



SAR EVALUATION REPORT

Applicant Name:

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

Date of Testing:

05/13/19 - 06/26/19

Test Site/Location:

PCTEST Lab, Columbia, MD, USA

Document Serial No.:

1M1905130071-01-R2.A3L

FCC ID:

A3LSMN976V

APPLICANT:

SAMSUNG ELECTRONICS CO., LTD.

DUT Type:

Portable Handset

Application Type:

Certification

FCC Rule Part(s):

CFR §2.1093

Model:

SM-N976V

Additional Model(s):

SM-N976XU

Equipment Class	Band & Mode	Tx Frequency	SAR			
			1g Head (W/kg)	1g Body-Worn (W/kg)	1g Hotspot (W/kg)	10g Phablet (W/kg)
PCE	Cell. CDMA/EVDO	824.70 - 848.31 MHz	0.18	0.24	0.74	N/A
PCE	PCS CDMA/EVDO	1851.25 - 1908.75 MHz	0.15	0.89	1.06	2.99
PCE	GSM/GPRS/EDGE 850	824.20 - 848.80 MHz	0.11	0.19	0.75	N/A
PCE	GSM/GPRS/EDGE 1900	1850.20 - 1909.80 MHz	< 0.1	0.32	1.00	2.57
PCE	UMTS 850	826.40 - 846.60 MHz	0.19	0.32	0.68	N/A
PCE	UMTS 1900	1852.4 - 1907.6 MHz	0.16	1.07	1.09	2.82
PCE	LTE Band 12	699.7 - 715.3 MHz	0.13	0.19	0.33	N/A
PCE	LTE Band 13	779.5 - 784.5 MHz	0.15	0.22	0.56	N/A
PCE	LTE Band 26 (Cell)	814.7 - 848.3 MHz	0.12	0.21	0.62	N/A
PCE	LTE Band 5 (Cell)	824.7 - 848.3 MHz	0.26	0.19	0.67	N/A
PCE	LTE Band 66 (AWS)	1710.7 - 1779.3 MHz	0.15	1.03	1.17	2.85
PCE	LTE Band 4 (AWS)	1710.7 - 1754.3 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 2 (PCS)	1850.7 - 1909.3 MHz	0.13	0.76	0.95	3.02
PCE	LTE Band 7	2502.5 - 2567.5 MHz	0.11	0.29	0.82	3.14
CBE	LTE Band 48	3552.5 - 3697.5 MHz	< 0.1	0.11	0.56	N/A
PCE	LTE Band 41	2498.5 - 2687.5 MHz	< 0.1	0.39	1.02	2.31
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	0.39	0.12	0.28	N/A
NII	U-NII-1	5180 - 5240 MHz	N/A	N/A	N/A	N/A
NII	U-NII-2A	5260 - 5320 MHz	0.31	0.20	N/A	2.69
NII	U-NII-2C	5500 - 5720 MHz	0.38	0.36	N/A	2.02
NII	U-NII-3	5745 - 5825 MHz	0.37	0.45	0.69	N/A
DSS/DTSS	Bluetooth	2402 - 2480 MHz	0.37	< 0.1	< 0.1	N/A
Simultaneous SAR per KDB 690783 D01v01r03:			1.08	1.59	1.58	3.84

Note: This revised test report (S/N: 1M1905130071-01-R2.A3L) supersedes and replaces the previously issued test report on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.

This wireless portable device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment/general population exposure limits specified in ANSI/IEEE C95.1-1992 and has been tested in accordance with the measurement procedures specified in Section 0 of this report; for North American frequency bands only.

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


Randy Ortanez
President



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1 DEVICE UNDER TEST

1.1 Device Overview

Band & Mode	Operating Modes	Tx Frequency
Cell. CDMA/EVDO	Voice/Data	824.70 - 848.31 MHz
PCS CDMA/EVDO	Voice/Data	1851.25 - 1908.75 MHz
GSM/GPRS/EDGE 850	Voice/Data	824.20 - 848.80 MHz
GSM/GPRS/EDGE 1900	Voice/Data	1850.20 - 1909.80 MHz
UMTS 850	Voice/Data	826.40 - 846.60 MHz
UMTS 1900	Voice/Data	1852.4 - 1907.6 MHz
LTE Band 12	Voice/Data	699.7 - 715.3 MHz
LTE Band 13	Voice/Data	779.5 - 784.5 MHz
LTE Band 26 (Cell)	Voice/Data	814.7 - 848.3 MHz
LTE Band 5 (Cell)	Voice/Data	824.7 - 848.3 MHz
LTE Band 66 (AWS)	Voice/Data	1710.7 - 1779.3 MHz
LTE Band 4 (AWS)	Voice/Data	1710.7 - 1754.3 MHz
LTE Band 2 (PCS)	Voice/Data	1850.7 - 1909.3 MHz
LTE Band 7	Voice/Data	2502.5 - 2567.5 MHz
LTE Band 48	Voice/Data	3552.5 - 3697.5 MHz
LTE Band 41	Voice/Data	2498.5 - 2687.5 MHz
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
NR Band n260	Data	37000 - 40000 MHz
NR Band n261	Data	27500 - 28350 MHz

1.2 Time-Averaging Algorithm for RF Exposure Compliance

The equipment under test (EUT) contains:

- Qualcomm® SM8150 modem supporting 2G/3G/4G WWAN technologies
- Qualcomm® SDX50 modem supporting 5G mmW NR

Both of Qualcomm® SM8150 and SDX50 modems are enabled with Qualcomm® Smart Transmit feature. This feature performs time averaging algorithm in real time to control and manage transmitting power and ensure the

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time-averaged RF exposure is in compliance with FCC requirements all the time. Refer to Compliance Summary document for detailed description of Qualcomm® Smart Transmit feature (report SN could be found in Section 1.11 – Bibliography).

Note that WLAN operations are not enabled with Smart Transmit.

The Smart Transmit algorithm maintains the time-averaged transmit power, in turn, time-averaged RF exposure of *SAR_design_target* or *PD_design_target*, below the predefined time-averaged power limit (i.e., P_{limit} for sub-6 radio, and *input.power.limit* for 5G mmW NR), for each characterized technology and band (see RF Exposure Part 0 Test Report, report SN could be found in Section 1.11 - Bibliography).

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

Exposure scenario		head	body worn	hotspot	extremity	extremity	extremity	Maximum tune up output power*
avg. vol:		1g	1g	1g	10g	10g	10g	
spacing:		0mm	15mm	10mm	0mm	0mm	6,8,11mm	
DSI:		2	0	3	1	4	0	
Tech/Band	Antenna	Plimit corresponding to 1mW/g (SAR_design_target)						
GSM/GPRS/EDGE 850 MHz	A	33.9	31.5	27.4	27.2	27.2	31.5	25.5
GSM/GPRS/EDGE 1900 MHz	A	33.2	25.7	17.7	22.1	22.1	25.7	22.0
UMTS B5	A	32.8	30.5	27.2	26.9	26.9	30.5	24.5
UMTS B2	A	32.9	24.7	17.4	19.7	19.7	24.7	24.0
CDMA/EVDO BC0	A	33.7	32.4	27.6	26.1	26.1	32.4	25.3
CDMA/EVDO BC1	A	33.3	25.5	18.0	19.8	19.8	25.5	24.0
LTE FDD B12	A	34.7	32.9	30.6	27.6	27.6	32.9	24.8
LTE FDD B13	A	33.5	32.3	28.4	25.5	25.5	32.3	24.8
LTE FDD B26	A	34.3	31.9	27.8	27.3	27.3	31.9	24.8
LTE FDD B5	A	31.7	32.6	27.3	25.3	25.3	32.6	24.8
LTE FDD B66/4	A	33.2	24.6	19.8	20.6	20.6	24.6	24.0
LTE FDD B2	A	33.9	26.2	18.0	20.2	20.2	26.2	24.0
LTE FDD B7	B	33.8	27.4	20.8	20.8	20.8	27.4	23.0
LTE TDD B48	B	37.2	27.9	23.1	20.1	20.1	27.9	20.0
LTE TDD B38	B	33.2	26.6	20.0	20.0	20.0	26.6	19.5
LTE TDD B41 (PC3)	B	33.2	26.6	20.0	20.0	20.0	26.6	21.5

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

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

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

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

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

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1.3 Power Reduction for SAR

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

1.4 Nominal and Maximum Output Power Specifications

This device operates using the following maximum and nominal (i.e., tune up) output power specifications. SAR values were scaled to the maximum allowed power to determine compliance per KDB Publication 447498 D01v06.

1.4.1 Maximum 2G/3G/4G Output Power for Pmax

Mode / Band		Modulated Average (dBm)
CDMA/EVDO	Maximum	26.3
PCS CDMA/EVDO	Maximum	25.0

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	
GSM/GPRS/EDGE 1900	Maximum	30.0	30.0	29.0	27.0	25.0	26.5	24.5	22.5	21.5	

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

Mode / Band		Modulated Average (dBm)		
		3GPP WCDMA	3GPP HSDPA	3GPP HSUPA
UMTS Band 5 (850 MHz)	Maximum	25.5	24.5	24.5
UMTS Band 2 (1900 MHz)	Maximum	25.0	24.0	24.0

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Mode / Band		Modulated Average (dBm)
LTE Band 12	Maximum	25.8
LTE Band 13	Maximum	25.8
LTE Band 26 (Cell)	Maximum	25.8
LTE Band 5 (Cell)	Maximum	25.8
LTE Band 66 (AWS)	Maximum	25.0
LTE Band 4 (AWS)	Maximum	25.0
LTE Band 2 (PCS)	Maximum	25.0
LTE Band 7	Maximum	24.0
LTE Band 48	Maximum	23.0
LTE Band 41 (PC3)	Maximum	24.5
LTE Band 38	Maximum	22.5

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

1.4.2 Maximum 2G/3G/4G Time-Averaged Output Power for DSI=3 (Hotspot Mode)

Note: For 2G/3G/4G WWAN bands not listed below, power levels listed in Section 1.4.1 are applicable.

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

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	27.75	24.75	23.00	21.75	26.50	24.50	22.50	21.50

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

Mode / Band		Modulated Average (dBm)		
		3GPP WCDMA	3GPP HSDPA	3GPP HSUPA
UMTS Band 2 (1900 MHz)	Maximum	18.4	17.4	17.4

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Mode / Band		Modulated Average (dBm)
LTE Band 66 (AWS)	Maximum	20.8
LTE Band 4 (AWS)	Maximum	20.8
LTE Band 2 (PCS)	Maximum	19.0
LTE Band 7	Maximum	21.8
LTE Band 41 (PC3)	Maximum	23.0

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

1.4.3

Maximum 2G/3G/4G Time-Averaged Output Power for DSI = 1 (Extremity with grip sensor active) and/or DSI = 4 (Earjack active)

Note: For 2G/3G/4G WWAN bands not listed below, power levels listed in Section 1.4.1 are applicable.

Mode / Band		Modulated Average (dBm)
PCS CDMA/EVDO	Maximum	20.8

Mode / Band		Modulated Average (dBm)		
		3GPP WCDMA	3GPP HSDPA	3GPP HSUPA
UMTS Band 2 (1900 MHz)	Maximum	20.7	19.7	19.7

Mode / Band		Modulated Average (dBm)
LTE Band 66 (AWS)	Maximum	21.6
LTE Band 4 (AWS)	Maximum	21.6
LTE Band 2 (PCS)	Maximum	21.2
LTE Band 7	Maximum	21.8
LTE Band 41 (PC3)	Maximum	23.0

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

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1.4.4

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 (dBm)					
Channel		1	2	3	4 - 9	10	11
IEEE 802.11b (2.4 GHz)	Maximum	21.0					
	Nominal	20.0					
IEEE 802.11g (2.4 GHz)	Maximum	17.0	16.5	18.5		17.5	16.0
	Nominal	16.0	15.5	17.5		16.5	15.0
IEEE 802.11n (2.4 GHz)	Maximum	17.0	16.5	17.5	18.5	17.5	16.0
	Nominal	16.0	15.5	16.5	17.5	16.5	15.0
IEEE 802.11ax SU (2.4 GHz)	Maximum	17.5	18.0				15.5
	Nominal	16.5	17.0				14.5

Mode / Band		Modulated Average - Single Tx Chain (dBm)												
		20 MHz Bandwidth				40 MHz Bandwidth					80 MHz Bandwidth			
	Channel	36	40 - 60	64	100 - 165	38	46-54	62	102	110 - 159	42	58	106	122 - 155
IEEE 802.11a (5 GHz)	Maximum	17.5	18.5	17.5	18.5									
	Nominal	16.5	17.5	16.5	17.5									
IEEE 802.11n (5 GHz)	Maximum	17.5	18.5	17.5	18.5	14.5	17.5	14.0	15.5	17.5				
	Nominal	16.5	17.5	16.5	17.5	13.5	16.5	13.0	14.5	16.5				
IEEE 802.11ac (5 GHz)	Maximum	17.5	18.5	17.5	18.5	14.5	17.5	14.0	15.5	17.5	14.0		13.5	16.5
	Nominal	16.5	17.5	16.5	17.5	13.5	16.5	13.0	14.5	16.5	13.0		12.5	15.5
IEEE 802.11ax SU (5 GHz)	Maximum	17.5	18.0	16.5	18.0	14.5	17.0	14.5	15.5	17.0	13.5	14.0	13.5	16.0
	Nominal	16.5	17.0	15.5	17.0	13.5	16.0	13.5	14.5	16.0	12.5	13.0	12.5	15.0

Mode / Band		Modulated Average - MIMO (dBm)					
		20 MHz Bandwidth					
Channel		1	2	3	4 - 9	10	11
IEEE 802.11g (2.4 GHz)	Maximum	20.0	19.5	21.5		20.5	19.0
	Nominal	19.0	18.5	20.5		19.5	18.0
IEEE 802.11n (2.4 GHz)	Maximum	20.0	19.5	20.5	21.5	20.5	19.0
	Nominal	19.0	18.5	19.5	20.5	19.5	18.0
IEEE 802.11ax SU (2.4 GHz)	Maximum	17.5	18.0				15.5
	Nominal	16.5	17.0				14.5

Mode / Band		Modulated Average - MIMO (dBm)												
		20 MHz Bandwidth				40 MHz Bandwidth					80 MHz Bandwidth			
	Channel	36	40 - 60	64	100 - 165	38	46-54	62	102	110 - 159	42	58	106	122 - 155
IEEE 802.11a (5 GHz)	Maximum	20.5	21.5	20.5	21.5									
	Nominal	19.5	20.5	19.5	20.5									
IEEE 802.11n (5 GHz)	Maximum	20.5	21.5	20.5	21.5	17.5	20.5	17.0	18.5	20.5				
	Nominal	19.5	20.5	19.5	20.5	16.5	19.5	16.0	17.5	19.5				
IEEE 802.11ac (5 GHz)	Maximum	20.5	21.5	20.5	21.5	17.5	20.5	17.0	18.5	20.5	17.0		16.5	19.5
	Nominal	19.5	20.5	19.5	20.5	16.5	19.5	16.0	17.5	19.5	16.0		15.5	18.5
IEEE 802.11ax SU (5 GHz)	Maximum	17.5	18.0	16.5	18.0	14.5	17.0	14.5	15.5	17.0	13.5	14.0	13.5	16.0
	Nominal	16.5	17.0	15.5	17.0	13.5	16.0	13.5	14.5	16.0	12.5	13.0	12.5	15.0

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Mode/Band		Modulated Average (dBm)
Bluetooth	Maximum	15.5
	Nominal	14.5
Bluetooth EDR	Maximum	13.0
	Nominal	12.0
Bluetooth LE (2 Mbps)	Maximum	9.0
	Nominal	8.0
Bluetooth LE (1Mbps, 125/500 Kbps)	Maximum	7.5
	Nominal	6.5

1.4.5 Reduced SISO/MIMO WLAN Output Power

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

Mode / Band		Modulated Average (dBm)					
Channel		1	2	3	4 - 9	10	11
IEEE 802.11b (2.4 GHz)	Maximum	17.0					
	Nominal	16.0					
IEEE 802.11g (2.4 GHz)	Maximum	17.0	16.5	17.0			16.0
	Nominal	16.0	15.5	16.0			15.0
IEEE 802.11n (2.4 GHz)	Maximum	17.0	16.5	17.0			16.0
	Nominal	16.0	15.5	16.0			15.0
IEEE 802.11ax SU (2.4 GHz)	Maximum	17.0					15.5
	Nominal	16.0					14.5

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

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Mode / Band		Modulated Average - MIMO (dBm)					
		20 MHz Bandwidth					
Channel		1	2	3	4 - 9	10	11
IEEE 802.11g (2.4 GHz)	Maximum	20.0	19.5	20.0			19.0
	Nominal	19.0	18.5	19.0			18.0
IEEE 802.11n (2.4 GHz)	Maximum	20.0	19.5	20.0			19.0
	Nominal	19.0	18.5	19.0			18.0
IEEE 802.11ax SU (2.4 GHz)	Maximum	17.0					15.5
	Nominal	16.0					14.5

Mode / Band		Modulated Average - MIMO (dBm)												
		20 MHz Bandwidth				40 MHz Bandwidth					80 MHz Bandwidth			
	Channel	36	40 - 60	64	100 - 165	38	46-54	62	102	110 - 159	42	58	106	122 - 155
IEEE 802.11a (5 GHz)	Maximum	17.0												
	Nominal	16.0												
IEEE 802.11n (5 GHz)	Maximum	17.0				17.0								
	Nominal	16.0				16.0								
IEEE 802.11ac (5 GHz)	Maximum	17.0				17.0					17.0		16.5	17.0
	Nominal	16.0				16.0					16.0		15.5	16.0
IEEE 802.11ax SU (5 GHz)	Maximum	17.0	16.5	17.0		14.5	17.0	14.5	15.5	17.0	13.5	14.0	13.5	16.0
	Nominal	16.0	15.5	16.0		13.5	16.0	13.5	14.5	16.0	12.5	13.0	12.5	15.0

1.4.6 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 (dBm)					
Channel		1	2	3	4 - 9	10	11
IEEE 802.11b (2.4 GHz)	Maximum	17.0					
	Nominal	16.0					
IEEE 802.11g (2.4 GHz)	Maximum	17.0	16.5	17.0			16.0
	Nominal	16.0	15.5	16.0			15.0
IEEE 802.11n (2.4 GHz)	Maximum	17.0	16.5	17.0			16.0
	Nominal	16.0	15.5	16.0			15.0
IEEE 802.11ax SU (2.4 GHz)	Maximum	17.0					15.5
	Nominal	16.0					14.5

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

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Mode / Band		Modulated Average - MIMO (dBm)					
		20 MHz Bandwidth					
Channel		1	2	3	4 - 9	10	11
IEEE 802.11g (2.4 GHz)	Maximum	20.0	19.5	20.0			19.0
	Nominal	19.0	18.5	19.0			18.0
IEEE 802.11n (2.4 GHz)	Maximum	20.0	19.5	20.0			19.0
	Nominal	19.0	18.5	19.0			18.0
IEEE 802.11ax SU (2.4 GHz)	Maximum	17.0					15.5
	Nominal	16.0					14.5

Mode / Band		Modulated Average - MIMO (dBm)												
		20 MHz Bandwidth				40 MHz Bandwidth				80 MHz Bandwidth				
	Channel	36	40 - 60	64	100 - 165	38	46-54	62	102	110 - 159	42	58	106	122 - 155
IEEE 802.11a (5 GHz)	Maximum	17.0												
	Nominal	16.0												
IEEE 802.11n (5 GHz)	Maximum	17.0				17.0								
	Nominal	16.0				16.0								
IEEE 802.11ac (5 GHz)	Maximum	17.0				17.0					17.0		16.5	17.0
	Nominal	16.0				16.0					16.0		15.5	16.0
IEEE 802.11ax SU (5 GHz)	Maximum	17.0	16.5	17.0		14.5	17.0	14.5	15.5	17.0	13.5	14.0	13.5	16.0
	Nominal	16.0	15.5	16.0		13.5	16.0	13.5	14.5	16.0	12.5	13.0	12.5	15.0

1.4.7 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 (dBm)					
Channel		1	2	3	4 - 9	10	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					

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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 - 159	42	58	106	122 - 155
IEEE 802.11a (5 GHz)	Maximum	14.0						
	Nominal	13.0						
IEEE 802.11n (5 GHz)	Maximum	14.0		14.0				
	Nominal	13.0		13.0				
IEEE 802.11ac (5 GHz)	Maximum	14.0		14.0		14.0		14.0
	Nominal	13.0		13.0		13.0		13.0
IEEE 802.11ax SU (5 GHz)	Maximum	14.0		14.0		13.5	14.0	13.5
	Nominal	13.0		13.0		12.5	13.0	12.5

Mode / Band		Modulated Average - MIMO (dBm)					
		20 MHz Bandwidth					
	Channel	1	2	3	4 - 9	10	11
IEEE 802.11g (2.4 GHz)	Maximum	17.0					
	Nominal	16.0					
IEEE 802.11n (2.4 GHz)	Maximum	17.0					
	Nominal	16.0					
IEEE 802.11ax SU (2.4 GHz)	Maximum	17.0					15.5
	Nominal	16.0					14.5

Mode / Band		Modulated Average - MIMO (dBm)													
		20 MHz Bandwidth				40 MHz Bandwidth					80 MHz Bandwidth				
	Channel	36	40 - 60	64	100 - 165	38	46-54	62	102	110 - 159	42	58	106	122 - 155	
IEEE 802.11a (5 GHz)	Maximum	17.0													
	Nominal	16.0													
IEEE 802.11n (5 GHz)	Maximum	17.0				17.0									
	Nominal	16.0				16.0									
IEEE 802.11ac (5 GHz)	Maximum	17.0				17.0					17.0		16.5		17.0
	Nominal	16.0				16.0					16.0		15.5		16.0
IEEE 802.11ax SU (5 GHz)	Maximum	17.0		16.5	17.0	14.5	17.0	14.5	15.5	17.0	13.5	14.0	13.5	16.0	
	Nominal	16.0		15.5	16.0	13.5	16.0	13.5	14.5	16.0	12.5	13.0	12.5	15.0	

1.4.8 Maximum Output Power During Conditions with Simultaneous 5G NR and/or 2.4 GHz WLAN and/or 5 GHz WLAN

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

Mode / Band		Modulated Average (dBm)					
Channel		1	2	3	4 - 9	10	11
IEEE 802.11b (2.4 GHz)	Maximum	17.0					
	Nominal	16.0					
IEEE 802.11g (2.4 GHz)	Maximum	17.0	16.5	17.0		16.0	
	Nominal	16.0	15.5	16.0		15.0	
IEEE 802.11n (2.4 GHz)	Maximum	17.0	16.5	17.0		16.0	
	Nominal	16.0	15.5	16.0		15.0	
IEEE 802.11ax SU (2.4 GHz)	Maximum	17.0					15.5
	Nominal	16.0					14.5

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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 - 159	42	58	106	122 - 155
IEEE 802.11a (5 GHz)	Maximum	14.0						
	Nominal	13.0						
IEEE 802.11n (5 GHz)	Maximum	14.0		14.0				
	Nominal	13.0		13.0				
IEEE 802.11ac (5 GHz)	Maximum	14.0		14.0		14.0		13.5
	Nominal	13.0		13.0		13.0		12.5
IEEE 802.11ax SU (5 GHz)	Maximum	14.0		14.0		13.5	14.0	13.5
	Nominal	13.0		13.0		12.5	13.0	12.5

Mode / Band		Modulated Average - MIMO (dBm)					
		20 MHz Bandwidth					
	Channel	1	2	3	4 - 9	10	11
IEEE 802.11g (2.4 GHz)	Maximum	20.0	19.5		20.0		19.0
	Nominal	19.0	18.5		19.0		18.0
IEEE 802.11n (2.4 GHz)	Maximum	20.0	19.5		20.0		19.0
	Nominal	19.0	18.5		19.0		18.0
IEEE 802.11ax SU (2.4 GHz)	Maximum				17.0		15.5
	Nominal				16.0		14.5

Mode / Band		Modulated Average - MIMO (dBm)												
		20 MHz Bandwidth				40 MHz Bandwidth				80 MHz Bandwidth				
	Channel	36	40 - 60	64	100 - 165	38	46-54	62	102	110 - 159	42	58	106	122 - 155
IEEE 802.11a (5 GHz)	Maximum	17.0												
	Nominal	16.0												
IEEE 802.11n (5 GHz)	Maximum	17.0				17.0								
	Nominal	16.0				16.0								
IEEE 802.11ac (5 GHz)	Maximum	17.0				17.0					17.0		16.5	17.0
	Nominal	16.0				16.0					16.0		15.5	16.0
IEEE 802.11ax SU (5 GHz)	Maximum	17.0		16.5	17.0	14.5	17.0	14.5	15.5	17.0	13.5	14.0	13.5	16.0
	Nominal	16.0		15.5	16.0	13.5	16.0	13.5	14.5	16.0	12.5	13.0	12.5	15.0

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1.4.9

Reduced Output Power During Conditions with Simultaneous 5G NR and/or 2.4 GHz WLAN and/or 5 GHz WLAN

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

Mode / Band		Modulated Average (dBm)					
Channel		1	2	3	4 - 9	10	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 - 159		42	58	106	122 - 155
IEEE 802.11a (5 GHz)	Maximum	14.0						
	Nominal	13.0						
IEEE 802.11n (5 GHz)	Maximum	14.0	14.0					
	Nominal	13.0	13.0					
IEEE 802.11ac (5 GHz)	Maximum	14.0	14.0		14.0		13.5	14.0
	Nominal	13.0	13.0		13.0		12.5	13.0
IEEE 802.11ax SU (5 GHz)	Maximum	14.0	14.0		13.5	14.0	13.5	14.0
	Nominal	13.0	13.0		12.5	13.0	12.5	13.0

Mode / Band		Modulated Average - MIMO (dBm)					
		20 MHz Bandwidth					
Channel		1	2	3	4 - 9	10	11
IEEE 802.11g (2.4 GHz)	Maximum	17.0					
	Nominal	16.0					
IEEE 802.11n (2.4 GHz)	Maximum	17.0					
	Nominal	16.0					
IEEE 802.11ax SU (2.4 GHz)	Maximum	17.0					15.5
	Nominal	16.0					14.5

Mode / Band		Modulated Average - MIMO (dBm)											
		20 MHz Bandwidth				40 MHz Bandwidth				80 MHz Bandwidth			
Channel		36	40 - 60	64	100 - 165	38	46-54	62	102	110 - 159	42	58	106 - 155
IEEE 802.11a (5 GHz)	Maximum	17.0											
	Nominal	16.0											
IEEE 802.11n (5 GHz)	Maximum	17.0				17.0							
	Nominal	16.0				16.0							
IEEE 802.11ac (5 GHz)	Maximum	17.0				17.0				17.0			
	Nominal	16.0				16.0				16.0			
IEEE 802.11ax SU (5 GHz)	Maximum	17.0	16.5	17.0		14.5	17.0	14.5	15.5	17.0	13.5	14.0	13.5
	Nominal	16.0	15.5	16.0		13.5	16.0	13.5	14.5	16.0	12.5	13.0	12.5

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1.5 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
Cell. EVDO	Yes	Yes	No	Yes	Yes	Yes
PCS EVDO	Yes	Yes	No	Yes	Yes	Yes
GPRS 850	Yes	Yes	No	Yes	Yes	Yes
GPRS 1900	Yes	Yes	No	Yes	Yes	Yes
UMTS 850	Yes	Yes	No	Yes	Yes	Yes
UMTS 1900	Yes	Yes	No	Yes	Yes	Yes
LTE Band 12	Yes	Yes	No	Yes	Yes	Yes
LTE Band 13	Yes	Yes	No	Yes	Yes	Yes
LTE Band 26 (Cell)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 5 (Cell)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 66 (AWS)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 2 (PCS)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 7	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
2.4 GHz WLAN MIMO	Yes	Yes	Yes	No	No	Yes
5 GHz WLAN Ant 1	Yes	Yes	Yes	No	No	Yes
5 GHz WLAN Ant 2	Yes	Yes	Yes	No	No	Yes
5 GHz WLAN MIMO	Yes	Yes	Yes	No	No	Yes
Bluetooth	Yes	Yes	Yes	No	No	Yes

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

1.6 Near Field Communications (NFC) Antenna

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

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1.7 Simultaneous Transmission Capabilities

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

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

Table 1-2
Simultaneous Transmission Scenarios

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

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

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5. 5 GHz Wireless Router is only supported for the U-NII-3 by S/W, therefore U-NII-1, U-NII2A, and U-NII2C were not evaluated for wireless router conditions.
6. This device supports 2x2 MIMO Tx for WLAN 802.11a/g/n/ac/ax. 802.11a/g/n/ac/ax supports CDD and STBC and 802.11n/ac/ax additionally supports SDM. Each WLAN antenna can transmit independently or together when operating with MIMO.
7. This device supports VoWIFI.
8. This device supports Bluetooth Tethering.
9. This device supports VoLTE.
10. 5G NR FR2 n260 and n261 cannot transmit simultaneously.
11. LTE + 5G NR FR2 n260 and n261 operations are possible only with LTE B2/4/5/13/66 under EN-DC mode.

1.8 Miscellaneous SAR Test Considerations

(A) WIFI/BT

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

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

This device supports IEEE 802.11ax with the following features:

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

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

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

(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.

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

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

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

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

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

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

This device supports LTE Carrier Aggregation (CA) for LTE Band 5 and LTE B66 with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per 2017 Fall TCB Workshop Notes.

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 ≤ 1.45 W/kg, per Section 5.2.4 of FCC KDB Publication 941225 D05v02r05.

This device supports 5G NR for Bands n260, and n261. RF Exposure assessment and simultaneous transmission analysis for these bands can be found in test report 1M1905130071-21-R2.A3L.

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1.9 Guidance Applied

- IEEE 1528-2013
- FCC KDB Publication 941225 D01v03r01, D05v02r04, D05Av01r02, D06v02r01 (2G/3G/4G and Hotspot)
- FCC KDB Publication 248227 D01v02r02 (SAR Considerations for 802.11 Devices)
- FCC KDB Publication 447498 D01v06 (General SAR Guidance)
- FCC KDB Publication 865664 D01v01r04, D02v01r02 (SAR Measurements up to 6 GHz)
- FCC KDB Publication 648474 D04v01r03 (Phablet Procedures)
- FCC KDB Publication 616217 D04v01r02 (Proximity Sensor)
- October 2013 TCB Workshop Notes (GPRS Testing Considerations)
- May 2017 TCB Workshop Notes (LTE 4x4 Downlink MIMO)
- April 2018 TCB Workshop Notes (LTE Carrier Aggregation)
- April 2019 TCB Workshop Notes (IEEE 802.11ax, Dynamic Antenna Tuning)

1.10 Device Serial Numbers

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

1.1 Bibliography

Report Type	Report Serial Number
Near Field PD Report (Part 1)	1M1905130071-21-R2.A3L
RF Exposure Part 0 Test Report	1M1905130071-20-R2.A3L
RF Exposure Part 2 Test Report	80-W5681-2 Rev. F
RF Exposure Compliance Summary Report	Revision A

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LTE Information					
Form Factor	Portable Handset				
Frequency Range of each LTE transmission band	LTE Band 12 (699.7 - 715.3 MHz)				
	LTE Band 13 (779.5 - 784.5 MHz)				
	LTE Band 26 (Cell) (814.7 - 848.3 MHz)				
	LTE Band 5 (Cell) (824.7 - 848.3 MHz)				
	LTE Band 66 (AWS) (1710.7 - 1779.3 MHz)				
	LTE Band 4 (AWS) (1710.7 - 1754.3 MHz)				
	LTE Band 2 (PCS) (1850.7 - 1909.3 MHz)				
	LTE Band 7 (2502.5 - 2567.5 MHz)				
	LTE Band 48 (3552.5 - 3697.5 MHz)				
	LTE Band 41 (2498.5 - 2687.5 MHz)				
Channel Bandwidths	LTE Band 12: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 13: 5 MHz, 10 MHz				
	LTE Band 26 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz				
	LTE Band 5 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	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 2 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 7: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 48: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 41: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
Channel Numbers and Frequencies (MHz)	Low	Low-Mid	Mid	Mid-High	High
LTE Band 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 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 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 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 15. 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 15 Features are not supported: Relay, HetNet, Enhanced eICIC, MDH, eMBMS, Cross-Carrier Scheduling, Enhanced SC-FDMA.				

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3 INTRODUCTION

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

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

3.1 SAR Definition

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

Equation 3-1
SAR Mathematical Equation

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

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

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

where:

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

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

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4 DOSIMETRIC ASSESSMENT

4.1 Measurement Procedure

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

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

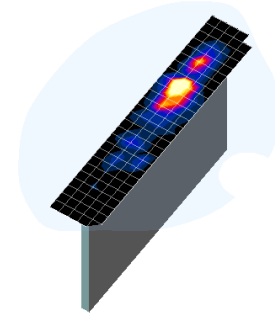


Figure 4-1
Sample SAR Area
Scan

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

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

*Also compliant to IEEE 1528-2013 Table 6

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5

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].

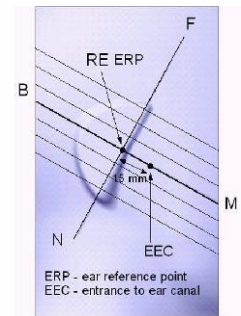


Figure 5-1
Close-Up Side view
of ERP

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



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

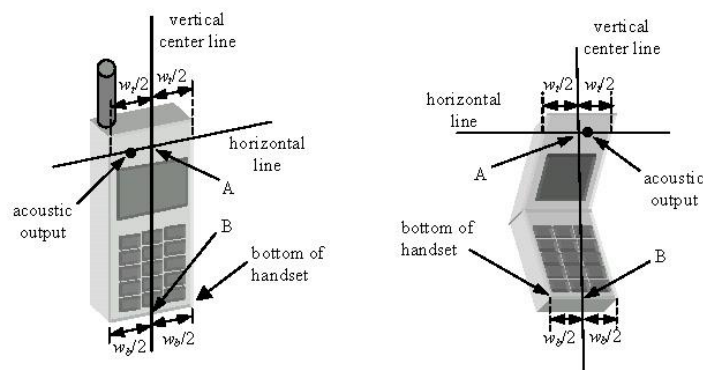


Figure 5-3
Handset Vertical Center & Horizontal Line Reference Points

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6 TEST CONFIGURATION POSITIONS

6.1 Device Holder

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

6.2 Positioning for Cheek

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

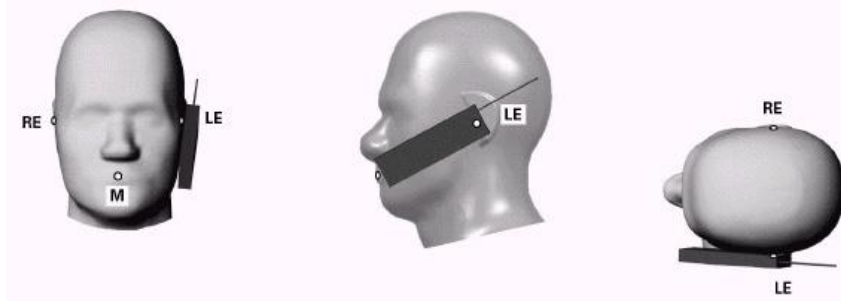


Figure 6-1 Front, Side and Top View of Cheek Position

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

6.3 Positioning for Ear / 15° Tilt

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

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

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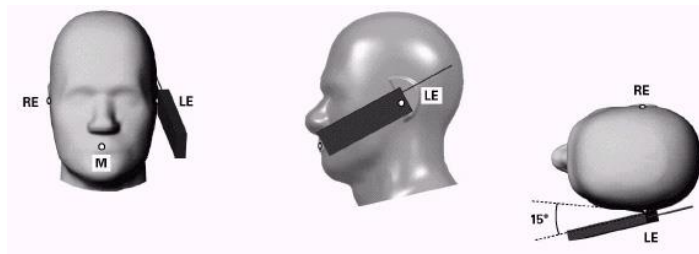


Figure 6-2 Front, Side and Top View of Ear/15° Tilt Position

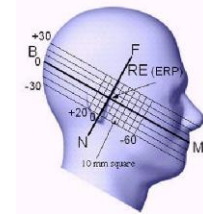


Figure 6-3 Side view w/ relevant markings

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.

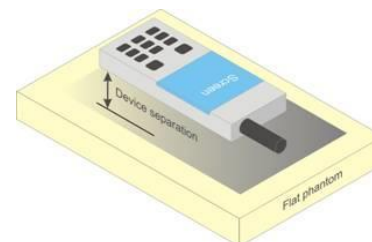


Figure 6-4 Sample Body-Worn Diagram

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 ($L \times W \geq 9 \text{ cm} \times 5 \text{ cm}$) are based on a composite test separation distance of 10 mm from the front, back and edges of the device containing transmitting antennas within 2.5 cm of their edges, determined from general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some body-worn accessory SAR tests.

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

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 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 device can configure a different DSI to change the time-averaged power. However, the sensor is not active when the device is moved beyond the sensor triggering distance and the time-averaged 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 time-averaged 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 <i>General Population</i> (W/kg) or (mW/g)	CONTROLLED ENVIRONMENT <i>Occupational</i> (W/kg) or (mW/g)
Peak Spatial Average SAR Head	1.6	8.0
Whole Body SAR	0.08	0.4
Peak Spatial Average SAR Hands, Feet, Ankle, Wrists, etc.	4.0	20

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

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8 FCC MEASUREMENT PROCEDURES

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

8.1 Measured and Reported SAR

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

8.2 3G SAR Test Reduction Procedure

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

8.3 Procedures Used to Establish RF Signal for SAR

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

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

8.4 SAR Measurement Conditions for CDMA2000

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

8.4.1 Output Power Verification

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

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

Table 8-1
Parameters for Max. Power for RC1

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

Table 8-2
Parameters for Max. Power for RC3

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

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

8.4.2 Head SAR Measurements

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

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

8.4.3 Body-worn SAR Measurements

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

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

8.4.4 Body-worn SAR Measurements for EVDO Devices

For handsets with 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. The 1x Advanced SAR procedures are applied separately to head, body-worn accessory and other exposure conditions.

8.5 SAR Measurement Conditions for UMTS

8.5.1 Output Power Verification

Maximum output power is verified on the High, Middle and Low channels according to the general descriptions in section 5.2 of 3GPP TS 34.121, using the appropriate RMC with TPC (transmit power control) set to all "1s" or applying the required inner loop power control procedures to maintain maximum output power while HSUPA is active. Results for all applicable physical channel configurations (DPCCH, 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 "1s". 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.

8.6 SAR Measurement Conditions for LTE

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

8.6.1 Spectrum Plots for RB Configurations

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

8.6.2 MPR

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

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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 $\frac{1}{2}$ dB higher than the equivalent configuration using QPSK modulation and when the QPSK SAR for those configurations is < 1.45 W/kg.

