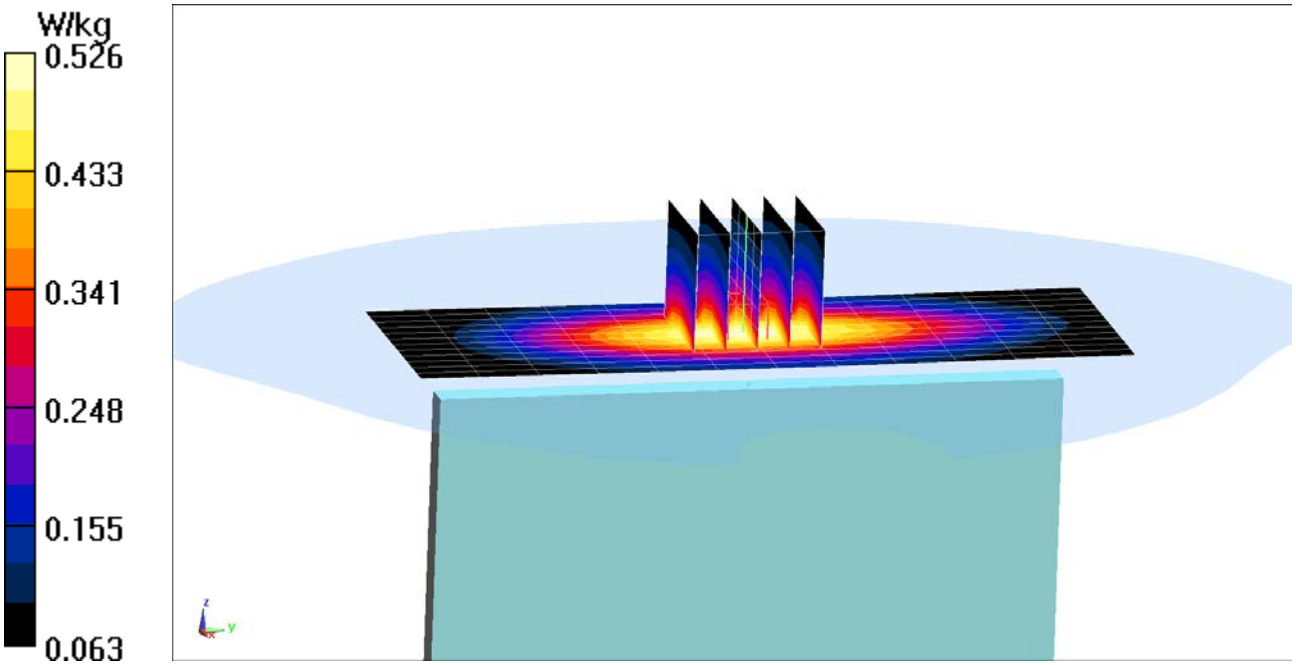
Communication System: UID 0, LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: 750 Body Medium parameters used (interpolated):
f = 707.5 MHz; σ = 0.936 S/m; ε_r = 53.374; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11-26-2018; Ambient Temp: 22.6°C; Tissue Temp: 20.6°C

Probe: EX3DV4 - SN7357; ConvF(10.37, 10.37, 10.37) @ 707.5 MHz; Calibrated: 4/18/2018
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/11/2018
Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: 1646
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

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

Area Scan (13x13x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.02 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 0.590 W/kg
SAR(1 g) = 0.403 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0484M

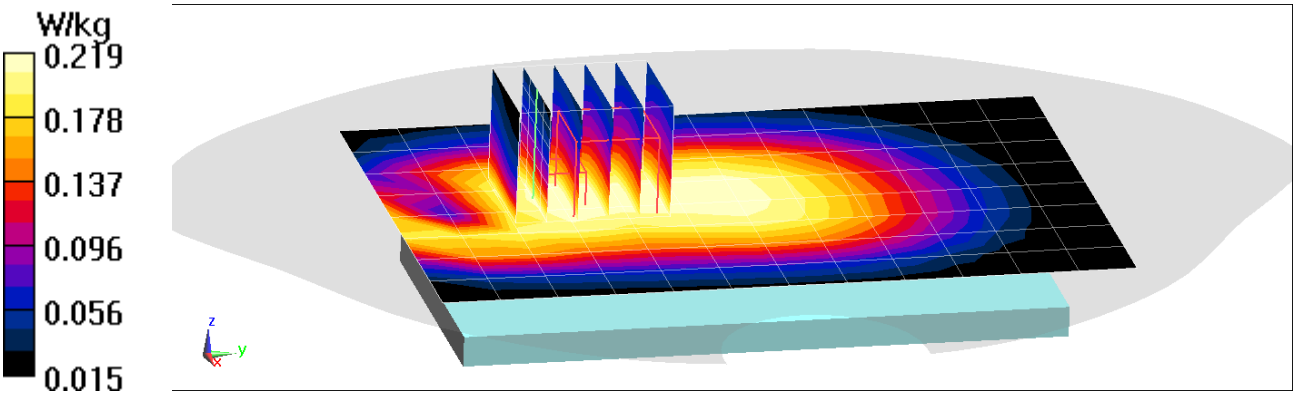
Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1
Medium: 750 Body Medium parameters used (interpolated):
f = 782 MHz; σ = 0.978 S/m; ε_r = 52.988; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11-18-2018; Ambient Temp: 21.4°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN7406; ConvF(9.91, 9.91, 9.91) @ 782 MHz; Calibrated: 5/22/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/22/2018
Phantom: Twin-SAM V5.0 Back Right; Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

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 (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.93 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.244 W/kg
SAR(1 g) = 0.182 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0484M