8.6.5 TDD

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

8.6.6 Downlink Only Carrier Aggregation

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

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8.7 SAR Testing with 802.11 Transmitters

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

8.7.1 General Device Setup

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

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

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

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

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

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

8.7.4 Initial Test Position Procedure

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

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8.7.5 2.4 GHz SAR Test Requirements

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

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

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

8.7.6 OFDM Transmission Mode and SAR Test Channel Selection

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

8.7.7 Initial Test Configuration Procedure

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

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

8.7.8 Subsequent Test Configuration Procedures

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

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

8.7.9 MIMO SAR considerations

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

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9 RF CONDUCTED POWERS

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

9.1 CDMA Conducted Powers

Table 9-1
Measured P_{max}

Band	Channel	Rule Part	Frequency	SO55 [dBm]	SO55 [dBm]	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	1013	22H	824.7	26.03	26.05	26.08	26.14	26.16	26.15	26.08
	384	22H	836.52	25.90	25.90	25.86	25.97	25.99	25.98	26.01
	777	22H	848.31	25.66	25.67	25.68	25.70	25.72	25.78	25.77
PCS	25	24E	1851.25	23.95	23.97	24.01	23.92	23.91	23.40	23.45
	600	24E	1880	24.05	24.03	24.06	24.00	23.98	23.47	23.56
	1175	24E	1908.75	24.01	24.02	24.06	23.99	24.03	23.46	23.48

Table 9-2
Measured P_{limit} for DSI = 3 (Hotspot Mode)

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	18.02	18.07	18.18	18.22
	600	24E	1880	18.06	18.09	18.29	18.20
	1175	24E	1908.75	18.05	18.08	18.22	18.20

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Table 9-3
Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack 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	19.93	19.98	20.00	19.92	19.93	20.00	20.03
	600	24E	1880	20.03	20.05	20.04	19.97	19.98	20.08	20.06
	1175	24E	1908.75	19.96	19.97	19.96	19.94	19.92	20.04	20.08

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

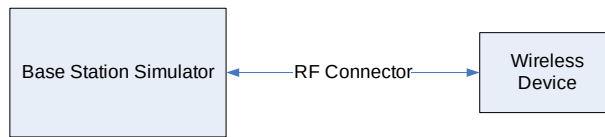


Figure 9-1
Power Measurement Setup

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9.2 GSM Conducted Powers

Table 9-4
Measured P_{max}

Maximum Burst-Averaged Output Power										
		Voice	GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
Band	Channel	GSM [dBm] CS (1 Slot)	GPRS [dBm] 1 Tx Slot	GPRS [dBm] 2 Tx Slot	GPRS [dBm] 3 Tx Slot	GPRS [dBm] 4 Tx Slot	EDGE [dBm] 1 Tx Slot	EDGE [dBm] 2 Tx Slot	EDGE [dBm] 3 Tx Slot	EDGE [dBm] 4 Tx Slot
GSM 850	128	31.94	32.15	30.96	28.92	26.74	26.35	24.41	22.38	21.35
	190	31.80	31.91	30.87	28.64	26.60	26.07	24.09	22.15	21.03
	251	31.93	31.73	30.52	28.53	26.56	25.89	23.92	21.95	21.19
GSM 1900	512	28.92	28.83	27.92	26.22	24.23	25.77	23.52	21.54	20.20
	661	28.76	28.52	27.54	25.98	23.89	25.50	23.18	21.29	20.13
	810	28.86	28.64	27.66	26.28	24.07	25.63	23.59	21.15	20.02

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	22.91	23.12	24.94	24.66	23.73	17.32	18.39	18.12	18.34
	190	22.77	22.88	24.85	24.38	23.59	17.04	18.07	17.89	18.02
	251	22.90	22.70	24.50	24.27	23.55	16.86	17.90	17.69	18.18
GSM 1900	512	19.89	19.80	21.90	21.96	21.22	16.74	17.50	17.28	17.19
	661	19.73	19.49	21.52	21.72	20.88	16.47	17.16	17.03	17.12
	810	19.83	19.61	21.64	22.02	21.06	16.60	17.57	16.89	17.01

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		19.97	19.97	21.98	21.74	20.99	16.47	17.48	17.24	17.49

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Table 9-5
Measured P_{limit} for DSI = 3 (Hotspot mode)

Maximum Burst-Averaged Output Power									
		GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
Band	Channel	GPRS [dBm] 1 Tx Slot	GPRS [dBm] 2 Tx Slot	GPRS [dBm] 3 Tx Slot	GPRS [dBm] 4 Tx Slot	EDGE [dBm] 1 Tx Slot	EDGE [dBm] 2 Tx Slot	EDGE [dBm] 3 Tx Slot	EDGE [dBm] 4 Tx Slot
GSM 1900	512	26.75	23.43	21.56	20.30	24.72	22.79	20.85	19.50
	661	26.28	23.26	21.43	20.34	24.22	22.51	20.60	19.33
	810	26.46	23.39	21.63	20.55	24.76	22.83	20.76	19.84

Calculated Maximum Frame-Averaged Output Power									
		GPRS/EDGE Data (GMSK)				EDGE Data (8-PSK)			
Band	Channel	GPRS [dBm] 1 Tx Slot	GPRS [dBm] 2 Tx Slot	GPRS [dBm] 3 Tx Slot	GPRS [dBm] 4 Tx Slot	EDGE [dBm] 1 Tx Slot	EDGE [dBm] 2 Tx Slot	EDGE [dBm] 3 Tx Slot	EDGE [dBm] 4 Tx Slot
GSM 1900	512	17.72	17.41	17.30	17.29	15.69	16.77	16.59	16.49
	661	17.25	17.24	17.17	17.33	15.19	16.49	16.34	16.32
	810	17.43	17.37	17.37	17.54	15.73	16.81	16.50	16.83

GSM 1900	Frame Avg. Targets:	17.72	17.73	17.74	17.74	16.47	17.48	17.24	17.49
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Note:

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

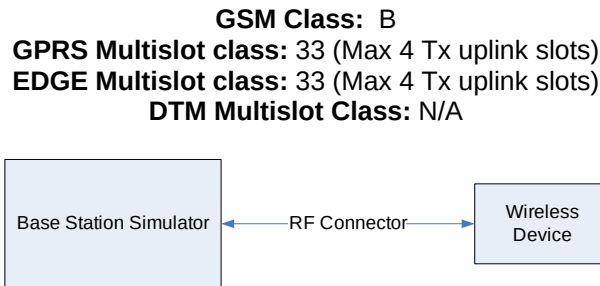


Figure 9-2
Power Measurement Setup

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9.3 UMTS Conducted Powers

Table 9-6
Measured P_{max}

3GPP Release Version	Mode	3GPP 34.121 Subtest	Cellular Band [dBm]			PCS Band [dBm]			3GPP MPR [dB]
			4132	4183	4233	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	24.53	24.22	24.45	23.70	23.76	23.66	-
99		12.2 kbps AMR	24.51	24.26	24.15	23.68	23.79	23.62	-
6	HSDPA	Subtest 1	23.45	22.97	22.93	22.34	22.35	22.36	0
6		Subtest 2	23.18	23.20	22.80	22.25	22.19	22.19	0
6		Subtest 3	22.48	22.56	22.28	22.01	21.74	21.82	0.5
6		Subtest 4	22.99	22.69	22.45	21.93	21.83	21.63	0.5
6	HSUPA	Subtest 1	23.49	23.23	22.98	22.50	22.51	22.41	0
6		Subtest 2	21.51	21.22	21.01	20.52	20.50	20.43	2
6		Subtest 3	22.50	22.22	21.98	21.50	21.49	21.36	1
6		Subtest 4	21.48	21.17	20.94	20.49	20.46	20.37	2
6		Subtest 5	23.52	23.22	22.99	22.51	22.55	22.43	0

Table 9-7
Measured Plimit for DSI = 3 (Hotspot mode)

3GPP Release Version	Mode	3GPP 34.121 Subtest	PCS Band [dBm]			3GPP MPR [dB]
			9262	9400	9538	
99	WCDMA	12.2 kbps RMC	18.40	18.39	18.30	-
99		12.2 kbps AMR	18.40	18.39	18.33	-
6	HSDPA	Subtest 1	17.25	17.33	17.28	0
6		Subtest 2	17.29	17.33	17.22	0
6		Subtest 3	16.78	16.76	16.71	0.5
6		Subtest 4	16.79	16.78	16.78	0.5
6	HSUPA	Subtest 1	17.25	17.29	17.27	0
6		Subtest 2	15.23	15.26	15.28	2
6		Subtest 3	16.27	16.30	16.25	1
6		Subtest 4	15.28	15.31	15.29	2
6		Subtest 5	17.31	17.33	17.28	0

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Table 9-8
Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active)

3GPP Release Version	Mode	3GPP 34.121 Subtest	PCS Band [dBm]			3GPP MPR [dB]
			9262	9400	9538	
99	WCDMA	12.2 kbps RMC	19.87	19.91	19.88	-
99		12.2 kbps AMR	19.82	19.89	19.88	-
6	HSDPA	Subtest 1	18.50	18.51	18.48	0
6		Subtest 2	18.52	18.54	18.44	0
6		Subtest 3	17.98	18.03	17.97	0.5
6		Subtest 4	17.97	18.08	17.86	0.5
6	HSUPA	Subtest 1	18.43	18.47	18.40	0
6		Subtest 2	16.48	16.50	16.46	2
6		Subtest 3	17.45	17.51	17.46	1
6		Subtest 4	16.49	16.51	16.48	2
6		Subtest 5	18.50	18.54	18.48	0

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



Figure 9-3
Power Measurement Setup

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9.4 LTE Conducted Powers

9.4.1

LTE Band 12

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

LTE Band 12 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			23095 (707.5 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	24.95	0	0
	1	25	24.99		0
	1	49	24.83		0
	25	0	24.29	0-1	1
	25	12	24.28		1
	25	25	24.20		1
	50	0	24.13		1
16QAM	1	0	24.48	0-1	1
	1	25	24.28		1
	1	49	24.23		1
	25	0	23.29	0-2	2
	25	12	23.20		2
	25	25	23.19		2
	50	0	23.27		2
64QAM	1	0	23.35	0-2	2
	1	25	23.40		2
	1	49	23.30		2
	25	0	22.27	0-3	3
	25	12	22.28		3
	25	25	22.21		3
	50	0	22.26		3
256QAM	1	0	20.32	0-5	5
	1	25	20.44		5
	1	49	20.20		5
	25	0	20.27		5
	25	12	20.29		5
	25	25	20.28		5
	50	0	20.13		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 9-10
LTE Band 12 Measured P_{max} for all DSI - 5 MHz Bandwidth

LTE Band 12 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			23035 (701.5 MHz)	23095 (707.5 MHz)	23155 (713.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	25.28	25.22	25.23	0	0
	1	12	25.26	25.04	25.27		0
	1	24	25.29	25.09	25.25		0
	12	0	24.39	24.32	24.35	0-1	1
	12	6	24.43	24.39	24.40		1
	12	13	24.35	24.31	24.38		1
	25	0	24.34	24.37	24.45		1
16QAM	1	0	24.12	24.42	24.46	0-1	1
	1	12	24.37	24.50	24.36		1
	1	24	24.49	24.28	24.26		1
	12	0	23.41	23.41	23.48	0-2	2
	12	6	23.40	23.46	23.45		2
	12	13	23.48	23.39	23.36		2
	25	0	23.45	23.30	23.32		2
64QAM	1	0	23.48	23.47	23.37	0-2	2
	1	12	23.44	23.48	23.39		2
	1	24	23.20	23.27	23.41		2
	12	0	22.47	22.45	22.37	0-3	3
	12	6	22.39	22.46	22.39		3
	12	13	22.28	22.42	22.27		3
	25	0	22.24	22.39	22.22		3
256QAM	1	0	20.40	20.32	20.27	0-5	5
	1	12	20.41	20.39	20.38		5
	1	24	20.43	20.35	20.24		5
	12	0	20.30	20.31	20.04		5
	12	6	20.42	20.32	20.19		5
	12	13	20.36	20.22	20.10		5
	25	0	20.35	20.28	20.12		5

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Table 9-11
LTE Band 12 Measured P_{max} for all DSI - 3 MHz Bandwidth

LTE Band 12 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			23025 (700.5 MHz)	23095 (707.5 MHz)	23165 (714.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	25.20	25.12	25.02	0	0
	1	7	25.23	25.19	25.07		0
	1	14	25.19	25.22	25.05		0
	8	0	24.41	24.35	24.18	0-1	1
	8	4	24.45	24.32	24.27		1
	8	7	24.42	24.34	24.22		1
	15	0	24.40	24.32	24.24		1
16QAM	1	0	24.41	24.35	24.41	0-1	1
	1	7	24.47	24.46	24.31		1
	1	14	24.46	24.45	24.33		1
	8	0	23.42	23.42	23.31	0-2	2
	8	4	23.41	23.40	23.28		2
	8	7	23.46	23.34	23.35		2
	15	0	23.47	23.33	23.21		2
64QAM	1	0	23.38	23.27	23.36	0-2	2
	1	7	23.45	23.37	23.35		2
	1	14	23.39	23.34	23.45		2
	8	0	22.42	22.35	22.28	0-3	3
	8	4	22.43	22.39	22.26		3
	8	7	22.45	22.38	22.19		3
	15	0	22.40	22.40	22.13		3
256QAM	1	0	20.41	20.33	20.24	0-5	5
	1	7	20.40	20.36	20.28		5
	1	14	20.22	20.35	20.33		5
	8	0	20.37	20.26	20.07		5
	8	4	20.38	20.29	20.20		5
	8	7	20.37	20.22	20.16		5
	15	0	20.35	20.24	20.15		5

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

LTE Band 12 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			23017 (699.7 MHz)	23095 (707.5 MHz)	23173 (715.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	25.21	25.03	25.07	0	0
	1	2	25.28	24.99	25.09		0
	1	5	25.23	24.68	25.03		0
	3	0	25.23	25.08	25.01		0
	3	2	25.21	25.04	25.05		0
	3	3	25.24	25.06	24.95		0
	6	0	24.39	24.24	24.24	0-1	1
16QAM	1	0	24.50	24.48	24.35	0-1	1
	1	2	24.32	24.43	24.45		1
	1	5	24.36	24.39	24.31		1
	3	0	24.45	24.28	24.21		1
	3	2	24.48	24.20	24.25		1
	3	3	24.39	24.23	24.19		1
	6	0	23.47	23.24	23.19	0-2	2
64QAM	1	0	23.36	23.34	23.01	0-2	2
	1	2	23.36	23.38	23.05		2
	1	5	23.34	22.96	22.63		2
	3	0	23.19	23.28	22.98		2
	3	2	23.24	23.17	22.99		2
	3	3	23.24	22.98	22.89		2
	6	0	22.27	22.20	22.40	0-3	3
256QAM	1	0	20.39	20.29	20.20	0-5	5
	1	2	20.42	20.20	20.25		5
	1	5	20.41	20.31	20.27		5
	3	0	20.39	20.18	20.26		5
	3	2	20.46	20.22	20.29		5
	3	3	20.43	20.11	20.31		5
	6	0	20.37	20.15	20.18		5

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LTE Band 13

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

LTE Band 13 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			23230 (782.0 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	25.00	0	0
	1	25	25.24		0
	1	49	25.08		0
	25	0	24.31	0-1	1
	25	12	24.23		1
	25	25	24.26		1
	50	0	24.25		1
16QAM	1	0	24.45	0-1	1
	1	25	24.33		1
	1	49	24.30		1
	25	0	23.29	0-2	2
	25	12	23.25		2
	25	25	23.20		2
	50	0	23.14		2
64QAM	1	0	23.17	0-2	2
	1	25	23.18		2
	1	49	23.15		2
	25	0	22.27	0-3	3
	25	12	22.19		3
	25	25	22.18		3
	50	0	22.22		3
256QAM	1	0	20.25	0-5	5
	1	25	20.15		5
	1	49	20.27		5
	25	0	20.17		5
	25	12	20.15		5
	25	25	20.09		5
	50	0	20.25		5

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Table 9-14
LTE Band 13 Measured P_{max} for all DSI - 5 MHz Bandwidth

LTE Band 13 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			23230 (782.0 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	24.94	0	0
	1	12	25.05		0
	1	24	25.01		0
	12	0	24.13	0-1	1
	12	6	24.11		1
	12	13	24.17		1
	25	0	24.05		1
16QAM	1	0	24.14	0-1	1
	1	12	24.33		1
	1	24	24.26		1
	12	0	23.14	0-2	2
	12	6	23.19		2
	12	13	23.03		2
	25	0	23.17		2
64QAM	1	0	23.18	0-2	2
	1	12	23.35		2
	1	24	23.26		2
	12	0	22.16	0-3	3
	12	6	22.22		3
	12	13	22.20		3
	25	0	22.14		3
256QAM	1	0	20.11	0-5	5
	1	12	20.20		5
	1	24	20.23		5
	12	0	20.19		5
	12	6	20.09		5
	12	13	20.04		5
	25	0	20.11		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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LTE Band 26 (Cell)

Table 9-15
LTE Band 26 (Cell) Measured $P_{\max}$ for all DSI - 15 MHz Bandwidth

LTE Band 26 (Cell) 15 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26865 (831.5 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	25.33	0	0
	1	36	25.21		0
	1	74	25.25		0
	36	0	24.37	0-1	1
	36	18	24.38		1
	36	37	24.31		1
	75	0	24.36		1
16QAM	1	0	24.48	0-1	1
	1	36	24.46		1
	1	74	24.43		1
	36	0	23.42	0-2	2
	36	18	23.37		2
	36	37	23.29		2
	75	0	23.35		2
64QAM	1	0	23.18	0-2	2
	1	36	23.40		2
	1	74	23.23		2
	36	0	22.40	0-3	3
	36	18	22.39		3
	36	37	22.35		3
	75	0	22.36		3
256QAM	1	0	20.48	0-5	5
	1	36	20.45		5
	1	74	20.42		5
	36	0	20.47		5
	36	18	20.43		5
	36	37	20.40		5
	75	0	20.41		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 9-16
LTE Band 26 (Cell) Measured P_{max} for all DSI - 10 MHz Bandwidth

LTE Band 26 (Cell) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26740 (819.0 MHz)	26865 (831.5 MHz)	26990 (844.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	25.25	25.23	25.27	0	0
	1	25	25.21	25.20	25.23		0
	1	49	25.16	25.17	25.25		0
	25	0	24.32	24.32	24.42	0-1	1
	25	12	24.27	24.33	24.43		1
	25	25	24.33	24.30	24.41		1
	50	0	24.31	24.28	24.37		1
16QAM	1	0	24.47	24.45	24.50	0-1	1
	1	25	24.52	24.50	24.45		1
	1	49	24.49	24.45	24.49		1
	25	0	23.23	23.23	23.39	0-2	2
	25	12	23.40	23.31	23.44		2
	25	25	23.29	23.29	23.34		2
	50	0	23.30	23.35	23.42		2
64QAM	1	0	23.22	23.47	23.27	0-2	2
	1	25	22.98	23.44	23.36		2
	1	49	23.04	23.46	23.30		2
	25	0	22.22	22.35	21.98	0-3	3
	25	12	22.01	22.36	22.17		3
	25	25	22.07	22.31	22.26		3
	50	0	21.99	22.35	22.19		3
256QAM	1	0	20.50	20.45	20.47	0-5	5
	1	25	20.47	20.48	20.44		5
	1	49	20.48	20.40	20.41		5
	25	0	20.42	20.47	20.46		5
	25	12	20.49	20.41	20.47		5
	25	25	20.34	20.46	20.43		5
	50	0	20.41	20.43	20.47		5

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Table 9-17
LTE Band 26 (Cell) Measured P_{max} for all DSI - 5 MHz Bandwidth

LTE Band 26 (Cell) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26715 (816.5 MHz)	26865 (831.5 MHz)	27015 (846.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	25.12	25.25	25.25	0	0
	1	12	25.22	25.29	25.27		0
	1	24	25.21	25.20	25.28		0
	12	0	24.27	24.36	24.39	0-1	1
	12	6	24.37	24.37	24.44		1
	12	13	24.33	24.40	24.42		1
	25	0	24.32	24.34	24.30		1
16QAM	1	0	24.47	24.50	24.45	0-1	1
	1	12	24.36	24.45	24.41		1
	1	24	24.40	24.45	24.48		1
	12	0	23.32	23.43	23.45	0-2	2
	12	6	23.36	23.42	23.50		2
	12	13	23.24	23.41	23.42		2
	25	0	23.36	23.36	23.37		2
64QAM	1	0	23.30	23.10	23.31	0-2	2
	1	12	23.46	23.15	23.40		2
	1	24	22.98	23.23	23.11		2
	12	0	22.25	21.98	22.22	0-3	3
	12	6	22.35	21.96	22.33		3
	12	13	22.19	21.99	22.20		3
	25	0	22.15	21.95	22.17		3
256QAM	1	0	20.47	20.49	20.50	0-5	5
	1	12	20.37	20.43	20.47		5
	1	24	20.46	20.44	20.40		5
	12	0	20.32	20.37	20.42		5
	12	6	20.40	20.48	20.41		5
	12	13	20.26	20.45	20.49		5
	25	0	20.31	20.41	20.45		5

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Table 9-18
LTE Band 26 (Cell) Measured P_{max} for all DSI - 3 MHz Bandwidth

LTE Band 26 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26705 (815.5 MHz)	26865 (831.5 MHz)	27025 (847.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	25.09	25.24	25.25	0	0
	1	7	25.22	25.23	25.21		0
	1	14	25.15	25.25	25.20		0
	8	0	24.25	24.35	24.35	0-1	1
	8	4	24.32	24.45	24.42		1
	8	7	24.24	24.37	24.40		1
	15	0	24.33	24.35	24.40		1
16QAM	1	0	24.44	24.50	24.40	0-1	1
	1	7	24.47	24.46	24.42		1
	1	14	24.43	24.45	24.41		1
	8	0	23.36	23.48	23.47	0-2	2
	8	4	23.23	23.44	23.45		2
	8	7	23.29	23.46	23.36		2
	15	0	23.39	23.39	23.39		2
64QAM	1	0	23.44	23.35	23.40	0-2	2
	1	7	23.37	23.06	23.49		2
	1	14	23.44	23.32	23.19		2
	8	0	22.33	22.29	22.36	0-3	3
	8	4	22.37	22.44	22.49		3
	8	7	22.33	22.39	22.32		3
	15	0	22.31	22.24	22.34		3
256QAM	1	0	20.49	20.45	20.47	0-5	5
	1	7	20.44	20.50	20.32		5
	1	14	20.46	20.49	20.44		5
	8	0	20.39	20.44	20.48		5
	8	4	20.42	20.47	20.50		5
	8	7	20.32	20.50	20.47		5
	15	0	20.31	20.47	20.42		5

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Table 9-19
LTE Band 26 (Cell) Measured P_{max} for all DSI -1.4 MHz Bandwidth

LTE Band 26 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			26697 (814.7 MHz)	26865 (831.5 MHz)	27033 (848.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	25.12	25.14	25.22	0	0
	1	2	25.32	25.22	25.24		0
	1	5	25.20	25.13	25.20		0
	3	0	25.16	25.12	25.24		0
	3	2	25.17	25.19	25.22		0
	3	3	25.15	25.14	25.24		0
	6	0	24.32	24.35	24.36	0-1	1
16QAM	1	0	24.47	24.47	24.43	0-1	1
	1	2	24.48	24.41	24.42		1
	1	5	24.45	24.47	24.38		1
	3	0	24.46	24.43	24.41		1
	3	2	24.29	24.37	24.47		1
	3	3	24.38	24.29	24.41		1
	6	0	23.33	23.31	23.35	0-2	2
64QAM	1	0	23.39	23.36	23.37	0-2	2
	1	2	23.30	23.47	23.33		2
	1	5	23.41	23.45	23.07		2
	3	0	23.41	23.22	23.25		2
	3	2	23.20	23.44	23.27		2
	3	3	23.35	23.40	23.05		2
	6	0	22.47	22.32	22.11	0-3	3
256QAM	1	0	20.39	20.44	20.44	0-5	5
	1	2	20.49	20.41	20.50		5
	1	5	20.48	20.42	20.47		5
	3	0	20.37	20.38	20.35		5
	3	2	20.43	20.37	20.46		5
	3	3	20.29	20.43	20.49		5
	6	0	20.32	20.39	20.35		5

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LTE Band 5 (Cell)

Table 9-20
LTE Band 5 (Cell) Measured P_{max} for all DSI - 10 MHz Bandwidth

LTE Band 5 (Cell) 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20525 (836.5 MHz)		
			Conducted Power [dBm]		
QPSK	1	0	24.38	0	0
	1	25	24.14		0
	1	49	24.23		0
	25	0	23.38	0-1	1
	25	12	23.37		1
	25	25	23.40		1
	50	0	23.33		1
16QAM	1	0	23.66	0-1	1
	1	25	23.48		1
	1	49	23.62		1
	25	0	22.39	0-2	2
	25	12	22.38		2
	25	25	22.33		2
	50	0	22.36		2
64QAM	1	0	22.37	0-2	2
	1	25	22.22		2
	1	49	22.18		2
	25	0	21.22	0-3	3
	25	12	21.10		3
	25	25	21.12		3
	50	0	21.08		3
256QAM	1	0	19.33	0-5	5
	1	25	19.12		5
	1	49	19.17		5
	25	0	19.25		5
	25	12	19.16		5
	25	25	19.14		5
	50	0	19.13		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 9-21
LTE Band 5 (Cell) Measured P_{max} for all DSI - 5 MHz Bandwidth

LTE Band 5 (Cell) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20425 (826.5 MHz)	20525 (836.5 MHz)	20625 (846.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.13	24.19	24.14	0	0
	1	12	24.24	24.28	24.26		0
	1	24	24.26	24.26	24.25		0
	12	0	23.28	23.33	23.30	0-1	1
	12	6	23.39	23.46	23.40		1
	12	13	23.44	23.44	23.44		1
	25	0	23.43	23.45	23.40		1
16QAM	1	0	23.53	23.48	23.54	0-1	1
	1	12	23.61	23.63	23.59		1
	1	24	23.61	23.66	23.55		1
	12	0	22.39	22.37	22.36	0-2	2
	12	6	22.52	22.48	22.45		2
	12	13	22.47	22.51	22.50		2
	25	0	22.43	22.46	22.40		2
64QAM	1	0	22.44	22.50	22.45	0-2	2
	1	12	22.57	22.58	22.60		2
	1	24	22.58	22.58	22.49		2
	12	0	21.39	21.42	21.37	0-3	3
	12	6	21.53	21.54	21.48		3
	12	13	21.52	21.52	21.48		3
	25	0	21.45	21.45	21.44		3
256QAM	1	0	19.82	19.85	19.77	0-5	5
	1	12	19.96	19.90	19.70		5
	1	24	19.96	19.81	19.92		5
	12	0	19.87	19.77	19.81		5
	12	6	19.94	19.90	19.88		5
	12	13	20.02	19.87	19.98		5
	25	0	19.95	19.87	19.89		5

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Table 9-22
LTE Band 5 (Cell) Measured P_{max} for all DSI - 3 MHz Bandwidth

LTE Band 5 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20415 (825.5 MHz)	20525 (836.5 MHz)	20635 (847.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.92	24.21	24.16	0	0
	1	7	24.40	24.28	24.23		0
	1	14	24.28	24.32	24.30		0
	8	0	23.28	23.35	23.31	0-1	1
	8	4	23.41	23.46	23.42		1
	8	7	23.42	23.45	23.44		1
	15	0	23.42	23.50	23.37		1
16QAM	1	0	23.47	23.44	23.44	0-1	1
	1	7	23.63	23.57	23.63		1
	1	14	23.69	23.60	23.59		1
	8	0	22.41	22.38	22.41	0-2	2
	8	4	22.51	22.53	22.51		2
	8	7	22.50	22.52	22.51		2
	15	0	22.40	22.45	22.35		2
64QAM	1	0	22.42	22.49	22.47	0-2	2
	1	7	22.56	22.56	22.52		2
	1	14	22.66	22.63	22.60		2
	8	0	21.36	21.39	21.38	0-3	3
	8	4	21.49	21.55	21.48		3
	8	7	21.50	21.51	21.46		3
	15	0	21.39	21.46	21.38		3
256QAM	1	0	19.77	19.74	19.78	0-5	5
	1	7	19.77	19.80	19.90		5
	1	14	19.80	19.85	19.95		5
	8	0	19.80	19.78	19.82		5
	8	4	19.83	19.91	19.96		5
	8	7	19.85	19.89	19.97		5
	15	0	19.75	19.87	19.82		5

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Table 9-23
LTE Band 5 (Cell) Measured P_{max} for all DSI -1.4 MHz Bandwidth

LTE Band 5 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20407 (824.7 MHz)	20525 (836.5 MHz)	20643 (848.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	24.09	24.15	24.15	0	0
	1	2	24.26	24.27	24.24		0
	1	5	24.23	24.29	24.24		0
	3	0	24.15	24.18	24.25		0
	3	2	24.26	24.34	24.28		0
	3	3	24.22	24.31	24.29		0
	6	0	23.34	23.41	23.33	0-1	1
16QAM	1	0	23.39	23.43	23.50	0-1	1
	1	2	23.54	23.50	23.57		1
	1	5	23.49	23.58	23.47		1
	3	0	23.35	23.32	23.38		1
	3	2	23.47	23.48	23.47		1
	3	3	23.39	23.43	23.40		1
	6	0	22.35	22.45	22.37	0-2	2
64QAM	1	0	22.39	22.46	22.49	0-2	2
	1	2	22.53	22.57	22.50		2
	1	5	22.53	22.48	22.49		2
	3	0	22.43	22.34	22.42		2
	3	2	22.47	22.53	22.46		2
	3	3	22.46	22.47	22.42		2
	6	0	21.29	21.36	21.32	0-3	3
256QAM	1	0	19.76	19.74	19.75	0-5	5
	1	2	19.90	19.98	19.85		5
	1	5	19.87	19.93	19.85		5
	3	0	19.85	19.86	19.87		5
	3	2	19.97	19.92	19.94		5
	3	3	19.92	19.90	19.86		5
	6	0	19.88	19.88	19.87		5

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9.4.5

LTE Band 66 (AWS)

Table 9-24

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

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132072 (1720.0 MHz)	132322 (1745.0 MHz)	132572 (1770.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.92	24.05	24.29	0	0
	1	50	24.01	24.11	24.14		0
	1	99	24.09	24.17	24.13		0
	50	0	23.17	23.33	23.39	0-1	1
	50	25	23.19	23.31	23.40		1
	50	50	23.21	23.28	23.36		1
	100	0	23.13	23.30	23.33		1
16QAM	1	0	23.21	22.90	23.21	0-1	1
	1	50	22.93	22.75	22.98		1
	1	99	22.99	23.03	23.33		1
	50	0	22.01	22.18	22.20	0-2	2
	50	25	22.01	22.08	22.21		2
	50	50	22.05	22.03	22.15		2
	100	0	22.00	22.22	22.14		2
64QAM	1	0	21.93	21.96	21.93	0-2	2
	1	50	21.96	21.84	22.45		2
	1	99	21.92	21.93	22.01		2
	50	0	20.64	21.05	21.24	0-3	3
	50	25	21.01	21.12	21.20		3
	50	50	21.04	21.07	21.20		3
	100	0	20.98	21.00	21.24		3
256QAM	1	0	18.73	18.73	19.21	0-5	5
	1	50	18.80	18.99	19.26		5
	1	99	18.91	18.99	19.24		5
	50	0	19.01	19.12	19.11		5
	50	25	19.04	19.09	19.05		5
	50	50	19.02	19.11	19.21		5
	100	0	18.98	19.06	19.05		5

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Table 9-25
LTE Band 66 (AWS) Measured $P_{\max}$ for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 15 MHz Bandwidth

LTE Band 66 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132047 (1717.5 MHz)	132322 (1745.0 MHz)	132597 (1772.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.85	24.30	23.72	0	0
	1	36	23.79	24.25	23.89		0
	1	74	23.80	24.27	23.99		0
	36	0	22.94	23.70	23.07	0-1	1
	36	18	22.85	23.67	23.05		1
	36	37	22.82	23.36	23.10		1
	75	0	22.82	23.35	23.11		1
16QAM	1	0	22.70	23.34	22.95	0-1	1
	1	36	23.40	23.57	23.10		1
	1	74	23.50	23.60	23.13		1
	36	0	21.88	22.37	22.13	0-2	2
	36	18	21.90	22.38	22.12		2
	36	37	21.92	22.38	22.10		2
	75	0	21.93	22.37	22.09		2
64QAM	1	0	21.90	22.25	21.95	0-2	2
	1	36	21.87	22.20	21.95		2
	1	74	21.85	22.32	21.85		2
	36	0	21.13	21.10	21.55	0-3	3
	36	18	21.00	20.95	21.41		3
	36	37	20.95	20.90	21.27		3
	75	0	20.90	20.89	21.16		3
256QAM	1	0	19.18	19.24	19.17	0-5	5
	1	36	19.17	19.22	18.95		5
	1	74	19.15	19.14	18.95		5
	36	0	19.17	19.30	19.05		5
	36	18	19.11	19.29	19.02		5
	36	37	19.10	19.35	18.97		5
	75	0	19.05	19.32	19.06		5

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Table 9-26

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

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132022 (1715.0 MHz)	132322 (1745.0 MHz)	132622 (1775.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.60	23.78	24.11	0	0
	1	25	23.74	23.81	24.00		0
	1	49	23.80	23.92	23.98		0
	25	0	22.81	23.02	23.09	0-1	1
	25	12	22.85	23.01	23.05		1
	25	25	22.86	22.97	23.02		1
	50	0	22.85	23.00	23.07		1
16QAM	1	0	23.56	23.19	23.00	0-1	1
	1	25	23.58	23.50	22.98		1
	1	49	23.54	23.57	22.90		1
	25	0	22.60	22.23	22.85	0-2	2
	25	12	22.22	22.22	22.50		2
	25	25	22.19	22.21	22.35		2
	50	0	22.42	22.20	22.10		2
64QAM	1	0	22.35	21.57	21.85	0-2	2
	1	25	22.07	22.10	21.90		2
	1	49	22.15	22.15	21.90		2
	25	0	20.82	20.79	21.03	0-3	3
	25	12	20.86	20.82	21.01		3
	25	25	21.10	20.97	21.00		3
	50	0	21.02	20.91	20.93		3
256QAM	1	0	18.89	19.08	18.98	0-5	5
	1	25	18.96	19.10	18.90		5
	1	49	18.97	19.17	18.95		5
	25	0	19.02	19.15	18.90		5
	25	12	19.01	19.15	18.86		5
	25	25	19.00	19.13	18.90		5
	50	0	18.99	19.21	18.86		5

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Table 9-27
LTE Band 66 (AWS) Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 5 MHz Bandwidth

LTE Band 66 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131997 (1712.5 MHz)	132322 (1745.0 MHz)	132647 (1777.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.80	23.55	23.82	0	0
	1	12	23.79	24.10	23.81		0
	1	24	23.73	24.12	23.81		0
	12	0	22.89	23.17	22.85	0-1	1
	12	6	22.91	23.16	22.91		1
	12	13	22.85	23.19	22.90		1
	25	0	22.74	23.18	22.88		1
16QAM	1	0	22.98	23.20	23.04	0-1	1
	1	12	23.04	23.22	23.04		1
	1	24	23.31	23.26	23.07		1
	12	0	21.93	22.40	21.85	0-2	2
	12	6	21.97	22.23	21.86		2
	12	13	21.98	22.18	21.88		2
	25	0	21.82	22.21	21.84		2
64QAM	1	0	21.75	21.46	22.02	0-2	2
	1	12	21.68	21.83	22.06		2
	1	24	21.50	21.89	22.10		2
	12	0	20.53	20.94	20.93	0-3	3
	12	6	20.49	20.99	20.95		3
	12	13	20.65	21.03	20.95		3
	25	0	20.58	21.00	20.79		3
256QAM	1	0	18.80	19.06	18.88	0-5	5
	1	12	18.90	19.14	18.76		5
	1	24	19.03	19.05	18.54		5
	12	0	18.95	19.06	18.34		5
	12	6	19.00	19.14	18.98		5
	12	13	19.02	19.10	18.89		5
	25	0	19.03	19.09	18.79		5

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Table 9-28
LTE Band 66 (AWS) Measured $P_{\max}$ for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 3 MHz Bandwidth

LTE Band 66 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131987 (1711.5 MHz)	132322 (1745.0 MHz)	132657 (1778.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.56	24.03	23.77	0	0
	1	7	23.56	24.08	23.74		0
	1	14	23.60	24.07	23.75		0
	8	0	22.90	23.18	22.93	0-1	1
	8	4	22.86	23.18	23.00		1
	8	7	22.81	23.19	22.95		1
	15	0	22.80	23.19	22.91		1
16QAM	1	0	22.90	23.60	23.15	0-1	1
	1	7	22.88	23.67	23.14		1
	1	14	22.90	23.64	23.09		1
	8	0	21.90	22.31	21.96	0-2	2
	8	4	21.92	22.28	21.99		2
	8	7	21.92	22.29	22.00		2
	15	0	21.90	22.26	21.96		2
64QAM	1	0	21.40	21.93	21.35	0-2	2
	1	7	21.43	22.01	21.34		2
	1	14	21.44	22.12	21.32		2
	8	0	20.75	21.02	20.81	0-3	3
	8	4	20.47	21.16	20.77		3
	8	7	20.44	21.15	20.75		3
	15	0	20.39	21.08	20.71		3
256QAM	1	0	18.94	19.46	18.58	0-5	5
	1	7	18.89	19.15	18.15		5
	1	14	18.95	19.06	18.21		5
	8	0	18.90	19.15	18.85		5
	8	4	18.98	19.10	18.85		5
	8	7	18.92	19.04	18.77		5
	15	0	18.97	19.09	18.85		5

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Table 9-29

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

LTE Band 66 (AWS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131979 (1710.7 MHz)	132322 (1745.0 MHz)	132665 (1779.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.90	24.05	23.69	0	0
	1	2	23.89	24.00	23.72		0
	1	5	23.90	23.98	23.64		0
	3	0	23.82	24.15	23.71		0
	3	2	23.78	24.22	23.76		0
	3	3	23.73	24.15	23.77		0
	6	0	22.87	23.15	22.78	0-1	1
16QAM	1	0	22.68	23.35	22.85	0-1	1
	1	2	22.75	23.38	22.94		1
	1	5	22.79	23.38	22.88		1
	3	0	22.90	23.14	22.78		1
	3	2	22.89	23.12	22.80		1
	3	3	22.95	23.06	22.79		1
	6	0	22.00	22.19	21.88	0-2	2
64QAM	1	0	21.26	21.90	21.50	0-2	2
	1	2	21.35	21.85	21.53		2
	1	5	21.32	21.78	21.53		2
	3	0	21.27	21.81	21.82		2
	3	2	21.31	21.88	21.81		2
	3	3	21.33	21.93	21.80		2
	6	0	20.34	21.00	20.84	0-3	3
256QAM	1	0	18.87	19.00	18.75	0-5	5
	1	2	18.98	19.15	18.81		5
	1	5	18.89	19.06	18.75		5
	3	0	18.83	18.95	18.76		5
	3	2	19.00	19.02	18.90		5
	3	3	18.98	19.08	18.82		5
	6	0	18.92	19.03	18.77		5

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Table 9-30
LTE Band 66 (AWS) Measured P_{limit} for DSI = 3 (Hotspot mode) - 20 MHz Bandwidth

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132072 (1720.0 MHz)	132322 (1745.0 MHz)	132572 (1770.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	19.91	20.15	20.30	0	0
	1	50	19.98	20.13	20.15		0
	1	99	20.11	20.23	20.32		0
	50	0	20.13	20.33	20.38	0-1	0
	50	25	20.19	20.31	20.37		0
	50	50	20.22	20.28	20.40		0
	100	0	20.17	20.31	20.29		0
16QAM	1	0	20.10	20.37	20.22	0-1	0
	1	50	20.14	20.21	20.35		0
	1	99	20.38	20.30	20.32		0
	50	0	19.99	20.19	20.26	0-2	0
	50	25	20.07	20.26	20.37		0
	50	50	20.09	20.20	20.35		0
	100	0	20.05	20.22	20.23		0
64QAM	1	0	20.08	20.34	20.21	0-2	0
	1	50	20.14	20.29	20.26		0
	1	99	20.26	20.28	20.25		0
	50	0	20.01	20.23	20.16	0-3	0
	50	25	20.08	20.24	20.26		0
	50	50	20.12	20.24	20.24		0
	100	0	20.08	20.25	20.20		0
256QAM	1	0	19.18	19.09	19.02	0-5	0.8
	1	50	19.09	19.09	19.14		0.8
	1	99	19.11	19.10	19.26		0.8
	50	0	18.91	19.15	19.08		0.8
	50	25	18.94	19.14	19.15		0.8
	50	50	19.03	19.12	19.13		0.8
	100	0	18.95	19.08	19.17		0.8

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Table 9-31
LTE Band 66 (AWS) Measured P_{limit} for DSI = 3 (Hotspot mode) - 15 MHz Bandwidth

LTE Band 66 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132047 (1717.5 MHz)	132322 (1745.0 MHz)	132597 (1772.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.05	20.32	20.16	0	0
	1	36	20.09	20.33	20.07		0
	1	74	20.20	20.38	20.05		0
	36	0	20.24	20.55	20.30	0-1	0
	36	18	20.24	20.54	20.28		0
	36	37	20.27	20.53	20.28		0
	75	0	20.31	20.57	20.29		0
16QAM	1	0	20.31	20.68	20.66	0-1	0
	1	36	20.38	20.64	20.46		0
	1	74	20.55	20.66	20.40		0
	36	0	20.27	20.60	20.32	0-2	0
	36	18	20.31	20.59	20.33		0
	36	37	20.34	20.58	20.30		0
	75	0	20.33	20.59	20.31		0
64QAM	1	0	20.34	20.71	20.48	0-2	0
	1	36	20.42	20.73	20.38		0
	1	74	20.53	20.75	20.36		0
	36	0	20.32	20.65	20.34	0-3	0
	36	18	20.33	20.66	20.32		0
	36	37	20.35	20.60	20.30		0
	75	0	20.33	20.63	20.33		0
256QAM	1	0	19.18	19.11	19.17	0-5	0.8
	1	36	19.10	19.14	19.11		0.8
	1	74	19.19	19.20	19.15		0.8
	36	0	19.07	19.02	18.94		0.8
	36	18	18.87	19.16	19.09		0.8
	36	37	18.95	18.97	19.12		0.8
	75	0	18.92	18.96	19.11		0.8

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Table 9-32
LTE Band 66 (AWS) Measured P_{limit} for DSI = 3 (Hotspot mode) - 10 MHz Bandwidth

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132022 (1715.0 MHz)	132322 (1745.0 MHz)	132622 (1775.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	19.83	20.20	19.89	0	0
	1	25	19.89	20.21	19.91		0
	1	49	20.03	20.26	19.96		0
	25	0	20.00	20.38	20.09	0-1	0
	25	12	20.08	20.40	20.14		0
	25	25	20.07	20.37	20.10		0
	50	0	20.08	20.42	20.11		0
16QAM	1	0	20.16	20.49	20.18	0-1	0
	1	25	20.19	20.50	20.24		0
	1	49	20.31	20.62	20.33		0
	25	0	20.06	20.40	20.10	0-2	0
	25	12	20.09	20.41	20.11		0
	25	25	20.09	20.35	20.06		0
	50	0	20.09	20.38	20.09		0
64QAM	1	0	20.16	20.48	20.17	0-2	0
	1	25	20.17	20.52	20.25		0
	1	49	20.33	20.56	20.24		0
	25	0	20.10	20.41	20.12	0-3	0
	25	12	20.12	20.44	20.13		0
	25	25	20.09	20.38	20.12		0
	50	0	20.10	20.40	20.16		0
256QAM	1	0	19.17	19.25	19.21	0-5	0.8
	1	25	19.14	19.21	19.25		0.8
	1	49	19.23	19.17	19.24		0.8
	25	0	19.02	18.92	19.12		0.8
	25	12	18.99	19.11	19.17		0.8
	25	25	19.04	19.04	19.19		0.8
	50	0	19.07	19.12	19.13		0.8

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Table 9-33
LTE Band 66 (AWS) Measured P_{limit} for DSI = 3 (Hotspot mode) - 5 MHz Bandwidth

LTE Band 66 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131997 (1712.5 MHz)	132322 (1745.0 MHz)	132647 (1777.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	19.77	20.13	19.90	0	0
	1	12	19.92	20.22	19.88		0
	1	24	20.01	20.27	19.88		0
	12	0	19.95	20.28	20.09	0-1	0
	12	6	20.03	20.30	20.07		0
	12	13	20.04	20.34	20.04		0
	25	0	20.03	20.32	20.09		0
16QAM	1	0	20.08	20.41	20.18	0-1	0
	1	12	20.18	20.47	20.24		0
	1	24	20.33	20.48	20.23		0
	12	0	20.05	20.35	20.09	0-2	0
	12	6	20.03	20.35	20.08		0
	12	13	20.04	20.34	20.11		0
	25	0	20.07	20.33	20.10		0
64QAM	1	0	20.05	20.42	20.26	0-2	0
	1	12	20.19	20.51	20.20		0
	1	24	20.31	20.53	20.19		0
	12	0	20.08	20.35	20.14	0-3	0
	12	6	20.08	20.34	20.14		0
	12	13	20.04	20.33	20.15		0
	25	0	20.05	20.35	20.13		0
256QAM	1	0	19.09	19.13	19.22	0-5	0.8
	1	12	19.04	19.23	19.01		0.8
	1	24	19.07	19.15	19.14		0.8
	12	0	18.85	18.94	18.97		0.8
	12	6	18.72	18.93	19.12		0.8
	12	13	18.88	18.91	19.20		0.8
	25	0	19.01	18.96	19.23		0.8

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Table 9-34
LTE Band 66 (AWS) Measured P_{limit} for DSI = 3 (Hotspot mode) - 3 MHz Bandwidth

LTE Band 66 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131987 (1711.5 MHz)	132322 (1745.0 MHz)	132657 (1778.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	19.83	20.19	19.87	0	0
	1	7	19.85	20.20	19.85		0
	1	14	19.91	20.18	19.83		0
	8	0	19.91	20.31	20.00	0-1	0
	8	4	19.99	20.25	20.03		0
	8	7	19.95	20.26	19.97		0
	15	0	20.04	20.29	20.06		0
16QAM	1	0	20.09	20.44	20.18	0-1	0
	1	7	20.13	20.46	20.23		0
	1	14	20.16	20.50	20.10		0
	8	0	20.09	20.44	20.18	0-2	0
	8	4	20.13	20.46	20.23		0
	8	7	20.16	20.50	20.10		0
	15	0	20.01	20.29	20.05		0
64QAM	1	0	20.14	20.47	20.19	0-2	0
	1	7	20.16	20.46	20.19		0
	1	14	20.20	20.46	20.13		0
	8	0	20.05	20.40	20.13	0-3	0
	8	4	20.11	20.39	20.19		0
	8	7	20.07	20.32	20.05		0
	15	0	20.08	20.33	20.12		0
256QAM	1	0	19.01	19.04	18.98	0-5	0.8
	1	7	18.92	19.15	19.21		0.8
	1	14	18.93	19.11	19.12		0.8
	8	0	18.96	18.75	19.17		0.8
	8	4	18.85	18.93	18.97		0.8
	8	7	18.79	18.91	18.94		0.8
	15	0	19.03	19.15	19.06		0.8

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Table 9-35
LTE Band 66 (AWS) Measured P_{limit} for DSI = 3 (Hotspot mode) - 1.4 MHz Bandwidth

LTE Band 66 (AWS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131979 (1710.7 MHz)	132322 (1745.0 MHz)	132665 (1779.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	19.76	20.12	19.81	0	0
	1	2	19.81	20.22	19.91		0
	1	5	19.79	20.09	19.79		0
	3	0	19.74	20.15	19.86		0
	3	2	19.82	20.20	19.91		0
	3	3	19.76	20.11	19.88		0
	6	0	19.90	20.20	19.96		0
16QAM	1	0	20.06	20.35	20.13	0-1	0
	1	2	20.17	20.46	20.19		0
	1	5	20.08	20.43	20.04		0
	3	0	19.95	20.31	19.99		0
	3	2	20.03	20.37	20.05		0
	3	3	19.96	20.30	20.01		0
	6	0	20.01	20.28	20.04		0
64QAM	1	0	20.10	20.44	20.06	0-2	0
	1	2	20.14	20.54	20.14		0
	1	5	20.10	20.42	20.02		0
	3	0	20.02	20.40	20.05		0
	3	2	20.12	20.45	20.11		0
	3	3	20.08	20.36	20.08		0
	6	0	20.00	20.29	19.97		0
256QAM	1	0	19.11	19.18	19.13	0-5	0.8
	1	2	19.05	19.13	19.21		0.8
	1	5	19.03	19.16	19.16		0.8
	3	0	19.12	19.11	19.14		0.8
	3	2	18.96	19.10	18.95		0.8
	3	3	19.07	19.01	18.97		0.8
	6	0	19.05	19.08	18.94		0.8

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Table 9-36
LTE Band 66 (AWS) Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 20 MHz Bandwidth

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132072 (1720.0 MHz)	132322 (1745.0 MHz)	132572 (1770.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.66	20.87	21.07	0	0
	1	50	20.75	20.84	20.99		0
	1	99	20.90	21.04	20.91		0
	50	0	20.88	21.01	21.19	0-1	0
	50	25	20.94	21.03	21.14		0
	50	50	20.95	21.06	21.15		0
	100	0	20.87	21.02	21.04		0
16QAM	1	0	20.86	21.18	21.04	0-1	0
	1	50	20.92	21.19	21.04		0
	1	99	21.06	21.20	21.10		0
	50	0	20.77	21.05	20.99	0-2	0
	50	25	20.80	21.07	21.03		0
	50	50	20.99	21.00	20.98		0
	100	0	20.82	21.01	20.98		0
64QAM	1	0	20.59	21.19	20.99	0-2	0
	1	50	20.83	21.12	21.02		0
	1	99	21.11	21.14	21.03		0
	50	0	20.53	21.05	20.97	0-3	0
	50	25	20.56	20.99	20.96		0
	50	50	20.86	21.03	20.97		0
	100	0	20.57	21.02	20.96		0
256QAM	1	0	18.88	19.15	19.01	0-5	1.6
	1	50	18.91	19.11	19.11		1.6
	1	99	19.10	19.04	19.15		1.6
	50	0	18.90	19.12	19.07		1.6
	50	25	18.93	19.13	19.06		1.6
	50	50	19.01	19.12	19.03		1.6
	100	0	18.92	19.09	19.06		1.6

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Table 9-37
LTE Band 66 (AWS) Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 15 MHz Bandwidth

LTE Band 66 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132047 (1717.5 MHz)	132322 (1745.0 MHz)	132597 (1772.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.29	20.64	20.68	0	0
	1	36	20.22	20.61	20.67		0
	1	74	20.33	20.62	20.62		0
	36	0	20.42	20.77	20.85	0-1	0
	36	18	20.44	20.76	20.85		0
	36	37	20.45	20.78	20.85		0
	75	0	20.53	20.85	20.91		0
16QAM	1	0	20.61	20.78	20.89	0-1	0
	1	36	20.59	20.94	20.88		0
	1	74	20.72	20.89	20.95		0
	36	0	20.50	20.86	20.94	0-2	0
	36	18	20.55	20.89	20.90		0
	36	37	20.55	20.86	20.90		0
	75	0	20.58	20.89	20.93		0
64QAM	1	0	20.07	20.78	20.99	0-2	0
	1	36	20.67	20.97	20.74		0
	1	74	20.80	20.98	20.87		0
	36	0	20.23	20.94	20.99	0-3	0
	36	18	20.55	20.98	20.98		0
	36	37	20.64	20.95	20.98		0
	75	0	20.45	20.93	20.98		0
256QAM	1	0	18.82	19.36	19.50	0-5	1.6
	1	36	18.86	19.31	19.43		1.6
	1	74	18.94	19.24	19.40		1.6
	36	0	18.89	19.34	19.41		1.6
	36	18	18.94	19.31	19.44		1.6
	36	37	18.94	19.19	19.45		1.6
	75	0	18.92	19.34	19.45		1.6

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Table 9-38
LTE Band 66 (AWS) Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 10 MHz Bandwidth

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			132022 (1715.0 MHz)	132322 (1745.0 MHz)	132622 (1775.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.08	20.52	20.55	0	0
	1	25	20.21	20.56	20.64		0
	1	49	20.30	20.60	20.70		0
	25	0	20.34	20.71	20.76	0-1	0
	25	12	20.35	20.75	20.79		0
	25	25	20.36	20.90	20.75		0
	50	0	20.38	20.72	20.76		0
16QAM	1	0	20.50	20.82	20.88	0-1	0
	1	25	20.49	20.89	20.87		0
	1	49	20.48	20.89	20.92		0
	25	0	20.36	20.74	20.75	0-2	0
	25	12	20.38	20.72	20.77		0
	25	25	20.38	20.72	20.76		0
	50	0	20.39	20.75	20.78		0
64QAM	1	0	20.36	20.85	20.91	0-2	0
	1	25	20.54	20.86	20.92		0
	1	49	20.55	20.88	20.98		0
	25	0	20.13	20.78	20.78	0-3	0
	25	12	20.32	20.79	20.83		0
	25	25	20.42	20.77	20.83		0
	50	0	20.14	20.80	20.81		0
256QAM	1	0	18.81	19.18	19.31	0-5	1.6
	1	25	18.87	19.12	19.28		1.6
	1	49	18.90	19.14	19.40		1.6
	25	0	18.87	19.18	19.31		1.6
	25	12	18.91	19.19	19.34		1.6
	25	25	18.89	19.17	19.30		1.6
	50	0	18.90	19.15	19.29		1.6

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Table 9-39
LTE Band 66 (AWS) Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 5 MHz Bandwidth

LTE Band 66 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131997 (1712.5 MHz)	132322 (1745.0 MHz)	132647 (1777.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.11	20.50	20.63	0	0
	1	12	20.22	20.63	20.67		0
	1	24	20.29	20.69	20.77		0
	12	0	20.36	20.70	20.81	0-1	0
	12	6	20.42	20.74	20.85		0
	12	13	20.45	20.81	20.86		0
	25	0	20.40	20.76	20.82		0
16QAM	1	0	20.39	20.86	20.99	0-1	0
	1	12	20.58	20.93	20.98		0
	1	24	20.58	20.98	20.87		0
	12	0	20.38	20.72	20.84	0-2	0
	12	6	20.37	20.74	20.83		0
	12	13	20.41	20.71	20.81		0
	25	0	20.39	20.71	20.84		0
64QAM	1	0	20.45	20.86	20.99	0-2	0
	1	12	20.54	20.93	20.77		0
	1	24	20.59	20.99	20.81		0
	12	0	20.22	20.76	20.85	0-3	0
	12	6	20.22	20.76	20.84		0
	12	13	20.23	20.76	20.87		0
	25	0	20.08	20.76	20.80		0
256QAM	1	0	18.80	19.10	19.30	0-5	1.6
	1	12	18.89	19.21	19.34		1.6
	1	24	18.98	19.26	19.40		1.6
	12	0	18.87	19.15	19.33		1.6
	12	6	18.96	19.15	19.30		1.6
	12	13	18.90	19.22	19.38		1.6
	25	0	18.92	19.15	19.35		1.6

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Table 9-40
LTE Band 66 (AWS) Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 3 MHz Bandwidth

LTE Band 66 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131987 (1711.5 MHz)	132322 (1745.0 MHz)	132657 (1778.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.12	20.52	20.65	0	0
	1	7	20.18	20.59	20.66		0
	1	14	20.21	20.64	20.66		0
	8	0	20.36	20.67	20.83	0-1	0
	8	4	20.40	20.78	20.87		0
	8	7	20.35	20.78	20.85		0
	15	0	20.39	20.72	20.87		0
16QAM	1	0	20.41	20.80	20.92	0-1	0
	1	7	20.51	20.83	20.96		0
	1	14	20.48	20.95	20.91		0
	8	0	20.43	20.75	20.86	0-2	0
	8	4	20.43	20.84	20.92		0
	8	7	20.44	20.83	20.88		0
	15	0	20.40	20.73	20.81		0
64QAM	1	0	20.43	20.83	20.89	0-2	0
	1	7	20.52	20.93	20.94		0
	1	14	20.59	20.94	20.82		0
	8	0	20.27	20.79	20.90	0-3	0
	8	4	20.29	20.89	20.92		0
	8	7	20.26	20.87	20.93		0
	15	0	20.18	20.77	20.85		0
256QAM	1	0	18.81	19.10	19.30	0-5	1.6
	1	7	18.93	19.17	19.32		1.6
	1	14	18.93	19.23	19.38		1.6
	8	0	18.90	19.13	19.35		1.6
	8	4	18.96	19.26	19.40		1.6
	8	7	18.92	19.22	19.38		1.6
	15	0	18.86	19.13	19.30		1.6

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Table 9-41
LTE Band 66 (AWS) Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) – 1.4 MHz Bandwidth

LTE Band 66 (AWS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			131979 (1710.7 MHz)	132322 (1745.0 MHz)	132665 (1779.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.17	20.62	20.68	0	0
	1	2	20.23	20.62	20.74		0
	1	5	20.20	20.62	20.67		0
	3	0	20.14	20.60	20.68		0
	3	2	20.23	20.66	20.73		0
	3	3	20.17	20.60	20.66		0
	6	0	20.31	20.73	20.73		0
16QAM	1	0	20.43	20.90	20.48	0-1	0
	1	2	20.47	20.88	20.96		0
	1	5	20.53	20.84	20.91		0
	3	0	20.32	20.72	20.77		0
	3	2	20.40	20.74	20.86		0
	3	3	20.35	20.71	20.81		0
	6	0	20.34	20.74	20.81		0
64QAM	1	0	20.39	20.83	20.91	0-2	0
	1	2	20.49	20.85	20.95		0
	1	5	20.43	20.79	20.90		0
	3	0	20.34	20.76	20.85		0
	3	2	20.40	20.80	20.91		0
	3	3	20.40	20.76	20.84		0
	6	0	20.27	20.69	20.77		0
256QAM	1	0	18.89	19.07	19.26	0-5	1.6
	1	2	19.00	19.14	19.32		1.6
	1	5	18.90	19.08	19.28		1.6
	3	0	18.97	19.17	19.28		1.6
	3	2	18.98	19.20	19.32		1.6
	3	3	18.95	19.16	19.29		1.6
	6	0	18.95	19.14	19.29		1.6

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LTE Band 2 (PCS)

Table 9-42

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

LTE Band 2 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			18700 (1860.0 MHz)	18900 (1880.0 MHz)	19100 (1900.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.90	23.93	23.95	0	0
	1	50	23.82	23.90	23.85		0
	1	99	24.02	23.91	23.77		0
	50	0	23.03	23.16	22.99	0-1	1
	50	25	23.10	23.18	23.01		1
	50	50	23.16	23.23	23.07		1
	100	0	23.11	23.17	23.00		1
16QAM	1	0	23.21	23.32	23.25	0-1	1
	1	50	23.10	23.18	23.18		1
	1	99	23.33	23.18	23.12		1
	50	0	22.05	22.17	21.98	0-2	2
	50	25	22.09	22.18	22.05		2
	50	50	22.16	22.22	22.07		2
	100	0	22.10	22.24	22.04		2
64QAM	1	0	22.12	22.38	22.24	0-2	2
	1	50	22.21	22.23	22.15		2
	1	99	22.29	22.32	22.06		2
	50	0	21.10	21.22	20.98	0-3	3
	50	25	21.18	21.26	21.02		3
	50	50	21.20	21.17	21.01		3
	100	0	21.08	21.22	20.99		3
256QAM	1	0	18.98	19.03	19.10	0-5	5
	1	50	18.91	19.08	18.84		5
	1	99	19.06	19.32	18.94		5
	50	0	18.91	19.04	18.84		5
	50	25	18.95	19.03	18.79		5
	50	50	18.96	19.11	18.85		5
	100	0	18.92	19.14	18.83		5

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Table 9-43

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

LTE Band 2 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			18675 (1857.5 MHz)	18900 (1880.0 MHz)	19125 (1902.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.70	23.97	23.76	0	0
	1	36	23.75	23.93	23.75		0
	1	74	23.93	23.96	23.84		0
	36	0	22.85	23.05	22.86	0-1	1
	36	18	22.94	23.11	22.92		1
	36	37	22.99	23.14	22.98		1
	75	0	23.01	23.16	22.96		1
16QAM	1	0	23.02	23.25	23.24	0-1	1
	1	36	23.13	23.26	23.13		1
	1	74	23.35	23.24	23.12		1
	36	0	21.94	22.13	21.90	0-2	2
	36	18	22.02	22.18	22.00		2
	36	37	22.06	22.20	22.06		2
	75	0	22.05	22.20	21.98		2
64QAM	1	0	21.87	22.27	22.08	0-2	2
	1	36	22.09	22.24	22.09		2
	1	74	22.37	22.26	22.13		2
	36	0	20.98	21.13	20.96	0-3	3
	36	18	21.07	21.19	21.00		3
	36	37	21.11	21.23	21.07		3
	75	0	21.04	21.14	20.99		3
256QAM	1	0	19.08	19.08	19.14	0-5	5
	1	36	18.93	19.03	18.85		5
	1	74	19.04	19.43	18.99		5
	36	0	19.04	19.07	18.92		5
	36	18	18.98	19.06	18.86		5
	36	37	18.98	19.11	18.83		5
	75	0	19.03	19.15	18.92		5

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Table 9-44

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

LTE Band 2 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			18650 (1855.0 MHz)	18900 (1880.0 MHz)	19150 (1905.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.56	23.83	23.64	0	0
	1	25	23.75	23.93	23.68		0
	1	49	23.74	23.94	23.67		0
	25	0	22.81	23.02	22.77	0-1	1
	25	12	22.88	23.07	22.84		1
	25	25	22.87	23.02	22.78		1
	50	0	22.87	23.03	22.81		1
16QAM	1	0	22.92	23.13	22.89	0-1	1
	1	25	23.02	23.17	23.03		1
	1	49	23.06	23.22	23.02		1
	25	0	21.95	22.10	21.88	0-2	2
	25	12	22.00	22.16	21.94		2
	25	25	21.96	22.11	21.94		2
	50	0	21.99	22.15	21.92		2
64QAM	1	0	21.37	22.19	22.09	0-2	2
	1	25	21.75	22.37	22.07		2
	1	49	22.18	22.35	22.08		2
	25	0	20.96	21.13	20.91	0-3	3
	25	12	21.05	21.17	20.95		3
	25	25	21.19	21.12	20.92		3
	50	0	20.99	21.14	20.91		3
256QAM	1	0	19.00	18.99	19.10	0-5	5
	1	25	18.90	19.08	18.88		5
	1	49	18.94	19.20	18.98		5
	25	0	18.79	19.00	18.80		5
	25	12	18.90	19.04	18.68		5
	25	25	18.93	19.05	18.82		5
	50	0	18.83	19.05	18.81		5

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Table 9-45

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

LTE Band 2 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			18625 (1852.5 MHz)	18900 (1880.0 MHz)	19175 (1907.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.75	23.90	23.71	0	0
	1	12	23.80	24.02	23.78		0
	1	24	23.85	24.02	23.78		0
	12	0	23.00	23.17	22.93	0-1	1
	12	6	23.09	23.23	22.97		1
	12	13	23.11	23.20	22.98		1
	25	0	23.00	23.16	22.93		1
16QAM	1	0	23.05	23.26	23.22	0-1	1
	1	12	23.11	23.29	23.06		1
	1	24	23.12	23.33	23.10		1
	12	0	22.02	22.16	21.95	0-2	2
	12	6	22.09	22.24	21.99		2
	12	13	22.08	22.20	22.03		2
	25	0	22.01	22.15	21.94		2
64QAM	1	0	21.59	22.20	22.01	0-2	2
	1	12	21.68	22.31	22.10		2
	1	24	21.78	22.27	22.06		2
	12	0	21.01	21.19	20.95	0-3	3
	12	6	21.01	21.21	20.92		3
	12	13	21.01	21.21	20.94		3
	25	0	20.88	21.19	20.94		3
256QAM	1	0	18.68	18.92	18.86	0-5	5
	1	12	18.77	18.92	18.61		5
	1	24	18.81	19.09	18.73		5
	12	0	18.77	18.83	18.64		5
	12	6	18.74	18.86	18.66		5
	12	13	18.68	18.97	18.62		5
	25	0	18.71	18.84	18.63		5

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Table 9-46

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

LTE Band 2 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			18615 (1851.5 MHz)	18900 (1880.0 MHz)	19185 (1908.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.75	23.91	23.69	0	0
	1	7	23.79	24.03	23.75		0
	1	14	23.85	24.07	23.80		0
	8	0	22.95	23.10	22.89	0-1	1
	8	4	23.02	23.18	22.96		1
	8	7	23.01	23.19	22.96		1
	15	0	23.01	23.16	22.91		1
16QAM	1	0	23.01	23.19	22.96	0-1	1
	1	7	23.14	23.35	23.09		1
	1	14	23.18	23.34	23.09		1
	8	0	22.01	22.18	21.99	0-2	2
	8	4	22.11	22.23	22.00		2
	8	7	22.09	22.26	22.00		2
	15	0	21.99	22.18	21.90		2
64QAM	1	0	21.88	22.19	22.01	0-2	2
	1	7	21.81	22.24	22.01		2
	1	14	21.86	22.28	22.09		2
	8	0	21.15	21.20	20.94	0-3	3
	8	4	20.97	21.19	20.92		3
	8	7	21.05	21.21	20.93		3
	15	0	20.98	21.19	20.94		3
256QAM	1	0	18.83	18.90	18.99	0-5	5
	1	7	18.71	18.93	18.71		5
	1	14	18.98	19.18	18.83		5
	8	0	18.75	18.94	18.79		5
	8	4	18.77	19.00	18.67		5
	8	7	18.93	18.94	18.69		5
	15	0	18.81	18.95	18.77		5

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Table 9-47

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

LTE Band 2 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			18607 (1850.7 MHz)	18900 (1880.0 MHz)	19193 (1909.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.67	23.88	23.59	0	0
	1	2	23.74	23.98	23.71		0
	1	5	23.75	23.98	23.70		0
	3	0	23.73	23.96	23.67		0
	3	2	23.81	24.02	23.75		0
	3	3	23.79	23.98	23.69		0
	6	0	22.83	23.00	22.78	0-1	1
16QAM	1	0	22.92	23.18	23.48	0-1	1
	1	2	23.00	23.27	22.99		1
	1	5	22.98	23.25	22.92		1
	3	0	22.85	23.08	22.78		1
	3	2	22.91	23.16	22.88		1
	3	3	22.89	23.14	22.84		1
	6	0	21.90	22.07	21.85	0-2	2
64QAM	1	0	21.88	22.15	21.96	0-2	2
	1	2	21.89	22.13	21.98		2
	1	5	21.65	22.09	21.89		2
	3	0	21.91	21.97	21.86		2
	3	2	21.89	21.99	21.84		2
	3	3	21.91	22.02	21.80		2
	6	0	20.85	21.07	20.81	0-3	3
256QAM	1	0	18.82	18.85	18.96	0-5	5
	1	2	18.69	18.93	18.78		5
	1	5	18.93	19.13	18.70		5
	3	0	18.75	18.88	18.58		5
	3	2	18.88	18.93	18.66		5
	3	3	18.79	18.98	18.63		5
	6	0	18.70	18.97	18.62		5

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Table 9-48
LTE Band 2 (PCS) Measured P_{limit} for DSI = 3 (Hotspot mode) - 20 MHz Bandwidth

LTE Band 2 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			18700 (1860.0 MHz)	18900 (1880.0 MHz)	19100 (1900.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	18.33	18.38	18.26	0	0
	1	50	18.26	18.35	18.18		0
	1	99	18.31	18.37	18.15		0
	50	0	18.37	18.52	18.27	0-1	0
	50	25	18.41	18.54	18.32		0
	50	50	18.52	18.58	18.41		0
	100	0	18.35	18.32	18.36		0
16QAM	1	0	18.50	18.40	18.55	0-1	0
	1	50	18.48	18.44	18.38		0
	1	99	18.62	18.55	18.39		0
	50	0	18.32	18.47	18.22	0-2	0
	50	25	18.40	18.55	18.30		0
	50	50	18.48	18.56	18.34		0
	100	0	18.39	18.48	18.31		0
64QAM	1	0	18.41	18.62	18.46	0-2	0
	1	50	18.50	18.65	18.33		0
	1	99	18.54	18.65	18.38		0
	50	0	18.33	18.47	18.26	0-3	0
	50	25	18.41	18.53	18.29		0
	50	50	18.49	18.56	18.37		0
	100	0	18.40	18.51	18.30		0
256QAM	1	0	18.37	18.40	18.41	0-5	0
	1	50	18.40	18.40	18.25		0
	1	99	18.63	18.60	18.45		0
	50	0	18.34	18.47	18.26		0
	50	25	18.39	18.53	18.29		0
	50	50	18.45	18.52	18.37		0
	100	0	18.38	18.50	18.31		0

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Table 9-49
LTE Band 2 (PCS) Measured P_{limit} for DSI = 3 (Hotspot mode) - 15 MHz Bandwidth

LTE Band 2 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			18675 (1857.5 MHz)	18900 (1880.0 MHz)	19125 (1902.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	18.27	18.03	17.90	0	0
	1	36	18.22	18.10	17.94		0
	1	74	18.46	18.12	18.07		0
	36	0	18.04	18.19	18.00	0-1	0
	36	18	18.10	18.23	18.08		0
	36	37	18.18	18.30	18.09		0
	75	0	18.11	18.23	18.11		0
16QAM	1	0	18.22	18.29	18.16	0-1	0
	1	36	18.16	18.40	18.14		0
	1	74	18.40	18.46	18.31		0
	36	0	18.05	18.20	18.00	0-2	0
	36	18	18.12	18.23	18.03		0
	36	37	18.20	18.25	18.13		0
	75	0	18.14	18.20	18.05		0
64QAM	1	0	18.06	18.30	18.15	0-2	0
	1	36	18.05	18.33	18.15		0
	1	74	18.26	18.41	18.28		0
	36	0	18.05	18.19	18.03	0-3	0
	36	18	18.14	18.25	18.05		0
	36	37	18.19	18.27	18.10		0
	75	0	18.14	18.24	18.06		0
256QAM	1	0	18.18	18.31	18.21	0-5	0
	1	36	18.07	18.33	18.11		0
	1	74	18.38	18.37	18.26		0
	36	0	18.07	18.23	18.02		0
	36	18	18.12	18.28	18.08		0
	36	37	18.20	18.31	18.10		0
	75	0	18.16	18.27	18.09		0

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Table 9-50
LTE Band 2 (PCS) Measured P_{limit} for DSI = 3 (Hotspot mode) - 10 MHz Bandwidth

LTE Band 2 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			18650 (1855.0 MHz)	18900 (1880.0 MHz)	19150 (1905.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	18.10	18.33	18.16	0	0
	1	25	18.25	18.38	18.21		0
	1	49	18.26	18.41	18.17		0
	25	0	18.38	18.53	18.28	0-1	0
	25	12	18.43	18.52	18.34		0
	25	25	18.38	18.48	18.33		0
	50	0	18.44	18.54	18.35		0
16QAM	1	0	18.44	18.61	18.42	0-1	0
	1	25	18.59	18.66	18.44		0
	1	49	18.59	18.62	18.43		0
	25	0	18.38	18.52	18.28	0-2	0
	25	12	18.44	18.54	18.35		0
	25	25	18.40	18.49	18.30		0
	50	0	18.41	18.53	18.31		0
64QAM	1	0	18.50	18.58	18.46	0-2	0
	1	25	18.58	18.69	18.44		0
	1	49	18.60	18.64	18.46		0
	25	0	18.44	18.55	18.33	0-3	0
	25	12	18.48	18.61	18.37		0
	25	25	18.47	18.56	18.37		0
	50	0	18.45	18.56	18.33		0
256QAM	1	0	18.10	18.21	18.21	0-5	0
	1	25	18.15	18.23	18.19		0
	1	49	18.23	18.30	18.25		0
	25	0	18.11	18.27	18.14		0
	25	12	18.14	18.24	18.11		0
	25	25	18.25	18.35	18.04		0
	50	0	18.26	18.22	18.08		0

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Table 9-51
LTE Band 2 (PCS) Measured P_{limit} for DSI = 3 (Hotspot mode) - 5 MHz Bandwidth

LTE Band 2 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			18625 (1852.5 MHz)	18900 (1880.0 MHz)	19175 (1907.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	18.13	18.26	18.11	0	0
	1	12	18.22	18.35	18.15		0
	1	24	18.26	18.38	18.18		0
	12	0	18.33	18.46	18.25	0-1	0
	12	6	18.39	18.54	18.31		0
	12	13	18.41	18.56	18.29		0
	25	0	18.32	18.46	18.26		0
16QAM	1	0	18.41	18.52	18.36	0-1	0
	1	12	18.46	18.62	18.31		0
	1	24	18.52	18.59	18.38		0
	12	0	18.34	18.45	18.25	0-2	0
	12	6	18.39	18.55	18.32		0
	12	13	18.40	18.57	18.36		0
	25	0	18.31	18.43	18.23		0
64QAM	1	0	18.27	18.41	18.29	0-2	0
	1	12	18.25	18.57	18.34		0
	1	24	18.34	18.58	18.37		0
	12	0	18.32	18.46	18.24	0-3	0
	12	6	18.32	18.46	18.24		0
	12	13	18.32	18.45	18.25		0
	25	0	18.34	18.47	18.25		0
256QAM	1	0	18.02	18.12	18.07	0-5	0
	1	12	18.09	18.29	18.17		0
	1	24	18.13	18.22	18.20		0
	12	0	18.17	18.17	18.13		0
	12	6	18.16	18.13	18.05		0
	12	13	18.32	18.24	18.02		0
	25	0	18.22	18.25	18.04		0

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Table 9-52
LTE Band 2 (PCS) Measured P_{limit} for DSI = 3 (Hotspot mode) - 3 MHz Bandwidth

LTE Band 2 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			18615 (1851.5 MHz)	18900 (1880.0 MHz)	19185 (1908.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	18.18	18.26	18.09	0	0
	1	7	18.21	18.36	18.08		0
	1	14	18.24	18.39	18.15		0
	8	0	18.30	18.43	18.22	0-1	0
	8	4	18.39	18.52	18.34		0
	8	7	18.40	18.48	18.30		0
	15	0	18.41	18.55	18.32		0
16QAM	1	0	18.47	18.59	18.33	0-1	0
	1	7	18.49	18.63	18.43		0
	1	14	18.58	18.67	18.43		0
	8	0	18.38	18.56	18.30	0-2	0
	8	4	18.42	18.60	18.40		0
	8	7	18.44	18.57	18.39		0
	15	0	18.38	18.51	18.29		0
64QAM	1	0	18.37	18.60	18.41	0-2	0
	1	7	18.38	18.66	18.41		0
	1	14	18.51	18.74	18.55		0
	8	0	18.42	18.57	18.33	0-3	0
	8	4	18.46	18.55	18.35		0
	8	7	18.48	18.55	18.34		0
	15	0	18.44	18.59	18.39		0
256QAM	1	0	18.22	18.08	18.20	0-5	0
	1	7	18.09	18.21	18.14		0
	1	14	18.22	18.18	18.13		0
	8	0	18.14	18.11	18.31		0
	8	4	18.10	18.29	18.33		0
	8	7	18.20	18.30	18.35		0
	15	0	18.16	18.23	18.17		0

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Table 9-53
LTE Band 2 (PCS) Measured P_{limit} for DSI = 3 (Hotspot mode) – 1.4 MHz Bandwidth

LTE Band 2 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			18607 (1850.7 MHz)	18900 (1880.0 MHz)	19193 (1909.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	18.15	18.28	18.07	0	0
	1	2	18.25	18.35	18.17		0
	1	5	18.22	18.35	18.15		0
	3	0	18.13	18.28	18.13		0
	3	2	18.22	18.37	18.19		0
	3	3	18.20	18.36	18.13		0
	6	0	18.29	18.45	18.25		0-1
16QAM	1	0	18.34	18.54	18.32	0-1	0
	1	2	18.43	18.56	18.42		0
	1	5	18.38	18.57	18.36		0
	3	0	18.29	18.46	18.25		0
	3	2	18.34	18.52	18.32		0
	3	3	18.36	18.47	18.27		0
	6	0	18.35	18.47	18.29		0-2
64QAM	1	0	18.39	18.54	18.35	0-2	0
	1	2	18.48	18.60	18.40		0
	1	5	18.39	18.56	18.34		0
	3	0	18.39	18.50	18.28		0
	3	2	18.36	18.48	18.26		0
	3	3	18.39	18.51	18.27		0
	6	0	18.30	18.14	18.27		0-3
256QAM	1	0	18.24	18.22	18.03	0-5	0
	1	2	18.04	18.25	18.09		0
	1	5	18.07	18.24	18.16		0
	3	0	18.12	18.27	18.15		0
	3	2	18.26	18.23	18.25		0
	3	3	18.24	18.30	18.07		0
	6	0	18.18	18.34	18.24		0

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Table 9-54
LTE Band 2 (PCS) Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 20 MHz Bandwidth

LTE Band 2 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			18700 (1860.0 MHz)	18900 (1880.0 MHz)	19100 (1900.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.28	20.38	20.19	0	0
	1	50	20.37	20.35	20.26		0
	1	99	20.49	20.36	20.32		0
	50	0	20.43	20.48	20.29	0-1	0
	50	25	20.56	20.52	20.37		0
	50	50	20.58	20.51	20.49		0
	100	0	20.48	20.47	20.41		0
16QAM	1	0	20.67	20.58	20.46	0-1	0
	1	50	20.62	20.65	20.54		0
	1	99	20.70	20.62	20.58		0
	50	0	20.47	20.45	20.34	0-2	0
	50	25	20.51	20.51	20.37		0
	50	50	20.59	20.53	20.49		0
	100	0	20.51	20.46	20.47		0
64QAM	1	0	20.53	20.52	20.43	0-2	0
	1	50	20.50	20.52	20.46		0
	1	99	20.68	20.55	20.54		0
	50	0	20.43	20.43	20.33	0-3	0
	50	25	20.54	20.48	20.41		0
	50	50	20.58	20.50	20.47		0
	100	0	20.51	20.46	20.38		0
256QAM	1	0	18.74	18.75	18.71	0-5	1.2
	1	50	18.77	18.81	18.67		1.2
	1	99	18.89	18.88	18.80		1.2
	50	0	18.70	18.73	18.62		1.2
	50	25	18.75	18.71	18.70		1.2
	50	50	18.80	18.77	18.79		1.2
	100	0	18.73	18.76	18.64		1.2

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Table 9-55
LTE Band 2 (PCS) Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 15 MHz Bandwidth

LTE Band 2 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			18675 (1857.5 MHz)	18900 (1880.0 MHz)	19125 (1902.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.46	20.46	20.27	0	0
	1	36	20.41	20.51	20.21		0
	1	74	20.54	20.67	20.22		0
	36	0	20.59	20.71	20.36	0-1	0
	36	18	20.60	20.74	20.44		0
	36	37	20.64	20.77	20.48		0
	75	0	20.62	20.75	20.45		0
16QAM	1	0	20.69	20.76	20.88	0-1	0
	1	36	20.68	20.80	20.61		0
	1	74	20.77	20.88	20.47		0
	36	0	20.60	20.67	20.36	0-2	0
	36	18	20.59	20.74	20.41		0
	36	37	20.64	20.71	20.49		0
	75	0	20.61	20.72	20.44		0
64QAM	1	0	20.77	20.66	20.58	0-2	0
	1	36	20.66	20.82	20.54		0
	1	74	20.81	20.94	20.54		0
	36	0	20.11	20.23	19.98	0-3	0
	36	18	20.13	20.27	19.99		0
	36	37	20.14	20.31	20.06		0
	75	0	20.13	20.26	20.01		0
256QAM	1	0	18.85	19.05	19.01	0-5	1.2
	1	36	19.02	19.06	19.00		1.2
	1	74	18.97	19.02	18.95		1.2
	36	0	19.01	18.83	18.81		1.2
	36	18	19.03	18.97	18.85		1.2
	36	37	19.09	18.89	18.76		1.2
	75	0	18.94	18.84	18.87		1.2

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Table 9-56
LTE Band 2 (PCS) Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 10 MHz Bandwidth

LTE Band 2 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			18650 (1855.0 MHz)	18900 (1880.0 MHz)	19150 (1905.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.33	20.42	20.24	0	0
	1	25	20.36	20.44	20.12		0
	1	49	20.36	20.41	20.08		0
	25	0	20.46	20.58	20.26	0-1	0
	25	12	20.52	20.61	20.30		0
	25	25	20.46	20.55	20.25		0
	50	0	20.49	20.58	20.25		0
16QAM	1	0	20.51	20.64	20.48	0-1	0
	1	25	20.66	20.70	20.37		0
	1	49	20.53	20.74	20.38		0
	25	0	20.50	20.61	20.23	0-2	0
	25	12	20.55	20.63	20.25		0
	25	25	20.46	20.61	20.23		0
	50	0	20.47	20.60	20.24		0
64QAM	1	0	20.60	20.65	20.53	0-2	0
	1	25	20.64	20.71	20.40		0
	1	49	20.63	20.70	20.37		0
	25	0	20.06	20.11	19.73	0-3	0
	25	12	20.05	20.12	19.83		0
	25	25	19.99	20.07	19.76		0
	50	0	20.00	20.09	19.77		0
256QAM	1	0	18.97	18.95	19.01	0-5	1.2
	1	25	18.95	18.96	18.77		1.2
	1	49	19.04	18.64	18.95		1.2
	25	0	18.89	19.02	18.89		1.2
	25	12	19.03	18.87	18.80		1.2
	25	25	18.97	19.07	18.84		1.2
	50	0	18.79	18.85	18.81		1.2

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Table 9-57
LTE Band 2 (PCS) Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 5 MHz Bandwidth

LTE Band 2 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			18625 (1852.5 MHz)	18900 (1880.0 MHz)	19175 (1907.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.35	20.34	20.07	0	0
	1	12	20.40	20.45	20.08		0
	1	24	20.37	20.47	20.12		0
	12	0	20.45	20.47	20.17	0-1	0
	12	6	20.54	20.60	20.24		0
	12	13	20.52	20.59	20.24		0
	25	0	20.55	20.60	20.24		0
16QAM	1	0	20.60	20.57	20.36	0-1	0
	1	12	20.61	20.74	20.32		0
	1	24	20.64	20.73	20.32		0
	12	0	20.52	20.60	20.17	0-2	0
	12	6	20.57	20.67	20.22		0
	12	13	20.58	20.67	20.24		0
	25	0	20.52	20.58	20.23		0
64QAM	1	0	20.61	20.55	20.31	0-2	0
	1	12	20.62	20.77	20.31		0
	1	24	20.66	20.71	20.30		0
	12	0	20.07	20.07	19.74	0-3	0
	12	6	20.09	20.06	19.76		0
	12	13	20.07	20.03	19.76		0
	25	0	20.04	20.12	19.77		0
256QAM	1	0	18.64	18.65	18.61	0-5	1.2
	1	12	18.67	18.71	18.57		1.2
	1	24	18.79	18.78	18.70		1.2
	12	0	18.60	18.63	18.52		1.2
	12	6	18.65	18.61	18.60		1.2
	12	13	18.70	18.67	18.69		1.2
	25	0	18.63	18.66	18.54		1.2

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Table 9-58
LTE Band 2 (PCS) Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 3 MHz Bandwidth

LTE Band 2 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			18615 (1851.5 MHz)	18900 (1880.0 MHz)	19185 (1908.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.28	20.28	19.95	0	0
	1	7	20.31	20.39	20.00		0
	1	14	20.36	20.44	20.07		0
	8	0	20.42	20.44	20.14	0-1	0
	8	4	20.49	20.58	20.15		0
	8	7	20.48	20.55	20.18		0
	15	0	20.51	20.53	20.21		0
16QAM	1	0	20.59	20.61	20.17	0-1	0
	1	7	20.57	20.67	20.27		0
	1	14	20.66	20.74	20.27		0
	8	0	20.50	20.50	20.15	0-2	0
	8	4	20.56	20.65	20.22		0
	8	7	20.57	20.65	20.22		0
	15	0	20.49	20.53	20.14		0
64QAM	1	0	20.53	20.55	20.24	0-2	0
	1	7	20.53	20.67	20.26		0
	1	14	20.62	20.68	20.32		0
	8	0	20.00	19.95	19.69	0-3	0
	8	4	20.01	19.97	19.70		0
	8	7	20.01	20.00	19.71		0
	15	0	20.02	20.08	19.70		0
256QAM	1	0	18.73	18.75	18.71	0-5	1.2
	1	7	18.77	18.81	18.67		1.2
	1	14	18.89	18.88	18.70		1.2
	8	0	18.70	18.73	18.62		1.2
	8	4	18.75	18.71	18.70		1.2
	8	7	18.75	18.77	18.69		1.2
	15	0	18.73	18.76	18.64		1.2

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Table 9-59
LTE Band 2 (PCS) Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) – 1.4 MHz Bandwidth

LTE Band 2 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			18607 (1850.7 MHz)	18900 (1880.0 MHz)	19193 (1909.3 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	20.26	20.22	19.88	0	0
	1	2	20.35	20.37	19.98		0
	1	5	20.31	20.34	19.93		0
	3	0	20.26	20.35	19.95		0
	3	2	20.33	20.40	20.00		0
	3	3	20.32	20.36	19.97		0
	6	0	20.43	20.46	20.08	0-1	0
16QAM	1	0	20.46	20.59	20.11	0-1	0
	1	2	20.55	20.64	20.27		0
	1	5	20.51	20.66	20.18		0
	3	0	20.43	20.48	20.05		0
	3	2	20.45	20.57	20.18		0
	3	3	20.45	20.52	20.10		0
	6	0	20.46	20.58	20.12	0-2	0
64QAM	1	0	20.42	20.38	20.18	0-2	0
	1	2	20.53	20.67	20.20		0
	1	5	20.51	20.56	20.15		0
	3	0	20.43	20.48	20.13		0
	3	2	20.44	20.46	20.07		0
	3	3	20.47	20.50	20.10		0
	6	0	19.95	19.91	19.56	0-3	0
256QAM	1	0	18.72	18.68	18.78	0-5	1.2
	1	2	18.83	18.86	18.70		1.2
	1	5	18.81	18.86	18.75		1.2
	3	0	18.73	18.78	18.64		1.2
	3	2	18.74	18.76	18.57		1.2
	3	3	18.77	18.80	18.40		1.2
	6	0	18.84	18.65	18.52		1.2

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LTE Band 7

Table 9-60
LTE Band 7 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 20 MHz Bandwidth

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20850 (2510.0 MHz)	21100 (2535.0 MHz)	21350 (2560.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.56	23.45	23.43	0	0
	1	50	23.30	23.56	23.65		0
	1	99	23.60	23.21	23.33		0
	50	0	22.71	22.79	22.98	0-1	1
	50	25	22.64	22.93	23.00		1
	50	50	22.42	22.25	22.55		1
	100	0	22.32	22.17	22.56		1
16QAM	1	0	22.76	22.05	22.90	0-1	1
	1	50	22.43	22.23	22.73		1
	1	99	22.80	22.57	22.71		1
	50	0	21.62	21.90	21.92	0-2	2
	50	25	21.64	21.54	21.97		2
	50	50	21.53	21.58	21.79		2
	100	0	21.50	21.60	21.96		2
64QAM	1	0	21.30	21.64	21.90	0-2	2
	1	50	21.24	21.40	21.87		2
	1	99	21.17	21.15	21.24		2
	50	0	20.34	20.20	20.62	0-3	3
	50	25	20.52	20.71	20.94		3
	50	50	20.22	20.17	20.59		3
	100	0	20.38	20.25	20.37		3
256QAM	1	0	18.94	19.00	18.80	0-5	5
	1	50	18.92	18.83	18.77		5
	1	99	18.18	18.83	18.65		5
	50	0	18.91	18.85	18.75		5
	50	25	18.87	18.80	18.74		5
	50	50	18.46	18.71	18.68		5
	100	0	18.84	18.81	18.72		5

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Table 9-61
LTE Band 7 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 15 MHz Bandwidth

LTE Band 7 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20825 (2507.5 MHz)	21100 (2535.0 MHz)	21375 (2562.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.87	23.68	23.63	0	0
	1	36	23.26	23.62	23.81		0
	1	74	23.70	23.35	23.39		0
	36	0	22.75	22.77	22.96	0-1	1
	36	18	22.41	22.78	22.76		1
	36	37	22.84	22.73	22.96		1
	75	0	22.91	22.73	22.65		1
16QAM	1	0	22.53	22.89	22.73	0-1	1
	1	36	22.45	22.92	22.45		1
	1	74	22.67	22.89	22.98		1
	36	0	21.61	21.83	21.92	0-2	2
	36	18	21.58	21.82	21.67		2
	36	37	21.63	21.76	21.88		2
	75	0	21.70	21.78	21.72		2
64QAM	1	0	21.23	21.61	21.82	0-2	2
	1	36	21.78	21.88	21.18		2
	1	74	21.94	21.85	21.53		2
	36	0	20.96	20.86	20.89	0-3	3
	36	18	20.70	20.83	20.71		3
	36	37	20.64	20.66	20.56		3
	75	0	20.78	20.66	20.86		3
256QAM	1	0	18.85	18.89	18.77	0-5	5
	1	36	18.95	18.87	18.78		5
	1	74	18.06	18.80	18.66		5
	36	0	18.97	18.82	18.73		5
	36	18	18.85	18.80	18.64		5
	36	37	18.49	18.72	18.68		5
	75	0	18.82	18.78	18.69		5