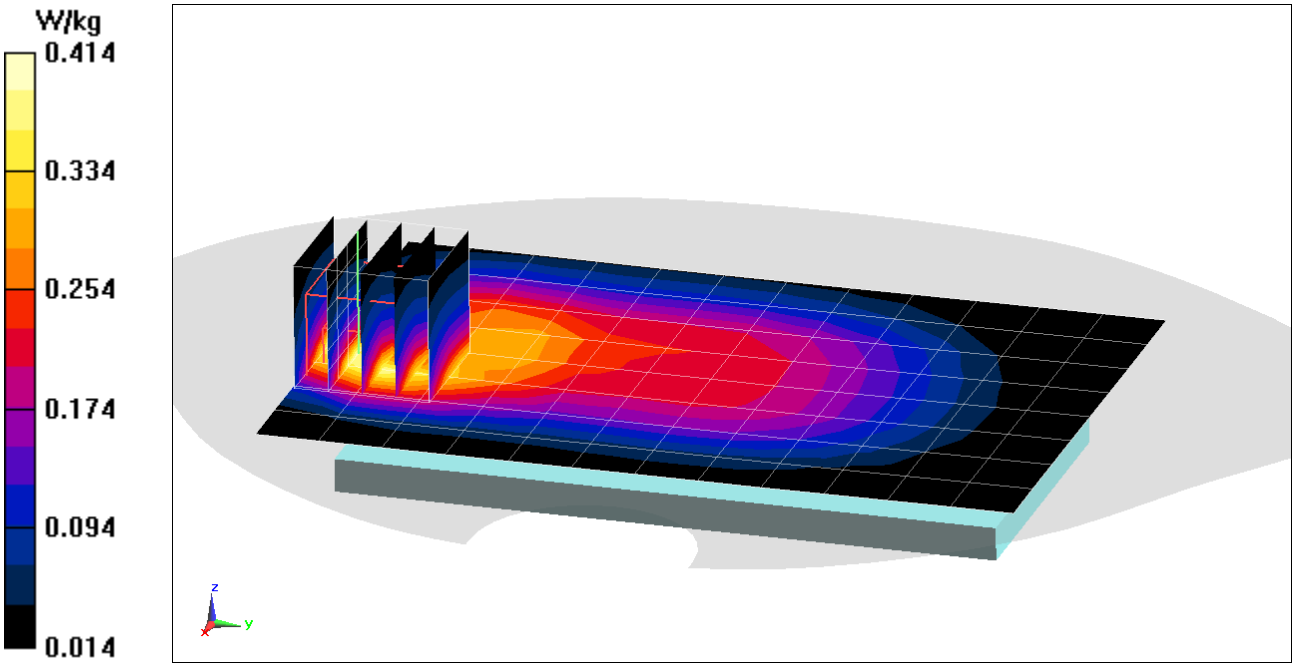
Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1
Medium: 750 Body Medium parameters used (interpolated):
f = 782 MHz; σ = 0.978 S/m; ε_r = 52.988; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11-18-2018; Ambient Temp: 21.4°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN7406; ConvF(9.91, 9.91, 9.91) @ 782 MHz; Calibrated: 5/22/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/22/2018
Phantom: Twin-SAM V5.0 Back Right; Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

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 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.19 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.498 W/kg
SAR(1 g) = 0.282 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0484M

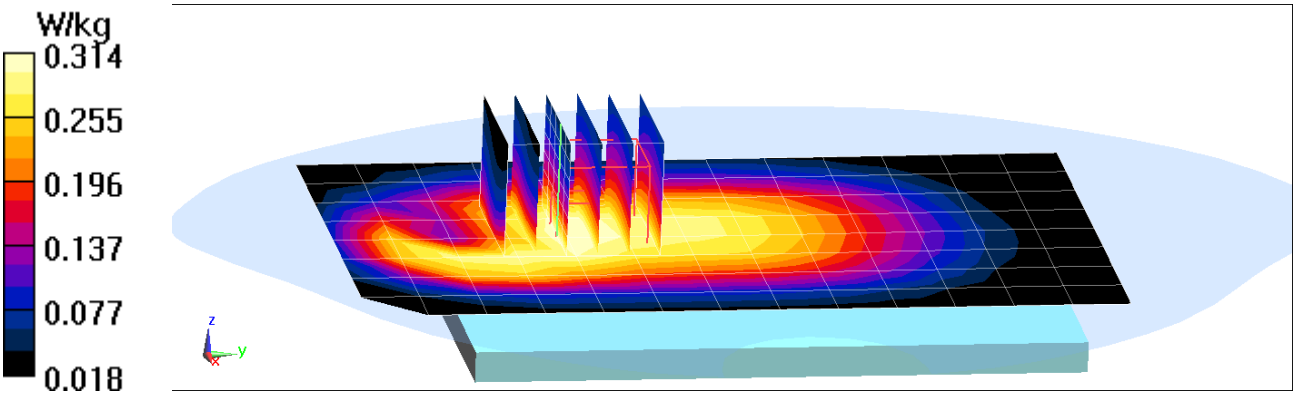
Communication System: UID 0, LTE Band 14; Frequency: 793 MHz; Duty Cycle: 1:1
Medium: 750 Body Medium parameters used (interpolated):
f = 793 MHz; σ = 0.968 S/m; ε_r = 53.199; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11-26-2018; Ambient Temp: 22.6°C; Tissue Temp: 20.6°C

Probe: EX3DV4 - SN7357; ConvF(10.37, 10.37, 10.37) @ 793 MHz; Calibrated: 4/18/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/11/2018
Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: 1646
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 14, Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 49 RB Offset

Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.70 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.347 W/kg
SAR(1 g) = 0.261 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0484M

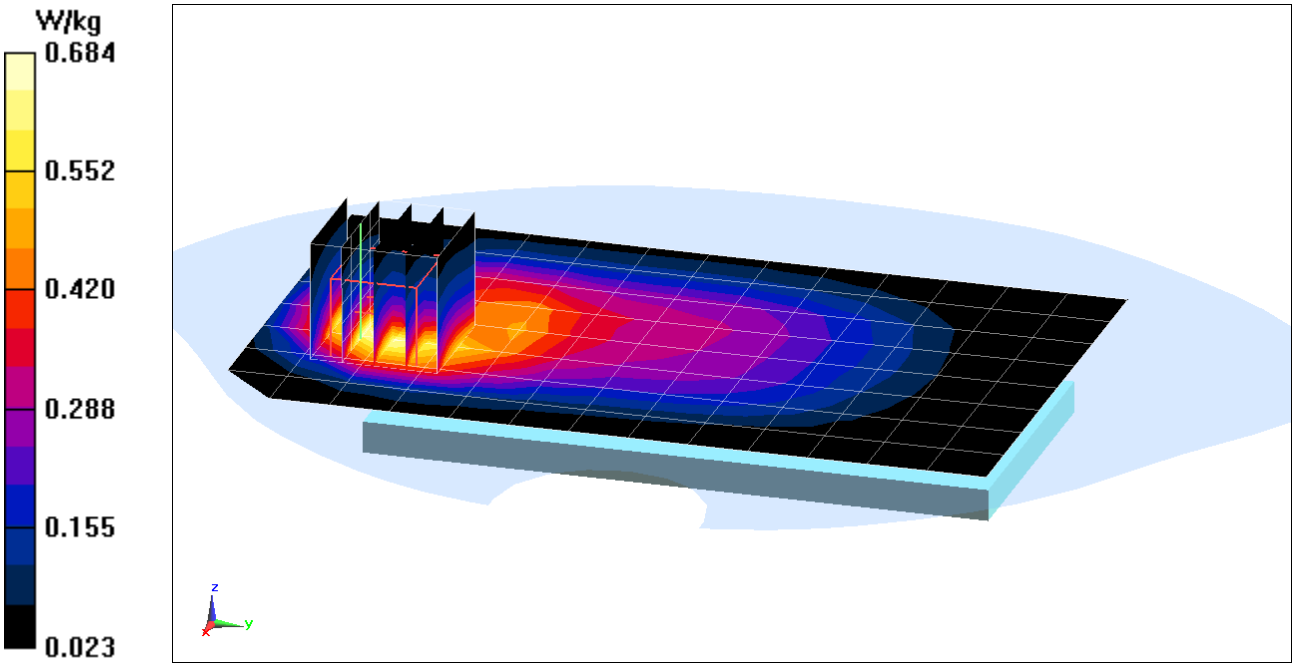
Communication System: UID 0, LTE Band 14; Frequency: 793 MHz; Duty Cycle: 1:1
Medium: 750 Body Medium parameters used (interpolated):
f = 793 MHz; σ = 0.968 S/m; ε_r = 53.199; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11-26-2018; Ambient Temp: 22.6°C; Tissue Temp: 20.6°C