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Table 9-62
LTE Band 7 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 10 MHz Bandwidth

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20800 (2505.0 MHz)	21100 (2535.0 MHz)	21400 (2565.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.87	23.62	23.61	0	0
	1	25	23.29	23.62	23.89		0
	1	49	23.60	23.33	23.45		0
	25	0	22.72	22.85	22.62	0-1	1
	25	12	22.34	22.83	22.83		1
	25	25	22.93	22.66	22.86		1
	50	0	22.82	22.76	22.67		1
16QAM	1	0	22.44	22.81	22.76	0-1	1
	1	25	22.53	22.87	22.53		1
	1	49	22.71	22.99	22.88		1
	25	0	21.53	21.84	21.87	0-2	2
	25	12	21.65	21.82	21.73		2
	25	25	21.68	21.72	21.83		2
	50	0	21.76	21.83	21.74		2
64QAM	1	0	21.21	21.70	21.73	0-2	2
	1	25	21.75	21.85	21.11		2
	1	49	21.93	21.89	21.59		2
	25	0	20.87	20.95	20.94	0-3	3
	25	12	20.60	20.86	20.61		3
	25	25	20.57	20.59	20.47		3
	50	0	20.76	20.76	20.89		3
256QAM	1	0	18.78	18.84	18.85	0-5	5
	1	25	18.92	18.80	18.87		5
	1	49	18.62	18.71	18.65		5
	25	0	18.97	18.88	18.68		5
	25	12	18.91	18.73	18.71		5
	25	25	18.51	18.63	18.64		5
	50	0	18.75	18.76	18.68		5

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Table 9-63
LTE Band 7 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 5 MHz Bandwidth

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20775 (2502.5 MHz)	21100 (2535.0 MHz)	21425 (2567.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	23.78	23.78	23.56	0	0
	1	12	23.21	23.58	23.89		0
	1	24	23.77	23.38	23.38		0
	12	0	22.79	22.70	22.89	0-1	1
	12	6	22.51	22.77	22.66		1
	12	13	22.92	22.66	22.93		1
	25	0	22.85	22.82	22.55		1
16QAM	1	0	22.44	22.96	22.82	0-1	1
	1	12	22.50	22.61	22.55		1
	1	24	22.66	22.98	22.91		1
	12	0	21.71	21.88	21.78	0-2	2
	12	6	21.65	21.85	21.64		2
	12	13	21.58	21.71	21.85		2
	25	0	21.71	21.79	21.74		2
64QAM	1	0	21.33	21.55	21.81	0-2	2
	1	12	21.76	21.88	21.20		2
	1	24	21.97	21.93	21.56		2
	12	0	20.86	20.85	20.91	0-3	3
	12	6	20.75	20.81	20.80		3
	12	13	20.54	20.66	20.53		3
	25	0	20.76	20.72	20.82		3
256QAM	1	0	18.78	18.88	18.75	0-5	5
	1	12	18.89	18.86	18.85		5
	1	24	18.10	18.85	18.69		5
	12	0	18.99	18.88	18.68		5
	12	6	18.78	18.88	18.70		5
	12	13	18.59	18.76	18.61		5
	25	0	18.75	18.85	18.73		5

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Table 9-64
LTE Band 7 Measured P_{limit} for DSI = 3 (Hotspot mode) / DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 20 MHz Bandwidth

LTE Band 7 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20850 (2510.0 MHz)	21100 (2535.0 MHz)	21350 (2560.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	21.27	21.32	21.22	0	0
	1	50	21.36	21.21	21.11		0
	1	99	21.30	21.19	21.13		0
	50	0	21.46	21.46	21.38	0-1	0
	50	25	21.51	21.45	21.35		0
	50	50	21.50	21.38	21.27		0
	100	0	21.35	21.32	21.30		0
16QAM	1	0	21.58	21.66	21.57	0-1	0
	1	50	21.62	21.48	21.47		0
	1	99	21.58	21.45	21.23		0
	50	0	20.95	21.02	20.87	0-2	0
	50	25	21.01	20.95	20.89		0
	50	50	20.99	20.87	20.78		0
	100	0	21.00	20.92	20.75		0
64QAM	1	0	21.03	21.08	21.02	0-2	0
	1	50	21.01	21.02	21.03		0
	1	99	21.06	20.96	20.88		0
	50	0	20.67	20.72	20.60	0-3	0.8
	50	25	20.61	20.65	20.57		0.8
	50	50	20.35	20.59	20.51		0.8
	100	0	20.54	20.64	20.56		0.8
256QAM	1	0	18.63	18.83	18.72	0-5	2.8
	1	50	18.70	18.62	18.72		2.8
	1	99	18.64	18.58	18.63		2.8
	50	0	18.67	18.64	18.30		2.8
	50	25	18.71	18.68	18.57		2.8
	50	50	18.69	18.62	18.52		2.8
	100	0	18.66	18.61	18.55		2.8

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Table 9-65
LTE Band 7 Measured P_{limit} for DSI = 3 (Hotspot mode) / DSI = 1 (Phablet with grip sensor active) and/or
DSI = 4 (Earjack active) - 15 MHz Bandwidth

LTE Band 7 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20825 (2507.5 MHz)	21100 (2535.0 MHz)	21375 (2562.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	21.26	21.10	21.09	0	0
	1	36	21.29	20.92	21.06		0
	1	74	21.34	20.97	21.07		0
	36	0	21.23	21.19	21.27	0-1	0
	36	18	21.38	21.13	21.27		0
	36	37	21.42	21.05	21.25		0
	75	0	21.49	21.18	21.30		0
16QAM	1	0	21.66	21.46	21.28	0-1	0
	1	36	21.68	21.20	21.37		0
	1	74	21.61	21.28	21.42		0
	36	0	21.17	20.93	21.05	0-2	0
	36	18	21.21	20.92	21.04		0
	36	37	21.24	20.82	20.99		0
	75	0	21.20	20.88	20.98		0
64QAM	1	0	20.98	21.14	21.13	0-2	0
	1	36	20.96	20.98	21.13		0
	1	74	20.75	20.89	21.08		0
	36	0	20.84	20.96	20.88	0-3	0.8
	36	18	20.56	20.87	20.79		0.8
	36	37	20.78	20.86	20.78		0.8
	75	0	20.54	20.93	20.67		0.8
256QAM	1	0	18.52	18.73	18.72	0-5	2.8
	1	36	18.55	18.53	18.62		2.8
	1	74	18.47	18.68	18.60		2.8
	36	0	18.50	18.64	18.42		2.8
	36	18	18.65	18.62	18.55		2.8
	36	37	18.61	18.66	18.54		2.8
	75	0	18.58	18.70	18.64		2.8

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Table 9-66
LTE Band 7 Measured P_{limit} for DSI = 3 (Hotspot mode) / DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 10 MHz Bandwidth

LTE Band 7 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20800 (2505.0 MHz)	21100 (2535.0 MHz)	21400 (2565.0 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	21.15	20.98	21.09	0	0
	1	25	21.25	20.86	20.98		0
	1	49	21.32	20.84	21.01		0
	25	0	21.30	21.07	21.20	0-1	0
	25	12	21.32	21.06	21.17		0
	25	25	21.33	21.02	21.16		0
	50	0	21.37	21.08	21.18		0
16QAM	1	0	21.53	21.25	21.32	0-1	0
	1	25	21.50	21.17	21.36		0
	1	49	21.47	21.21	21.32		0
	25	0	21.06	20.80	20.90	0-2	0
	25	12	21.09	20.80	20.90		0
	25	25	21.03	20.71	20.87		0
	50	0	21.04	20.76	20.90		0
64QAM	1	0	20.82	20.96	21.08	0-2	0
	1	25	21.03	20.89	21.00		0
	1	49	20.97	20.80	20.99		0
	25	0	20.74	20.85	20.95	0-3	0.8
	25	12	20.71	20.83	20.77		0.8
	25	25	20.76	20.73	20.90		0.8
	50	0	20.79	20.80	20.51		0.8
256QAM	1	0	18.77	18.67	18.69	0-5	2.8
	1	25	18.50	18.53	18.64		2.8
	1	49	18.41	18.48	18.50		2.8
	25	0	18.44	18.54	18.51		2.8
	25	12	18.54	18.67	18.45		2.8
	25	25	18.39	18.60	18.44		2.8
	50	0	18.43	18.51	18.55		2.8

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Table 9-67
LTE Band 7 Measured P_{limit} for DSI = 3 (Hotspot mode) / DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 5 MHz Bandwidth

LTE Band 7 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel	Mid Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			20775 (2502.5 MHz)	21100 (2535.0 MHz)	21425 (2567.5 MHz)		
			Conducted Power [dBm]				
QPSK	1	0	21.15	20.91	20.94	0	0
	1	12	21.27	20.98	21.08		0
	1	24	21.29	21.01	21.09		0
	12	0	21.28	21.06	21.14	0-1	0
	12	6	21.35	21.15	21.29		0
	12	13	21.41	21.13	21.25		0
	25	0	21.35	21.12	21.17		0
16QAM	1	0	21.44	21.27	21.33	0-1	0
	1	12	21.61	21.26	21.41		0
	1	24	21.58	21.26	21.37		0
	12	0	21.11	20.85	20.91	0-2	0
	12	6	21.12	20.91	21.04		0
	12	13	21.15	20.88	21.00		0
	25	0	21.08	20.81	20.92		0
64QAM	1	0	20.81	20.97	21.03	0-2	0
	1	12	20.85	21.02	20.91		0
	1	24	20.74	20.98	20.81		0
	12	0	20.75	20.87	20.89	0-3	0.8
	12	6	20.88	20.91	20.87		0.8
	12	13	20.85	20.62	20.99		0.8
	25	0	20.77	20.84	20.92		0.8
256QAM	1	0	18.54	18.50	18.69	0-5	2.8
	1	12	18.60	18.43	18.44		2.8
	1	24	18.51	18.42	18.51		2.8
	12	0	18.54	18.44	18.49		2.8
	12	6	18.62	18.57	18.43		2.8
	12	13	18.35	18.50	18.40		2.8
	25	0	18.34	18.52	18.30		2.8

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LTE Band 48

Table 9-68
LTE Band 48 Measured P_{max} for all DSI - 20 MHz Bandwidth

LTE Band 48 20 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			55340 (3560.0 MHz)	55773 (3603.3 MHz)	56207 (3646.7 MHz)	56640 (3690.0 MHz)		
			Conducted Power [dBm]					
QPSK	1	0	22.35	22.48	22.23	22.45	0	0
	1	50	22.24	22.14	22.13	22.36		0
	1	99	22.17	21.92	22.11	22.21		0
	50	0	21.35	20.88	20.98	21.42	0-1	1
	50	25	21.45	20.97	21.49	21.28		1
	50	50	21.46	21.01	21.22	21.32		1
	100	0	21.22	20.96	21.15	21.29		1
16QAM	1	0	21.20	20.77	20.78	21.25	0-1	1
	1	50	21.10	21.02	20.88	21.15		1
	1	99	21.12	20.89	21.19	21.50		1
	50	0	20.41	19.77	19.98	20.35	0-2	2
	50	25	20.38	20.10	20.16	20.08		2
	50	50	20.30	19.87	20.21	20.50		2
	100	0	20.40	19.90	20.06	20.65		2
64QAM	1	0	19.94	19.78	19.50	19.88	0-2	2
	1	50	19.91	19.87	19.70	19.71		2
	1	99	19.79	19.59	19.75	19.91		2
	50	0	19.40	19.34	19.10	19.16	0-3	3
	50	25	19.39	19.22	19.17	19.23		3
	50	50	19.28	19.35	19.30	19.36		3
	100	0	19.30	19.54	19.10	19.30		3
256QAM	1	0	17.10	17.28	17.24	17.33	0-5	5
	1	50	17.20	17.20	17.33	17.47		5
	1	99	17.31	17.11	17.30	17.35		5
	50	0	17.33	17.45	17.47	17.56		5
	50	25	17.43	17.42	17.32	17.48		5
	50	50	17.39	17.48	17.42	17.53		5
	100	0	17.32	17.30	17.44	17.47		5

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Table 9-69
LTE Band 48 Measured P_{max} for all DSI - 15 MHz Bandwidth

LTE Band 48 15 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			55315 (3557.5 MHz)	55765 (3602.5 MHz)	56215 (3647.5 MHz)	56665 (3692.5 MHz)		
			Conducted Power [dBm]					
QPSK	1	0	22.13	22.19	22.17	22.20	0	0
	1	36	22.14	22.15	22.21	22.12		0
	1	74	22.22	22.28	22.23	22.24		0
	36	0	21.29	21.36	21.37	21.29	0-1	1
	36	18	21.38	21.34	21.41	21.48		1
	36	37	21.43	21.38	21.43	21.43		1
	75	0	21.35	21.38	21.50	21.46		1
16QAM	1	0	21.23	21.17	21.50	21.55	0-1	1
	1	36	21.24	21.16	21.54	21.51		1
	1	74	21.33	21.26	21.31	21.57		1
	36	0	20.27	20.30	20.36	20.38	0-2	2
	36	18	20.32	20.30	20.34	20.37		2
	36	37	20.34	20.28	20.39	20.39		2
	75	0	20.36	20.39	20.27	20.53		2
64QAM	1	0	19.98	19.93	20.25	20.33	0-2	2
	1	36	20.01	19.98	20.32	20.33		2
	1	74	20.09	20.03	20.31	20.45		2
	36	0	19.32	19.37	19.37	19.44	0-3	3
	36	18	19.40	19.37	19.42	19.47		3
	36	37	19.37	19.32	19.41	19.53		3
	75	0	19.39	19.44	19.35	19.44		3
256QAM	1	0	17.08	17.30	17.34	17.45	0-5	5
	1	36	17.21	17.23	17.39	17.74		5
	1	74	17.33	17.21	17.41	17.47		5
	36	0	17.23	17.37	17.45	17.42		5
	36	18	17.29	17.45	17.45	17.70		5
	36	37	17.39	17.36	17.43	17.74		5
	75	0	17.29	17.26	17.41	17.79		5

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Table 9-70
LTE Band 48 Measured P_{max} for all DSI - 10 MHz Bandwidth

LTE Band 48 10 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			55290 (3555.0 MHz)	55757 (3601.7 MHz)	56223 (3648.3 MHz)	56690 (3695.0 MHz)		
			Conducted Power [dBm]					
QPSK	1	0	21.98	21.92	21.95	22.02	0	0
	1	25	21.91	22.09	22.07	22.10		0
	1	49	21.90	22.02	21.98	22.11		0
	25	0	21.05	21.32	21.12	21.50	0-1	1
	25	12	21.05	21.28	21.20	21.60		1
	25	25	21.09	21.19	21.23	21.61		1
	50	0	21.10	21.22	21.22	21.71		1
16QAM	1	0	21.16	21.26	21.24	21.46	0-1	1
	1	25	21.11	21.34	21.48	21.60		1
	1	49	21.26	21.35	21.37	21.71		1
	25	0	20.05	20.12	20.17	20.60	0-2	2
	25	12	20.11	20.18	20.25	20.74		2
	25	25	20.22	20.20	20.25	20.83		2
	50	0	20.09	20.22	20.27	20.77		2
64QAM	1	0	19.90	20.20	20.07	20.11	0-2	2
	1	25	20.03	20.11	20.18	20.01		2
	1	49	20.07	20.12	20.17	20.02		2
	25	0	18.97	19.11	19.15	19.47	0-3	3
	25	12	19.05	19.22	19.21	19.33		3
	25	25	19.12	19.16	19.18	19.33		3
	50	0	19.13	19.20	19.22	19.53		3
256QAM	1	0	16.99	17.25	17.13	17.37	0-5	5
	1	25	17.02	17.05	17.16	17.50		5
	1	49	17.13	17.15	17.15	17.71		5
	25	0	17.06	17.22	17.32	17.66		5
	25	12	17.15	17.23	17.35	17.67		5
	25	25	17.10	17.25	17.29	17.80		5
	50	0	17.14	17.28	17.28	17.81		5

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Table 9-71
LTE Band 48 Measured P_{max} for all DSI - 5 MHz Bandwidth

LTE Band 48 5 MHz Bandwidth								
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			55265 (3552.5 MHz)	55748 (3600.8 MHz)	56232 (3649.2 MHz)	56715 (3697.5 MHz)		
			Conducted Power [dBm]					
QPSK	1	0	21.83	21.90	21.41	21.89	0	0
	1	12	21.99	22.01	21.87	22.05		0
	1	24	21.98	21.98	21.56	21.85		0
	12	0	20.94	20.92	20.89	21.05	0-1	1
	12	6	21.04	20.94	20.90	21.15		1
	12	13	21.08	20.95	20.97	21.24		1
	25	0	21.05	20.94	21.23	21.32		1
16QAM	1	0	21.09	20.90	21.22	21.29	0-1	1
	1	12	21.13	21.06	21.25	21.30		1
	1	24	21.14	21.07	21.22	21.38		1
	12	0	19.99	19.85	20.01	20.19	0-2	2
	12	6	19.98	19.86	20.12	20.30		2
	12	13	20.01	19.87	20.04	20.31		2
	25	0	20.14	19.92	19.98	20.11		2
64QAM	1	0	19.95	19.95	19.99	20.15	0-2	2
	1	12	19.88	20.11	20.19	20.37		2
	1	24	19.78	20.05	20.29	20.36		2
	12	0	19.12	19.18	19.15	19.56	0-3	3
	12	6	19.21	19.21	19.01	19.34		3
	12	13	19.10	19.22	19.24	19.35		3
	25	0	19.22	19.23	19.25	19.27		3
256QAM	1	0	17.06	17.07	17.21	17.42	0-5	5
	1	12	17.24	17.18	17.25	17.47		5
	1	24	17.22	17.15	17.16	17.28		5
	12	0	17.19	17.00	17.07	17.23		5
	12	6	17.05	17.36	17.28	17.37		5
	12	13	17.01	17.40	17.30	17.36		5
	25	0	17.09	17.30	17.25	17.42		5

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9.4.9

LTE Band 41

Table 9-72

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

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	23.63	23.53	23.71	23.71	23.86	0	0
	1	50	23.52	23.52	23.93	23.53	23.74		0
	1	99	23.34	23.50	23.87	23.25	23.77		0
	50	0	22.76	22.78	23.06	22.79	23.02	0-1	1
	50	25	22.75	22.69	23.14	22.71	23.03		1
	50	50	22.76	22.57	23.13	22.59	22.96		1
	100	0	22.75	22.69	23.04	22.69	23.02		1
16QAM	1	0	22.90	22.79	22.79	22.78	22.96	0-1	1
	1	50	22.72	22.72	23.02	22.57	22.86		1
	1	99	22.81	22.70	22.99	22.35	22.88		1
	50	0	21.83	21.76	22.05	21.81	22.06	0-2	2
	50	25	21.85	21.72	22.16	21.72	22.07		2
	50	50	21.76	21.57	22.19	21.59	22.02		2
	100	0	21.86	21.67	22.13	21.75	22.09		2
64QAM	1	0	21.99	21.88	21.49	21.46	21.71	0-2	2
	1	50	21.78	21.76	21.76	21.31	21.56		2
	1	99	21.73	21.75	21.70	21.01	21.57		2
	50	0	20.89	20.76	21.11	20.84	21.12	0-3	3
	50	25	20.85	20.74	21.21	20.76	21.11		3
	50	50	20.75	20.59	21.23	20.65	21.08		3
	100	0	20.83	20.71	21.12	20.73	21.06		3
256QAM	1	0	18.63	18.50	18.57	18.66	18.92	0-5	5
	1	50	18.49	18.45	18.83	18.49	18.78		5
	1	99	18.43	18.32	18.84	18.20	18.73		5
	50	0	18.94	18.82	19.08	18.86	19.14		5
	50	25	18.82	18.73	19.23	18.80	19.13		5
	50	50	18.83	18.66	19.24	18.65	19.08		5
	100	0	18.80	18.64	19.11	18.71	19.07		5

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Table 9-73
LTE Band 41 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 15 MHz Bandwidth

LTE Band 41 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	23.35	23.78	23.51	23.47	23.13	0	0
	1	36	23.26	23.70	23.45	23.57	23.12		0
	1	74	23.36	23.58	23.33	23.62	23.21		0
	36	0	22.40	22.20	22.30	22.52	22.27	0-1	1
	36	18	22.45	22.51	22.29	22.86	22.27		1
	36	37	22.49	22.61	22.28	22.83	22.20		1
	75	0	22.46	22.35	22.34	22.88	22.27		1
16QAM	1	0	22.33	22.38	22.61	22.68	22.13	0-1	1
	1	36	22.32	22.47	22.20	22.72	22.10		1
	1	74	22.47	22.70	22.37	22.76	22.26		1
	36	0	21.34	21.20	21.36	21.77	21.20	0-2	2
	36	18	21.43	21.51	21.29	21.85	21.23		2
	36	37	21.36	21.65	21.35	21.87	21.18		2
	75	0	21.44	21.43	21.34	21.91	21.28		2
64QAM	1	0	21.11	21.45	21.81	21.47	20.80	0-2	2
	1	36	20.98	21.11	21.36	21.46	20.86		2
	1	74	21.18	21.36	21.51	21.48	20.98		2
	36	0	20.39	20.15	20.36	20.84	20.29	0-3	3
	36	18	20.43	20.48	20.28	20.86	20.27		3
	36	37	20.46	20.61	20.28	20.84	20.25		3
	75	0	20.49	20.48	20.37	20.87	20.26		3
256QAM	1	0	18.18	18.23	18.07	18.53	18.03	0-5	5
	1	36	18.12	18.20	18.50	18.64	17.90		5
	1	74	18.27	18.23	18.38	18.72	18.18		5
	36	0	18.36	18.14	18.34	18.87	18.28		5
	36	18	18.42	18.47	18.23	18.90	18.26		5
	36	37	18.51	18.66	18.26	18.87	18.27		5
	75	0	18.39	18.40	18.32	18.88	18.33		5

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Table 9-74
LTE Band 41 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 10 MHz Bandwidth

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	23.35	23.86	23.09	23.26	23.27	0	0
	1	25	23.38	23.28	22.86	23.37	23.28		0
	1	49	23.33	23.55	22.89	23.19	23.12		0
	25	0	22.56	22.23	22.10	22.45	22.43	0-1	1
	25	12	22.57	22.46	21.90	22.44	22.43		1
	25	25	22.52	22.58	21.97	22.34	22.51		1
	50	0	22.00	22.44	22.08	22.42	22.47		1
16QAM	1	0	22.58	22.80	22.10	22.10	22.42	0-1	1
	1	25	22.44	22.32	21.85	22.40	22.47		1
	1	49	22.50	22.63	21.98	22.34	22.48		1
	25	0	21.52	21.64	21.08	21.48	21.59	0-2	2
	25	12	21.50	21.46	21.05	21.54	21.61		2
	25	25	21.58	21.55	20.80	21.53	21.67		2
	50	0	21.55	21.43	21.05	21.46	21.57		2
64QAM	1	0	21.56	21.43	20.76	21.03	21.14	0-2	2
	1	25	21.20	21.43	20.65	21.13	21.20		2
	1	49	21.22	21.34	20.60	21.50	21.16		2
	25	0	20.49	20.89	20.47	20.55	20.53	0-3	3
	25	12	20.45	20.67	20.14	20.55	20.54		3
	25	25	20.45	20.50	20.09	20.55	20.50		3
	50	0	20.57	20.69	20.07	20.60	20.61		3
256QAM	1	0	18.27	18.25	18.02	18.30	18.20	0-5	5
	1	25	18.26	18.35	18.06	18.29	18.37		5
	1	49	18.21	18.31	17.93	18.42	18.32		5
	25	0	18.60	18.40	18.07	18.53	18.52		5
	25	12	18.40	18.25	18.01	18.61	18.61		5
	25	25	18.42	18.40	18.05	18.60	18.63		5
	50	0	18.22	18.28	18.09	18.66	18.72		5

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Table 9-75
LTE Band 41 Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) - 5 MHz Bandwidth

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	23.09	23.45	23.11	23.21	22.98	0	0
	1	12	23.15	23.35	22.87	23.25	23.11		0
	1	24	22.98	23.08	22.80	23.32	22.96		0
	12	0	22.90	22.15	21.98	22.60	22.12	0-1	1
	12	6	22.02	22.22	21.88	22.57	22.33		1
	12	13	22.00	22.20	21.65	22.44	22.25		1
	25	0	22.11	21.74	21.97	22.40	22.23		1
16QAM	1	0	22.04	22.15	21.96	22.12	22.22	0-1	1
	1	12	22.12	22.11	21.86	22.38	22.16		1
	1	24	22.10	22.08	21.55	22.35	22.27		1
	12	0	21.04	21.22	20.87	21.22	21.39	0-2	2
	12	6	21.14	21.13	20.91	21.24	21.31		2
	12	13	21.18	21.17	20.70	21.35	21.37		2
	25	0	21.12	21.07	20.85	21.32	21.47		2
64QAM	1	0	21.14	21.16	20.67	20.99	21.19	0-2	2
	1	12	21.01	21.02	20.56	21.01	21.10		2
	1	24	20.98	21.07	20.55	21.10	21.24		2
	12	0	20.50	20.61	20.40	20.66	20.55	0-3	3
	12	6	20.54	20.41	20.15	20.64	20.42		3
	12	13	20.51	20.16	20.09	20.61	20.25		3
	25	0	20.60	20.28	20.01	20.50	20.30		3
256QAM	1	0	18.04	18.12	17.99	18.35	18.05	0-5	5
	1	12	18.13	18.29	18.11	18.27	18.15		5
	1	24	18.08	18.26	18.24	18.52	18.12		5
	12	0	18.30	18.50	18.09	18.38	18.22		5
	12	6	18.20	18.51	18.17	18.24	18.31		5
	12	13	18.21	18.24	18.15	18.45	18.33		5
	25	0	18.11	18.47	18.19	18.56	18.35		5

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Table 9-76

LTE Band 41 Measured P_{limit} for DSI = 3 (Hotspot mode) / DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	22.79	22.47	22.83	22.50	22.27	0	0
	1	50	22.58	22.40	22.78	22.40	22.53		0
	1	99	22.50	22.43	22.56	22.23	22.67		0
	50	0	22.87	22.74	23.00	22.63	22.66	0-1	0
	50	25	22.82	22.69	22.98	22.58	22.75		0
	50	50	22.76	22.60	22.84	22.52	22.81		0
	100	0	22.80	22.66	22.80	22.57	22.74		0
16QAM	1	0	22.99	22.75	22.98	22.78	22.59	0-1	0
	1	50	22.80	22.73	22.89	22.66	22.77		0
	1	99	22.72	22.68	22.66	22.45	22.88		0
	50	0	21.90	21.74	22.01	21.62	21.64	0-2	0.5
	50	25	21.86	21.69	21.97	21.62	21.79		0.5
	50	50	21.77	21.55	21.91	21.51	21.80		0.5
	100	0	21.87	21.71	21.99	21.63	21.78		0.5
64QAM	1	0	22.06	21.89	22.15	21.75	21.61	0-2	0.5
	1	50	21.90	21.80	22.14	21.81	21.80		0.5
	1	99	21.76	21.76	21.85	21.48	22.01		0.5
	50	0	20.92	20.80	21.00	20.70	20.71	0-3	1.5
	50	25	20.87	20.72	21.03	20.64	20.84		1.5
	50	50	20.81	20.61	20.94	20.58	20.89		1.5
	100	0	20.81	20.62	20.95	20.59	20.72		1.5
256QAM	1	0	18.66	18.47	18.84	18.52	18.39	0-5	3.5
	1	50	18.55	18.47	18.73	18.35	18.50		3.5
	1	99	18.60	18.36	18.75	18.34	18.80		3.5
	50	0	18.94	18.79	19.00	18.76	18.74		3.5
	50	25	18.93	18.81	19.07	18.72	18.82		3.5
	50	50	18.77	18.67	18.99	18.61	18.87		3.5
	100	0	18.87	18.75	19.03	18.57	18.76		3.5

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Table 9-77

LTE Band 41 Measured P_{limit} for DSI = 3 (Hotspot mode) / DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 15 MHz Bandwidth

LTE Band 41 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	22.73	22.69	22.62	22.61	22.43	0	0
	1	36	22.60	22.80	22.45	22.76	22.46		0
	1	74	22.70	22.90	22.70	22.86	22.61		0
	36	0	22.68	22.83	22.63	22.72	22.56	0-1	0
	36	18	22.69	22.97	22.56	22.77	22.57		0
	36	37	22.73	23.00	22.63	22.83	22.55		0
	75	0	22.68	22.94	22.63	22.75	22.56		0
16QAM	1	0	22.76	22.56	22.76	22.57	22.51	0-1	0
	1	36	22.67	22.92	22.52	22.70	22.58		0
	1	74	22.72	23.00	22.80	22.83	22.69		0
	36	0	21.66	21.84	21.63	21.74	21.56	0-2	0.5
	36	18	21.67	22.12	21.59	21.81	21.59		0.5
	36	37	21.70	22.29	21.64	21.84	21.57		0.5
	75	0	21.70	22.06	21.63	21.78	21.59		0.5
64QAM	1	0	21.59	21.50	21.60	21.45	21.34	0-2	0.5
	1	36	21.46	22.02	21.33	21.59	21.37		0.5
	1	74	21.52	22.11	21.65	21.67	21.53		0.5
	36	0	20.63	20.81	20.59	20.72	20.58	0-3	1.5
	36	18	20.68	21.15	20.59	20.81	20.57		1.5
	36	37	20.69	21.26	20.63	20.79	20.57		1.5
	75	0	20.68	21.06	20.61	20.77	20.56		1.5
256QAM	1	0	18.41	18.70	18.75	18.59	18.49	0-5	3.5
	1	36	18.44	18.69	18.87	18.54	18.35		3.5
	1	74	18.45	18.69	19.12	18.52	18.23		3.5
	36	0	18.54	18.61	19.01	18.64	18.67		3.5
	36	18	18.36	18.59	19.16	18.67	18.54		3.5
	36	37	18.57	18.60	19.23	18.54	18.55		3.5
	75	0	18.60	18.52	19.09	18.60	18.57		3.5

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Table 9-78

LTE Band 41 Measured P_{limit} for DSI = 3 (Hotspot mode) / DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 10 MHz Bandwidth

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	22.47	22.51	22.51	22.57	22.46	0	0
	1	25	22.51	22.86	22.23	22.62	22.28		0
	1	49	22.54	22.99	22.44	22.65	22.25		0
	25	0	22.52	22.85	22.39	22.60	22.41	0-1	0
	25	12	22.55	22.96	22.41	22.69	22.40		0
	25	25	22.51	22.94	22.39	22.68	22.33		0
	50	0	22.49	22.99	22.39	22.64	22.36		0
16QAM	1	0	22.55	22.66	22.49	22.49	22.38	0-1	0
	1	25	22.32	22.88	22.27	22.62	22.37		0
	1	49	22.44	23.00	22.42	22.62	22.17		0
	25	0	21.52	21.87	21.44	21.61	21.41	0-2	0.5
	25	12	21.57	22.08	21.42	21.66	21.43		0.5
	25	25	21.54	22.18	21.42	21.67	21.33		0.5
	50	0	21.51	22.01	21.41	21.65	21.37		0.5
64QAM	1	0	21.21	21.52	21.21	21.40	21.01	0-2	0.5
	1	25	21.23	21.73	21.17	21.34	21.09		0.5
	1	49	21.22	22.04	21.24	21.28	21.00		0.5
	25	0	20.48	20.80	20.41	20.61	20.42	0-3	1.5
	25	12	20.54	21.10	20.43	20.67	20.39		1.5
	25	25	20.48	21.21	20.37	20.71	20.34		1.5
	50	0	20.54	21.02	20.39	20.69	20.38		1.5
256QAM	1	0	18.37	18.50	18.58	18.59	18.46	0-5	3.5
	1	25	18.55	18.67	18.75	18.62	18.29		3.5
	1	49	18.49	18.87	18.96	18.69	18.14		3.5
	25	0	18.50	18.56	18.93	18.70	18.50		3.5
	25	12	18.56	18.64	19.03	18.54	18.48		3.5
	25	25	18.62	18.70	19.14	18.60	18.37		3.5
	50	0	18.68	18.63	19.11	18.64	18.53		3.5

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Table 9-79

LTE Band 41 Measured P_{limit} for DSI = 3 (Hotspot mode) / DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active) - 5 MHz Bandwidth

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	22.41	22.74	22.26	22.45	22.23	0	0
	1	12	22.40	22.95	22.31	22.54	22.22		0
	1	24	22.43	23.00	22.37	22.67	22.25		0
	12	0	22.49	22.97	22.34	22.56	22.36	0-1	0
	12	6	22.55	22.97	22.36	22.65	22.43		0
	12	13	22.52	22.99	22.37	22.73	22.39		0
	25	0	22.48	22.92	22.37	22.68	22.36		0
	16QAM	1	0	22.38	22.74	22.33	22.52	22.27	0-1
1		12	22.47	22.91	22.33	22.60	22.34	0	
1		24	22.43	22.98	22.43	22.67	22.31	0	
12		0	21.53	21.97	21.35	21.61	21.34	0-2	0.5
12		6	21.53	22.13	21.34	21.69	21.41		0.5
12		13	21.50	22.18	21.46	21.75	21.39		0.5
25		0	21.44	22.03	21.32	21.62	21.33		0.5
64QAM		1	0	21.23	21.61	21.11	21.32	21.14	0-2
	1	12	21.28	21.84	21.16	21.48	21.15	0.5	
	1	24	21.27	21.97	21.25	21.53	21.19	0.5	
	12	0	20.59	21.07	20.41	20.67	20.41	0-3	1.5
	12	6	20.55	21.14	20.45	20.74	20.47		1.5
	12	13	20.58	21.28	20.51	20.82	20.48		1.5
	25	0	20.51	21.08	20.39	20.68	20.40		1.5
	256QAM	1	0	18.43	18.61	18.66	18.34	18.36	0-5
1		12	18.44	18.82	18.81	18.39	18.22	3.5	
1		24	18.46	18.91	18.96	18.24	18.13	3.5	
12		0	18.64	18.73	18.94	18.46	18.44	3.5	
12		6	18.73	18.87	19.06	18.51	18.52	3.5	
12		13	18.76	19.03	19.08	18.46	18.39	3.5	
25		0	18.63	18.89	19.04	18.60	18.51	3.5	

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9.4.10 LTE Uplink Carrier Aggregation Conducted Powers

Table 9-80

LTE Uplink Carrier Aggregation Measured P_{max} for DSI = 2 (Head) or DSI = 0 (Body-worn, or Phablet with grip sensor not triggered)

Combination	PCC									SCC									Power	
	PCC Band	PCC Bandwidth [MHz]	PCC UL Channel	PCC UL Frequency [MHz]	PCC DL Channel	PCC DL Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC UL Channel	SCC UL Frequency [MHz]	SCC DL Channel	SCC DL Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	LTE Tx Power with UL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_5B	LTE B5	10	20525	836.5	2525	881.5	QPSK	1	0	LTE B5	5	20453	829.3	2453	874.3	QPSK	1	24	24.68	24.38

Combination	PCC									SCC									Power	
	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	24.54	24.29
CA_66B	LTE B66	10	132622	1775.0	67086	2175.0	QPSK	1	0	LTE B66	10	132523	1765.1	66987	2165.1	QPSK	1	49	24.22	24.11

Table 9-81

LTE Uplink Carrier Aggregation Measured P_{limit} for DSI = 3 (Hotspot mode)

Combination	PCC									SCC									Power	
	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	20.73	20.30
CA_66B	LTE B66	10	132622	1775.0	67086	2175.0	QPSK	1	0	LTE B66	10	132523	1765.1	66987	2165.1	QPSK	1	49	20.33	19.89

Table 9-82

LTE Uplink Carrier Aggregation Measured P_{limit} for DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack active)

Combination	PCC									SCC									Power	
	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	50	50	LTE B66	20	132520	1764.8	66984	2164.8	QPSK	50	0	21.29	21.06
CA_66B	LTE B66	10	132322	1745.0	66786	2145.0	QPSK	25	25	LTE B66	10	132421	1754.9	66885	2154.9	QPSK	25	0	21.17	20.90

Notes:

- This device supports uplink carrier aggregation for LTE CA_5B, LTE CA_66B, and LTE CA_66C 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.
- 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 9-83
2.4 GHz WLAN Maximum Average RF Power – Ant 1

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ax SU
		Average	Average	Average	Average
2412	1	20.81	16.62	16.62	17.32
2417	2	N/A	15.56	15.53	17.78
2422	3	N/A	18.42	17.46	N/A
2427	4	N/A	N/A	18.49	N/A
2437	6	20.97	18.45	17.66	17.59
2452	9	N/A	17.93	18.13	N/A
2457	10	N/A	17.40	17.34	17.33
2462	11	20.29	15.98	15.53	14.98

Table 9-84
2.4 GHz WLAN Maximum Average RF Power – Ant 2

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ax SU
		Average	Average	Average	Average
2412	1	20.76	16.32	16.97	17.48
2417	2	N/A	15.94	15.85	17.64
2422	3	N/A	17.76	16.89	N/A
2427	4	N/A	N/A	18.00	N/A
2437	6	20.99	18.17	18.16	17.56
2452	9	N/A	17.98	17.91	N/A
2457	10	N/A	17.03	17.10	17.98
2462	11	20.41	15.52	15.33	15.37

Table 9-85
2.4 GHz WLAN Maximum Output Powers During Conditions with 5G NR

2.4GHz 802.11n Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
2412	1	16.05	16.70	19.40
2437	6	16.69	16.62	19.67
2457	10	16.77	16.42	19.61
2462	11	15.51	15.67	18.60

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Table 9-86
5 GHz WLAN Maximum Average RF Power – Ant 1

5GHz (20MHz) Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11a	802.11n	802.11ac	802.11ax SU
		Average	Average	Average	Average
5180	36	17.10	17.49	17.48	17.46
5200	40	18.20	18.21	18.27	17.66
5220	44	18.27	18.17	18.19	17.77
5240	48	18.10	18.26	18.26	17.69
5260	52	18.04	18.44	18.16	17.64
5280	56	18.07	18.47	18.13	17.53
5300	60	18.34	18.12	18.24	17.58
5320	64	17.22	17.11	17.49	16.16
5500	100	18.06	18.09	18.18	17.87
5600	120	18.12	18.16	18.11	17.89
5620	124	18.14	18.14	18.17	17.91
5720	144	18.11	18.27	18.15	17.54
5745	149	18.30	18.37	18.32	17.71
5785	157	18.21	18.28	18.37	17.64
5825	165	18.17	18.16	18.11	17.91

Table 9-87
5 GHz WLAN Maximum Average RF Power – Ant 2

5GHz (20MHz) Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11a	802.11n	802.11ac	802.11ax SU
		Average	Average	Average	Average
5180	36	17.48	17.44	17.12	17.49
5200	40	18.19	18.26	18.22	17.57
5220	44	18.17	18.29	18.24	17.55
5240	48	18.16	18.22	18.26	17.52
5260	52	18.28	18.33	18.30	17.62
5280	56	18.17	18.18	18.34	17.69
5300	60	18.33	18.29	18.45	17.82
5320	64	17.49	17.49	17.47	16.49
5500	100	18.30	18.31	18.35	17.81
5600	120	18.43	18.48	18.47	17.93
5620	124	18.33	18.41	18.42	17.86
5720	144	18.32	18.38	18.39	17.79
5745	149	18.25	18.33	18.22	17.71
5785	157	18.44	18.21	18.33	17.82
5825	165	18.21	18.19	18.19	17.65

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Table 9-88
5 GHz WLAN Maximum Average RF Power – MIMO

5GHz (20MHz) 802.11n Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
5180	36	17.49	17.44	20.48
5200	40	18.21	18.26	21.25
5220	44	18.17	18.29	21.24
5240	48	18.26	18.22	21.25
5260	52	18.44	18.33	21.40
5280	56	18.47	18.18	21.34
5300	60	18.12	18.29	21.22
5320	64	17.11	17.49	20.31
5500	100	18.09	18.31	21.21
5600	120	18.16	18.48	21.33
5620	124	18.14	18.41	21.29
5720	144	18.27	18.38	21.34
5745	149	18.37	18.33	21.36
5785	157	18.28	18.21	21.26
5825	165	18.16	18.19	21.19

Table 9-89
Maximum Output Powers During Conditions with 2.4 GHz and 5 GHz WLAN

5GHz (80MHz) 802.11ac Conducted Power [dBm]			
Freq [MHz]	Channel	ANT1	ANT2
5210	42	13.99	13.74
5290	58	13.99	13.99
5530	106	13.48	13.12
5610	122	13.94	13.94
5690	138	13.96	13.96
5775	155	13.76	13.57

Table 9-90
2.4 GHz WLAN Reduced Average RF Power – Ant 1

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ax SU
		Average	Average	Average	Average
2412	1	16.44	16.13	16.05	16.02
2437	6	16.55	16.51	16.69	16.19
2457	10	N/A	16.97	16.77	16.11
2462	11	16.10	15.55	15.51	14.63

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Table 9-91
2.4 GHz WLAN Reduced Average RF Power – Ant 2

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ax SU
		Average	Average	Average	Average
2412	1	16.32	16.87	16.70	16.65
2437	6	16.56	16.48	16.62	16.78
2457	10	N/A	16.69	16.42	16.21
2462	11	16.44	15.68	15.67	15.20

Table 9-92
2.4 GHz WLAN Reduced Output Powers During Conditions with 5G NR - MIMO

2.4GHz 802.11n Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
2412	1	13.70	13.42	16.57
2437	6	13.43	13.51	16.48
2462	11	13.38	13.38	16.39

Table 9-93
5 GHz WLAN Reduced Average RF Power – Ant 1

5GHz (80MHz) Conducted Power [dBm]			
Freq [MHz]	Channel	IEEE Transmission Mode	
		802.11ac	802.11ax (SU)
		Average	Average
5210	42	13.99	13.39
5290	58	13.99	13.97
5530	106	13.48	13.34
5610	122	13.94	13.74
5690	138	13.96	13.64
5775	155	13.76	13.67

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Table 9-94
5 GHz WLAN Reduced Average RF Power – Ant 2

5GHz (80MHz) Conducted Power [dBm]			
Freq [MHz]	Channel	IEEE Transmission Mode	
		802.11ac	802.11ax (SU)
		Average	Average
5210	42	13.74	13.19
5290	58	13.99	13.85
5530	106	13.12	13.44
5610	122	13.94	13.89
5690	138	13.96	13.65
5775	155	13.57	13.73

Table 9-95
5 GHz WLAN Reduced Output Powers During Conditions with 5G NR – MIMO

5GHz (80MHz) 802.11ac Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
5210	42	13.99	13.74	16.88
5290	58	13.99	13.99	17.00
5530	106	13.48	13.12	16.31
5610	122	13.94	13.94	16.95
5690	138	13.96	13.96	16.97
5775	155	13.76	13.57	16.68

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

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

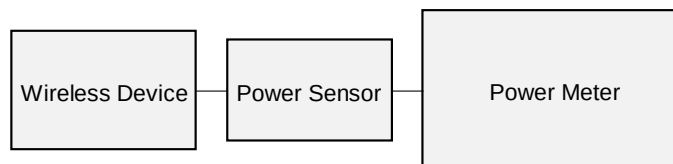


Figure 9-5
Power Measurement Setup

FCC ID: A3LSMN976V		SAR EVALUATION REPORT		Approved by: Quality Manager
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9.6 Bluetooth Conducted Powers

Table 9-96
Bluetooth Average RF Power

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
			[dBm]	[mW]
2402	1.0	0	14.11	25.748
2441	1.0	39	15.41	34.754
2480	1.0	78	12.73	18.746
2402	2.0	0	11.78	15.067
2441	2.0	39	12.48	17.692
2480	2.0	78	9.75	9.433
2402	3.0	0	11.85	15.295
2441	3.0	39	12.61	18.222
2480	3.0	78	9.75	9.432

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

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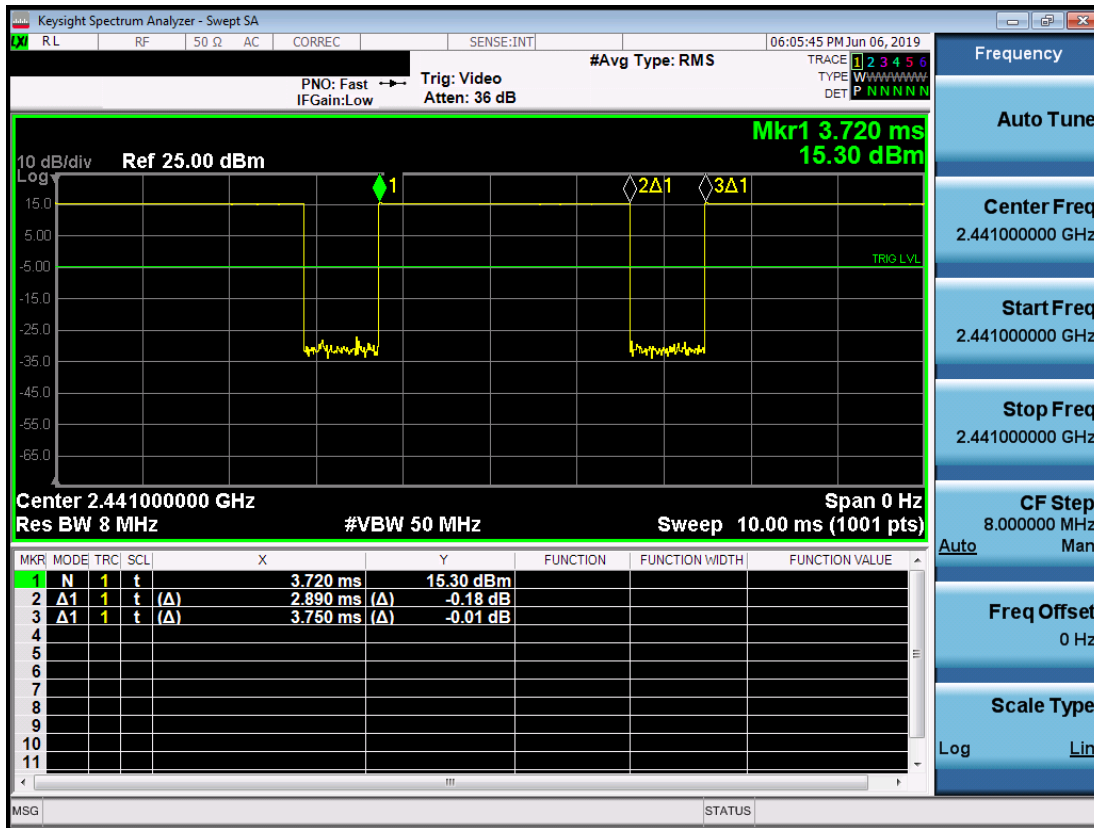


Figure 9-6
Bluetooth Transmission Plot

Equation 9-1
Bluetooth Duty Cycle Calculation

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

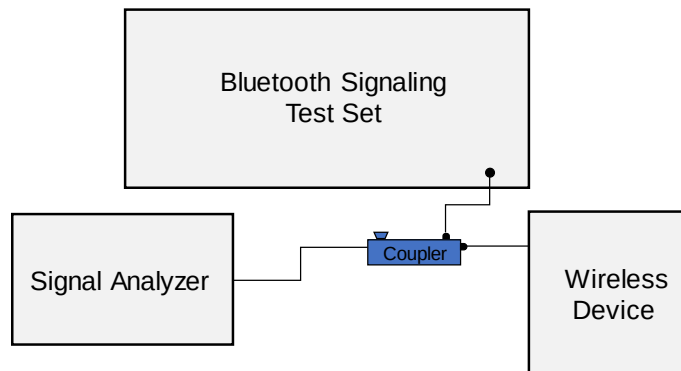


Figure 9-7
Power Measurement Setup

FCC ID: A3LSMN976V				Approved by: Quality Manager
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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
5/14/2019	750H	21.5	700	0.887	43.518	0.889	42.201	-0.22%	3.12%
			710	0.891	43.487	0.890	42.149	0.11%	3.17%
			720	0.894	43.457	0.891	42.097	0.34%	3.23%
			725	0.896	43.444	0.891	42.071	0.56%	3.26%
			740	0.901	43.407	0.893	41.994	0.90%	3.36%
			755	0.906	43.370	0.894	41.916	1.34%	3.47%
			770	0.911	43.327	0.895	41.838	1.79%	3.56%
			785	0.916	43.281	0.896	41.760	2.23%	3.64%
6/7/2019	750H	21.6	700	0.878	43.792	0.889	42.201	-1.24%	3.77%
			710	0.883	43.772	0.890	42.149	-0.79%	3.85%
			720	0.886	43.752	0.891	42.097	-0.56%	3.93%
			725	0.887	43.744	0.891	42.071	-0.45%	3.98%
			740	0.894	43.709	0.893	41.994	0.11%	4.08%
			755	0.899	43.688	0.894	41.916	0.56%	4.23%
			770	0.904	43.593	0.895	41.838	1.01%	4.19%
			785	0.909	43.556	0.896	41.760	1.45%	4.30%
5/20/2019	835H	21.7	820	0.877	41.112	0.899	41.578	-2.45%	-1.12%
			835	0.892	40.922	0.900	41.500	-0.89%	-1.39%
			850	0.907	40.735	0.916	41.500	-0.98%	-1.84%
6/4/2019	835H	21.7	820	0.910	42.640	0.899	41.578	1.22%	2.55%
			835	0.916	42.610	0.900	41.500	1.78%	2.67%
			850	0.921	42.569	0.916	41.500	0.55%	2.58%
6/20/2019	835H	22.8	820	0.913	41.661	0.899	41.578	1.56%	0.20%
			835	0.919	41.625	0.900	41.500	2.11%	0.30%
			850	0.924	41.592	0.916	41.500	0.87%	0.22%
6/19/2019	1750H	22.8	1710	1.338	39.843	1.348	40.142	-0.74%	-0.74%
			1750	1.362	39.781	1.371	40.079	-0.66%	-0.74%
			1790	1.385	39.699	1.394	40.016	-0.65%	-0.79%
5/22/2019	1900H	20.8	1850	1.419	38.291	1.400	40.000	-1.36%	-4.27%
			1880	1.437	38.233	1.400	40.000	2.64%	-4.42%
			1910	1.456	38.183	1.400	40.000	4.00%	-4.54%
5/29/2019	1900H	21.5	1850	1.395	39.159	1.400	40.000	-0.36%	-2.10%
			1880	1.427	39.005	1.400	40.000	1.93%	-2.49%
			1910	1.458	38.868	1.400	40.000	4.14%	-2.83%
5/28/2019	2450H	20.7	2400	1.780	37.971	1.756	39.289	1.37%	-3.35%
			2450	1.816	37.879	1.800	39.200	0.89%	-3.37%
			2500	1.854	37.821	1.855	39.136	-0.05%	-3.36%
6/17/2019	2450H	20.5	2400	1.813	40.290	1.756	39.289	3.25%	2.55%
			2450	1.853	40.208	1.800	39.200	2.94%	2.57%
			2500	1.893	40.134	1.855	39.136	2.05%	2.55%
5/20/2019	2450H	21.4	2500	1.855	38.723	1.855	39.136	0.00%	-1.06%
			2550	1.896	38.651	1.909	39.073	-0.68%	-1.08%
			2600	1.936	38.566	1.964	39.009	-1.43%	-1.14%
			2650	1.976	38.478	2.018	38.945	-2.08%	-1.20%
			2700	2.016	38.390	2.073	38.882	-2.75%	-1.27%
6/13/2019	3500H-3700H	20.8	3500	2.781	39.174	2.913	37.929	-4.53%	3.28%
			3550	2.833	39.095	2.964	37.871	-4.42%	3.23%
			3600	2.877	39.011	3.015	37.814	-4.58%	3.17%
			3645	2.923	38.938	3.061	37.763	-4.51%	3.11%
			3685	2.964	38.864	3.102	37.717	-4.45%	3.04%
06/10/2019	5200H-5800H	20.7	3725	2.997	38.810	3.143	37.671	-4.65%	3.02%
			5240	4.578	34.841	4.696	35.940	-2.51%	-3.06%
			5260	4.601	34.796	4.717	35.917	-2.46%	-3.12%
			5280	4.624	34.757	4.737	35.894	-2.39%	-3.17%
			5300	4.647	34.721	4.758	35.871	-2.33%	-3.21%
			5600	4.978	34.167	5.065	35.529	-1.72%	-3.83%
			5620	4.998	34.117	5.086	35.506	-1.73%	-3.91%
			5640	5.023	34.084	5.106	35.483	-1.63%	-3.94%
			5660	5.044	34.054	5.127	35.460	-1.62%	-3.97%
			5680	5.069	34.032	5.147	35.437	-1.52%	-3.96%
			5700	5.089	33.994	5.168	35.414	-1.53%	-4.01%
			5745	5.145	33.909	5.214	35.363	-1.32%	-4.11%
			5765	5.164	33.879	5.234	35.340	-1.34%	-4.13%
			5785	5.188	33.846	5.255	35.317	-1.27%	-4.17%
			5800	5.201	33.810	5.270	35.300	-1.31%	-4.22%

Table 10-2
Measured Body Tissue Properties

FCC ID: A3LSMN976V	 PCTEST ENGINEERING LABORATORY, INC. SAR EVALUATION REPORT 			Approved by: Quality Manager
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Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (°C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ϵ	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ϵ	% dev σ	% dev ϵ
5/16/2019	750B	23.5	700	0.919	56.674	0.959	55.726	-4.17%	1.70%
			710	0.923	56.651	0.960	55.687	-3.85%	1.73%
			720	0.927	56.628	0.961	55.648	-3.54%	1.76%
			725	0.929	56.614	0.961	55.629	-3.33%	1.77%
			740	0.934	56.574	0.963	55.570	-3.01%	1.81%
			755	0.939	56.534	0.964	55.512	-2.59%	1.84%
			770	0.943	56.500	0.965	55.453	-2.28%	1.89%
			785	0.949	56.469	0.966	55.395	-1.76%	1.94%
5/13/2019	835B	19.2	820	0.972	53.717	0.969	55.258	0.31%	-2.79%
			835	0.978	53.681	0.970	55.200	0.82%	-2.75%
			850	0.984	53.656	0.988	55.154	-0.40%	-2.72%
5/16/2019	835B	19.8	820	0.990	53.307	0.969	55.258	2.17%	-3.53%
			835	0.996	53.283	0.970	55.200	2.68%	-3.47%
			850	1.003	53.252	0.988	55.154	1.52%	-3.45%
6/5/2019	835B	20.2	820	0.997	53.031	0.969	55.258	2.89%	-4.03%
			835	1.004	53.015	0.970	55.200	3.51%	-3.96%
			850	1.010	52.993	0.988	55.154	2.23%	-3.92%
6/18/2019	835B	21.8	820	0.929	52.951	0.969	55.258	-4.13%	-4.36%
			835	0.945	52.698	0.970	55.200	-2.58%	-4.53%
			850	0.960	52.547	0.988	55.154	-2.83%	-4.73%
6/10/2019	1750B	21.5	1710	1.448	52.039	1.463	53.537	-1.03%	-2.80%
			1750	1.494	51.894	1.488	53.432	0.40%	-2.88%
			1790	1.539	51.730	1.514	53.326	1.65%	-2.99%
6/19/2019	1750B	22.5	1710	1.394	56.281	1.463	53.537	-4.72%	3.26%
			1750	1.420	56.258	1.488	53.432	-4.57%	3.42%
			1790	1.450	56.241	1.514	53.326	-4.23%	3.59%
6/26/2019	1750B	21.7	1710	1.451	52.834	1.463	53.537	-0.82%	-1.31%
			1750	1.497	52.681	1.488	53.432	0.60%	-1.41%
			1790	1.539	52.515	1.514	53.326	1.65%	-1.52%
5/21/2019	1900B	22.0	1850	1.529	51.836	1.520	53.300	0.59%	-2.75%
			1880	1.561	51.749	1.520	53.300	2.70%	-2.91%
			1910	1.594	51.667	1.520	53.300	4.87%	-3.06%
5/29/2019	1900B	23.3	1850	1.527	52.433	1.520	53.300	0.46%	-1.63%
			1880	1.561	52.323	1.520	53.300	2.70%	-1.83%
			1910	1.595	52.210	1.520	53.300	4.93%	-2.05%
6/5/2019	1900B	23.5	1850	1.514	52.064	1.520	53.300	-0.39%	-2.32%
			1880	1.548	51.975	1.520	53.300	1.84%	-2.49%
			1910	1.583	51.879	1.520	53.300	4.14%	-2.67%
6/7/2019	1900B	23.4	1850	1.512	52.376	1.520	53.300	-0.53%	-1.73%
			1880	1.545	52.296	1.520	53.300	1.64%	-1.88%
			1910	1.579	52.223	1.520	53.300	3.88%	-2.02%
6/10/2019	1900B	23.7	1850	1.519	52.304	1.520	53.300	-0.07%	-1.87%
			1880	1.554	52.184	1.520	53.300	2.24%	-2.09%
			1910	1.588	52.087	1.520	53.300	4.47%	-2.28%
6/12/2019	1900B	23.2	1850	1.510	51.888	1.520	53.300	-0.66%	-2.65%
			1880	1.542	51.791	1.520	53.300	1.45%	-2.83%
			1910	1.575	51.706	1.520	53.300	3.62%	-2.99%
6/19/2019	1900B	23.0	1850	1.510	52.301	1.520	53.300	-0.66%	-1.87%
			1880	1.542	52.214	1.520	53.300	1.45%	-2.04%
			1910	1.577	52.140	1.520	53.300	3.75%	-2.18%
5/15/2019	2450B	21.3	2400	1.984	52.742	1.902	52.767	4.31%	-0.05%
			2450	2.031	52.652	1.950	52.700	4.15%	-0.09%
			2500	2.079	52.583	2.021	52.636	2.87%	-0.10%
5/20/2019	2450B	23.7	2500	2.086	52.358	2.021	52.636	3.22%	-0.53%
			2550	2.148	52.220	2.092	52.573	2.68%	-0.67%
			2600	2.207	52.076	2.163	52.509	2.03%	-0.82%
5/26/2019	2450B	23.9	2650	2.268	51.917	2.234	52.445	1.52%	-1.01%
			2700	2.329	51.775	2.305	52.382	1.04%	-1.16%
			2400	1.984	51.674	1.902	52.767	4.31%	-2.07%
5/30/2019	2450B	23.3	2450	2.043	51.521	1.950	52.700	4.77%	-2.24%
			2500	2.103	51.362	2.021	52.636	4.06%	-2.42%
			2550	2.163	51.208	2.092	52.573	3.39%	-2.60%
6/8/2019	2450B	24.1	2600	2.223	51.046	2.163	52.509	2.77%	-2.79%
			2650	2.283	50.891	2.234	52.445	2.19%	-2.96%
			2700	2.345	50.728	2.305	52.382	1.74%	-3.16%
6/11/2019	2450B	24.5	2400	1.986	50.898	1.902	52.767	4.42%	-3.54%
			2450	2.044	50.749	1.950	52.700	4.82%	-3.70%
			2500	2.102	50.603	2.021	52.636	4.01%	-3.86%
6/12/2019	3500B-3700B	22.5	2550	2.160	50.458	2.092	52.573	3.25%	-4.02%
			2600	2.221	50.312	2.163	52.509	2.68%	-4.18%
			2650	2.281	50.161	2.234	52.445	2.10%	-4.36%
6/12/2019	3500B-3700B	22.5	2700	2.342	50.003	2.305	52.382	1.61%	-4.54%
			2400	1.981	51.854	1.902	52.767	4.15%	-1.73%
			2450	2.037	51.708	1.950	52.700	4.46%	-1.88%
6/12/2019	3500B-3700B	22.5	2500	2.099	51.556	2.021	52.636	3.86%	-2.05%
			2550	2.156	51.397	2.092	52.573	3.06%	-2.24%
			2600	2.217	51.245	2.163	52.509	2.50%	-2.41%
6/12/2019	3500B-3700B	22.5	2650	2.274	51.088	2.234	52.445	1.79%	-2.59%
			2700	2.333	50.903	2.305	52.382	1.21%	-2.82%
			2400	1.969	51.500	1.902	52.767	3.52%	-2.40%
6/12/2019	3500B-3700B	22.5	2450	2.025	51.350	1.950	52.700	3.85%	-2.56%
			2500	2.083	51.193	2.021	52.636	3.07%	-2.74%
			2550	2.142	51.041	2.092	52.573	2.39%	-2.91%
6/12/2019	3500B-3700B	22.5	2600	2.200	50.900	2.163	52.509	1.71%	-3.06%
			2650	2.258	50.749	2.234	52.445	1.07%	-3.23%
			2700	2.319	50.615	2.305	52.382	0.61%	-3.37%
6/12/2019	3500B-3700B	22.5	3500	3.377	51.089	3.314	51.321	1.90%	-0.45%
			3550	3.431	51.005	3.372	51.254	1.75%	-0.49%
			3600	3.485	50.935	3.431	51.186	1.57%	-0.49%
6/12/2019	3500B-3700B	22.5	3645	3.534	50.859	3.483	51.125	1.46%	-0.52%
			3685	3.577	50.799	3.530	51.070	1.33%	-0.53%
			3725	3.620	50.737	3.577	51.016	1.20%	-0.55%

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Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (°C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ϵ	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ϵ	%dev σ	%dev ϵ
05/20/2019	5200B-5800B	21.2	5180	5.301	47.484	5.276	49.041	0.47%	-3.17%
			5200	5.330	47.446	5.299	49.014	0.59%	-3.20%
			5220	5.362	47.404	5.323	48.987	0.73%	-3.23%
			5240	5.388	47.359	5.346	48.960	0.79%	-3.27%
			5260	5.420	47.306	5.369	48.933	0.95%	-3.32%
			5300	5.469	47.244	5.416	48.879	0.98%	-3.34%
			5320	5.503	47.217	5.439	48.851	1.18%	-3.34%
			5500	5.758	46.880	5.650	48.607	1.91%	-3.55%
			5520	5.789	46.839	5.673	48.580	2.04%	-3.58%
			5540	5.820	46.790	5.696	48.553	2.18%	-3.63%
			5560	5.848	46.760	5.720	48.526	2.24%	-3.64%
			5580	5.885	46.717	5.743	48.499	2.47%	-3.67%
			5600	5.910	46.670	5.766	48.471	2.50%	-3.72%
			5620	5.940	46.627	5.790	48.444	2.59%	-3.75%
			5640	5.970	46.612	5.813	48.417	2.70%	-3.73%
			5660	5.995	46.568	5.837	48.390	2.71%	-3.77%
			5680	6.030	46.510	5.860	48.363	2.90%	-3.83%
			5700	6.066	46.496	5.883	48.336	3.11%	-3.81%
			5745	6.130	46.412	5.936	48.275	3.27%	-3.86%
			5765	6.159	46.369	5.959	48.248	3.36%	-3.89%
			5785	6.189	46.334	5.982	48.220	3.46%	-3.91%
			5800	6.212	46.300	6.000	48.200	3.53%	-3.94%
			5180	5.341	47.824	5.276	49.041	1.23%	-2.48%
06/14/2019	5200B-5800B	22.4	5200	5.371	47.791	5.299	49.014	1.36%	-2.50%
			5220	5.399	47.735	5.323	48.987	1.43%	-2.56%
			5240	5.430	47.693	5.346	48.960	1.57%	-2.59%
			5260	5.457	47.651	5.369	48.933	1.64%	-2.62%
			5280	5.484	47.642	5.393	48.906	1.69%	-2.58%
			5300	5.508	47.594	5.416	48.879	1.70%	-2.63%
			5320	5.540	47.560	5.439	48.851	1.86%	-2.64%
			5500	5.800	47.215	5.650	48.607	2.65%	-2.86%
			5520	5.826	47.182	5.673	48.580	2.70%	-2.88%
			5540	5.856	47.127	5.696	48.553	2.81%	-2.94%
			5560	5.892	47.094	5.720	48.526	3.01%	-2.95%
			5580	5.925	47.055	5.743	48.499	3.17%	-2.98%
			5600	5.950	47.025	5.766	48.471	3.19%	-2.98%
			5620	5.976	46.976	5.790	48.444	3.21%	-3.03%
			5640	6.006	46.931	5.813	48.417	3.32%	-3.07%
			5660	6.039	46.908	5.837	48.390	3.46%	-3.06%
			5680	6.074	46.859	5.860	48.363	3.65%	-3.11%
			5700	6.103	46.837	5.883	48.336	3.74%	-3.10%
			5745	6.171	46.752	5.936	48.275	3.96%	-3.15%
			5765	6.196	46.711	5.959	48.248	3.98%	-3.19%
			5785	6.227	46.669	5.982	48.220	4.10%	-3.22%
			5800	6.253	46.650	6.000	48.200	4.22%	-3.22%

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

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10.2 Test System Verification

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

Table 10-3
System Verification Results – 1g

System Verification TARGET & MEASURED												
SAR System #	Tissue Frequency (MHz)	Tissue Type	Date	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Source SN	Probe SN	Measured SAR _{1g} (W/kg)	1 W Target SAR _{1g} (W/kg)	1 W Normalized SAR _{1g} (W/kg)	Deviation _{1g} (%)
H	750	HEAD	05/14/2019	21.6	21.5	0.200	1003	7409	1.760	8.280	8.800	6.28%
I	750	HEAD	06/07/2019	21.5	21.7	0.200	1003	7357	1.580	8.280	7.900	-4.59%
H	835	HEAD	05/20/2019	20.8	21.7	0.200	4d132	7409	1.940	9.590	9.700	1.15%
H	835	HEAD	06/04/2019	22.2	21.7	0.200	4d133	7409	2.010	9.430	10.050	6.57%
H	835	HEAD	06/20/2019	21.4	22.8	0.200	4d132	7406	1.980	9.590	9.900	3.23%
H	1750	HEAD	06/19/2019	21.9	22.0	0.100	1008	7406	3.860	36.200	38.600	6.63%
L	1900	HEAD	05/22/2019	22.6	20.6	0.100	5d080	7308	4.210	39.800	42.100	5.78%
L	1900	HEAD	05/29/2019	21.1	21.5	0.100	5d080	7308	4.250	39.800	42.500	6.78%
E	2450	HEAD	05/28/2019	22.1	20.7	0.100	797	3589	5.360	52.700	53.600	1.71%
E	2450	HEAD	06/17/2019	22.5	20.5	0.100	797	3589	5.390	52.700	53.900	2.28%
E	2600	HEAD	05/20/2019	23.1	21.4	0.100	1071	3589	5.500	56.300	55.000	-2.31%
E	3500	HEAD	06/13/2019	24.0	20.8	0.100	1055	3589	6.610	66.800	66.100	-1.05%
E	3700	HEAD	06/13/2019	24.0	20.8	0.100	1002	3589	6.940	67.900	69.400	2.21%
H	5250	HEAD	06/10/2019	21.6	20.7	0.050	1191	7406	3.960	78.900	79.200	0.38%
H	5600	HEAD	06/10/2019	21.6	20.7	0.050	1191	7406	4.000	83.600	80.000	-4.31%
H	5750	HEAD	06/10/2019	21.6	20.7	0.050	1191	7406	3.770	79.100	75.400	-4.68%
I	750	BODY	05/16/2019	22.8	22.1	0.200	1003	7357	1.700	8.580	8.500	-0.93%
J	835	BODY	05/13/2019	19.7	19.2	0.200	4d133	7488	1.860	9.750	9.300	-4.62%
J	835	BODY	05/16/2019	19.8	19.7	0.200	4d132	7488	1.980	9.670	9.900	2.38%
J	835	BODY	06/05/2019	22.7	20.2	0.200	4d132	7488	2.000	9.670	10.000	3.41%
D	835	BODY	06/18/2019	22.4	21.8	0.200	4d132	3914	2.050	9.670	10.250	6.00%
D	1750	BODY	06/10/2019	22.8	21.5	0.100	1008	3914	3.950	37.400	39.500	5.61%
I	1750	BODY	06/19/2019	22.2	22.5	0.100	1150	7357	3.850	36.600	38.500	5.19%
I	1750	BODY	06/26/2019	21.2	21.7	0.100	1150	7357	3.960	36.600	39.600	8.20%
G	1900	BODY	05/21/2019	23.2	21.7	0.100	5d149	7410	4.090	39.400	40.900	3.81%
G	1900	BODY	05/29/2019	23.1	21.6	0.100	5d148	7410	4.220	39.100	42.200	7.93%
G	1900	BODY	06/05/2019	22.8	23.5	0.100	5d148	7410	4.220	39.100	42.200	7.93%
G	1900	BODY	06/07/2019	22.2	22.5	0.100	5d148	7410	4.000	39.100	40.000	2.30%
G	1900	BODY	06/10/2019	22.0	22.1	0.100	5d148	7410	4.030	39.100	40.300	3.07%
L	2450	BODY	05/15/2019	21.6	20.2	0.100	719	7308	4.960	50.100	49.600	-1.00%
K	2450	BODY	05/26/2019	22.8	23.1	0.100	719	7417	5.190	50.100	51.900	3.59%
K	2450	BODY	05/30/2019	24.6	22.3	0.100	719	7417	5.170	50.100	51.700	3.19%
K	2450	BODY	06/11/2019	24.6	24.5	0.100	719	7417	4.960	50.100	49.600	-1.00%
K	2600	BODY	05/20/2019	23.0	22.7	0.100	1004	7417	5.170	54.800	51.700	-5.66%
K	2600	BODY	05/26/2019	22.8	23.1	0.100	1004	7417	5.360	54.800	53.600	-2.19%
K	2600	BODY	05/30/2019	24.6	22.3	0.100	1004	7417	5.340	54.800	53.400	-2.55%
K	2600	BODY	06/11/2019	24.6	24.5	0.100	1004	7417	5.130	54.800	51.300	-6.39%
D	3500	BODY	06/12/2019	23.1	22.5	0.100	1055	3914	6.610	64.600	66.100	2.32%
D	3700	BODY	06/12/2019	23.1	22.5	0.100	1002	3914	6.810	65.000	68.100	4.77%
L	5250	BODY	06/14/2019	22.8	20.9	0.050	1237	7308	3.600	75.600	72.000	-4.76%
L	5600	BODY	06/14/2019	22.8	20.9	0.050	1237	7308	4.100	78.500	82.000	4.46%
L	5750	BODY	06/14/2019	22.8	20.9	0.050	1237	7308	3.750	75.900	75.000	-1.19%

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Table 10-4
System Verification Results – 10g

System Verification TARGET & MEASURED												
SAR System #	Tissue Frequency (MHz)	Tissue Type	Date	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Source SN	Probe SN	Measured SAR _{10g} (W/kg)	1 W Target SAR _{10g} (W/kg)	1 W Normalized SAR _{10g} (W/kg)	Deviation _{10g} (%)
D	1750	BODY	06/10/2019	22.8	21.5	0.100	1008	3914	2.070	19.900	20.700	4.02%
G	1900	BODY	05/29/2019	23.1	21.6	0.100	5d148	7410	2.170	20.500	21.700	5.85%
G	1900	BODY	06/05/2019	22.8	23.5	0.100	5d148	7410	2.180	20.500	21.800	6.34%
G	1900	BODY	06/10/2019	22.0	22.1	0.100	5d148	7410	2.090	20.500	20.900	1.95%
G	1900	BODY	06/12/2019	22.6	22.0	0.100	5d149	7410	2.050	20.700	20.500	-0.97%
G	1900	BODY	06/19/2019	22.6	22.3	0.100	5d149	7410	2.050	20.700	20.500	-0.97%
K	2450	BODY	05/26/2019	22.8	23.1	0.100	719	7417	2.370	23.700	23.700	0.00%
K	2450	BODY	06/08/2019	22.7	22.5	0.100	719	7417	2.270	23.700	22.700	-4.22%
K	2600	BODY	05/26/2019	22.8	23.1	0.100	1004	7417	2.360	24.700	23.600	-4.45%
K	2600	BODY	06/08/2019	22.7	22.5	0.100	1004	7417	2.360	24.700	23.600	-4.45%
L	5250	BODY	05/20/2019	21.1	20.2	0.050	1057	7308	1.030	21.100	20.600	-2.37%
L	5600	BODY	05/20/2019	21.1	20.2	0.050	1057	7308	1.060	22.300	21.200	-4.93%
L	5750	BODY	05/20/2019	21.1	20.2	0.050	1057	7308	1.000	21.200	20.000	-5.66%

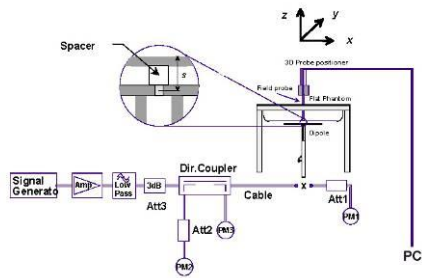


Figure 10-1
System Verification Setup Diagram



Figure 10-2
System Verification Setup Photo

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11 SAR DATA SUMMARY

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

11.1 Standalone Head SAR Data

Table 11-1
Cell. CDMA Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Ant State	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
836.52	384	Cell. CDMA	RC3 / SO55	26.3	25.90	-0.21	Right	Cheek	0	0097M	1:1	0.167	1.096	0.183	A1
836.52	384	Cell. CDMA	RC3 / SO55	26.3	25.90	0.04	Right	Tilt	0	0097M	1:1	0.067	1.096	0.073	
836.52	384	Cell. CDMA	RC3 / SO55	26.3	25.90	-0.04	Left	Cheek	0	0097M	1:1	0.102	1.096	0.112	
836.52	384	Cell. CDMA	RC3 / SO55	26.3	25.90	0.00	Left	Tilt	0	0097M	1:1	0.055	1.096	0.060	
836.52	384	Cell. CDMA	EVDO Rev. A	26.3	26.01	-0.07	Right	Cheek	0	0097M	1:1	0.161	1.069	0.172	
836.52	384	Cell. CDMA	EVDO Rev. A	26.3	26.01	0.03	Right	Tilt	0	0097M	1:1	0.066	1.069	0.071	
836.52	384	Cell. CDMA	EVDO Rev. A	26.3	26.01	0.08	Left	Cheek	0	0097M	1:1	0.108	1.069	0.115	
836.52	384	Cell. CDMA	EVDO Rev. A	26.3	26.01	0.09	Left	Tilt	0	0097M	1:1	0.057	1.069	0.061	
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
PCS CDMA Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Ant State	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1880.00	600	PCS CDMA	RC3 / SO55	25.0	24.03	0.15	Right	Cheek	0	0137M	1:1	0.083	1.250	0.104	
1880.00	600	PCS CDMA	RC3 / SO55	25.0	24.03	0.09	Right	Tilt	0	0137M	1:1	0.064	1.250	0.080	
1880.00	600	PCS CDMA	RC3 / SO55	25.0	24.03	0.01	Left	Cheek	0	0137M	1:1	0.118	1.250	0.148	A2
1880.00	600	PCS CDMA	RC3 / SO55	25.0	24.03	0.13	Left	Tilt	0	0137M	1:1	0.058	1.250	0.073	
1880.00	600	PCS CDMA	EVDO Rev. A	25.0	23.56	0.21	Right	Cheek	0	0137M	1:1	0.081	1.393	0.113	
1880.00	600	PCS CDMA	EVDO Rev. A	25.0	23.56	0.10	Right	Tilt	0	0137M	1:1	0.056	1.393	0.078	
1880.00	600	PCS CDMA	EVDO Rev. A	25.0	23.56	0.16	Left	Cheek	0	0137M	1:1	0.099	1.393	0.138	
1880.00	600	PCS CDMA	EVDO Rev. A	25.0	23.56	0.14	Left	Tilt	0	0137M	1:1	0.054	1.393	0.075	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram							

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**Table 11-3
GSM 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	31.80	0.03	Right	Cheek	0137M	1:8.3	0.074	1.479	0.109	A3
836.60	190	GSM 850	GSM	33.5	31.80	0.01	Right	Tilt	0137M	1:8.3	0.038	1.479	0.056	
836.60	190	GSM 850	GSM	33.5	31.80	0.14	Left	Cheek	0137M	1:8.3	0.060	1.479	0.089	
836.60	190	GSM 850	GSM	33.5	31.80	0.18	Left	Tilt	0137M	1:8.3	0.030	1.479	0.044	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

**Table 11-4
GSM 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	30.0	28.76	0.18	Right	Cheek	0137M	1:8.3	0.034	1.330	0.045	
1880.00	661	GSM 1900	GSM	30.0	28.76	0.07	Right	Tilt	0137M	1:8.3	0.030	1.330	0.040	
1880.00	661	GSM 1900	GSM	30.0	28.76	0.00	Left	Cheek	0137M	1:8.3	0.043	1.330	0.057	A4
1880.00	661	GSM 1900	GSM	30.0	28.76	0.19	Left	Tilt	0137M	1:8.3	0.020	1.330	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 11-5
UMTS 850 Head SAR**

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Ant State	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
836.60	4183	UMTS 850	RMC	25.5	24.22	0.00	Right	Cheek	0	0137M	1:1	0.140	1.343	0.188	A5
836.60	4183	UMTS 850	RMC	25.5	24.22	0.19	Right	Tilt	0	0137M	1:1	0.060	1.343	0.081	
836.60	4183	UMTS 850	RMC	25.5	24.22	0.09	Left	Cheek	0	0137M	1:1	0.103	1.343	0.138	
836.60	4183	UMTS 850	RMC	25.5	24.22	0.14	Left	Tilt	0	0137M	1:1	0.050	1.343	0.067	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram								

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Table 11-6
UMTS 1900 Head SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode/Band	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Ant State	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1880.00	9400	UMTS 1900	RMC	25.0	23.76	0.16	Right	Cheek	0	0137M	1:1	0.104	1.330	0.138	
1880.00	9400	UMTS 1900	RMC	25.0	23.76	0.04	Right	Tilt	0	0137M	1:1	0.079	1.330	0.105	
1880.00	9400	UMTS 1900	RMC	25.0	23.76	0.08	Left	Cheek	0	0137M	1:1	0.123	1.330	0.164	A6
1880.00	9400	UMTS 1900	RMC	25.0	23.76	0.12	Left	Tilt	0	0137M	1:1	0.053	1.330	0.070	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-7
LTE Band 12 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Ant State	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.	(W/kg)															(W/kg)			
707.50	2309S	Mid	LTE Band 12	10	25.8	24.99	-0.08	0	Right	Cheek	54	QPSK	1	25	0122M	1:1	0.107	1.205	0.129	A7
707.50	2309S	Mid	LTE Band 12	10	24.8	24.29	0.02	1	Right	Cheek	54	QPSK	25	0	0122M	1:1	0.085	1.125	0.096	
707.50	2309S	Mid	LTE Band 12	10	25.8	24.99	0.05	0	Right	Tilt	54	QPSK	1	25	0122M	1:1	0.051	1.205	0.061	
707.50	2309S	Mid	LTE Band 12	10	24.8	24.29	0.10	1	Right	Tilt	54	QPSK	25	0	0122M	1:1	0.044	1.125	0.050	
707.50	2309S	Mid	LTE Band 12	10	25.8	24.99	0.16	0	Left	Cheek	54	QPSK	1	25	0122M	1:1	0.086	1.205	0.104	
707.50	2309S	Mid	LTE Band 12	10	24.8	24.29	0.02	1	Left	Cheek	54	QPSK	25	0	0122M	1:1	0.065	1.125	0.073	
707.50	2309S	Mid	LTE Band 12	10	25.8	24.99	0.17	0	Left	Tilt	54	QPSK	1	25	0122M	1:1	0.048	1.205	0.058	
707.50	2309S	Mid	LTE Band 12	10	24.8	24.29	0.21	1	Left	Tilt	54	QPSK	25	0	0122M	1:1	0.032	1.125	0.036	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram											

Table 11-8
LTE Band 13 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Ant State	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
782.00	23230	Mid	LTE Band 13	10	25.8	25.24	0.04	0	Right	Cheek	0	QPSK	1	25	0122M	1:1	0.127	1.138	0.145	A8
782.00	23230	Mid	LTE Band 13	10	24.8	24.31	0.03	1	Right	Cheek	0	QPSK	25	0	0122M	1:1	0.120	1.119	0.134	
782.00	23230	Mid	LTE Band 13	10	25.8	25.24	0.06	0	Right	Tilt	0	QPSK	1	25	0122M	1:1	0.076	1.138	0.086	
782.00	23230	Mid	LTE Band 13	10	24.8	24.31	-0.02	1	Right	Tilt	0	QPSK	25	0	0122M	1:1	0.060	1.119	0.067	
782.00	23230	Mid	LTE Band 13	10	25.8	25.24	0.05	0	Left	Cheek	0	QPSK	1	25	0122M	1:1	0.100	1.138	0.114	
782.00	23230	Mid	LTE Band 13	10	24.8	24.31	0.14	1	Left	Cheek	0	QPSK	25	0	0122M	1:1	0.083	1.119	0.093	
782.00	23230	Mid	LTE Band 13	10	25.8	25.24	0.08	0	Left	Tilt	0	QPSK	1	25	0122M	1:1	0.068	1.138	0.077	
782.00	23230	Mid	LTE Band 13	10	24.8	24.31	0.13	1	Left	Tilt	0	QPSK	25	0	0122M	1:1	0.055	1.119	0.062	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram											

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Table 11-9
LTE Band 26 (Cell) Head SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Ant State	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.8	25.33	0.08	0	Right	Cheek	0	QPSK	1	0	0122M	1:1	0.108	1.114	0.120	A9
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.8	24.38	0.08	1	Right	Cheek	0	QPSK	36	18	0122M	1:1	0.102	1.102	0.112	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.8	25.33	-0.04	0	Right	Tilt	0	QPSK	1	0	0122M	1:1	0.062	1.114	0.069	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.8	24.38	0.11	1	Right	Tilt	0	QPSK	36	18	0122M	1:1	0.055	1.102	0.061	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.8	25.33	0.13	0	Left	Cheek	0	QPSK	1	0	0122M	1:1	0.083	1.114	0.092	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.8	24.38	0.16	1	Left	Cheek	0	QPSK	36	18	0122M	1:1	0.081	1.102	0.089	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.8	25.33	0.07	0	Left	Tilt	0	QPSK	1	0	0122M	1:1	0.058	1.114	0.065	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.8	24.38	0.04	1	Left	Tilt	0	QPSK	36	18	0122M	1:1	0.051	1.102	0.056	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram											

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

MEASUREMENT RESULTS																						
1 CC Uplink	Component Carrier	FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Ant State	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
		MHz	Ch.															(W/kg)		(W/kg)		
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	24.38	-0.15	0	Right	Cheek	0	QPSK	1	0	0448M	1:1	0.184	1.387	0.255	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	23.40	-0.02	1	Right	Cheek	0	QPSK	25	25	0448M	1:1	0.148	1.380	0.204	
2 CC Uplink	PCC	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	24.68	0.03	0	Right	Cheek	0	QPSK	1	0	0448M	1:1	0.201	1.294	0.260	A10
	SCC	829.30	20453	Mid	LTE Band 5 (Cell)	5									1	24						
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	24.38	0.03	0	Right	Tilt	0	QPSK	1	0	0448M	1:1	0.089	1.387	0.123	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	23.40	0.11	1	Right	Tilt	0	QPSK	25	25	0448M	1:1	0.067	1.380	0.092	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	24.38	-0.10	0	Left	Cheek	0	QPSK	1	0	0448M	1:1	0.163	1.387	0.226	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	23.40	0.07	1	Left	Cheek	0	QPSK	25	25	0448M	1:1	0.113	1.380	0.156	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	24.38	-0.03	0	Left	Tilt	0	QPSK	1	0	0448M	1:1	0.095	1.387	0.132	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	23.40	0.04	1	Left	Tilt	0	QPSK	25	25	0448M	1:1	0.063	1.380	0.087	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT												Head										
Spatial Peak												1.6 W/kg (mW/g)										
Uncontrolled Exposure/General Population												averaged over 1 gram										