Probe: EX3DV4 - SN7357; ConvF(10.37, 10.37, 10.37) @ 793 MHz; Calibrated: 4/18/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/11/2018
Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: 1646
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 14, Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 49 RB Offset

Area Scan (9x14x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.80 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.830 W/kg
SAR(1 g) = 0.478 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0484M

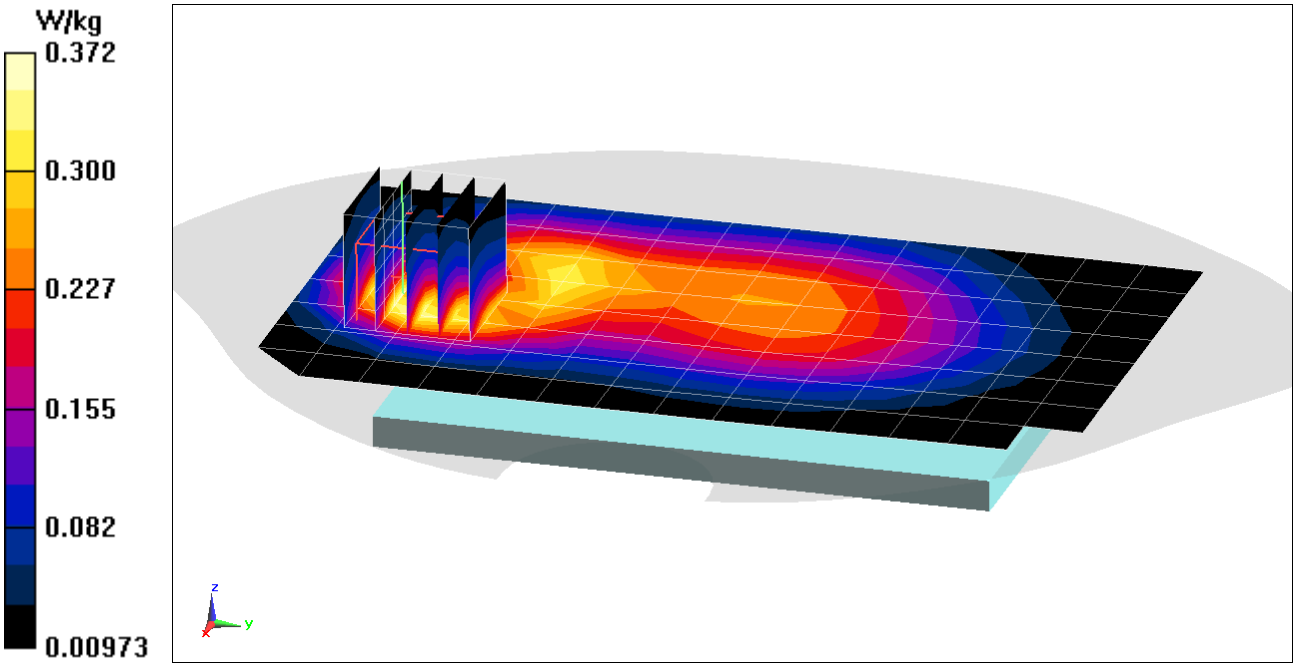
Communication System: UID 0, LTE Band 26; Frequency: 831.5 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 831.5 MHz; σ = 0.978 S/m; ε_r = 53.684; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11-29-2018; Ambient Temp: 21.4°C; Tissue Temp: 19.9°C

Probe: EX3DV4 - SN7406; ConvF(9.61, 9.61, 9.61) @ 831.5 MHz; Calibrated: 5/22/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/22/2018
Phantom: Twin-SAM V4.0 Front Right; Type: QD 000 P40 CC; Serial: 1167
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

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 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.82 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.447 W/kg
SAR(1 g) = 0.266 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0484M

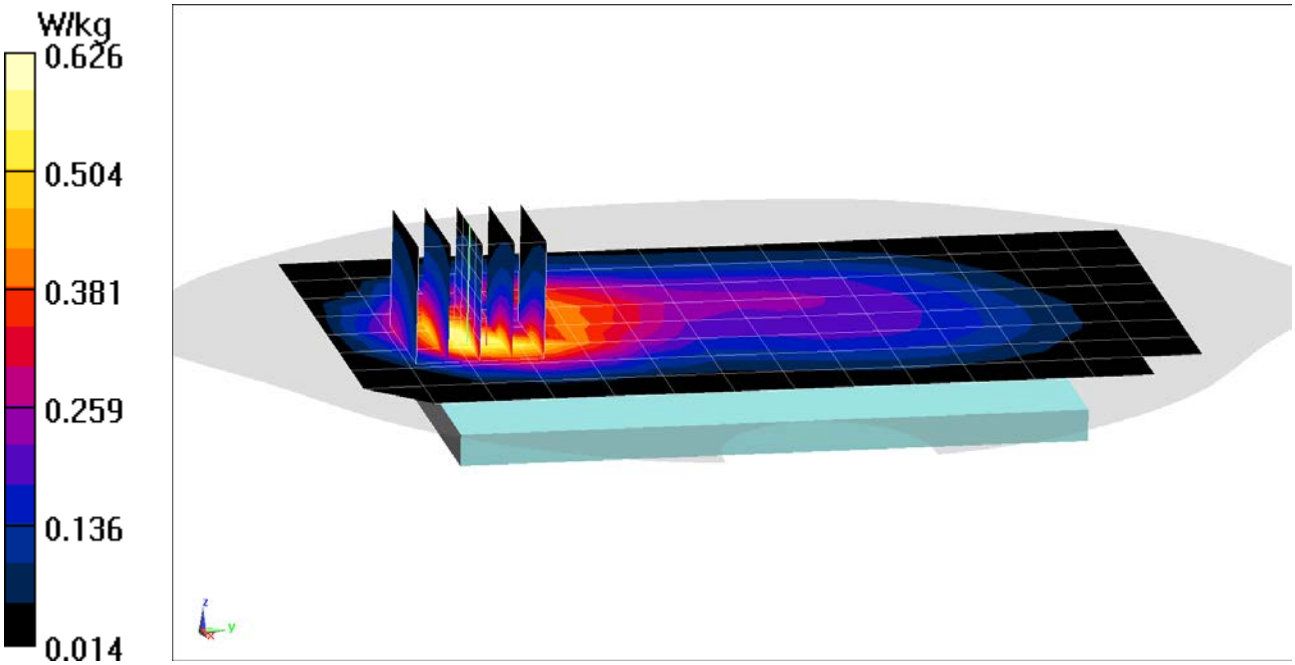
Communication System: UID 0, LTE Band 26; Frequency: 831.5 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 831.5 MHz; σ = 0.935 S/m; ε_r = 54.82; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12-7-2018; Ambient Temp: 19.5 C; Tissue Temp: 19.2°C