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

MEASUREMENT RESULTS																						
1 CC Uplink	Component Carrier	FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Ant State	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
		MHz	Ch.															(W/kg)		(W/kg)		
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.29	0.01	0	Right	Cheek	31	QPSK	1	0	0448M	1:1	0.075	1.178	0.088	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.40	0.10	1	Right	Cheek	31	QPSK	50	25	0448M	1:1	0.062	1.148	0.071	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.29	-0.15	0	Right	Tilt	31	QPSK	1	0	0448M	1:1	0.077	1.178	0.091	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.40	0.14	1	Right	Tilt	31	QPSK	50	25	0448M	1:1	0.076	1.148	0.087	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.29	0.05	0	Left	Cheek	31	QPSK	1	0	0448M	1:1	0.124	1.178	0.146	
1 CC Uplink	N/A	1775.00	132622	High	LTE Band 66 (AWS)	10	25.0	24.11	0.14	0	Left	Cheek	31	QPSK	1	0	0448M	1:1	0.125	1.227	0.153	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.40	0.21	1	Left	Cheek	31	QPSK	50	25	0448M	1:1	0.089	1.148	0.102	
CA_66C 2 CC Uplink	PCC	1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.54	-0.01	0	Left	Cheek	31	QPSK	1	0	0448M	1:1	0.137	1.112	0.152	A11
	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	25.0	24.22	0.06	0	Left	Cheek	31	QPSK	1	0	0448M	1:1	0.122	1.197	0.146	
	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	25.0	24.29	0.10	0	Left	Tilt	31	QPSK	1	0	0448M	1:1	0.077	1.178	0.091	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.40	0.15	1	Left	Tilt	31	QPSK	50	25	0448M	1:1	0.064	1.148	0.073	
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 2 (PCS) Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Ant State	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.	(W/kg)															(W/kg)			
1860.00	18700	Low	LTE Band 2 (PCS)	20	25.0	24.02	0.18	0	Right	Cheek	0	QPSK	1	99	0134M	1:1	0.062	1.253	0.078	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	24.0	23.23	0.12	1	Right	Cheek	0	QPSK	50	50	0134M	1:1	0.048	1.194	0.057	
1860.00	18700	Low	LTE Band 2 (PCS)	20	25.0	24.02	0.04	0	Right	Tilt	0	QPSK	1	99	0134M	1:1	0.066	1.253	0.083	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	24.0	23.23	0.18	1	Right	Tilt	0	QPSK	50	50	0134M	1:1	0.052	1.194	0.062	
1860.00	18700	Low	LTE Band 2 (PCS)	20	25.0	24.02	0.09	0	Left	Cheek	0	QPSK	1	99	0134M	1:1	0.104	1.253	0.130	A12
1880.00	18900	Mid	LTE Band 2 (PCS)	20	24.0	23.23	-0.13	1	Left	Cheek	0	QPSK	50	50	0134M	1:1	0.084	1.194	0.100	
1860.00	18700	Low	LTE Band 2 (PCS)	20	25.0	24.02	0.08	0	Left	Tilt	0	QPSK	1	99	0134M	1:1	0.043	1.253	0.054	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	24.0	23.23	0.15	1	Left	Tilt	0	QPSK	50	50	0134M	1:1	0.037	1.194	0.044	
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 7 Head SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.	(W/kg)														(W/kg)			
2560.00	21350	High	LTE Band 7	20	24.0	23.65	0.16	0	Right	Cheek	QPSK	1	50	0094M	1:1	0.078	1.084	0.085	
2560.00	21350	High	LTE Band 7	20	23.0	23.00	0.15	1	Right	Cheek	QPSK	50	25	0094M	1:1	0.069	1.000	0.069	
2560.00	21350	High	LTE Band 7	20	24.0	23.65	0.13	0	Right	Tilt	QPSK	1	50	0094M	1:1	0.081	1.084	0.088	
2560.00	21350	High	LTE Band 7	20	23.0	23.00	0.12	1	Right	Tilt	QPSK	50	25	0094M	1:1	0.063	1.000	0.063	
2560.00	21350	High	LTE Band 7	20	24.0	23.65	0.19	0	Left	Cheek	QPSK	1	50	0094M	1:1	0.097	1.084	0.105	A13
2560.00	21350	High	LTE Band 7	20	23.0	23.00	0.18	1	Left	Cheek	QPSK	50	25	0094M	1:1	0.084	1.000	0.084	
2560.00	21350	High	LTE Band 7	20	24.0	23.65	0.16	0	Left	Tilt	QPSK	1	50	0094M	1:1	0.054	1.084	0.059	
2560.00	21350	High	LTE Band 7	20	23.0	23.00	0.18	1	Left	Tilt	QPSK	50	25	0094M	1:1	0.050	1.000	0.050	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-14
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)		
3603.30	55773	Low-Mid	LTE Band 48	20	23.0	22.48	0.14	0	Right	Cheek	QPSK	1	0	0094M	1:1.58	0.013	1.127	0.015	
3646.70	56207	Mid-High	LTE Band 48	20	22.0	21.49	0.14	1	Right	Cheek	QPSK	50	25	0094M	1:1.58	0.010	1.125	0.011	
3603.30	55773	Low-Mid	LTE Band 48	20	23.0	22.48	0.19	0	Right	Tilt	QPSK	1	0	0094M	1:1.58	0.021	1.127	0.024	A14
3646.70	56207	Mid-High	LTE Band 48	20	22.0	21.49	0.14	1	Right	Tilt	QPSK	50	25	0094M	1:1.58	0.007	1.125	0.008	
3603.30	55773	Low-Mid	LTE Band 48	20	23.0	22.48	0.17	0	Left	Cheek	QPSK	1	0	0094M	1:1.58	0.012	1.127	0.014	
3646.70	56207	Mid-High	LTE Band 48	20	22.0	21.49	0.20	1	Left	Cheek	QPSK	50	25	0094M	1:1.58	0.012	1.125	0.014	
3603.30	55773	Low-Mid	LTE Band 48	20	23.0	22.48	0.20	0	Left	Tilt	QPSK	1	0	0094M	1:1.58	0.005	1.127	0.006	
3646.70	56207	Mid-High	LTE Band 48	20	22.0	21.49	-0.18	1	Left	Tilt	QPSK	50	25	0094M	1:1.58	0.005	1.125	0.006	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram										

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Table 11-15
LTE Band 41 Head SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.	(W/kg)														(W/kg)			
2593.00	40620	Mid	LTE Band 41	20	24.5	23.93	0.02	0	Right	Cheek	QPSK	1	50	0094M	1:1.58	0.072	1.140	0.082	A15
2593.00	40620	Mid	LTE Band 41	20	23.5	23.14	0.19	1	Right	Cheek	QPSK	50	25	0094M	1:1.58	0.052	1.086	0.056	
2593.00	40620	Mid	LTE Band 41	20	24.5	23.93	0.20	0	Right	Tilt	QPSK	1	50	0094M	1:1.58	0.063	1.140	0.072	
2593.00	40620	Mid	LTE Band 41	20	23.5	23.14	0.12	1	Right	Tilt	QPSK	50	25	0094M	1:1.58	0.051	1.086	0.055	
2593.00	40620	Mid	LTE Band 41	20	24.5	23.93	0.16	0	Left	Cheek	QPSK	1	50	0094M	1:1.58	0.068	1.140	0.078	
2593.00	40620	Mid	LTE Band 41	20	23.5	23.14	-0.05	1	Left	Cheek	QPSK	50	25	0094M	1:1.58	0.063	1.086	0.068	
2593.00	40620	Mid	LTE Band 41	20	24.5	23.93	0.12	0	Left	Tilt	QPSK	1	50	0094M	1:1.58	0.045	1.140	0.051	
2593.00	40620	Mid	LTE Band 41	20	23.5	23.14	0.16	1	Left	Tilt	QPSK	50	25	0094M	1:1.58	0.038	1.086	0.041	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram									

Table 11-16
DTS SISO Head SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
2437	6	802.11b	DSSS	22	17.0	16.55	0.06	Right	Cheek	1	0060M	1	100.0	0.545	-	1.109	1.000	-	
2437	6	802.11b	DSSS	22	17.0	16.55	0.17	Right	Tilt	1	0060M	1	100.0	0.668	0.348	1.109	1.000	0.386	A16
2437	6	802.11b	DSSS	22	17.0	16.55	-0.16	Left	Cheek	1	0060M	1	100.0	0.088	-	1.109	1.000	-	
2437	6	802.11b	DSSS	22	17.0	16.55	0.12	Left	Tilt	1	0060M	1	100.0	0.093	-	1.109	1.000	-	
2437	6	802.11b	DSSS	22	17.0	16.56	0.18	Right	Cheek	2	0437M	1	100.0	0.043	0.023	1.107	1.000	0.025	
2437	6	802.11b	DSSS	22	17.0	16.56	0.17	Right	Tilt	2	0437M	1	100.0	0.031	-	1.107	1.000	-	
2437	6	802.11b	DSSS	22	17.0	16.56	0.21	Left	Cheek	2	0437M	1	100.0	0.015	-	1.107	1.000	-	
2437	6	802.11b	DSSS	22	17.0	16.56	0.19	Left	Tilt	2	0437M	1	100.0	0.018	-	1.107	1.000	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-17
DTS MIMO Head SAR for Conditions with 5G NR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)		(W/kg)		
2412	1	802.11n	OFDM	20	14.0	13.70	14.0	13.42	0.18	Right	Cheek	MIMO	0459M	13	98.2	0.241	-	1.143	1.018	-	
2412	1	802.11n	OFDM	20	14.0	13.70	14.0	13.42	0.18	Right	Tilt	MIMO	0459M	13	98.2	0.278	0.218	1.143	1.018	0.254	
2412	1	802.11n	OFDM	20	14.0	13.70	14.0	13.42	0.18	Left	Cheek	MIMO	0459M	13	98.2	0.070	-	1.143	1.018	-	
2412	1	802.11n	OFDM	20	14.0	13.70	14.0	13.42	0.20	Left	Tilt	MIMO	0459M	13	98.2	0.091	-	1.143	1.018	-	
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: For channel 1 to achieve the 17 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 14 dBm.

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Table 11-18
NII SISO Head SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5290	58	802.11ac	OFDM	80	14.0	13.99	0.09	Right	Cheek	1	0459M	29.3	95.2	0.638	-	1.002	1.050	-	
5290	58	802.11ac	OFDM	80	14.0	13.99	0.13	Right	Tilt	1	0459M	29.3	95.2	0.793	0.294	1.002	1.050	0.309	
5290	58	802.11ac	OFDM	80	14.0	13.99	0.19	Left	Cheek	1	0459M	29.3	95.2	0.142	-	1.002	1.050	-	
5290	58	802.11ac	OFDM	80	14.0	13.99	0.15	Left	Tilt	1	0459M	29.3	95.2	0.178	-	1.002	1.050	-	
5290	58	802.11ac	OFDM	80	14.0	13.99	0.19	Right	Cheek	2	0459M	29.3	94.8	0.074	0.025	1.002	1.055	0.026	
5290	58	802.11ac	OFDM	80	14.0	13.99	0.12	Right	Tilt	2	0459M	29.3	94.8	0.063	-	1.002	1.055	-	
5290	58	802.11ac	OFDM	80	14.0	13.99	0.19	Left	Cheek	2	0459M	29.3	94.8	0.027	-	1.002	1.055	-	
5290	58	802.11ac	OFDM	80	14.0	13.99	0.21	Left	Tilt	2	0459M	29.3	94.8	0.040	-	1.002	1.055	-	
5690	138	802.11ac	OFDM	80	14.0	13.96	-0.06	Right	Cheek	1	0459M	29.3	95.2	0.916	-	1.009	1.050	-	
5690	138	802.11ac	OFDM	80	14.0	13.96	0.14	Right	Tilt	1	0459M	29.3	95.2	0.957	0.354	1.009	1.050	0.375	A17
5690	138	802.11ac	OFDM	80	14.0	13.96	0.17	Left	Cheek	1	0459M	29.3	95.2	0.296	-	1.009	1.050	-	
5690	138	802.11ac	OFDM	80	14.0	13.96	0.16	Left	Tilt	1	0459M	29.3	95.2	0.401	-	1.009	1.050	-	
5690	138	802.11ac	OFDM	80	14.0	13.96	0.19	Right	Cheek	2	0459M	29.3	94.8	0.052	-	1.009	1.055	-	
5690	138	802.11ac	OFDM	80	14.0	13.96	0.17	Right	Tilt	2	0459M	29.3	94.8	0.068	-	1.009	1.055	-	
5690	138	802.11ac	OFDM	80	14.0	13.96	0.19	Left	Cheek	2	0459M	29.3	94.8	0.067	-	1.009	1.055	-	
5690	138	802.11ac	OFDM	80	14.0	13.96	0.19	Left	Tilt	2	0459M	29.3	94.8	0.086	0.029	1.009	1.055	0.031	
5775	155	802.11ac	OFDM	80	14.0	13.76	0.12	Right	Cheek	1	0459M	29.3	95.2	0.902	-	1.057	1.050	-	
5775	155	802.11ac	OFDM	80	14.0	13.76	0.13	Right	Tilt	1	0459M	29.3	95.2	0.968	0.332	1.057	1.050	0.368	
5775	155	802.11ac	OFDM	80	14.0	13.76	0.18	Left	Cheek	1	0459M	29.3	95.2	0.347	-	1.057	1.050	-	
5775	155	802.11ac	OFDM	80	14.0	13.76	0.21	Left	Tilt	1	0459M	29.3	95.2	0.443	-	1.057	1.050	-	
5775	155	802.11ac	OFDM	80	14.0	13.57	0.19	Right	Cheek	2	0459M	29.3	94.8	0.042	0.011	1.104	1.055	0.013	
5775	155	802.11ac	OFDM	80	14.0	13.57	0.17	Right	Tilt	2	0459M	29.3	94.8	0.026	-	1.104	1.055	-	
5775	155	802.11ac	OFDM	80	14.0	13.57	0.16	Left	Cheek	2	0459M	29.3	94.8	0.023	-	1.104	1.055	-	
5775	155	802.11ac	OFDM	80	14.0	13.57	0.19	Left	Tilt	2	0459M	29.3	94.8	0.032	-	1.104	1.055	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram											

Table 11-19
NII MIMO Head SAR for Conditions with 5G NR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g) (W/kg)	Plot #
MHz	Ch.															W/kg	(W/kg)	(W/kg)			
5290	58	802.11ac	OFDM	80	14.0	13.99	14.0	13.99	-0.13	Right	Cheek	MIMO	0459M	58.5	89.6	0.548	-	1.002	1.116	-	
5290	58	802.11ac	OFDM	80	14.0	13.99	14.0	13.99	0.16	Right	Tilt	MIMO	0459M	58.5	89.6	0.615	0.230	1.002	1.116	0.257	
5290	58	802.11ac	OFDM	80	14.0	13.99	14.0	13.99	0.13	Left	Cheek	MIMO	0459M	58.5	89.6	0.181	-	1.002	1.116	-	
5290	58	802.11ac	OFDM	80	14.0	13.99	14.0	13.99	0.15	Left	Tilt	MIMO	0459M	58.5	89.6	0.172	-	1.002	1.116	-	
5690	138	802.11ac	OFDM	80	14.0	13.96	14.0	13.96	0.17	Right	Cheek	MIMO	0459M	58.5	89.6	0.448	-	1.009	1.116	-	
5690	138	802.11ac	OFDM	80	14.0	13.96	14.0	13.96	0.19	Right	Tilt	MIMO	0459M	58.5	89.6	0.506	0.177	1.009	1.116	0.199	
5690	138	802.11ac	OFDM	80	14.0	13.96	14.0	13.96	0.12	Left	Cheek	MIMO	0459M	58.5	89.6	0.187	-	1.009	1.116	-	
5690	138	802.11ac	OFDM	80	14.0	13.96	14.0	13.96	0.18	Left	Tilt	MIMO	0459M	58.5	89.6	0.238	-	1.009	1.116	-	
5775	155	802.11ac	OFDM	80	14.0	13.76	14.0	13.57	0.21	Right	Cheek	MIMO	0459M	58.5	89.6	0.536	0.268	1.104	1.116	0.330	
5775	155	802.11ac	OFDM	80	14.0	13.76	14.0	13.57	0.17	Right	Tilt	MIMO	0459M	58.5	89.6	0.484	-	1.104	1.116	-	
5775	155	802.11ac	OFDM	80	14.0	13.76	14.0	13.57	-0.05	Left	Cheek	MIMO	0459M	58.5	89.6	0.203	-	1.104	1.116	-	
5775	155	802.11ac	OFDM	80	14.0	13.76	14.0	13.57	0.13	Left	Tilt	MIMO	0459M	58.5	89.6	0.258	-	1.104	1.116	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Head 1.6 W/kg (mW/g) averaged over 1 gram										

Note: For channels 58, 138, and 155 to achieve the 17 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 14 dBm.

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Table 11-20
DSS Head SAR

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	SAR (1g)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)			(W/kg)	
2441.00	39	Bluetooth	FHSS	15.5	15.41	-0.05	Right	Cheek	0459M	1	77.1	0.281	1.021	1.297	0.372	A18
2441.00	39	Bluetooth	FHSS	15.5	15.41	-0.17	Right	Tilt	0459M	1	77.1	0.201	1.021	1.297	0.266	
2441.00	39	Bluetooth	FHSS	15.5	15.41	0.01	Left	Cheek	0459M	1	77.1	0.047	1.021	1.297	0.062	
2441.00	39	Bluetooth	FHSS	15.5	15.41	-0.13	Left	Tilt	0459M	1	77.1	0.030	1.021	1.297	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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11.2 Standalone Body-Worn SAR Data

Table 11-21
GSM/UMTS/CDMA Body-Worn SAR Data

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Ant State	Device Serial Number	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
836.52	384	Cell. CDMA	TDSO / SO32	26.3	25.99	-0.16	15 mm	0	0137M	1:1	back	0.227	1.074	0.244	A19
1851.25	25	PCS CDMA	TDSO / SO32	25.0	23.91	-0.02	15 mm	0	0137M	1:1	back	0.696	1.285	0.894	A21
1880.00	600	PCS CDMA	TDSO / SO32	25.0	23.98	-0.07	15 mm	0	0137M	1:1	back	0.643	1.265	0.813	
1908.75	1175	PCS CDMA	TDSO / SO32	25.0	24.03	0.00	15 mm	0	0137M	1:1	back	0.610	1.250	0.763	
836.60	190	GSM 850	GSM	33.5	31.80	0.05	15 mm	N/A	0137M	1:8.3	back	0.128	1.479	0.189	A23
1880.00	661	GSM 1900	GSM	30.0	28.76	0.03	15 mm	N/A	0442M	1:8.3	back	0.243	1.330	0.323	A25
836.60	4183	UMTS 850	RMC	25.5	24.22	-0.05	15 mm	5	0137M	1:1	back	0.238	1.343	0.320	A27
1852.40	9262	UMTS 1900	RMC	25.0	23.70	0.02	15 mm	29	0442M	1:1	back	0.791	1.349	1.067	A29
1880.00	9400	UMTS 1900	RMC	25.0	23.76	0.02	15 mm	29	0442M	1:1	back	0.691	1.330	0.919	
1907.60	9538	UMTS 1900	RMC	25.0	23.66	-0.03	15 mm	29	0442M	1:1	back	0.707	1.361	0.962	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram								

FCC ID: A3LSMN976V			SAR EVALUATION REPORT		Approved by: Quality Manager
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Table 11-22
LTE Body-Worn SAR

MEASUREMENT RESULTS																						
1 CC Uplink	Component Carrier	FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant State	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
		MHz	Ch.															(W/kg)		(W/kg)		
1 CC Uplink	N/A	707.50	23095	Mid	LTE Band 12	10	25.8	24.99	-0.05	0	0	0122M	QPSK	1	25	15 mm	back	1:1	0.155	1.205	0.187	A31
1 CC Uplink	N/A	707.50	23095	Mid	LTE Band 12	10	24.8	24.29	0.00	1	0	0122M	QPSK	25	0	15 mm	back	1:1	0.138	1.125	0.155	
1 CC Uplink	N/A	782.00	23230	Mid	LTE Band 13	10	25.8	25.24	0.02	0	57	0122M	QPSK	1	25	15 mm	back	1:1	0.197	1.138	0.224	A33
1 CC Uplink	N/A	782.00	23230	Mid	LTE Band 13	10	24.8	24.31	0.02	1	57	0122M	QPSK	25	0	15 mm	back	1:1	0.154	1.119	0.172	
1 CC Uplink	N/A	831.50	26865	Mid	LTE Band 26 (Cell)	15	25.8	25.33	-0.14	0	0	0122M	QPSK	1	0	15 mm	back	1:1	0.191	1.114	0.213	A35
1 CC Uplink	N/A	831.50	26865	Mid	LTE Band 26 (Cell)	15	24.8	24.38	0.01	1	0	0122M	QPSK	36	18	15 mm	back	1:1	0.177	1.102	0.195	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	24.38	0.04	0	2	0197M	QPSK	1	0	15 mm	back	1:1	0.134	1.387	0.186	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	23.40	0.03	1	2	0197M	QPSK	25	25	15 mm	back	1:1	0.120	1.380	0.166	
2 CC Uplink	PCC	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	24.68	0.04	0	2	0197M	QPSK	1	0	15 mm	back	1:1	0.141	1.294	0.182	A37
	SCC	829.30	20453		LTE Band 5 (Cell)	5									24							
1 CC Uplink	N/A	1720.00	132072	Low	LTE Band 66 (AWS)	20	25.0	24.09	-0.03	0	29	0470M	QPSK	1	99	15 mm	back	1:1	0.742	1.233	0.915	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.17	0.08	0	29	0470M	QPSK	1	99	15 mm	back	1:1	0.805	1.211	0.975	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.29	-0.05	0	29	0470M	QPSK	1	0	15 mm	back	1:1	0.841	1.178	0.991	
1 CC Uplink	N/A	1775.00	132622	High	LTE Band 66 (AWS)	10	25.0	24.11	-0.03	0	29	0470M	QPSK	1	0	15 mm	back	1:1	0.798	1.227	0.979	
1 CC Uplink	N/A	1720.00	132072	Low	LTE Band 66 (AWS)	20	24.0	23.21	-0.20	1	29	0470M	QPSK	50	50	15 mm	back	1:1	0.638	1.199	0.765	
1 CC Uplink	N/A	1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	23.33	0.03	1	29	0470M	QPSK	50	0	15 mm	back	1:1	0.583	1.167	0.680	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.40	0.00	1	29	0470M	QPSK	50	25	15 mm	back	1:1	0.763	1.148	0.876	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.33	-0.01	1	29	0470M	QPSK	100	0	15 mm	back	1:1	0.717	1.167	0.837	
CA_66C 2 CC Uplink	PCC	1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.54	0.09	0	29	0470M	QPSK	1	0	15 mm	back	1:1	0.891	1.112	0.991	A39
	SCC	1750.20	132374	High	LTE Band 66 (AWS)	20									99							
CA_66B 2 CC Uplink	PCC	1775.00	132622	High	LTE Band 66 (AWS)	10	25.0	24.22	-0.05	0	29	0470M	QPSK	1	0	15 mm	back	1:1	0.856	1.197	1.025	
	SCC	1765.10	132523	High	LTE Band 66 (AWS)	10									49							
1 CC Uplink	N/A	1860.00	18700	Low	LTE Band 2 (PCS)	20	25.0	24.02	0.04	0	0	0109M	QPSK	1	99	15 mm	back	1:1	0.539	1.253	0.675	
1 CC Uplink	N/A	1880.00	18900	Mid	LTE Band 2 (PCS)	20	25.0	23.93	-0.02	0	0	0109M	QPSK	1	0	15 mm	back	1:1	0.551	1.279	0.705	
1 CC Uplink	N/A	1900.00	19100	High	LTE Band 2 (PCS)	20	25.0	23.95	0.09	0	0	0109M	QPSK	1	0	15 mm	back	1:1	0.598	1.274	0.762	A41
1 CC Uplink	N/A	1880.00	18900	Mid	LTE Band 2 (PCS)	20	24.0	23.23	0.02	1	0	0109M	QPSK	50	50	15 mm	back	1:1	0.472	1.194	0.564	
1 CC Uplink	N/A	2560.00	21350	High	LTE Band 7	20	24.0	23.65	0.09	0	N/A	0437M	QPSK	1	50	15 mm	back	1:1	0.269	1.084	0.292	A43
1 CC Uplink	N/A	2560.00	21350	High	LTE Band 7	20	23.0	23.00	0.08	1	N/A	0437M	QPSK	50	25	15 mm	back	1:1	0.221	1.000	0.221	
1 CC Uplink	N/A	3603.30	55773	Low-Mid	LTE Band 48	20	23.0	22.48	0.13	0	N/A	0134M	QPSK	1	0	15 mm	back	1:1.58	0.099	1.127	0.112	A45
1 CC Uplink	N/A	3646.70	56207	Mid-High	LTE Band 48	20	22.0	21.49	0.19	1	N/A	0134M	QPSK	50	25	15 mm	back	1:1.58	0.083	1.125	0.093	
1 CC Uplink	N/A	2593.00	40620	Mid	LTE Band 41	20	24.5	23.93	0.03	0	N/A	0439M	QPSK	1	50	15 mm	back	1:1.58	0.341	1.140	0.389	A47
1 CC Uplink	N/A	2593.00	40620	Mid	LTE Band 41	20	23.5	23.14	0.00	1	N/A	0439M	QPSK	50	25	15 mm	back	1:1.58	0.280	1.086	0.304	
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 11-23
DTS Body-Worn SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)	(Power)	(Duty Cycle)	(W/kg)	
2437	6	802.11b	DSSS	22	21.0	20.97	-0.04	15 mm	1	0115M	1	back	100.0	0.170	0.117	1.007	1.000	0.118	A49
2437	6	802.11b	DSSS	22	21.0	20.99	0.17	15 mm	2	0437M	1	back	100.0	0.112	0.069	1.002	1.000	0.069	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram											

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Table 11-24
NII SISO Body-Worn SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)	(W/kg)			
5300	60	802.11a	OFDM	20	18.5	18.34	-0.21	15 mm	1	0437M	6	back	98.9	0.409	0.188	1.038	1.011	0.197	
5300	60	802.11a	OFDM	20	18.5	18.33	-0.19	15 mm	2	0437M	6	back	98.8	0.224	0.091	1.040	1.012	0.096	
5620	124	802.11a	OFDM	20	18.5	18.14	-0.13	15 mm	1	0437M	6	back	98.9	0.652	0.330	1.086	1.011	0.362	
5600	120	802.11a	OFDM	20	18.5	18.43	0.02	15 mm	2	0437M	6	back	98.8	0.609	0.282	1.016	1.012	0.290	
5745	149	802.11a	OFDM	20	18.5	18.30	-0.11	15 mm	1	0437M	6	back	98.9	1.105	0.420	1.047	1.011	0.445	
5785	157	802.11a	OFDM	20	18.5	18.44	-0.16	15 mm	2	0437M	6	back	98.8	0.362	0.159	1.014	1.012	0.163	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT																			
Spatial Peak								Body											
Uncontrolled Exposure/General Population								1.6 W/kg (mW/g)											
								averaged over 1 gram											

Table 11-25
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)	
5260	52	802.11n	OFDM	20	18.5	18.44	18.5	18.33	-0.09	15 mm	MIMO	0437M	13	back	98.7	0.603	0.272	1.040	1.013	0.287	
5720	144	802.11n	OFDM	20	18.5	18.27	18.5	18.38	0.06	15 mm	MIMO	0437M	13	back	98.7	1.032	0.454	1.054	1.013	0.485	
5745	140	802.11n	OFDM	20	18.5	18.37	18.5	18.33	0.01	15 mm	MIMO	0437M	13	back	98.7	1.208	0.482	1.040	1.013	0.508	AG1
ANSI / IEEE C95.1 1992 - SAFETY LIMIT										Body 1.6 W/kg (mW/g) averaged over 1 gram											
Spatial Peak Uncontrolled Exposure/General Population																					

Note: For channels 52, 144, and 149 to achieve the 21.5 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 18.5 dBm.

Table 11-26
NII MIMO Body-Worn SAR for Conditions with 2.4 GHz and 5 GHz WLAN or for Conditions with 5G NR

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)			
5290	58	802.11ac	OFDM	80	14.0	13.99	14.0	13.99	-0.06	15 mm	MIMO	0437M	58.5	back	89.6	0.229	0.094	1.002	1.116	0.105	
5690	138	802.11ac	OFDM	80	14.0	13.96	14.0	13.96	-0.13	15 mm	MIMO	0437M	58.5	back	89.6	0.417	0.180	1.009	1.116	0.203	
5775	155	802.11ac	OFDM	80	14.0	13.76	14.0	13.57	0.11	15 mm	MIMO	0437M	58.5	back	89.6	0.434	0.175	1.104	1.116	0.216	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT										Body 1.6 W/kg (mW/g) averaged over 1.0g											
Spatial Peak Uncontrolled Exposure/General Population																					

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 11-27
DSS Body-Worn SAR

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	SAR (1g)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)			(W/kg)	
2441	39	Bluetooth	FHSS	15.5	15.41	0.20	15 mm	0437M	1	back	77.1	0.013	1.021	1.297	0.017	A53
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 11-28
GPRS/UMTS/CDMA Hotspot SAR Data

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Ant State	Device Serial Number	# of GPRS Slots	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.												(W/kg)		(W/kg)	
824.70	1013	Cell. CDMA	EVDO Rev. 0	26.3	26.15	-0.05	10 mm	0	0472M	N/A	1:1	back	0.708	1.035	0.733	A20
836.52	384	Cell. CDMA	EVDO Rev. 0	26.3	25.98	-0.14	10 mm	0	0472M	N/A	1:1	back	0.678	1.076	0.730	
848.31	777	Cell. CDMA	EVDO Rev. 0	26.3	25.78	-0.02	10 mm	0	0472M	N/A	1:1	back	0.657	1.127	0.740	
836.52	384	Cell. CDMA	EVDO Rev. 0	26.3	25.98	0.15	10 mm	0	0472M	N/A	1:1	front	0.270	1.076	0.291	
836.52	384	Cell. CDMA	EVDO Rev. 0	26.3	25.98	-0.21	10 mm	0	0472M	N/A	1:1	bottom	0.335	1.076	0.360	
836.52	384	Cell. CDMA	EVDO Rev. 0	26.3	25.98	-0.14	10 mm	0	0472M	N/A	1:1	right	0.149	1.076	0.160	
836.52	384	Cell. CDMA	EVDO Rev. 0	26.3	25.98	-0.11	10 mm	0	0472M	N/A	1:1	left	0.061	1.076	0.066	
1880.00	600	PCS CDMA	EVDO Rev. 0	19.0	18.29	-0.01	10 mm	0	0109M	N/A	1:1	back	0.357	1.178	0.421	
1880.00	600	PCS CDMA	EVDO Rev. 0	19.0	18.29	0.03	10 mm	0	0109M	N/A	1:1	front	0.288	1.178	0.339	
1851.25	25	PCS CDMA	EVDO Rev. 0	19.0	18.18	-0.05	10 mm	0	0109M	N/A	1:1	bottom	0.860	1.208	1.039	
1880.00	600	PCS CDMA	EVDO Rev. 0	19.0	18.29	-0.09	10 mm	0	0109M	N/A	1:1	bottom	0.901	1.178	1.061	A22
1908.75	1175	PCS CDMA	EVDO Rev. 0	19.0	18.22	-0.03	10 mm	0	0109M	N/A	1:1	bottom	0.774	1.197	0.926	
1880.00	600	PCS CDMA	EVDO Rev. 0	19.0	18.29	-0.07	10 mm	0	0109M	N/A	1:1	right	0.044	1.178	0.052	
1880.00	600	PCS CDMA	EVDO Rev. 0	19.0	18.29	-0.07	10 mm	0	0109M	N/A	1:1	left	0.064	1.178	0.075	
824.20	128	GSM 850	GPRS	30.5	28.92	-0.08	10 mm	N/A	0137M	3	1:2.76	back	0.357	1.439	0.514	
836.60	190	GSM 850	GPRS	30.5	28.64	-0.07	10 mm	N/A	0137M	3	1:2.76	back	0.412	1.535	0.632	
848.80	251	GSM 850	GPRS	30.5	28.53	-0.13	10 mm	N/A	0137M	3	1:2.76	back	0.473	1.574	0.745	A24
836.60	190	GSM 850	GPRS	30.5	28.64	-0.06	10 mm	N/A	0137M	3	1:2.76	front	0.223	1.535	0.342	
836.60	190	GSM 850	GPRS	30.5	28.64	-0.04	10 mm	N/A	0137M	3	1:2.76	bottom	0.231	1.535	0.355	
836.60	190	GSM 850	GPRS	30.5	28.64	-0.19	10 mm	N/A	0137M	3	1:2.76	right	0.139	1.535	0.213	
836.60	190	GSM 850	GPRS	30.5	28.64	-0.15	10 mm	N/A	0137M	3	1:2.76	left	0.048	1.535	0.074	
1880.00	661	GSM 1900	GPRS	21.75	20.34	-0.01	10 mm	N/A	0442M	4	1:2.076	back	0.312	1.384	0.432	
1880.00	661	GSM 1900	GPRS	21.75	20.34	-0.12	10 mm	N/A	0442M	4	1:2.076	front	0.266	1.384	0.368	
1850.20	512	GSM 1900	GPRS	21.75	20.30	-0.08	10 mm	N/A	0442M	4	1:2.076	bottom	0.681	1.396	0.951	
1880.00	661	GSM 1900	GPRS	21.75	20.34	0.15	10 mm	N/A	0442M	4	1:2.076	bottom	0.683	1.384	0.945	
1909.80	810	GSM 1900	GPRS	21.75	20.55	0.15	10 mm	N/A	0442M	4	1:2.076	bottom	0.758	1.318	0.999	A26
1880.00	661	GSM 1900	GPRS	21.75	20.34	0.10	10 mm	N/A	0442M	4	1:2.076	right	0.043	1.384	0.060	
1880.00	661	GSM 1900	GPRS	21.75	20.34	0.07	10 mm	N/A	0442M	4	1:2.076	left	0.050	1.384	0.069	
826.40	4132	UMTS 850	RMC	25.5	24.53	-0.07	10 mm	5	0137M	N/A	1:1	back	0.447	1.250	0.559	
836.60	4183	UMTS 850	RMC	25.5	24.22	-0.03	10 mm	5	0137M	N/A	1:1	back	0.496	1.343	0.666	
846.60	4233	UMTS 850	RMC	25.5	24.45	-0.03	10 mm	5	0137M	N/A	1:1	back	0.531	1.274	0.676	A28
836.60	4183	UMTS 850	RMC	25.5	24.22	0.03	10 mm	5	0137M	N/A	1:1	front	0.282	1.343	0.379	
836.60	4183	UMTS 850	RMC	25.5	24.22	-0.03	10 mm	5	0137M	N/A	1:1	bottom	0.270	1.343	0.363	
836.60	4183	UMTS 850	RMC	25.5	24.22	-0.04	10 mm	5	0137M	N/A	1:1	right	0.170	1.343	0.228	
836.60	4183	UMTS 850	RMC	25.5	24.22	-0.12	10 mm	5	0137M	N/A	1:1	left	0.059	1.343	0.079	
1880.00	9400	UMTS 1900	RMC	18.4	18.39	0.01	10 mm	29	0442M	N/A	1:1	back	0.445	1.002	0.446	
1880.00	9400	UMTS 1900	RMC	18.4	18.39	0.03	10 mm	29	0442M	N/A	1:1	front	0.359	1.002	0.360	
1852.40	9262	UMTS 1900	RMC	18.4	18.40	-0.03	10 mm	29	0442M	N/A	1:1	bottom	1.090	1.000	1.090	A30
1880.00	9400	UMTS 1900	RMC	18.4	18.39	-0.08	10 mm	29	0442M	N/A	1:1	bottom	1.080	1.002	1.082	
1907.60	9538	UMTS 1900	RMC	18.4	18.30	0.04	10 mm	29	0442M	N/A	1:1	bottom	1.050	1.023	1.074	
1880.00	9400	UMTS 1900	RMC	18.4	18.39	-0.01	10 mm	29	0442M	N/A	1:1	right	0.068	1.002	0.068	
1880.00	9400	UMTS 1900	RMC	18.4	18.39	0.00	10 mm	29	0442M	N/A	1:1	left	0.079	1.002	0.079	
1852.40	9262	UMTS 1900	RMC	18.4	18.40	-0.07	10 mm	29	0442M	N/A	1:1	bottom	1.060	1.000	1.060	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak							Body 1.6 W/kg (mW/g) averaged over 1 gram									
Uncontrolled Exposure/General Population																

Note: Blue entry represents variability measurement.

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Table 11-29
LTE Band 12 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant State	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
707.50	23095	Mid	LTE Band 12	10	25.8	24.99	0.01	0	0	0122M	QPSK	1	25	10 mm	back	1:1	0.276	1.205	0.333	A32
707.50	23095	Mid	LTE Band 12	10	24.8	24.29	0.01	1	0	0122M	QPSK	25	0	10 mm	back	1:1	0.225	1.125	0.253	
707.50	23095	Mid	LTE Band 12	10	25.8	24.99	-0.01	0	0	0122M	QPSK	1	25	10 mm	front	1:1	0.165	1.205	0.199	
707.50	23095	Mid	LTE Band 12	10	24.8	24.29	0.03	1	0	0122M	QPSK	25	0	10 mm	front	1:1	0.135	1.125	0.152	
707.50	23095	Mid	LTE Band 12	10	25.8	24.99	0.02	0	0	0122M	QPSK	1	25	10 mm	bottom	1:1	0.161	1.205	0.194	
707.50	23095	Mid	LTE Band 12	10	24.8	24.29	-0.03	1	0	0122M	QPSK	25	0	10 mm	bottom	1:1	0.127	1.125	0.143	
707.50	23095	Mid	LTE Band 12	10	25.8	24.99	0.03	0	0	0122M	QPSK	1	25	10 mm	right	1:1	0.156	1.205	0.188	
707.50	23095	Mid	LTE Band 12	10	24.8	24.29	0.04	1	0	0122M	QPSK	25	0	10 mm	right	1:1	0.142	1.125	0.160	
707.50	23095	Mid	LTE Band 12	10	25.8	24.99	0.01	0	0	0122M	QPSK	1	25	10 mm	left	1:1	0.096	1.205	0.116	
707.50	23095	Mid	LTE Band 12	10	24.8	24.29	0.07	1	0	0122M	QPSK	25	0	10 mm	left	1:1	0.088	1.125	0.099	
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
LTE Band 13 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant State	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
782.00	23230	Mid	LTE Band 13	10	25.8	25.24	-0.01	0	57	0122M	QPSK	1	25	10 mm	back	1:1	0.489	1.138	0.556	A34
782.00	23230	Mid	LTE Band 13	10	24.8	24.31	0.00	1	57	0122M	QPSK	25	0	10 mm	back	1:1	0.384	1.119	0.430	
782.00	23230	Mid	LTE Band 13	10	25.8	25.24	0.00	0	57	0122M	QPSK	1	25	10 mm	front	1:1	0.284	1.138	0.323	
782.00	23230	Mid	LTE Band 13	10	24.8	24.31	0.01	1	57	0122M	QPSK	25	0	10 mm	front	1:1	0.230	1.119	0.257	
782.00	23230	Mid	LTE Band 13	10	25.8	25.24	-0.03	0	57	0122M	QPSK	1	25	10 mm	bottom	1:1	0.274	1.138	0.312	
782.00	23230	Mid	LTE Band 13	10	24.8	24.31	-0.01	1	57	0122M	QPSK	25	0	10 mm	bottom	1:1	0.227	1.119	0.254	
782.00	23230	Mid	LTE Band 13	10	25.8	25.24	0.01	0	57	0122M	QPSK	1	25	10 mm	right	1:1	0.149	1.138	0.170	
782.00	23230	Mid	LTE Band 13	10	24.8	24.31	0.03	1	57	0122M	QPSK	25	0	10 mm	right	1:1	0.130	1.119	0.145	
782.00	23230	Mid	LTE Band 13	10	25.8	25.24	0.13	0	57	0122M	QPSK	1	25	10 mm	left	1:1	0.078	1.138	0.089	
782.00	23230	Mid	LTE Band 13	10	24.8	24.31	0.05	1	57	0122M	QPSK	25	0	10 mm	left	1:1	0.061	1.119	0.068	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT								Body												
Spatial Peak								1.6 W/kg (mW/g)												
Uncontrolled Exposure/General Population								averaged over 1 gram												

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Table 11-31
LTE Band 26 (Cell) Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant State	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.8	25.33	-0.14	0	0	0439M	QPSK	1	0	10 mm	back	1:1	0.558	1.114	0.622	A36
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.8	24.38	-0.01	1	0	0439M	QPSK	36	18	10 mm	back	1:1	0.458	1.102	0.505	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.8	25.33	-0.08	0	0	0439M	QPSK	1	0	10 mm	front	1:1	0.211	1.114	0.235	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.8	24.38	0.01	1	0	0439M	QPSK	36	18	10 mm	front	1:1	0.200	1.102	0.220	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.8	25.33	-0.03	0	0	0439M	QPSK	1	0	10 mm	bottom	1:1	0.189	1.114	0.211	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.8	24.38	-0.06	1	0	0439M	QPSK	36	18	10 mm	bottom	1:1	0.165	1.102	0.182	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.8	25.33	-0.12	0	0	0439M	QPSK	1	0	10 mm	right	1:1	0.102	1.114	0.114	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.8	24.38	0.00	1	0	0439M	QPSK	36	18	10 mm	right	1:1	0.086	1.102	0.095	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.8	25.33	-0.03	0	0	0439M	QPSK	1	0	10 mm	left	1:1	0.047	1.114	0.052	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.8	24.38	-0.01	1	0	0439M	QPSK	36	18	10 mm	left	1:1	0.037	1.102	0.041	
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
LTE Band 5 (Cell) Hotspot SAR

MEASUREMENT RESULTS																						
1 CC Uplink	Component Carrier	FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant State	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
		MHz	Ch.															(W/kg)		(W/kg)		
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	24.38	0.06	0	2	0439M	QPSK	1	0	10 mm	back	1:1	0.477	1.387	0.662	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	23.40	-0.04	1	2	0439M	QPSK	25	25	10 mm	back	1:1	0.406	1.380	0.560	
2 CC Uplink	PCC	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	24.68	0.00	0	2	0439M	QPSK	1	0	10 mm	back	1:1	0.516	1.294	0.668	A38
	SCC	829.30	20453											1	24							
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	24.38	-0.06	0	2	0439M	QPSK	1	0	10 mm	front	1:1	0.277	1.387	0.384	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	23.40	0.01	1	2	0439M	QPSK	25	25	10 mm	front	1:1	0.254	1.380	0.351	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	24.38	-0.16	0	2	0439M	QPSK	1	0	10 mm	bottom	1:1	0.239	1.387	0.331	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	23.40	-0.06	1	2	0439M	QPSK	25	25	10 mm	bottom	1:1	0.214	1.380	0.295	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	24.38	0.07	0	2	0439M	QPSK	1	0	10 mm	right	1:1	0.095	1.387	0.132	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	23.40	-0.05	1	2	0439M	QPSK	25	25	10 mm	right	1:1	0.093	1.380	0.128	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	25.8	24.38	-0.12	0	2	0439M	QPSK	1	0	10 mm	left	1:1	0.048	1.387	0.067	
1 CC Uplink	N/A	836.50	20525	Mid	LTE Band 5 (Cell)	10	24.8	23.40	-0.05	1	2	0439M	QPSK	25	25	10 mm	left	1:1	0.038	1.380	0.052	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT												Body										
Spatial Peak												1.6 W/kg (mW/g)										
Uncontrolled Exposure/General Population												averaged over 1 gram										

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Table 11-33
LTE Band 66 (AWS) Hotspot SAR

MEASUREMENT RESULTS																						
1 CC Uplink	Component Carrier	FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant State	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
		MHz	Ch.															(W/kg)		(W/kg)		
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	20.8	20.32	0.06	0	29	0448M	QPSK	1	99	10 mm	back	1:1	0.641	1.117	0.716	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	20.8	20.40	0.03	0	29	0448M	QPSK	50	50	10 mm	back	1:1	0.664	1.096	0.728	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	20.8	20.32	0.02	0	29	0448M	QPSK	1	99	10 mm	front	1:1	0.434	1.117	0.485	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	20.8	20.40	0.05	0	29	0448M	QPSK	50	50	10 mm	front	1:1	0.501	1.096	0.549	
1 CC Uplink	N/A	1720.00	132072	Low	LTE Band 66 (AWS)	20	20.8	20.11	-0.01	0	29	0448M	QPSK	1	99	10 mm	bottom	1:1	0.848	1.172	0.994	
1 CC Uplink	N/A	1745.00	132322	Md	LTE Band 66 (AWS)	20	20.8	20.23	-0.11	0	29	0448M	QPSK	1	99	10 mm	bottom	1:1	0.906	1.140	1.033	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	20.8	20.30	0.01	0	29	0448M	QPSK	1	0	10 mm	bottom	1:1	0.974	1.122	1.093	
1 CC Uplink	N/A	1775.00	132622	High	LTE Band 66 (AWS)	10	20.8	19.89	0.08	0	29	0448M	QPSK	1	0	10 mm	bottom	1:1	0.946	1.233	1.166	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	20.8	20.32	-0.01	0	29	0448M	QPSK	1	99	10 mm	bottom	1:1	1.010	1.117	1.128	
1 CC Uplink	N/A	1720.00	132072	Low	LTE Band 66 (AWS)	20	20.8	20.22	-0.03	0	29	0448M	QPSK	50	50	10 mm	bottom	1:1	0.833	1.143	0.952	
1 CC Uplink	N/A	1745.00	132322	Md	LTE Band 66 (AWS)	20	20.8	20.33	-0.03	0	29	0448M	QPSK	50	0	10 mm	bottom	1:1	0.915	1.114	1.019	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	20.8	20.40	-0.02	0	29	0448M	QPSK	50	50	10 mm	bottom	1:1	1.000	1.096	1.096	
1 CC Uplink	N/A	1745.00	132322	Md	LTE Band 66 (AWS)	20	20.8	20.31	-0.01	0	29	0448M	QPSK	100	0	10 mm	bottom	1:1	0.914	1.119	1.023	
CA_66C 2 CC Uplink	PCC	1770.00	132572	High	LTE Band 66 (AWS)	20	20.8	20.73	0.03	0	29	0448M	QPSK	1	0	10 mm	bottom	1:1	1.090	1.016	1.107	A40
	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	20.8	20.33	-0.01	0	29	0448M	QPSK	1	0	10 mm	bottom	1:1	1.030	1.114	1.147	
	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	20.8	20.32	0.02	0	29	0448M	QPSK	1	99	10 mm	right	1:1	0.066	1.117	0.074	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	20.8	20.40	-0.05	0	29	0448M	QPSK	50	50	10 mm	right	1:1	0.069	1.096	0.076	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	20.8	20.32	-0.08	0	29	0448M	QPSK	1	99	10 mm	left	1:1	0.075	1.117	0.084	
1 CC Uplink	N/A	1770.00	132572	High	LTE Band 66 (AWS)	20	20.8	20.40	0.02	0	29	0448M	QPSK	50	50	10 mm	left	1:1	0.081	1.096	0.089	
CA_66C 2 CC Uplink	PCC	1770.00	132572	High	LTE Band 66 (AWS)	20	20.8	20.73	-0.19	0	29	0448M	QPSK	1	0	10 mm	bottom	1:1	1.080	1.016	1.097	
	SCC	1750.20	132374	High	LTE Band 66 (AWS)	20								1	99							
ANSI / IEEE C95.1 1992 - SAFETY LIMIT										Body												
Spatial Peak										1.6 W/kg (mW/g)												
Uncontrolled Exposure/General Population										averaged over 1 gram												

Note: Blue entries represent variability measurements.