Probe: ES3DV3 - SN3347; ConvF(6.37, 6.37, 6.37) @ 831.5 MHz; Calibrated: 3/27/2018
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/15/2018
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1800
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

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 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.84 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.881 W/kg
SAR(1 g) = 0.508 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0484M

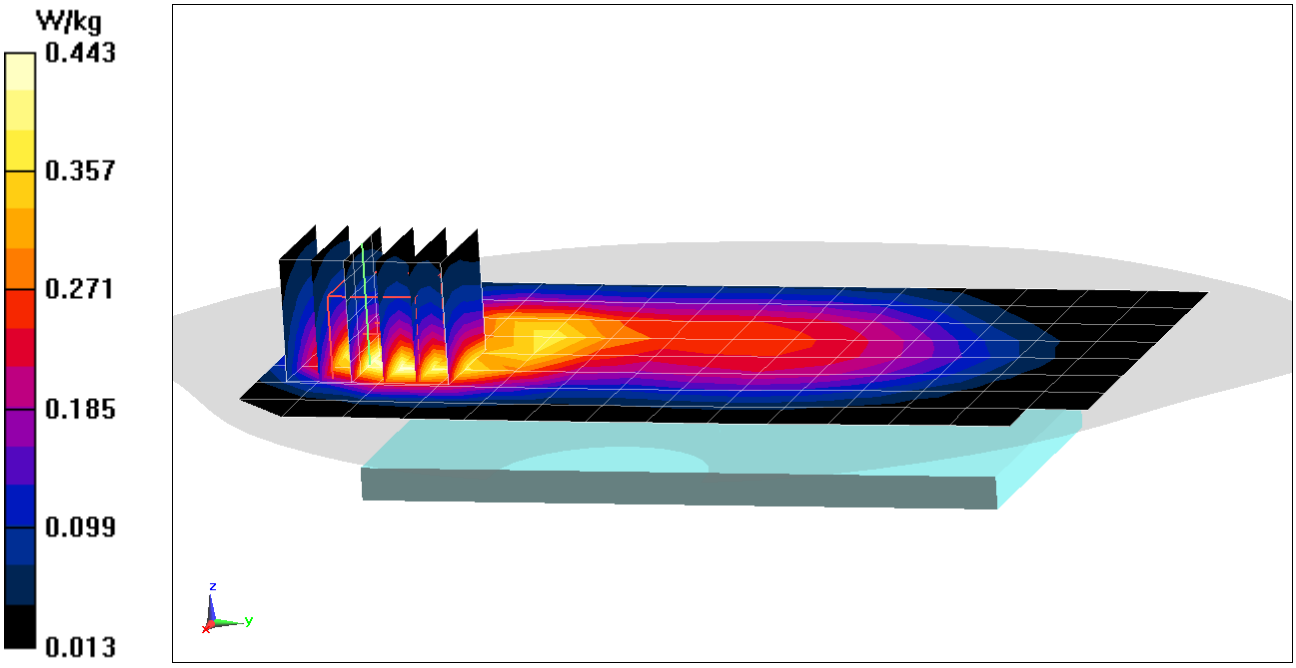
Communication System: UID 0, LTE Band 5; Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 836.5 MHz; σ = 0.983 S/m; ε_r = 53.631; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11-29-2018; Ambient Temp: 21.4°C; Tissue Temp: 19.9°C

Probe: EX3DV4 - SN7406; ConvF(9.61, 9.61, 9.61) @ 836.5 MHz; Calibrated: 5/22/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/22/2018
Phantom: Twin-SAM V4.0 Front Right; Type: QD 000 P40 CC; Serial: 1167
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 5 (Cell.), Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 49 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 = 18.56 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.527 W/kg
SAR(1 g) = 0.323 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0484M

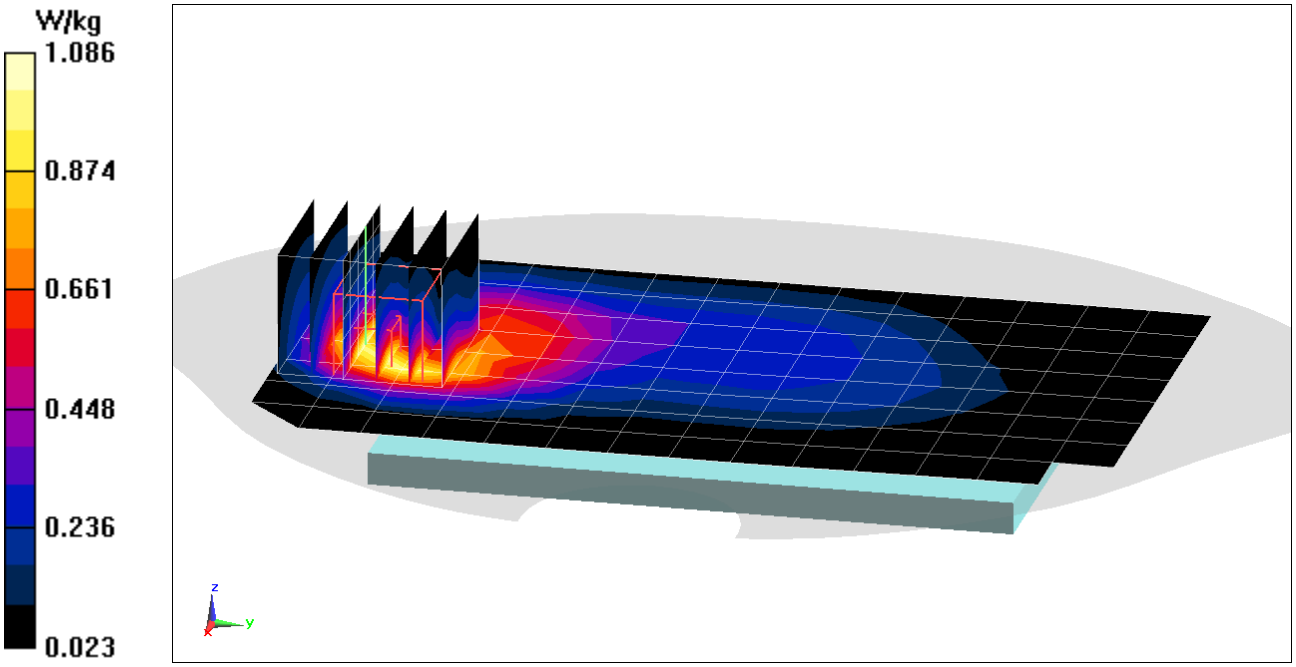
Communication System: UID 0, LTE Band 5; Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: 835 Body Medium parameters used (interpolated):
f = 836.5 MHz; σ = 0.983 S/m; ε_r = 53.631; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11-29-2018; Ambient Temp: 21.4°C; Tissue Temp: 19.9°C

Probe: EX3DV4 - SN7406; ConvF(9.61, 9.61, 9.61) @ 836.5 MHz; Calibrated: 5/22/2018;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn859; Calibrated: 5/22/2018
Phantom: Twin-SAM V4.0 Front Right; Type: QD 000 P40 CC; Serial: 1167
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 5 (Cell.), Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 49 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 = 28.57 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 1.32 W/kg
SAR(1 g) = 0.743 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0495M

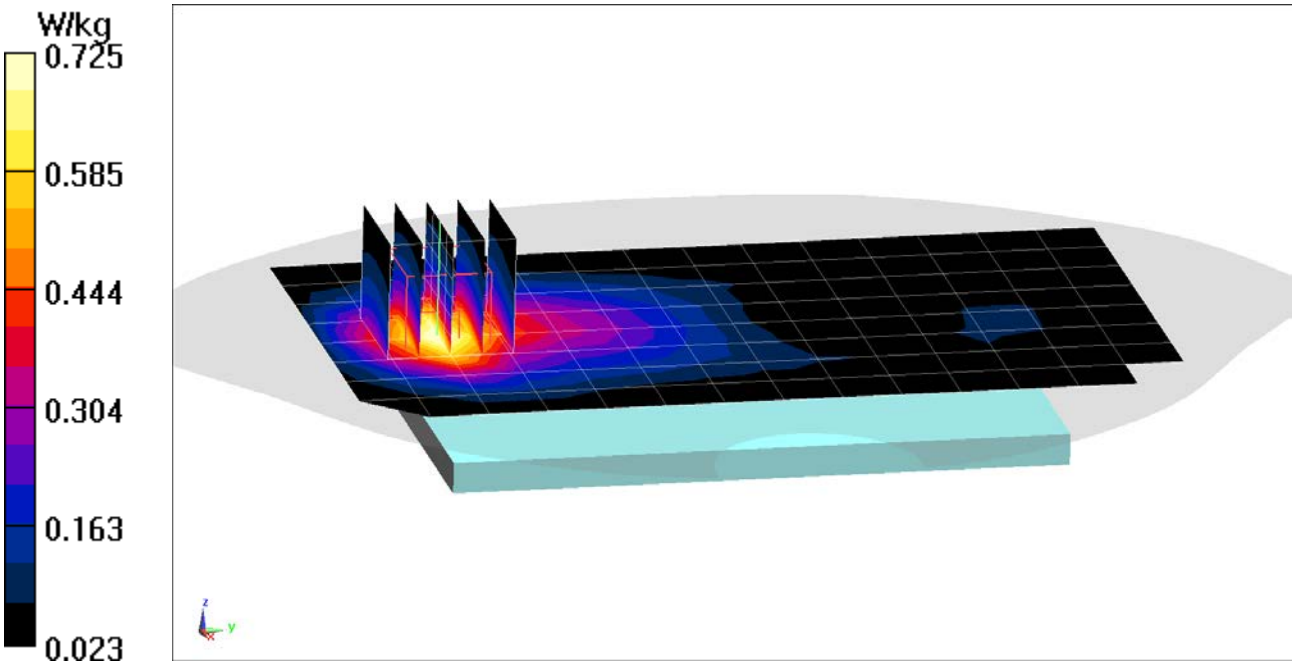
Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1745 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used (interpolated):
f = 1745 MHz; σ = 1.521 S/m; ε_r = 51.99; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11-12-2018; Ambient Temp: 19.8°C; Tissue Temp: 21.7°C

Probe: ES3DV3 - SN3347; ConvF(5.17, 5.17, 5.17) @ 1745 MHz; Calibrated: 3/27/2018
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/15/2018
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1800
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 66 (AWS), Body SAR, Back side, Mid.ch, 20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.82 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.943 W/kg
SAR(1 g) = 0.612 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0495M

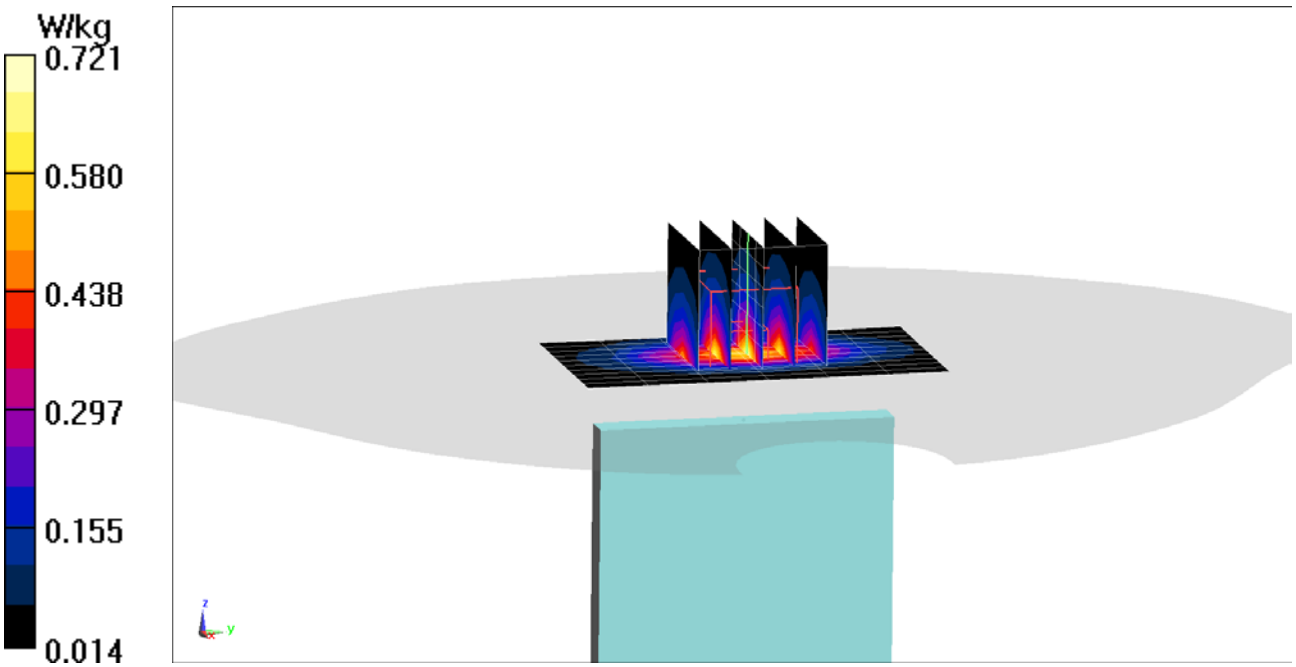
Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1775 MHz; Duty Cycle: 1:1
Medium: 1750 Body Medium parameters used (interpolated):
f = 1775 MHz; σ = 1.461 S/m; εr = 53.713; ρ = 1000 kg/m3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12-10-2018; Ambient Temp: 19.9 C; Tissue Temp: 20.4°C