Table 11-34
LTE Band 2 (PCS) Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant State	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
1880.00	18900	Mid	LTE Band 2 (PCS)	20	19.0	18.38	-0.02	0	0	0109M	QPSK	1	0	10 mm	back	1:1	0.608	1.153	0.701	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	19.0	18.58	-0.02	0	0	0109M	QPSK	50	50	10 mm	back	1:1	0.621	1.102	0.684	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	19.0	18.38	0.07	0	0	0109M	QPSK	1	0	10 mm	front	1:1	0.455	1.153	0.525	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	19.0	18.58	0.01	0	0	0109M	QPSK	50	50	10 mm	front	1:1	0.460	1.102	0.507	
1860.00	18700	Low	LTE Band 2 (PCS)	20	19.0	18.33	-0.07	0	0	0109M	QPSK	1	0	10 mm	bottom	1:1	0.744	1.167	0.868	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	19.0	18.38	-0.12	0	0	0109M	QPSK	1	0	10 mm	bottom	1:1	0.827	1.153	0.954	
1900.00	19100	High	LTE Band 2 (PCS)	20	19.0	18.26	-0.04	0	0	0109M	QPSK	1	0	10 mm	bottom	1:1	0.778	1.186	0.923	
1860.00	18700	Low	LTE Band 2 (PCS)	20	19.0	18.52	-0.03	0	0	0109M	QPSK	50	50	10 mm	bottom	1:1	0.829	1.117	0.926	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	19.0	18.58	-0.06	0	0	0109M	QPSK	50	50	10 mm	bottom	1:1	0.840	1.102	0.926	A42
1900.00	19100	High	LTE Band 2 (PCS)	20	19.0	18.41	-0.05	0	0	0109M	QPSK	50	50	10 mm	bottom	1:1	0.808	1.146	0.926	
1900.00	19100	High	LTE Band 2 (PCS)	20	19.0	18.36	-0.02	0	0	0109M	QPSK	100	0	10 mm	bottom	1:1	0.805	1.159	0.933	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	19.0	18.38	0.11	0	0	0109M	QPSK	1	0	10 mm	right	1:1	0.059	1.153	0.068	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	19.0	18.58	-0.10	0	0	0109M	QPSK	50	50	10 mm	right	1:1	0.056	1.102	0.062	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	19.0	18.38	-0.10	0	0	0109M	QPSK	1	0	10 mm	left	1:1	0.072	1.153	0.083	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	19.0	18.58	-0.11	0	0	0109M	QPSK	50	50	10 mm	left	1:1	0.031	1.102	0.034	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT								Body												
Spatial Peak								1.6 W/kg (mW/g)												
Uncontrolled Exposure/General Population								averaged over 1 gram												

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Table 11-35
LTE Band 7 Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.														(W/kg)		(W/kg)		
2510.00	20850	Low	LTE Band 7	20	21.8	21.36	-0.14	0	0813M	QPSK	1	50	10 mm	back	1:1	0.497	1.107	0.550	
2510.00	20850	Low	LTE Band 7	20	21.8	21.51	-0.13	0	0813M	QPSK	50	25	10 mm	back	1:1	0.498	1.069	0.532	
2510.00	20850	Low	LTE Band 7	20	21.8	21.36	0.13	0	0813M	QPSK	1	50	10 mm	front	1:1	0.363	1.107	0.402	
2510.00	20850	Low	LTE Band 7	20	21.8	21.51	0.05	0	0813M	QPSK	50	25	10 mm	front	1:1	0.377	1.069	0.403	
2510.00	20850	Low	LTE Band 7	20	21.8	21.36	0.05	0	0813M	QPSK	1	50	10 mm	bottom	1:1	0.673	1.107	0.745	
2535.00	21100	Mid	LTE Band 7	20	21.8	21.32	0.01	0	0813M	QPSK	1	0	10 mm	bottom	1:1	0.695	1.117	0.776	
2560.00	21350	High	LTE Band 7	20	21.8	21.22	0.00	0	0813M	QPSK	1	0	10 mm	bottom	1:1	0.703	1.143	0.804	
2510.00	20850	Low	LTE Band 7	20	21.8	21.51	0.05	0	0813M	QPSK	50	25	10 mm	bottom	1:1	0.705	1.069	0.754	
2535.00	21100	Mid	LTE Band 7	20	21.8	21.46	0.03	0	0813M	QPSK	50	0	10 mm	bottom	1:1	0.735	1.081	0.795	
2560.00	21350	High	LTE Band 7	20	21.8	21.38	0.01	0	0813M	QPSK	50	0	10 mm	bottom	1:1	0.740	1.102	0.815	A44
2510.00	20850	Low	LTE Band 7	20	21.8	21.35	0.01	0	0813M	QPSK	100	0	10 mm	bottom	1:1	0.703	1.109	0.780	
2510.00	20850	Low	LTE Band 7	20	21.8	21.36	0.18	0	0813M	QPSK	1	50	10 mm	left	1:1	0.240	1.107	0.266	
2510.00	20850	Low	LTE Band 7	20	21.8	21.51	0.03	0	0813M	QPSK	50	25	10 mm	left	1:1	0.193	1.069	0.206	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram											

Table 11-36
LTE Band 48 Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.														(W/kg)		(W/kg)		
3603.30	55773	Low-Mid	LTE Band 48	20	23.0	22.48	0.07	0	0134M	QPSK	1	0	10 mm	back	1:1.58	0.208	1.127	0.234	
3646.70	56207	Mid-High	LTE Band 48	20	22.0	21.49	-0.02	1	0134M	QPSK	50	25	10 mm	back	1:1.58	0.185	1.125	0.208	
3603.30	55773	Low-Mid	LTE Band 48	20	23.0	22.48	-0.01	0	0134M	QPSK	1	0	10 mm	front	1:1.58	0.163	1.127	0.184	
3646.70	56207	Mid-High	LTE Band 48	20	22.0	21.49	-0.03	1	0134M	QPSK	50	25	10 mm	front	1:1.58	0.153	1.125	0.172	
3603.30	55773	Low-Mid	LTE Band 48	20	23.0	22.48	-0.07	0	0134M	QPSK	1	0	10 mm	bottom	1:1.58	0.494	1.127	0.557	A46
3646.70	56207	Mid-High	LTE Band 48	20	22.0	21.49	-0.03	1	0134M	QPSK	50	25	10 mm	bottom	1:1.58	0.436	1.125	0.491	
3603.30	55773	Low-Mid	LTE Band 48	20	23.0	22.48	0.01	0	0134M	QPSK	1	0	10 mm	left	1:1.58	0.093	1.127	0.105	
3646.70	56207	Mid-High	LTE Band 48	20	22.0	21.49	0.10	1	0134M	QPSK	50	25	10 mm	left	1:1.58	0.073	1.125	0.082	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak								Body 1.6 W/kg (mW/g) averaged over 1 gram											
Uncontrolled Exposure/General Population																			

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Table 11-37
LTE Band 41 Hotspot SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.														(W/kg)		(W/kg)		
2593.00	40620	Mid	LTE Band 41	20	23.0	22.83	0.01	0	0094M	QPSK	1	0	10 mm	back	1:1.58	0.478	1.040	0.497	
2593.00	40620	Mid	LTE Band 41	20	23.0	23.00	-0.04	0	0094M	QPSK	50	0	10 mm	back	1:1.58	0.449	1.000	0.449	
2593.00	40620	Mid	LTE Band 41	20	23.0	22.83	0.03	0	0094M	QPSK	1	0	10 mm	front	1:1.58	0.388	1.040	0.404	
2593.00	40620	Mid	LTE Band 41	20	23.0	23.00	0.01	0	0094M	QPSK	50	0	10 mm	front	1:1.58	0.362	1.000	0.362	
2506.00	39750	Low	LTE Band 41	20	23.0	22.79	-0.17	0	0094M	QPSK	1	0	10 mm	bottom	1:1.58	0.772	1.050	0.811	
2549.50	40185	Low-Mid	LTE Band 41	20	23.0	22.47	-0.09	0	0094M	QPSK	1	0	10 mm	bottom	1:1.58	0.903	1.130	1.020	A48
2593.00	40620	Mid	LTE Band 41	20	23.0	22.83	0.08	0	0094M	QPSK	1	0	10 mm	bottom	1:1.58	0.775	1.040	0.806	
2636.50	41055	Mid-High	LTE Band 41	20	23.0	22.50	-0.11	0	0094M	QPSK	1	0	10 mm	bottom	1:1.58	0.589	1.122	0.661	
2680.00	41490	High	LTE Band 41	20	23.0	22.67	-0.08	0	0094M	QPSK	1	99	10 mm	bottom	1:1.58	0.659	1.079	0.711	
2506.00	39750	Low	LTE Band 41	20	23.0	22.87	-0.06	0	0094M	QPSK	50	0	10 mm	bottom	1:1.58	0.701	1.030	0.722	
2549.50	40185	Low-Mid	LTE Band 41	20	23.0	22.74	-0.04	0	0094M	QPSK	50	0	10 mm	bottom	1:1.58	0.879	1.062	0.933	
2593.00	40620	Mid	LTE Band 41	20	23.0	23.00	-0.05	0	0094M	QPSK	50	0	10 mm	bottom	1:1.58	0.727	1.000	0.727	
2636.50	41055	Mid-High	LTE Band 41	20	23.0	22.63	-0.04	0	0094M	QPSK	50	0	10 mm	bottom	1:1.58	0.597	1.089	0.650	
2680.00	41490	High	LTE Band 41	20	23.0	22.81	-0.07	0	0094M	QPSK	50	50	10 mm	bottom	1:1.58	0.650	1.045	0.679	
2593.00	40620	Mid	LTE Band 41	20	23.0	22.80	-0.07	0	0094M	QPSK	100	0	10 mm	bottom	1:1.58	0.697	1.047	0.730	
2593.00	40620	Mid	LTE Band 41	20	23.0	22.83	0.11	0	0094M	QPSK	1	0	10 mm	left	1:1.58	0.193	1.040	0.201	
2593.00	40620	Mid	LTE Band 41	20	23.0	23.00	0.10	0	0094M	QPSK	50	0	10 mm	left	1:1.58	0.181	1.000	0.181	
2549.50	40185	Low-Mid	LTE Band 41	20	23.0	22.47	-0.09	0	0094M	QPSK	1	0	10 mm	bottom	1:1.58	0.884	1.130	0.999	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT								Body											
Spatial Peak								1.6 W/kg (mW/g)											
Uncontrolled Exposure/General Population								averaged over 1 gram											

Note: Blue entry represents variability measurement.

Table 11-38
WLAN SISO 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	21.0	20.97	-0.14	10 mm	1	0115M	1	back	100.0	0.377	-	1.007	1.000	-	
2437	6	802.11b	DSSS	22	21.0	20.97	-0.20	10 mm	1	0115M	1	front	100.0	0.150	-	1.007	1.000	-	
2437	6	802.11b	DSSS	22	21.0	20.97	0.05	10 mm	1	0115M	1	top	100.0	0.431	0.275	1.007	1.000	0.277	A50
2437	6	802.11b	DSSS	22	21.0	20.97	-0.15	10 mm	1	0115M	1	left	100.0	0.365	-	1.007	1.000	-	
2437	6	802.11b	DSSS	22	21.0	20.99	0.17	10 mm	2	0437M	1	back	100.0	0.262	0.174	1.002	1.000	0.174	
2437	6	802.11b	DSSS	22	21.0	20.99	0.20	10 mm	2	0437M	1	front	100.0	0.020	-	1.002	1.000	-	
2437	6	802.11b	DSSS	22	21.0	20.99	0.19	10 mm	2	0437M	1	top	100.0	0.067	-	1.002	1.000	-	
2437	6	802.11b	DSSS	22	21.0	20.99	0.21	10 mm	2	0437M	1	left	100.0	0.089	-	1.002	1.000	-	
5745	149	802.11a	OFDM	20	18.5	18.30	-0.14	10 mm	1	0437M	6	back	98.9	1.310	0.578	1.047	1.011	0.612	
5785	157	802.11a	OFDM	20	18.5	18.21	0.18	10 mm	1	0437M	6	back	98.9	1.445	0.608	1.069	1.011	0.657	
5825	165	802.11a	OFDM	20	18.5	18.17	-0.08	10 mm	1	0437M	6	back	98.9	1.663	0.635	1.079	1.011	0.693	
5745	149	802.11a	OFDM	20	18.5	18.30	-0.21	10 mm	1	0437M	6	front	98.9	0.329	-	1.047	1.011	-	
5745	149	802.11a	OFDM	20	18.5	18.30	-0.11	10 mm	1	0437M	6	top	98.9	0.988	0.418	1.047	1.011	0.442	
5745	149	802.11a	OFDM	20	18.5	18.30	-0.14	10 mm	1	0437M	6	left	98.9	0.785	-	1.047	1.011	-	
5785	157	802.11a	OFDM	20	18.5	18.44	-0.09	10 mm	2	0437M	6	back	98.8	0.489	0.211	1.014	1.012	0.217	
5785	157	802.11a	OFDM	20	18.5	18.44	0.14	10 mm	2	0437M	6	front	98.8	0.052	-	1.014	1.012	-	
5785	157	802.11a	OFDM	20	18.5	18.44	0.20	10 mm	2	0437M	6	top	98.8	0.129	-	1.014	1.012	-	
5785	157	802.11a	OFDM	20	18.5	18.44	0.08	10 mm	2	0437M	6	left	98.8	0.231	-	1.014	1.012	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT								Body											
Spatial Peak								1.6 W/kg (mW/g)											
Uncontrolled Exposure/General Population								averaged over 1 gram											

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Table 11-39
WLAN MIMO Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth (MHz)	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5745	149	802.11n	OFDM	20	18.5	18.37	18.5	18.33	-0.04	10 mm	MIMO	0459M	13	back	98.7	1.810	0.686	1.040	1.013	0.723	A52
5785	157	802.11n	OFDM	20	18.5	18.28	18.5	18.21	-0.03	10 mm	MIMO	0459M	13	back	98.7	1.896	0.723	1.069	1.013	0.783	
5825	165	802.11n	OFDM	20	18.5	18.16	18.5	18.19	-0.07	10 mm	MIMO	0459M	13	back	98.7	1.802	0.721	1.081	1.013	0.790	
5745	149	802.11n	OFDM	20	18.5	18.37	18.5	18.33	-0.19	10 mm	MIMO	0459M	13	front	98.7	0.354	-	1.040	1.013	-	
5745	149	802.11n	OFDM	20	18.5	18.37	18.5	18.33	0.21	10 mm	MIMO	0459M	13	top	98.7	1.130	0.438	1.040	1.013	0.461	
5745	149	802.11n	OFDM	20	18.5	18.37	18.5	18.33	0.12	10 mm	MIMO	0459M	13	left	98.7	0.959	-	1.040	1.013	-	-
ANSI / IEEE C95.1 1992 - SAFETY LIMIT										Body											
Spatial Peak										1.6 W/kg (mW/g)											
Uncontrolled Exposure/General Population										averaged over 1 gram											

Note: For channels 149, 157, and 165 to achieve the 21.5 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 18.5 dBm.

Table 11-40
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) (W/kg)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5775	155	802.11ac	OFDM	80	14.0	13.76	14.0	13.57	0.11	10 mm	MIMO	0437M	58.5	back	89.6	0.662	0.254	1.104	1.116	0.313	
5775	155	802.11ac	OFDM	80	14.0	13.76	14.0	13.57	0.19	10 mm	MIMO	0437M	58.5	front	89.6	0.113	-	1.104	1.116	-	
5775	155	802.11ac	OFDM	80	14.0	13.76	14.0	13.57	-0.13	10 mm	MIMO	0437M	58.5	top	89.6	0.381	-	1.104	1.116	-	
5775	155	802.11ac	OFDM	80	14.0	13.76	14.0	13.57	-0.20	10 mm	MIMO	0437M	58.5	left	89.6	0.352	-	1.104	1.116	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT										Body											
Spatial Peak										1.6 W/kg (mW/g)											
Uncontrolled Exposure/General Population										averaged over 1 gram											

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

Table 11-41
DTS MIMO Hotspot SAR for Conditions with 5G NR

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) (W/kg)	Plot #
MHz	Ch.															W/kg	(W/kg)				
2437	6	802.11n	OFDM	20	17.0	16.69	17.0	16.62	0.08	10 mm	MIMO	0437M	13	back	98.2	0.154	0.113	1.091	1.018	0.126	
2437	6	802.11n	OFDM	20	17.0	16.69	17.0	16.62	0.12	10 mm	MIMO	0437M	13	front	98.2	0.047	-	1.091	1.018	-	
2437	6	802.11n	OFDM	20	17.0	16.69	17.0	16.62	0.12	10 mm	MIMO	0437M	13	top	98.2	0.110	-	1.091	1.018	-	
2437	6	802.11n	OFDM	20	17.0	16.69	17.0	16.62	0.17	10 mm	MIMO	0437M	13	left	98.2	0.085	-	1.091	1.018	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT										Body											
Spatial Peak										1.6 W/kg (mW/g)											
Uncontrolled Exposure/General Population										averaged over 1 gram											

Note: For channel 6, to achieve the 20 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 17 dBm.

Table 11-42
DSS Hotspot SAR

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	SAR (1g)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)			(W/kg)	
2441	39	Bluetooth	FHSS	15.5	15.41	0.17	10 mm	0437M	1	back	77.1	0.031	1.021	1.297	0.041	
2441	39	Bluetooth	FHSS	15.5	15.41	0.15	10 mm	0437M	1	front	77.1	0.010	1.021	1.297	0.013	
2441	39	Bluetooth	FHSS	15.5	15.41	0.13	10 mm	0437M	1	top	77.1	0.033	1.021	1.297	0.044	A54
2441	39	Bluetooth	FHSS	15.5	15.41	0.19	10 mm	0437M	1	left	77.1	0.026	1.021	1.297	0.034	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT							Body									
Spatial Peak							1.6 W/kg (mW/g)									
Uncontrolled Exposure/General Population							averaged over 1 gram									

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11.4 Standalone Phablet SAR Data

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

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Ant State	Device Serial Number	# of GPRS Slots	Duty Cycle	Side	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.												(W/kg)		(W/kg)	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.0	23.47	-0.05	8 mm	0	0137M	N/A	1:1	back	0.857	1.422	1.219	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.0	23.47	0.04	6 mm	0	0137M	N/A	1:1	front	0.803	1.422	1.142	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.0	23.47	0.17	11 mm	0	0137M	N/A	1:1	bottom	1.280	1.422	1.820	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.0	23.47	0.07	0 mm	0	0137M	N/A	1:1	right	0.278	1.422	0.395	
1880.00	600	PCS CDMA	EVDO Rev. 0	25.0	23.47	0.07	0 mm	0	0137M	N/A	1:1	left	0.520	1.422	0.739	
1880.00	600	PCS CDMA	EVDO Rev. 0	20.8	20.08	0.03	0 mm	0	0109M	N/A	1:1	back	1.680	1.180	1.982	
1880.00	600	PCS CDMA	EVDO Rev. 0	20.8	20.08	0.09	0 mm	0	0109M	N/A	1:1	front	1.490	1.180	1.758	
1851.25	25	PCS CDMA	EVDO Rev. 0	20.8	20.00	-0.08	0 mm	0	0109M	N/A	1:1	bottom	2.410	1.202	2.897	
1880.00	600	PCS CDMA	EVDO Rev. 0	20.8	20.08	-0.06	0 mm	0	0109M	N/A	1:1	bottom	2.490	1.180	2.938	
1908.75	1175	PCS CDMA	EVDO Rev. 0	20.8	20.04	-0.12	0 mm	0	0109M	N/A	1:1	bottom	2.510	1.191	2.989	A55
1850.20	512	GSM 1900	GPRS	27.0	26.22	-0.06	0 mm	N/A	0442M	3	1:2.76	bottom	2.150	1.197	2.574	A56
1880.00	661	GSM 1900	GPRS	27.0	25.98	-0.06	0 mm	N/A	0442M	3	1:2.76	bottom	1.940	1.265	2.454	
1909.80	810	GSM 1900	GPRS	27.0	26.28	0.10	0 mm	N/A	0442M	3	1:2.76	bottom	2.010	1.180	2.372	
1880.00	9400	UMTS 1900	RMC	25.0	23.76	-0.01	8 mm	29	0137M	N/A	1:1	back	0.944	1.330	1.256	
1880.00	9400	UMTS 1900	RMC	25.0	23.76	0.05	6 mm	29	0137M	N/A	1:1	front	1.160	1.330	1.543	
1852.40	9262	UMTS 1900	RMC	25.0	23.70	-0.02	11 mm	29	0137M	N/A	1:1	bottom	1.510	1.349	2.037	
1880.00	9400	UMTS 1900	RMC	25.0	23.76	-0.07	11 mm	29	0137M	N/A	1:1	bottom	1.620	1.330	2.155	
1907.60	9538	UMTS 1900	RMC	25.0	23.66	-0.06	11 mm	29	0137M	N/A	1:1	bottom	1.730	1.361	2.355	
1880.00	9400	UMTS 1900	RMC	25.0	23.76	-0.05	0 mm	29	0137M	N/A	1:1	right	0.333	1.330	0.443	
1880.00	9400	UMTS 1900	RMC	25.0	23.76	0.02	0 mm	29	0137M	N/A	1:1	left	0.651	1.330	0.866	
1880.00	9400	UMTS 1900	RMC	20.7	19.91	-0.02	0 mm	29	0442M	N/A	1:1	back	1.600	1.199	1.918	
1880.00	9400	UMTS 1900	RMC	20.7	19.91	0.05	0 mm	29	0442M	N/A	1:1	front	1.560	1.199	1.870	
1852.40	9262	UMTS 1900	RMC	20.7	19.87	-0.12	0 mm	29	0442M	N/A	1:1	bottom	2.330	1.211	2.822	A57
1880.00	9400	UMTS 1900	RMC	20.7	19.91	-0.13	0 mm	29	0442M	N/A	1:1	bottom	2.280	1.199	2.734	
1907.60	9538	UMTS 1900	RMC	20.7	19.88	-0.10	0 mm	29	0442M	N/A	1:1	bottom	2.130	1.208	2.573	
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 11-44
LTE Band 66 (AWS) Phablet SAR

MEASUREMENT RESULTS																						
1 CC Uplink	Component Carrier	FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant State	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #	
		MHz	Ch.															(W/kg)		(W/kg)		
1 CC Uplink	NIA	1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.29	-0.09	0	29	0118M	QPSK	1	0	8 mm	back	1:1	1.170	1.178	1.378	
1 CC Uplink	NIA	1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.40	-0.07	1	29	0118M	QPSK	50	25	8 mm	back	1:1	0.888	1.148	1.019	
1 CC Uplink	NIA	1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.29	0.04	0	29	0118M	QPSK	1	0	6 mm	front	1:1	1.140	1.178	1.343	
1 CC Uplink	NIA	1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.40	0.07	1	29	0118M	QPSK	50	25	6 mm	front	1:1	1.080	1.148	1.240	
1 CC Uplink	NIA	1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.29	0.01	0	29	0118M	QPSK	1	0	11 mm	bottom	1:1	1.270	1.178	1.496	
1 CC Uplink	NIA	1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.40	0.17	1	29	0118M	QPSK	50	25	11 mm	bottom	1:1	1.020	1.148	1.171	
1 CC Uplink	NIA	1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.29	0.06	0	29	0118M	QPSK	1	0	0 mm	right	1:1	0.284	1.178	0.335	
1 CC Uplink	NIA	1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.40	0.15	1	29	0118M	QPSK	50	25	0 mm	right	1:1	0.237	1.148	0.272	
1 CC Uplink	NIA	1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	24.29	-0.07	0	29	0118M	QPSK	1	0	0 mm	left	1:1	0.422	1.178	0.497	
1 CC Uplink	NIA	1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	23.40	0.19	1	29	0118M	QPSK	50	25	0 mm	left	1:1	0.356	1.148	0.409	
1 CC Uplink	NIA	1720.00	132072	Low	LTE Band 66 (AWS)	20	21.6	20.90	-0.04	0	29	0470M	QPSK	1	99	0 mm	back	1:1	2.250	1.175	2.644	
1 CC Uplink	NIA	1745.00	132322	Mid	LTE Band 66 (AWS)	20	21.6	21.04	0.03	0	29	0470M	QPSK	1	99	0 mm	back	1:1	2.010	1.138	2.287	
1 CC Uplink	NIA	1770.00	132572	High	LTE Band 66 (AWS)	20	21.6	21.07	-0.19	0	29	0470M	QPSK	1	0	0 mm	back	1:1	2.110	1.130	2.384	
1 CC Uplink	NIA	1720.00	132072	Low	LTE Band 66 (AWS)	20	21.6	20.95	-0.01	0	29	0470M	QPSK	50	50	0 mm	back	1:1	2.260	1.161	2.624	
1 CC Uplink	NIA	1745.00	132322	Mid	LTE Band 66 (AWS)	20	21.6	21.06	-0.01	0	29	0470M	QPSK	50	50	0 mm	back	1:1	2.070	1.132	2.343	
1 CC Uplink	NIA	1770.00	132572	High	LTE Band 66 (AWS)	20	21.6	21.19	0.06	0	29	0470M	QPSK	50	0	0 mm	back	1:1	2.110	1.099	2.319	
1 CC Uplink	NIA	1770.00	132572	High	LTE Band 66 (AWS)	20	21.6	21.04	0.03	0	29	0470M	QPSK	100	0	0 mm	back	1:1	2.080	1.138	2.367	
1 CC Uplink	NIA	1720.00	132072	Low	LTE Band 66 (AWS)	20	21.6	20.90	0.09	0	29	0470M	QPSK	1	99	0 mm	front	1:1	1.900	1.175	2.233	
1 CC Uplink	NIA	1745.00	132322	Mid	LTE Band 66 (AWS)	20	21.6	21.04	0.02	0	29	0470M	QPSK	1	99	0 mm	front	1:1	1.750	1.138	1.992	
1 CC Uplink	NIA	1770.00	132572	High	LTE Band 66 (AWS)	20	21.6	21.07	0.05	0	29	0470M	QPSK	1	0	0 mm	front	1:1	1.830	1.130	2.068	
1 CC Uplink	NIA	1720.00	132072	Low	LTE Band 66 (AWS)	20	21.6	20.95	0.09	0	29	0470M	QPSK	50	50	0 mm	front	1:1	1.890	1.161	2.194	
1 CC Uplink	NIA	1745.00	132322	Mid	LTE Band 66 (AWS)	20	21.6	21.06	0.06	0	29	0470M	QPSK	50	50	0 mm	front	1:1	1.800	1.132	2.038	
1 CC Uplink	NIA	1770.00	132572	High	LTE Band 66 (AWS)	20	21.6	21.19	0.06	0	29	0470M	QPSK	50	0	0 mm	front	1:1	1.830	1.099	2.011	
1 CC Uplink	NIA	1770.00	132572	High	LTE Band 66 (AWS)	20	21.6	21.04	0.04	0	29	0470M	QPSK	100	0	0 mm	front	1:1	1.810	1.138	2.060	
1 CC Uplink	NIA	1720.00	132072	Low	LTE Band 66 (AWS)	20	21.6	20.90	0.07	0	29	0470M	QPSK	1	99	0 mm	bottom	1:1	2.280	1.175	2.679	
1 CC Uplink	NIA	1745.00	132322	Mid	LTE Band 66 (AWS)	20	21.6	21.04	-0.02	0	29	0470M	QPSK	1	99	0 mm	bottom	1:1	2.320	1.138	2.640	
1 CC Uplink	NIA	1770.00	132572	High	LTE Band 66 (AWS)	20	21.6	21.07	0.05	0	29	0470M	QPSK	1	0	0 mm	bottom	1:1	2.290	1.130	2.588	
1 CC Uplink	NIA	1720.00	132072	Low	LTE Band 66 (AWS)	20	21.6	20.95	0.03	0	29	0470M	QPSK	50	50	0 mm	bottom	1:1	2.320	1.161	2.694	
1 CC Uplink	NIA	1745.00	132322	Mid	LTE Band 66 (AWS)	20	21.6	21.06	-0.18	0	29	0470M	QPSK	50	50	0 mm	bottom	1:1	2.480	1.132	2.807	
1 CC Uplink	NIA	1745.00	132322	Mid	LTE Band 66 (AWS)	10	21.6	20.90	0.02	0	29	0470M	QPSK	25	25	0 mm	bottom	1:1	2.410	1.175	2.832	
1 CC Uplink	NIA	1770.00	132572	High	LTE Band 66 (AWS)	20	21.6	21.19	0.05	0	29	0470M	QPSK	50	0	0 mm	bottom	1:1	2.330	1.099	2.561	
1 CC Uplink	NIA	1770.00	132572	High	LTE Band 66 (AWS)	20	21.6	21.04	0.01	0	29	0470M	QPSK	100	0	0 mm	bottom	1:1	2.330	1.138	2.652	
CA_66C 2 CC Uplink	PCC	1745.00	132322	Mid	LTE Band 66 (AWS)	20	21.6	21.29	-0.17	0	29	0470M	QPSK	50	50	0 mm	bottom	1:1	2.650	1.074	2.846	A58
	SCC	1764.80	132520	Mid	LTE Band 66 (AWS)	20					50			0								
CA_66B 2 CC Uplink	PCC	1745.00	132322	Mid	LTE Band 66 (AWS)	10	21.6	21.17	-0.20	0	29	0470M	QPSK	25	25	0 mm	bottom	1:1	2.440	1.104	2.694	
	SCC	1754.90	132421	Mid	LTE Band 66 (AWS)	10					25			0								
CA_66C 2 CC Uplink	PCC	1745.00	132322	Mid	LTE Band 66 (AWS)	20	21.6	21.29	-0.03	0	29	0470M	QPSK	50	50	0 mm	bottom	1:1	2.540	1.074	2.728	
	SCC	1764.80	132520	Mid	LTE Band 66 (AWS)	20					50			0								
ANSI / IEEE C95.1 1992 - SAFETY LIMIT											Phablet											
Spatial Peak											4.0 W/kg (mW/g)											
Uncontrolled Exposure/General Population											averaged over 10 grams											

Note: Blue entry represents variability measurement.

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Table 11-45
LTE Band 2 (PCS) Phablet SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Ant State	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
1860.00	18700	Low	LTE Band 2 (PCS)	20	25.0	24.02	-0.03	0	0	0109M	QPSK	1	99	8 mm	back	1:1	0.966	1.253	1.210	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	24.0	23.23	-0.02	1	0	0109M	QPSK	50	50	8 mm	back	1:1	0.718	1.194	0.857	
1860.00	18700	Low	LTE Band 2 (PCS)	20	25.0	24.02	0.05	0	0	0109M	QPSK	1	99	6 mm	front	1:1	1.040	1.253	1.303	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	24.0	23.23	0.03	1	0	0109M	QPSK	50	50	6 mm	front	1:1	0.828	1.194	0.989	
1860.00	18700	Low	LTE Band 2 (PCS)	20	25.0	24.02	-0.05	0	0	0109M	QPSK	1	99	11 mm	bottom	1:1	1.360	1.253	1.704	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	25.0	23.93	0.03	0	0	0109M	QPSK	1	0	11 mm	bottom	1:1	1.410	1.279	1.803	
1900.00	19100	High	LTE Band 2 (PCS)	20	25.0	23.95	-0.01	0	0	0109M	QPSK	1	0	11 mm	bottom	1:1	1.230	1.274	1.567	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	24.0	23.23	-0.06	1	0	0109M	QPSK	50	50	11 mm	bottom	1:1	1.130	1.194	1.349	
1860.00	18700	Low	LTE Band 2 (PCS)	20	25.0	24.02	-0.05	0	0	0109M	QPSK	1	99	0 mm	right	1:1	0.313	1.253	0.392	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	24.0	23.23	-0.06	1	0	0109M	QPSK	50	50	0 mm	right	1:1	0.267	1.194	0.319	
1860.00	18700	Low	LTE Band 2 (PCS)	20	25.0	24.02	-0.02	0	0	0109M	QPSK	1	99	0 mm	left	1:1	0.625	1.253	0.783	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	24.0	23.23	0.02	1	0	0109M	QPSK	50	50	0 mm	left	1:1	0.500	1.194	0.597	
1860.00	18700	Low	LTE Band 2 (PCS)	20	21.2	20.49	0.02	0	0	0109M	QPSK	1	99	0 mm	back	1:1	1.810	1.178	2.132	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	21.2	20.38	-0.01	0	0	0109M	QPSK	1	0	0 mm	back	1:1	1.930	1.208	2.331	
1900.00	19100	High	LTE Band 2 (PCS)	20	21.2	20.32	-0.01	0	0	0109M	QPSK	1	99	0 mm	back	1:1	1.960	1.225	2.401	
1860.00	18700	Low	LTE Band 2 (PCS)	20	21.2	20.58	-0.13	0	0	0109M	QPSK	50	50	0 mm	back	1:1	1.920	1.153	2.214	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	21.2	20.52	0.02	0	0	0109M	QPSK	50	25	0 mm	back	1:1	2.050	1.169	2.396	
1900.00	19100	High	LTE Band 2 (PCS)	20	21.2	20.49	0.02	0	0	0109M	QPSK	50	50	0 mm	back	1:1	2.050	1.178	2.415	
1860.00	18700	Low	LTE Band 2 (PCS)	20	21.2	20.48	-0.02	0	0	0109M	QPSK	100	0	0 mm	back	1:1	1.890	1.180	2.230	
1860.00	18700	Low	LTE Band 2 (PCS)	20	21.2	20.49	0.08	0	0	0109M	QPSK	1	99	0 mm	front	1:1	1.500	1.178	1.767	
1860.00	18700	Low	LTE Band 2 (PCS)	20	21.2	20.58	0.11	0	0	0109M	QPSK	50	50	0 mm	front	1:1	1.590	1.153	1.833	
1860.00	18700	Low	LTE Band 2 (PCS)	20	21.2	20.49	-0.19	0	0	0109M	QPSK	1	99	0 mm	bottom	1:1	2.450	1.178	2.886	
1880.00	18900	Mid	LTE Band 2 (PCS)	20	21.2	20.38	-0.12	0	0	0109M	QPSK	1	0	0 mm	bottom	1:1	2.470	1.208	2.984	
1900.00	19100	High	LTE Band 2 (PCS)	20	21.2	20.32	-0.09	0	0	0109M	QPSK	1	99	0 mm	bottom	1:1	2.400	1.225	2.940	
1860.00	18700	Low	LTE Band 2 (PCS)	20	21.2	20.58	-0.13	0	0	0109M	QPSK	50	50	0 mm	bottom	1:1	2.570	1.153	2.963	A59
1880.00	18900	Mid	LTE Band 2 (PCS)	20	21.2	20.52	-0.11	0	0	0109M	QPSK	50	25	0 mm	bottom	1:1	2.190	1.169	2.560	
1900.00	19100	High	LTE Band 2 (PCS)	20	21.2	20.49	0.06	0	0	0109M	QPSK	50	50	0 mm	bottom	1:1	2.470	1.178	2.910	
1860.00	18700	Low	LTE Band 2 (PCS)	20	21.2	20.48	-0.18	0	0	0109M	QPSK	100	0	0 mm	bottom	1:1	2.560	1.180	3.021	
1860.00	18700	Low	LTE Band 2 (PCS)	20	21.2	20.58	-0.03	0	0	0109M	QPSK	50	50	0 mm	bottom	1:1	2.430	1.153	2.802	
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 11-46
LTE Band 7 Phablet SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.	(W/kg)														(W/kg)			
2560.00	21350	High	LTE Band 7	20	24.0	23.65	-0.08	0	0060M	QPSK	1	50	8 mm	back	1:1	0.519	1.084	0.563	
2560.00	21350	High	LTE Band 7	20	23.0	23.00	-0.05	1	0060M	QPSK	50	25	8 mm	back	1:1	0.427	1.000	0.427	
2560.00	21350	High	LTE Band 7	20	24.0	23.65	0.02	0	0060M	QPSK	1	50	6 mm	front	1:1	0.480	1.084	0.520	
2560.00	21350	High	LTE Band 7	20	23.0	23.00	0.04	1	0060M	QPSK	50	25	6 mm	front	1:1	0.392	1.000	0.392	
2560.00	21350	High	LTE Band 7	20	24.0	23.65	-0.02	0	0060M	QPSK	1	50	11 mm	bottom	1:1	0.498	1.084	0.540	
2560.00	21350	High	LTE Band 7	20	23.0	23.00	0.00	1	0060M	QPSK	50	25	11 mm	bottom	1:1	0.236	1.000	0.236	
2560.00	21350	High	LTE Band 7	20	24.0	23.65	0.19	0	0060M	QPSK	1	50	0 mm	left	1:1	1.060	1.084	1.149	
2560.00	21350	High	LTE Band 7	20	23.0	23.00	0.09	1	0060M	QPSK	50	25	0 mm	left	1:1	0.870	1.000	0.870	
2510.00	20850	Low	LTE Band 7	20	21.8	21.36	-0.19	0	0813M	QPSK	1	50	0 mm	back	1:1	1.800	1.107	1.993	
2510.00	20850	Low	LTE Band 7	20	21.8	21.51	-0.21	0	0813M	QPSK	50	25	0 mm	back	1:1	1.880	1.069	2.010	
2535.00	21100	Mid	LTE Band 7	20	21.8	21.46	-0.12	0	0813M	QPSK	50	0	0 mm	back	1:1	1.820	1.081	1.967	
2560.00	21350	High	LTE Band 7	20	21.8	21.38	-0.12	0	0813M	QPSK	50	0	0 mm	back	1:1	1.830	1.102	2.017	
2510.00	20850	Low	LTE Band 7	20	21.8	21.35	-0.21	0	0813M	QPSK	100	0	0 mm	back	1:1	1.890	1.109	2.096	
2510.00	20850	Low	LTE Band 7	20	21.8	21.36	-0.04	0	0813M	QPSK	1	50	0 mm	front	1:1	1.510	1.107	1.672	
2510.00	20850	Low	LTE Band 7	20	21.8	21.51	-0.07	0	0813M	QPSK	50	25	0 mm	front	1:1	1.540	1.069	1.646	
2510.00	20850	Low	LTE Band 7	20	21.8	21.36	-0.16	0	0813M	QPSK	1	50	0 mm	bottom	1:1	2.650	1.107	2.934	
2535.00	21100	Mid	LTE Band 7	20	21.8	21.32	-0.12	0	0813M	QPSK	1	0	0 mm	bottom	1:1	2.630	1.117	2.938	
2560.00	21350	High	LTE Band 7	20	21.8	21.22	-0.19	0	0813M	QPSK	1	0	0 mm	bottom	1:1	2.560	1.143	2.926	
2510.00	20850	Low	LTE Band 7	20	21.8	21.51	-0.14	0	0813M	QPSK	50	25	0 mm	bottom	1:1	2.850	1.069	3.047	A60
2535.00	21100	Mid	LTE Band 7	20	21.8	21.46	-0.15	0	0813M	QPSK	50	0	0 mm	bottom	1:1	2.840	1.081	3.070	
2560.00	21350	High	LTE Band 7	20	21.8	21.38	-0.15	0	0813M	QPSK	50	0	0 mm	bottom	1:1	2.720	1.102	2.997	
2510.00	20850	Low	LTE Band 7	20	21.8	21.35	-0.19	0	0813M	QPSK	100	0	0 mm	bottom	1:1	2.830	1.109	3.138	
2510.00	20850	Low	LTE Band 7	20	21.8	21.51	0.20	0	0813M	QPSK	50	25	0 mm	bottom	1:1	2.810	1.069	3.004	
2535.00	21100	Mid	LTE Band 7	20	21.8	21.46	0.15	0	0813M	QPSK	50	0	0 mm	bottom	1:1	2.820	1.081	3.048	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Phablet 4.0 W/kg (mW/g) averaged over 10 grams											

Note: Blue entries represent variability measurements.