Probe: ES3DV3 - SN3347; ConvF(5.17, 5.17, 5.17) @ 1775 MHz; Calibrated: 3/27/2018
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn665; Calibrated: 2/15/2018
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1800
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 66 (AWS) ULCA, Body SAR, Bottom Edge,
PCC: 10MHz Bandwidth, QPSK, Ch. 132622, 1 RB, 0 RB Offset
SCC: 10MHz Bandwidth, QPSK, Ch. 132523, 1 RB, 49 RB Offset

Area Scan (11x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.62 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.976 W/kg
SAR(1 g) = 0.582 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0495M

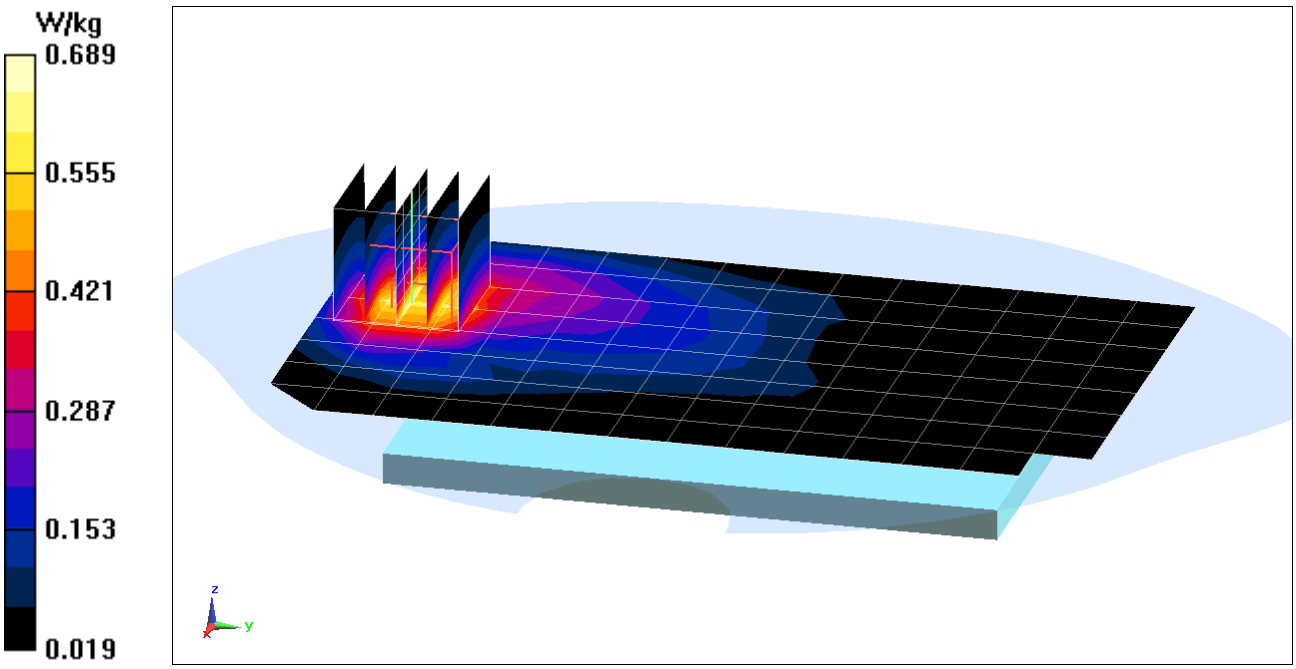
Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1905 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used (interpolated):
f = 1905 MHz; σ = 1.585 S/m; ε_r = 51.268; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11-14-2018; Ambient Temp: 23.9°C; Tissue Temp: 21.3°C

Probe: ES3DV3 - SN3213; ConvF(4.88, 4.88, 4.88) @ 1905 MHz; Calibrated: 2/13/2018;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 2/9/2018
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 25 (PCS), Body SAR, Back side, High.ch, 20 MHz Bandwidth, QPSK, 1 RB, 99 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.35 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.906 W/kg
SAR(1 g) = 0.574 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0495M

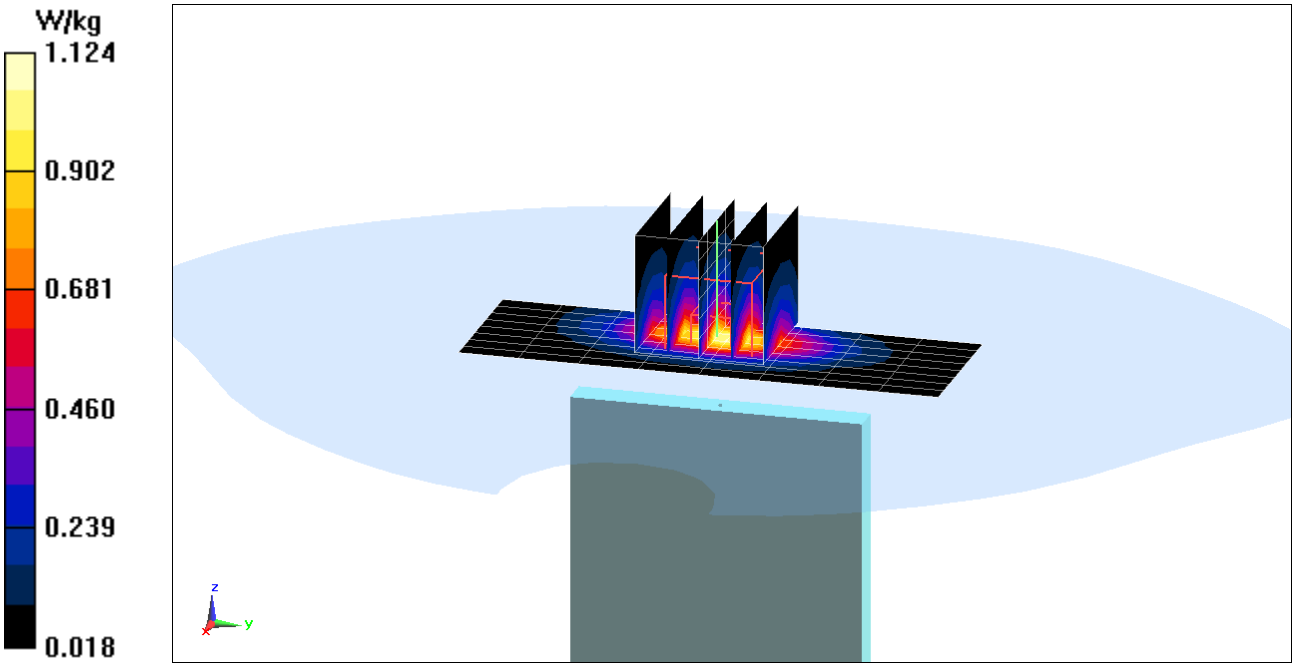
Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1882.5 MHz; Duty Cycle: 1:1
Medium: 1900 Body Medium parameters used (interpolated):
f = 1882.5 MHz; σ = 1.565 S/m; ε_r = 52.107; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11-16-2018; Ambient Temp: 24.3°C; Tissue Temp: 21.1°C

Probe: ES3DV3 - SN3213; ConvF(4.88, 4.88, 4.88) @ 1882.5 MHz; Calibrated: 2/13/2018;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1272; Calibrated: 2/9/2018
Phantom: SAM V5.0 Right; Type: QD000P40CD; Serial: 1647
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 25 (PCS), Body SAR, Bottom Edge, Mid.ch, 20 MHz Bandwidth, QPSK, 50 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 = 26.06 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 1.51 W/kg
SAR(1 g) = 0.897 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0509M

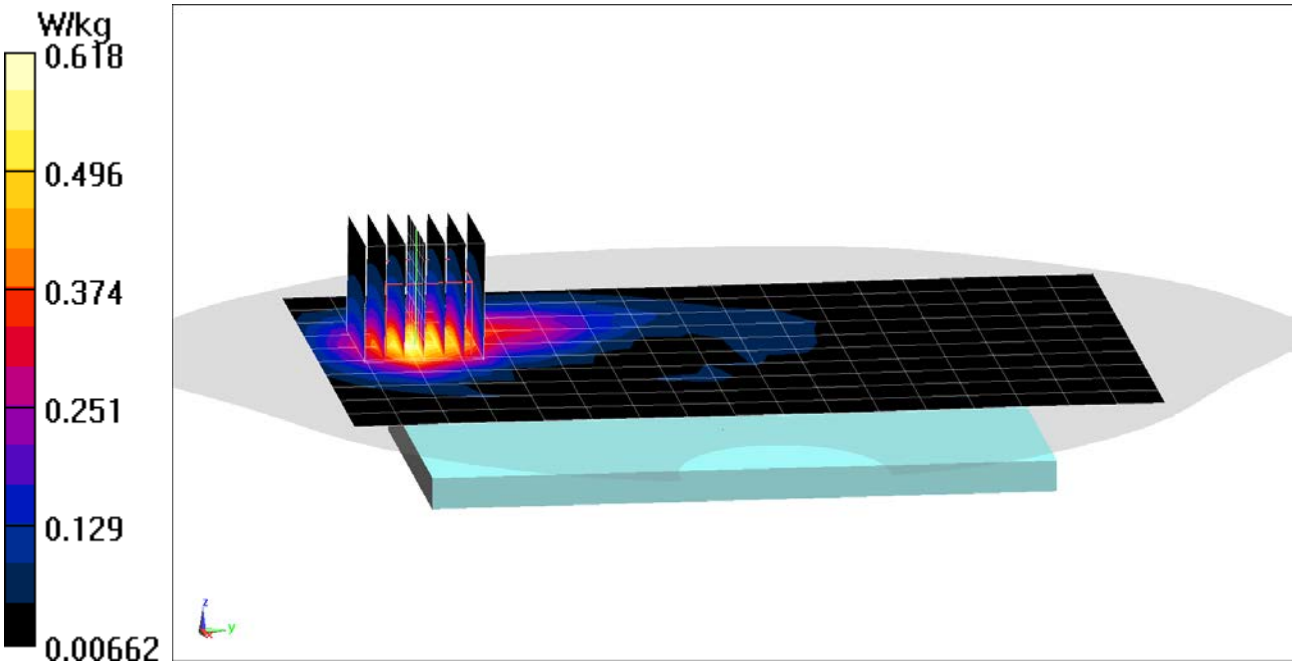
Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2310 MHz; σ = 1.887 S/m; ε_r = 51.033; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11-20-2018; Ambient Temp: 23.2°C; Tissue Temp: 23.5°C

Probe: ES3DV3 - SN3319; ConvF(4.63, 4.63, 4.63) @ 2310 MHz; Calibrated: 3/13/2018;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1368; Calibrated: 3/7/2018
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 30, Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.51 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.883 W/kg
SAR(1 g) = 0.500 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0509M

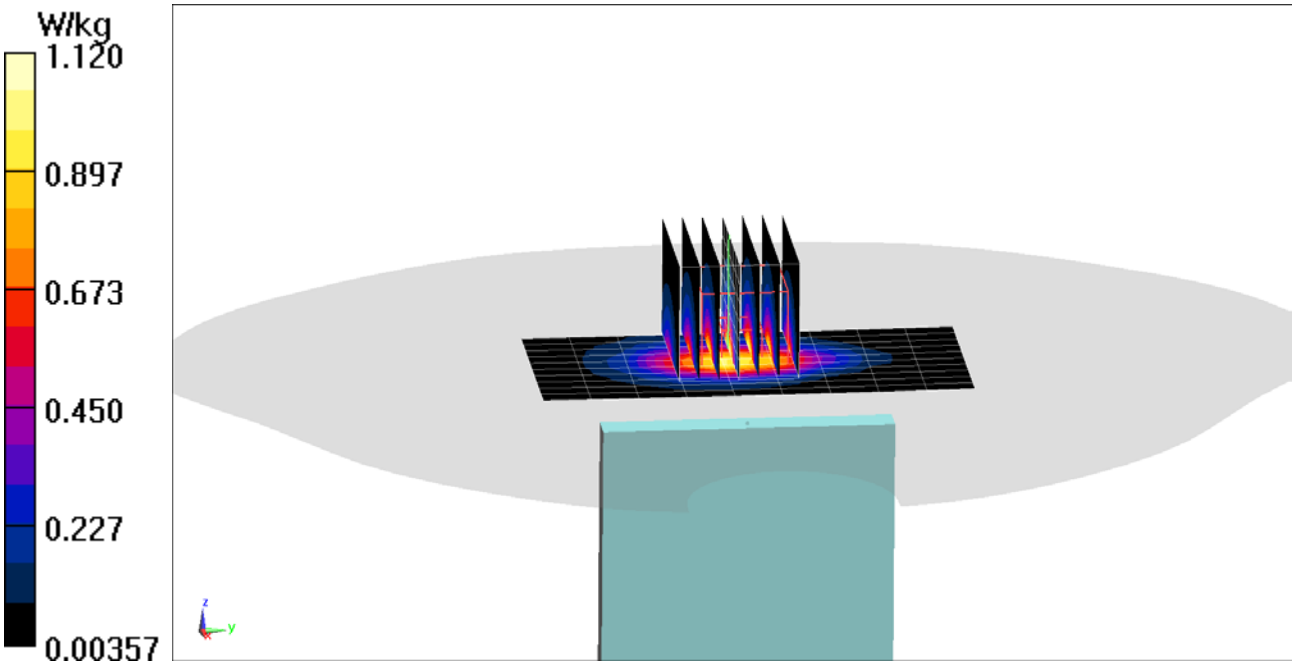
Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used:
f = 2310 MHz; σ = 1.887 S/m; ε_r = 51.033; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11-20-2018; Ambient Temp: 23.2°C; Tissue Temp: 23.5°C

Probe: ES3DV3 - SN3319; ConvF(4.63, 4.63, 4.63) @ 2310 MHz; Calibrated: 3/13/2018;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1368; Calibrated: 3/7/2018
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 30, Body SAR, Bottom Edge, Mid.ch, 10 MHz Bandwidth, QPSK, 25 RB, 0 RB Offset

Area Scan (11x10x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (9x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.23 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 1.70 W/kg
SAR(1 g) = 0.903 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0509M

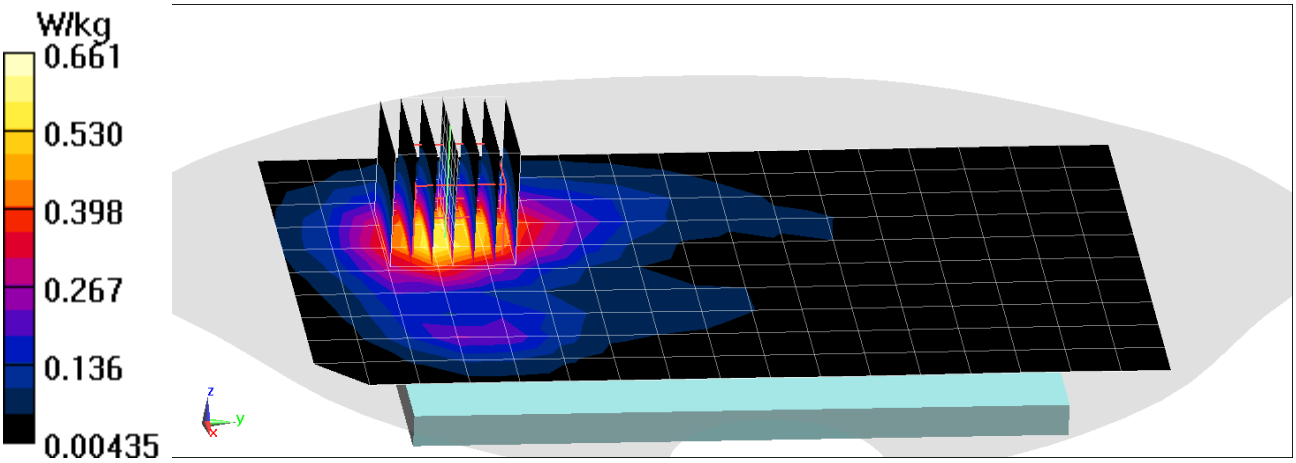
Communication System: UID 0, LTE Band 7; Frequency: 2560 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used (interpolated):
f = 2560 MHz; σ = 2.17 S/m; ε_r = 51.548; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 12-02-2018; Ambient Temp: 21.6°C; Tissue Temp: 23.3°C

Probe: ES3DV3 - SN3319; ConvF(4.33, 4.33, 4.33) @ 2560 MHz; Calibrated: 3/13/2018;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1368; Calibrated: 3/7/2018
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 7 Antenna B, Body SAR, Back side, High.ch, 20 MHz Bandwidth, QPSK, 1 RB, 99 RB Offset

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.88 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 1.00 W/kg
SAR(1 g) = 0.533 W/kg



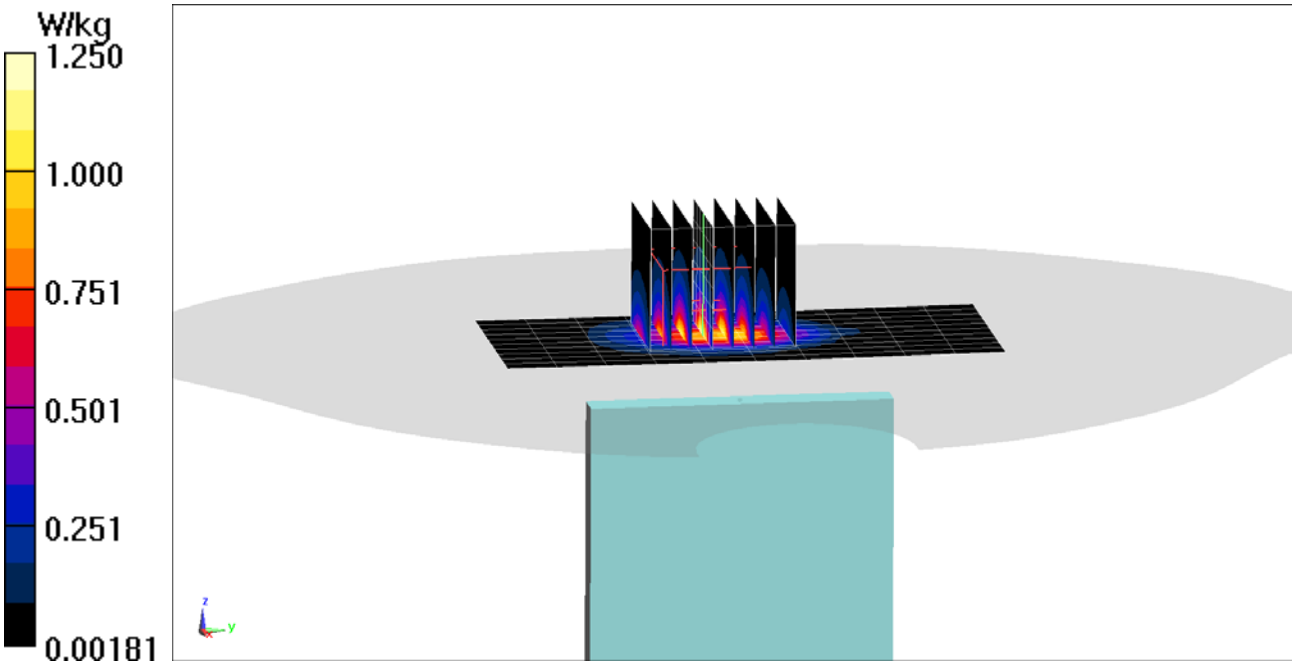
PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMG975U; Type: Portable Handset; Serial: 0509M

Communication System: UID 0, _LTE Band 7; Frequency: 2510 MHz; Duty Cycle: 1:1
Medium: 2450 Body Medium parameters used (interpolated):
f = 2510 MHz; σ = 2.11 S/m; ε_r = 51.683; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12-02-2018; Ambient Temp: 21.6°C; Tissue Temp: 23.3°C

Probe: ES3DV3 - SN3319; ConvF(4.51, 4.51, 4.51) @ 2510 MHz; Calibrated: 3/13/2018
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1368; Calibrated: 3/7/2018
Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375
Measurement SW: DASY52, Version 52.10;SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 7 Antenna A, Body SAR, Bottom, Edge, Low.ch, 20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (11x11x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.33 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 1.98 W/kg
SAR(1 g) = 0.970 W/kg