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Table 11-47
LTE Band 41 Phablet SAR

MEASUREMENT RESULTS																			
FREQUENCY			Mode	Bandwidth [MHz]	Maxum 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)			
2593.00	40620	Mid	LTE Band 41	20	24.5	23.93	-0.02	0	0060M	QPSK	1	50	8 mm	back	1:1.58	0.398	1.140	0.454	
2593.00	40620	Mid	LTE Band 41	20	23.5	23.14	0.04	1	0060M	QPSK	50	25	8 mm	back	1:1.58	0.323	1.086	0.351	
2593.00	40620	Mid	LTE Band 41	20	24.5	23.93	-0.04	0	0060M	QPSK	1	50	6 mm	front	1:1.58	0.352	1.140	0.401	
2593.00	40620	Mid	LTE Band 41	20	23.5	23.14	0.00	1	0060M	QPSK	50	25	6 mm	front	1:1.58	0.290	1.086	0.315	
2593.00	40620	Mid	LTE Band 41	20	24.5	23.93	-0.08	0	0060M	QPSK	1	50	11 mm	bottom	1:1.58	0.499	1.140	0.569	
2593.00	40620	Mid	LTE Band 41	20	23.5	23.14	-0.03	1	0060M	QPSK	50	25	11 mm	bottom	1:1.58	0.413	1.086	0.449	
2593.00	40620	Mid	LTE Band 41	20	24.5	23.93	-0.05	0	0060M	QPSK	1	50	0 mm	left	1:1.58	0.573	1.140	0.653	
2593.00	40620	Mid	LTE Band 41	20	23.5	23.14	0.01	1	0060M	QPSK	50	25	0 mm	left	1:1.58	0.473	1.086	0.514	
2506.00	39750	Low	LTE Band 41	20	23.0	22.79	0.00	0	0439M	QPSK	1	0	0 mm	back	1:1.58	2.200	1.050	2.310	A61
2549.50	40185	Low-Mid	LTE Band 41	20	23.0	22.47	-0.04	0	0439M	QPSK	1	0	0 mm	back	1:1.58	1.340	1.130	1.514	
2593.00	40620	Mid	LTE Band 41	20	23.0	22.83	0.11	0	0439M	QPSK	1	0	0 mm	back	1:1.58	1.740	1.040	1.810	
2636.50	41055	Mid-High	LTE Band 41	20	23.0	22.50	0.02	0	0439M	QPSK	1	0	0 mm	back	1:1.58	1.470	1.122	1.649	
2680.00	41490	High	LTE Band 41	20	23.0	22.67	0.06	0	0439M	QPSK	1	99	0 mm	back	1:1.58	1.390	1.079	1.500	
2506.00	39750	Low	LTE Band 41	20	23.0	22.87	0.02	0	0439M	QPSK	50	0	0 mm	back	1:1.58	2.030	1.030	2.091	
2549.50	40185	Low-Mid	LTE Band 41	20	23.0	22.74	0.01	0	0439M	QPSK	50	0	0 mm	back	1:1.58	1.380	1.062	1.466	
2593.00	40620	Mid	LTE Band 41	20	23.0	23.00	-0.17	0	0439M	QPSK	50	0	0 mm	back	1:1.58	1.640	1.000	1.640	
2636.50	41055	Mid-High	LTE Band 41	20	23.0	22.63	0.02	0	0439M	QPSK	50	0	0 mm	back	1:1.58	1.610	1.089	1.753	
2680.00	41490	High	LTE Band 41	20	23.0	22.81	0.02	0	0439M	QPSK	50	50	0 mm	back	1:1.58	1.530	1.045	1.599	
2593.00	40620	Mid	LTE Band 41	20	23.0	22.80	0.10	0	0439M	QPSK	100	0	0 mm	back	1:1.58	1.310	1.047	1.372	
2593.00	40620	Mid	LTE Band 41	20	23.0	22.83	-0.01	0	0439M	QPSK	1	0	0 mm	front	1:1.58	1.160	1.040	1.206	
2593.00	40620	Mid	LTE Band 41	20	23.0	23.00	0.17	0	0439M	QPSK	50	0	0 mm	front	1:1.58	1.330	1.000	1.330	
2506.00	39750	Low	LTE Band 41	20	23.0	22.79	-0.21	0	0439M	QPSK	1	0	0 mm	bottom	1:1.58	1.680	1.050	1.764	
2549.50	40185	Low-Mid	LTE Band 41	20	23.0	22.47	0.06	0	0439M	QPSK	1	0	0 mm	bottom	1:1.58	1.590	1.130	1.797	
2593.00	40620	Mid	LTE Band 41	20	23.0	22.83	-0.14	0	0439M	QPSK	1	0	0 mm	bottom	1:1.58	1.630	1.040	1.695	
2636.50	41055	Mid-High	LTE Band 41	20	23.0	22.50	-0.15	0	0439M	QPSK	1	0	0 mm	bottom	1:1.58	1.230	1.122	1.380	
2680.00	41490	High	LTE Band 41	20	23.0	22.67	-0.18	0	0439M	QPSK	1	99	0 mm	bottom	1:1.58	1.320	1.079	1.424	
2506.00	39750	Low	LTE Band 41	20	23.0	22.87	-0.06	0	0439M	QPSK	50	0	0 mm	bottom	1:1.58	2.070	1.030	2.132	
2549.50	40185	Low-Mid	LTE Band 41	20	23.0	22.74	0.07	0	0439M	QPSK	50	0	0 mm	bottom	1:1.58	1.490	1.062	1.582	
2593.00	40620	Mid	LTE Band 41	20	23.0	23.00	-0.13	0	0439M	QPSK	50	0	0 mm	bottom	1:1.58	1.660	1.000	1.660	
2636.50	41055	Mid-High	LTE Band 41	20	23.0	22.63	-0.18	0	0439M	QPSK	50	0	0 mm	bottom	1:1.58	1.250	1.089	1.361	
2680.00	41490	High	LTE Band 41	20	23.0	22.81	-0.18	0	0439M	QPSK	50	50	0 mm	bottom	1:1.58	1.390	1.045	1.453	
2593.00	40620	Mid	LTE Band 41	20	23.0	22.80	-0.18	0	0439M	QPSK	100	0	0 mm	bottom	1:1.58	1.600	1.047	1.675	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT								Phablet											
Spatial Peak								4.0 W/kg (mW/g)											
Uncontrolled Exposure/General Population								averaged over 10 grams											

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Table 11-48
WLAN SISO Phablet SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (10g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (10g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5300	60	802.11a	OFDM	20	18.5	18.34	0.02	0 mm	1	0115M	6	back	98.9	12.862	1.110	1.038	1.011	1.165	
5300	60	802.11a	OFDM	20	18.5	18.34	0.17	0 mm	1	0115M	6	front	98.9	4.727	0.188	1.038	1.011	0.197	
5300	60	802.11a	OFDM	20	18.5	18.34	-0.21	0 mm	1	0115M	6	top	98.9	4.920	-	1.038	1.011	-	
5300	60	802.11a	OFDM	20	18.5	18.34	-0.18	0 mm	1	0115M	6	left	98.9	18.743	1.470	1.038	1.011	1.543	
5260	52	802.11a	OFDM	20	18.5	18.28	-0.09	0 mm	2	0437M	6	back	98.8	19.583	2.020	1.052	1.012	2.151	
5280	56	802.11a	OFDM	20	18.5	18.17	-0.11	0 mm	2	0437M	6	back	98.8	19.672	2.460	1.079	1.012	2.686	
5300	60	802.11a	OFDM	20	18.5	18.33	-0.05	0 mm	2	0437M	6	back	98.8	17.259	2.270	1.040	1.012	2.389	
5300	60	802.11a	OFDM	20	18.5	18.33	0.00	0 mm	2	0437M	6	front	98.8	0.286	0.053	1.040	1.012	0.056	
5300	60	802.11a	OFDM	20	18.5	18.33	-0.17	0 mm	2	0437M	6	top	98.8	0.588	-	1.040	1.012	-	
5300	60	802.11a	OFDM	20	18.5	18.33	-0.08	0 mm	2	0437M	6	left	98.8	2.159	0.196	1.040	1.012	0.206	
5620	124	802.11a	OFDM	20	18.5	18.14	0.00	0 mm	1	0115M	6	back	98.9	13.882	1.300	1.086	1.011	1.427	
5620	124	802.11a	OFDM	20	18.5	18.14	0.12	0 mm	1	0115M	6	front	98.9	5.795	0.437	1.086	1.011	0.480	
5620	124	802.11a	OFDM	20	18.5	18.14	0.19	0 mm	1	0115M	6	top	98.9	5.799	-	1.086	1.011	-	
5500	100	802.11a	OFDM	20	18.5	18.06	-0.14	0 mm	1	0115M	6	left	98.9	19.246	1.590	1.107	1.011	1.779	
5620	124	802.11a	OFDM	20	18.5	18.14	-0.20	0 mm	1	0115M	6	left	98.9	21.718	1.660	1.086	1.011	1.823	
5720	144	802.11a	OFDM	20	18.5	18.11	-0.12	0 mm	1	0115M	6	left	98.9	18.310	1.450	1.094	1.011	1.604	
5600	120	802.11a	OFDM	20	18.5	18.43	-0.18	0 mm	2	0437M	6	back	98.8	15.560	1.960	1.016	1.012	2.015	
5620	124	802.11a	OFDM	20	18.5	18.33	-0.16	0 mm	2	0437M	6	back	98.8	13.706	1.860	1.040	1.012	1.958	
5600	120	802.11a	OFDM	20	18.5	18.43	0.00	0 mm	2	0437M	6	front	98.8	0.355	0.032	1.016	1.012	0.033	
5600	120	802.11a	OFDM	20	18.5	18.43	0.04	0 mm	2	0437M	6	top	98.8	0.999	-	1.016	1.012	-	
5600	120	802.11a	OFDM	20	18.5	18.43	-0.05	0 mm	2	0437M	6	left	98.8	3.428	0.316	1.016	1.012	0.325	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Phablet 4.0 W/kg (mW/g) averaged over 10 grams											

Table 11-49
WLAN SISO Phablet SAR for Conditions with 5G NR

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)	
5290	58	802.11ac	OFDM	80	14.0	13.99	-0.01	0 mm	1	0459M	29.3	back	95.2	3.651	0.345	1.002	1.050	0.363	
5290	58	802.11ac	OFDM	80	14.0	13.99	-0.14	0 mm	1	0459M	29.3	front	95.2	0.644	-	1.002	1.050	-	
5290	58	802.11ac	OFDM	80	14.0	13.99	-0.11	0 mm	1	0459M	29.3	top	95.2	1.357	-	1.002	1.050	-	
5290	58	802.11ac	OFDM	80	14.0	13.99	-0.18	0 mm	1	0459M	29.3	left	95.2	3.755	0.210	1.002	1.050	0.221	
5290	58	802.11ac	OFDM	80	14.0	13.99	0.02	0 mm	2	0459M	29.3	back	94.8	4.456	0.562	1.002	1.055	0.594	
5290	58	802.11ac	OFDM	80	14.0	13.99	0.13	0 mm	2	0459M	29.3	front	94.8	0.104	-	1.002	1.055	-	
5290	58	802.11ac	OFDM	80	14.0	13.99	0.01	0 mm	2	0459M	29.3	top	94.8	0.156	-	1.002	1.055	-	
5290	58	802.11ac	OFDM	80	14.0	13.99	0.19	0 mm	2	0459M	29.3	left	94.8	0.550	-	1.002	1.055	-	
5690	138	802.11ac	OFDM	80	14.0	13.96	-0.11	0 mm	1	0459M	29.3	back	95.2	3.555	0.299	1.009	1.050	0.317	
5690	138	802.11ac	OFDM	80	14.0	13.96	0.16	0 mm	1	0459M	29.3	front	95.2	1.258	-	1.009	1.050	-	
5690	138	802.11ac	OFDM	80	14.0	13.96	-0.13	0 mm	1	0459M	29.3	top	95.2	1.842	-	1.009	1.050	-	
5690	138	802.11ac	OFDM	80	14.0	13.96	0.15	0 mm	1	0459M	29.3	left	95.2	2.596	-	1.009	1.050	-	
5690	138	802.11ac	OFDM	80	14.0	13.96	0.17	0 mm	2	0459M	29.3	back	94.8	1.356	0.244	1.009	1.055	0.260	
5690	138	802.11ac	OFDM	80	14.0	13.96	0.19	0 mm	2	0459M	29.3	front	94.8	0.065	-	1.009	1.055	-	
5690	138	802.11ac	OFDM	80	14.0	13.96	-0.11	0 mm	2	0459M	29.3	top	94.8	0.137	-	1.009	1.055	-	
5690	138	802.11ac	OFDM	80	14.0	13.96	0.11	0 mm	2	0459M	29.3	left	94.8	0.370	-	1.009	1.055	-	
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 11-50
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)			
5200	40	802.11n	OFDM	20	18.5	18.21	18.5	18.26	-0.14	0 mm	MIMO	0115M	13	back	98.7	20.204	2.620	1.069	1.013	2.837	
5220	44	802.11n	OFDM	20	18.5	18.17	18.5	18.29	-0.18	0 mm	MIMO	0115M	13	back	98.7	23.270	2.550	1.079	1.013	2.787	
5240	48	802.11n	OFDM	20	18.5	18.26	18.5	18.22	-0.12	0 mm	MIMO	0115M	13	back	98.7	25.076	2.890	1.067	1.013	3.124	
5200	40	802.11n	OFDM	20	18.5	18.21	18.5	18.26	0.16	0 mm	MIMO	0115M	13	front	98.7	2.606	0.449	1.069	1.013	0.486	
5200	40	802.11n	OFDM	20	18.5	18.21	18.5	18.26	-0.14	0 mm	MIMO	0115M	13	top	98.7	5.665	-	1.069	1.013	-	
5200	40	802.11n	OFDM	20	18.5	18.21	18.5	18.26	-0.20	0 mm	MIMO	0115M	13	left	98.7	17.292	1.350	1.069	1.013	1.462	
5260	52	802.11n	OFDM	20	18.5	18.44	18.5	18.33	0.00	0 mm	MIMO	0115M	13	back	98.7	24.703	3.020	1.040	1.013	3.182	A62
5280	56	802.11n	OFDM	20	18.5	18.47	18.5	18.18	-0.08	0 mm	MIMO	0115M	13	back	98.7	29.681	2.750	1.076	1.013	2.997	
5300	60	802.11n	OFDM	20	18.5	18.12	18.5	18.29	-0.16	0 mm	MIMO	0115M	13	back	98.7	25.352	2.970	1.091	1.013	3.282	
5320	64	802.11n	OFDM	20	17.5	17.11	17.5	17.49	0.07	0 mm	MIMO	0115M	13	back	98.7	20.131	2.800	1.094	1.013	3.103	
5260	52	802.11n	OFDM	20	18.5	18.44	18.5	18.33	-0.02	0 mm	MIMO	0115M	13	front	98.7	2.682	0.522	1.040	1.013	0.550	
5260	52	802.11n	OFDM	20	18.5	18.44	18.5	18.33	-0.13	0 mm	MIMO	0115M	13	top	98.7	5.257	-	1.040	1.013	-	
5260	52	802.11n	OFDM	20	18.5	18.44	18.5	18.33	-0.12	0 mm	MIMO	0115M	13	left	98.7	20.503	1.620	1.040	1.013	1.707	
5600	120	802.11n	OFDM	20	18.5	18.16	18.5	18.48	0.21	0 mm	MIMO	0115M	13	back	98.7	25.428	2.850	1.081	1.013	3.121	
5620	124	802.11n	OFDM	20	18.5	18.14	18.5	18.41	-0.08	0 mm	MIMO	0115M	13	back	98.7	18.545	2.580	1.086	1.013	2.838	
5720	144	802.11n	OFDM	20	18.5	18.27	18.5	18.38	0.03	0 mm	MIMO	0115M	13	back	98.7	12.192	2.110	1.054	1.013	2.253	
5720	144	802.11n	OFDM	20	18.5	18.27	18.5	18.38	-0.20	0 mm	MIMO	0115M	13	front	98.7	2.667	0.475	1.054	1.013	0.507	
5720	144	802.11n	OFDM	20	18.5	18.27	18.5	18.38	0.05	0 mm	MIMO	0115M	13	top	98.7	6.035	0.656	1.054	1.013	0.700	
5720	144	802.11n	OFDM	20	18.5	18.27	18.5	18.38	-0.16	0 mm	MIMO	0115M	13	left	98.7	21.518	1.480	1.054	1.013	1.580	
5260	52	802.11n	OFDM	20	18.5	18.44	18.5	18.33	0.03	0 mm	MIMO	0115M	13	back	98.7	21.591	2.690	1.040	1.013	2.834	
5600	120	802.11n	OFDM	20	18.5	18.16	18.5	18.48	-0.14	0 mm	MIMO	0115M	13	back	98.7	20.572	2.630	1.081	1.013	2.880	
5720	144	802.11n	OFDM	20	18.5	18.27	18.5	18.38	0.01	0 mm	MIMO	0115M	13	back	98.7	14.607	1.990	1.054	1.013	2.125	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT																					
Spatial Peak										Phablet											
Uncontrolled Exposure/General Population										4.0 W/kg (mW/g) averaged over 10 grams											

Notes: For channels 40, 44, 48, 52, 56, 60, 120, 124, and 144, to achieve the 21.5 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 18.5 dBm. For channel 64 to achieve the 20.5 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 17.5 dBm. Blue entries represent variability measurements.

Table 11-51
WLAN MIMO Phablet SAR for Conditions with 5G NR

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) (W/kg)	Plot #
MHz	Ch.															W/kg	(W/kg)				
5290	58	802.11ac	OFDM	80	14.0	13.99	14.0	13.99	-0.18	0 mm	MIMO	0459M	58.5	back	89.6	5.079	0.892	1.002	1.116	0.997	
5290	58	802.11ac	OFDM	80	14.0	13.99	14.0	13.99	0.13	0 mm	MIMO	0459M	58.5	front	89.6	0.807	-	1.002	1.116	-	
5290	58	802.11ac	OFDM	80	14.0	13.99	14.0	13.99	-0.14	0 mm	MIMO	0459M	58.5	top	89.6	1.662	-	1.002	1.116	-	
5290	58	802.11ac	OFDM	80	14.0	13.99	14.0	13.99	-0.16	0 mm	MIMO	0459M	58.5	left	89.6	3.494	0.307	1.002	1.116	0.343	
5690	138	802.11ac	OFDM	80	14.0	13.96	14.0	13.96	-0.09	0 mm	MIMO	0459M	58.5	back	89.6	5.622	0.588	1.009	1.116	0.662	
5690	138	802.11ac	OFDM	80	14.0	13.96	14.0	13.96	0.12	0 mm	MIMO	0459M	58.5	front	89.6	1.121	-	1.009	1.116	-	
5690	138	802.11ac	OFDM	80	14.0	13.96	14.0	13.96	0.13	0 mm	MIMO	0459M	58.5	top	89.6	1.789	-	1.009	1.116	-	
5690	138	802.11ac	OFDM	80	14.0	13.96	14.0	13.96	-0.16	0 mm	MIMO	0459M	58.5	left	89.6	2.682	-	1.009	1.116	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT											Phablet										
Spatial Peak											4.0 W/kg (mW/g)										
Uncontrolled Exposure/General Population											averaged over 10 grams										

Notes: For channels 58 and 138, to achieve the 17.0 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 14.0 dBm.

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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. This device uses Qualcomm Smart Transmit for 2G/3G/4G/5G operations to control and manage transmitting power in real time to ensure RF Exposure compliance. Per FCC Guidance, compliance for was assessed at the minimum of the time averaged power and the maximum output power for each band/mode/exposure condition (DSI).
6. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D01v06.
7. 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.
8. Per FCC KDB Publication 648474 D04v01r03, body-worn SAR was evaluated without a headset connected to the device. Since the standalone reported body-worn SAR was ≤ 1.2 W/kg, no additional body-worn SAR evaluations using a headset cable were required.
9. Per FCC KDB 865664 D01v01r04, variability SAR tests were performed when the measured SAR results for a frequency band were greater than or equal to 0.8 W/kg for 1g or 2.0 W/kg for 10g. Repeated SAR measurements are highlighted in the tables above for clarity. Please see Section 13 for variability analysis.
10. During SAR Testing for the Wireless Router conditions per FCC KDB Publication 941225 D06v02r01, the actual Portable Hotspot operation (with actual simultaneous transmission of a transmitter with WIFI) was not activated (See Section 6.7 for more details).
11. 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.
12. This device supports dynamic antenna tuning for some bands. Per April 2019 TCB Workshop Notes, 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.
13. This device utilizes power reduction for WIFI as outlined in Section 1.4. 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.
14. Unless otherwise noted, when 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds below.
15. 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

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

CDMA Notes:

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

UMTS Notes:

1. UMTS mode in was tested under RMC 12.2 kbps with HSPA Inactive per KDB Publication 941225 D01v03r01. AMR and HSPA SAR was not required per the 3G Test Reduction Procedure in KDB Publication 941225 D01v03r01.
2. Per FCC KDB Publication 447498 D01v06, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg 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 $> \frac{1}{2}$ 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 41/48 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.

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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. For LTE Band 5 and LTE Band 66, per FCC guidance, per FCC guidance, SAR was first measured with only a single carrier active in the uplink (carrier aggregation not active). For each exposure condition, the uplink CA scenario with two component carriers was additionally tested for the configuration with the highest SAR when carrier aggregation was not active. The SCC was configured with the closest available contiguous channel. The two component carriers were configured so the resource blocks are physically allocated side by side to achieve the maximum output power.

WLAN Notes:

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

Bluetooth Notes

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

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12 FCC MULTI-TX AND ANTENNA SAR CONSIDERATIONS

12.1 Introduction

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

12.2 Simultaneous Transmission Procedures

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

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

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

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

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12.3 Head SAR Simultaneous Transmission Analysis

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Head SAR	Cell. CDMA/EVDO	0.183	0.386	0.025	0.569	0.208	0.594
	PCS CDMA/EVDO	0.148	0.386	0.025	0.534	0.173	0.559
	GSM 850	0.109	0.386	0.025	0.495	0.134	0.520
	GSM 1900	0.057	0.386	0.025	0.443	0.082	0.468
	UMTS 850	0.188	0.386	0.025	0.574	0.213	0.599
	UMTS 1900	0.164	0.386	0.025	0.550	0.189	0.575
	LTE Band 12	0.129	0.386	0.025	0.515	0.154	0.540
	LTE Band 13	0.145	0.386	0.025	0.531	0.170	0.556
	LTE Band 26 (Cell)	0.120	0.386	0.025	0.506	0.145	0.531
	LTE Band 5 (Cell)	0.260	0.386	0.025	0.646	0.285	0.671
	LTE Band 66 (AWS)	0.153	0.386	0.025	0.539	0.178	0.564
	LTE Band 2 (PCS)	0.130	0.386	0.025	0.516	0.155	0.541
	LTE Band 7	0.105	0.386	0.025	0.491	0.130	0.516
	LTE Band 48	0.024	0.386	0.025	0.410	0.049	0.435
	LTE Band 41	0.082	0.386	0.025	0.468	0.107	0.493

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Head SAR	Cell. CDMA/EVDO	0.183	0.375	0.031	0.558	0.214	0.589
	PCS CDMA/EVDO	0.148	0.375	0.031	0.523	0.179	0.554
	GSM 850	0.109	0.375	0.031	0.484	0.140	0.515
	GSM 1900	0.057	0.375	0.031	0.432	0.088	0.463
	UMTS 850	0.188	0.375	0.031	0.563	0.219	0.594
	UMTS 1900	0.164	0.375	0.031	0.539	0.195	0.570
	LTE Band 12	0.129	0.375	0.031	0.504	0.160	0.535
	LTE Band 13	0.145	0.375	0.031	0.520	0.176	0.551
	LTE Band 26 (Cell)	0.120	0.375	0.031	0.495	0.151	0.526
	LTE Band 5 (Cell)	0.260	0.375	0.031	0.635	0.291	0.666
	LTE Band 66 (AWS)	0.153	0.375	0.031	0.528	0.184	0.559
	LTE Band 2 (PCS)	0.130	0.375	0.031	0.505	0.161	0.536
	LTE Band 7	0.105	0.375	0.031	0.480	0.136	0.511
	LTE Band 48	0.024	0.375	0.031	0.399	0.055	0.430
	LTE Band 41	0.082	0.375	0.031	0.457	0.113	0.488

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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	Cell. CDMA/EVDO	0.183	0.386	0.025	0.375	0.031	1.000
	PCS CDMA/EVDO	0.148	0.386	0.025	0.375	0.031	0.965
	GSM 850	0.109	0.386	0.025	0.375	0.031	0.926
	GSM 1900	0.057	0.386	0.025	0.375	0.031	0.874
	UMTS 850	0.188	0.386	0.025	0.375	0.031	1.005
	UMTS 1900	0.164	0.386	0.025	0.375	0.031	0.981
	LTE Band 12	0.129	0.386	0.025	0.375	0.031	0.946
	LTE Band 13	0.145	0.386	0.025	0.375	0.031	0.962
	LTE Band 26 (Cell)	0.120	0.386	0.025	0.375	0.031	0.937
	LTE Band 5 (Cell)	0.260	0.386	0.025	0.375	0.031	1.077
	LTE Band 66 (AWS)	0.153	0.386	0.025	0.375	0.031	0.970
	LTE Band 2 (PCS)	0.130	0.386	0.025	0.375	0.031	0.947
	LTE Band 7	0.105	0.386	0.025	0.375	0.031	0.922
	LTE Band 48	0.024	0.386	0.025	0.375	0.031	0.841
	LTE Band 41	0.082	0.386	0.025	0.375	0.031	0.899

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Head SAR	Cell. CDMA/EVDO	0.183	0.372	0.555
	PCS CDMA/EVDO	0.148	0.372	0.520
	GSM 850	0.109	0.372	0.481
	GSM 1900	0.057	0.372	0.429
	UMTS 850	0.188	0.372	0.560
	UMTS 1900	0.164	0.372	0.536
	LTE Band 12	0.129	0.372	0.501
	LTE Band 13	0.145	0.372	0.517
	LTE Band 26 (Cell)	0.120	0.372	0.492
	LTE Band 5 (Cell)	0.260	0.372	0.632
	LTE Band 66 (AWS)	0.153	0.372	0.525
	LTE Band 2 (PCS)	0.130	0.372	0.502
	LTE Band 7	0.105	0.372	0.477
	LTE Band 48	0.024	0.372	0.396
	LTE Band 41	0.082	0.372	0.454

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Table 12-5
Simultaneous Transmission Scenario with Bluetooth and 5 GHz 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)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+3	1+2+4	1+2+3+4
Head SAR	Cell. CDMA/EVDO	0.183	0.372	0.375	0.031	0.930	0.586	0.961
	PCS CDMA/EVDO	0.148	0.372	0.375	0.031	0.895	0.551	0.926
	GSM 850	0.109	0.372	0.375	0.031	0.856	0.512	0.887
	GSM 1900	0.057	0.372	0.375	0.031	0.804	0.460	0.835
	UMTS 850	0.188	0.372	0.375	0.031	0.935	0.591	0.966
	UMTS 1900	0.164	0.372	0.375	0.031	0.911	0.567	0.942
	LTE Band 12	0.129	0.372	0.375	0.031	0.876	0.532	0.907
	LTE Band 13	0.145	0.372	0.375	0.031	0.892	0.548	0.923
	LTE Band 26 (Cell)	0.120	0.372	0.375	0.031	0.867	0.523	0.898
	LTE Band 5 (Cell)	0.260	0.372	0.375	0.031	1.007	0.663	1.038
	LTE Band 66 (AWS)	0.153	0.372	0.375	0.031	0.900	0.556	0.931
	LTE Band 2 (PCS)	0.130	0.372	0.375	0.031	0.877	0.533	0.908
	LTE Band 7	0.105	0.372	0.375	0.031	0.852	0.508	0.883
	LTE Band 48	0.024	0.372	0.375	0.031	0.771	0.427	0.802
	LTE Band 41	0.082	0.372	0.375	0.031	0.829	0.485	0.860

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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	Cell. CDMA	0.244	0.118	0.069	0.362	0.313	0.431
	PCS CDMA	0.894	0.118	0.069	1.012	0.963	1.081
	GSM 850	0.189	0.118	0.069	0.307	0.258	0.376
	GSM 1900	0.323	0.118	0.069	0.441	0.392	0.510
	UMTS 850	0.320	0.118	0.069	0.438	0.389	0.507
	UMTS 1900	1.067	0.118	0.069	1.185	1.136	1.254
	LTE Band 12	0.187	0.118	0.069	0.305	0.256	0.374
	LTE Band 13	0.224	0.118	0.069	0.342	0.293	0.411
	LTE Band 26 (Cell)	0.213	0.118	0.069	0.331	0.282	0.400
	LTE Band 5 (Cell)	0.186	0.118	0.069	0.304	0.255	0.373
	LTE Band 66 (AWS)	1.025	0.118	0.069	1.143	1.094	1.212
	LTE Band 2 (PCS)	0.762	0.118	0.069	0.880	0.831	0.949
	LTE Band 7	0.292	0.118	0.069	0.410	0.361	0.479
	LTE Band 48	0.112	0.118	0.069	0.230	0.181	0.299
	LTE Band 41	0.389	0.118	0.069	0.507	0.458	0.576

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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)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Body-Worn	Cell. CDMA	0.244	0.445	0.290	0.689	0.534
	PCS CDMA	0.894	0.445	0.290	1.339	1.184
	GSM 850	0.189	0.445	0.290	0.634	0.479
	GSM 1900	0.323	0.445	0.290	0.768	0.613
	UMTS 850	0.320	0.445	0.290	0.765	0.610
	UMTS 1900	1.067	0.445	0.290	1.512	1.357
	LTE Band 12	0.187	0.445	0.290	0.632	0.477
	LTE Band 13	0.224	0.445	0.290	0.669	0.514
	LTE Band 26 (Cell)	0.213	0.445	0.290	0.658	0.503
	LTE Band 5 (Cell)	0.186	0.445	0.290	0.631	0.476
	LTE Band 66 (AWS)	1.025	0.445	0.290	1.470	1.315
	LTE Band 2 (PCS)	0.762	0.445	0.290	1.207	1.052
	LTE Band 7	0.292	0.445	0.290	0.737	0.582
	LTE Band 48	0.112	0.445	0.290	0.557	0.402
	LTE Band 41	0.389	0.445	0.290	0.834	0.679
	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		Cell. CDMA	0.244	0.508	0.752	
		PCS CDMA	0.894	0.508	1.402	
		GSM 850	0.189	0.508	0.697	
		GSM 1900	0.323	0.508	0.831	
		UMTS 850	0.320	0.508	0.828	
		UMTS 1900	1.067	0.508	1.575	
		LTE Band 12	0.187	0.508	0.695	
		LTE Band 13	0.224	0.508	0.732	
		LTE Band 26 (Cell)	0.213	0.508	0.721	
		LTE Band 5 (Cell)	0.186	0.508	0.694	
		LTE Band 66 (AWS)	1.025	0.508	1.533	
		LTE Band 2 (PCS)	0.762	0.508	1.270	
		LTE Band 7	0.292	0.508	0.800	
		LTE Band 48	0.112	0.508	0.620	
		LTE Band 41	0.389	0.508	0.897	

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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 Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body-Worn	Cell. CDMA	0.244	0.118	0.069	0.216	0.647
	PCS CDMA	0.894	0.118	0.069	0.216	1.297
	GSM 850	0.189	0.118	0.069	0.216	0.592
	GSM 1900	0.323	0.118	0.069	0.216	0.726
	UMTS 850	0.320	0.118	0.069	0.216	0.723
	UMTS 1900	1.067	0.118	0.069	0.216	1.470
	LTE Band 12	0.187	0.118	0.069	0.216	0.590
	LTE Band 13	0.224	0.118	0.069	0.216	0.627
	LTE Band 26 (Cell)	0.213	0.118	0.069	0.216	0.616
	LTE Band 5 (Cell)	0.186	0.118	0.069	0.216	0.589
	LTE Band 66 (AWS)	1.025	0.118	0.069	0.216	1.428
	LTE Band 2 (PCS)	0.762	0.118	0.069	0.216	1.165
	LTE Band 7	0.292	0.118	0.069	0.216	0.695
	LTE Band 48	0.112	0.118	0.069	0.216	0.515
	LTE Band 41	0.389	0.118	0.069	0.216	0.792

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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	Cell. CDMA	0.244	0.017	0.261
	PCS CDMA	0.894	0.017	0.911
	GSM 850	0.189	0.017	0.206
	GSM 1900	0.323	0.017	0.340
	UMTS 850	0.320	0.017	0.337
	UMTS 1900	1.067	0.017	1.084
	LTE Band 12	0.187	0.017	0.204
	LTE Band 13	0.224	0.017	0.241
	LTE Band 26 (Cell)	0.213	0.017	0.230
	LTE Band 5 (Cell)	0.186	0.017	0.203
	LTE Band 66 (AWS)	1.025	0.017	1.042
	LTE Band 2 (PCS)	0.762	0.017	0.779
	LTE Band 7	0.292	0.017	0.309
	LTE Band 48	0.112	0.017	0.129
	LTE Band 41	0.389	0.017	0.406

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	4	1+2+3	1+2+4
Body-Worn	Cell. CDMA	0.244	0.017	0.445	0.290	0.706	0.551
	PCS CDMA	0.894	0.017	0.445	0.290	1.356	1.201
	GSM 850	0.189	0.017	0.445	0.290	0.651	0.496
	GSM 1900	0.323	0.017	0.445	0.290	0.785	0.630
	UMTS 850	0.320	0.017	0.445	0.290	0.782	0.627
	UMTS 1900	1.067	0.017	0.445	0.290	1.529	1.374
	LTE Band 12	0.187	0.017	0.445	0.290	0.649	0.494
	LTE Band 13	0.224	0.017	0.445	0.290	0.686	0.531
	LTE Band 26 (Cell)	0.213	0.017	0.445	0.290	0.675	0.520
	LTE Band 5 (Cell)	0.186	0.017	0.445	0.290	0.648	0.493
	LTE Band 66 (AWS)	1.025	0.017	0.445	0.290	1.487	1.332
	LTE Band 2 (PCS)	0.762	0.017	0.445	0.290	1.224	1.069
	LTE Band 7	0.292	0.017	0.445	0.290	0.754	0.599
	LTE Band 48	0.112	0.017	0.445	0.290	0.574	0.419
	LTE Band 41	0.389	0.017	0.445	0.290	0.851	0.696
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	Cell. CDMA	0.244	0.017	0.508	0.769		
	PCS CDMA	0.894	0.017	0.508	1.419		
	GSM 850	0.189	0.017	0.508	0.714		
	GSM 1900	0.323	0.017	0.508	0.848		
	UMTS 850	0.320	0.017	0.508	0.845		
	UMTS 1900	1.067	0.017	0.508	1.592		
	LTE Band 12	0.187	0.017	0.508	0.712		
	LTE Band 13	0.224	0.017	0.508	0.749		
	LTE Band 26 (Cell)	0.213	0.017	0.508	0.738		
	LTE Band 5 (Cell)	0.186	0.017	0.508	0.711		
	LTE Band 66 (AWS)	1.025	0.017	0.508	1.550		
	LTE Band 2 (PCS)	0.762	0.017	0.508	1.287		
	LTE Band 7	0.292	0.017	0.508	0.817		
	LTE Band 48	0.112	0.017	0.508	0.637		
	LTE Band 41	0.389	0.017	0.508	0.914		

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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	Cell. EVDO	0.740	0.277	0.174	1.017	0.914	1.191
	PCS EVDO	1.061	0.277	0.174	1.338	1.235	1.512
	GPRS 850	0.745	0.277	0.174	1.022	0.919	1.196
	GPRS 1900	0.999	0.277	0.174	1.276	1.173	1.450
	UMTS 850	0.676	0.277	0.174	0.953	0.850	1.127
	UMTS 1900	1.090	0.277	0.174	1.367	1.264	1.541
	LTE Band 12	0.333	0.277	0.174	0.610	0.507	0.784
	LTE Band 13	0.556	0.277	0.174	0.833	0.730	1.007
	LTE Band 26 (Cell)	0.622	0.277	0.174	0.899	0.796	1.073
	LTE Band 5 (Cell)	0.668	0.277	0.174	0.945	0.842	1.119
	LTE Band 66 (AWS)	1.166	0.277	0.174	1.443	1.340	See Table Below
	LTE Band 2 (PCS)	0.954	0.277	0.174	1.231	1.128	1.405
	LTE Band 7	0.815	0.277	0.174	1.092	0.989	1.266
	LTE Band 48	0.557	0.277	0.174	0.834	0.731	1.008
	LTE Band 41	1.020	0.277	0.174	1.297	1.194	1.471

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.728	0.277*	0.174	1.179
	Front	0.549	0.277*	0.174*	1.000
	Top	-	0.277	0.174*	0.451
	Bottom	1.166	-	-	1.166
	Right	0.076	-	-	0.076
	Left	0.089	0.277*	0.174*	0.540

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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)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Hotspot SAR	Cell. EVDO	0.740	0.693	0.217	1.433	0.957
	PCS EVDO	1.061	0.693	0.217	See Table Below	1.278
	GPRS 850	0.745	0.693	0.217	1.438	0.962
	GPRS 1900	0.999	0.693	0.217	See Table Below	1.216
	UMTS 850	0.676	0.693	0.217	1.369	0.893
	UMTS 1900	1.090	0.693	0.217	See Table Below	1.307
	LTE Band 12	0.333	0.693	0.217	1.026	0.550
	LTE Band 13	0.556	0.693	0.217	1.249	0.773
	LTE Band 26 (Cell)	0.622	0.693	0.217	1.315	0.839
	LTE Band 5 (Cell)	0.668	0.693	0.217	1.361	0.885
	LTE Band 66 (AWS)	1.166	0.693	0.217	See Table Below	1.383
	LTE Band 2 (PCS)	0.954	0.693	0.217	See Table Below	1.171
	LTE Band 7	0.815	0.693	0.217	1.508	1.032
	LTE Band 48	0.557	0.693	0.217	1.250	0.774
	LTE Band 41	1.020	0.693	0.217	See Table Below	1.237

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2			1	2	1+2
Hotspot SAR	Back	0.421	0.693	1.114	Hotspot SAR	Back	0.432	0.693	1.125
	Front	0.339	0.693*	1.032		Front	0.368	0.693*	1.061
	Top	-	0.442	0.442		Top	-	0.442	0.442
	Bottom	1.061	-	1.061		Bottom	0.999	-	0.999
	Right	0.052	-	0.052		Right	0.060	-	0.060
	Left	0.075	0.693*	0.768		Left	0.069	0.693*	0.762
Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2			1	2	1+2
Hotspot SAR	Back	0.446	0.693	1.139	Hotspot SAR	Back	0.728	0.693	1.421
	Front	0.360	0.693*	1.053		Front	0.549	0.693*	1.242
	Top	-	0.442	0.442		Top	-	0.442	0.442
	Bottom	1.090	-	1.090		Bottom	1.166	-	1.166
	Right	0.068	-	0.068		Right	0.076	-	0.076
	Left	0.079	0.693*	0.772		Left	0.089	0.693*	0.782
Simult Tx	Configuration	LTE Band 2 (PCS) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2			1	2	1+2
Hotspot SAR	Back	0.701	0.693	1.394	Hotspot SAR	Back	0.497	0.693	1.190
	Front	0.525	0.693*	1.218		Front	0.404	0.693*	1.097
	Top	-	0.442	0.442		Top	-	0.442	0.442
	Bottom	0.954	-	0.954		Bottom	1.020	-	1.020
	Right	0.068	-	0.068		Right	-	-	-
	Left	0.083	0.693*	0.776		Left	0.201	0.693*	0.894

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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	Cell. EVDO	0.740	0.790	1.530
	PCS EVDO	1.061	0.790	See Table Below
	GPRS 850	0.745	0.790	1.535
	GPRS 1900	0.999	0.790	See Table Below
	UMTS 850	0.676	0.790	1.466
	UMTS 1900	1.090	0.790	See Table Below
	LTE Band 12	0.333	0.790	1.123
	LTE Band 13	0.556	0.790	1.346
	LTE Band 26 (Cell)	0.622	0.790	1.412
	LTE Band 5 (Cell)	0.668	0.790	1.458
	LTE Band 66 (AWS)	1.166	0.790	See Table Below
	LTE Band 2 (PCS)	0.954	0.790	See Table Below
	LTE Band 7	0.815	0.790	See Table Below
	LTE Band 48	0.557	0.790	1.347
	LTE Band 41	1.020	0.790	See Table Below

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2			1	2	1+2
Hotspot SAR	Back	0.421	0.790	1.211	Hotspot SAR	Back	0.432	0.790	1.222
	Front	0.339	0.790*	1.129		Front	0.368	0.790*	1.158
	Top	-	0.461	0.461		Top	-	0.461	0.461
	Bottom	1.061	-	1.061		Bottom	0.999	-	0.999
	Right	0.052	-	0.052		Right	0.060	-	0.060
	Left	0.075	0.790*	0.865		Left	0.069	0.790*	0.859
Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	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			1	2	1+2
Hotspot SAR	Back	0.446	0.790	1.236	Hotspot SAR	Back	0.728	0.790	1.518
	Front	0.360	0.790*	1.150		Front	0.549	0.790*	1.339
	Top	-	0.461	0.461		Top	-	0.461	0.461
	Bottom	1.090	-	1.090		Bottom	1.166	-	1.166
	Right	0.068	-	0.068		Right	0.076	-	0.076
	Left	0.079	0.790*	0.869		Left	0.089	0.790*	0.879
Simult Tx	Configuration	LTE Band 2 (PCS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 7 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	0.701	0.790	1.491	Hotspot SAR	Back	0.550	0.790	1.340
	Front	0.525	0.790*	1.315		Front	0.403	0.790*	1.193
	Top	-	0.461	0.461		Top	-	0.461	0.461
	Bottom	0.954	-	0.954		Bottom	0.815	-	0.815
	Right	0.068	-	0.068		Right	-	-	-
	Left	0.083	0.790*	0.873		Left	0.266	0.790*	1.056

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.497	0.790	1.287
	Front	0.404	0.790*	1.194
	Top	-	0.461	0.461
	Bottom	1.020	-	1.020
	Right	-	-	-
	Left	0.201	0.790*	0.991

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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 Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Cell. EVDO	0.740	0.277	0.174	0.313	1.504
	PCS EVDO	1.061	0.277	0.174	0.313	See Table Below
	GPRS 850	0.745	0.277	0.174	0.313	1.509
	GPRS 1900	0.999	0.277	0.174	0.313	See Table Below
	UMTS 850	0.676	0.277	0.174	0.313	1.440
	UMTS 1900	1.090	0.277	0.174	0.313	See Table Below
	LTE Band 12	0.333	0.277	0.174	0.313	1.097
	LTE Band 13	0.556	0.277	0.174	0.313	1.320
	LTE Band 26 (Cell)	0.622	0.277	0.174	0.313	1.386
	LTE Band 5 (Cell)	0.668	0.277	0.174	0.313	1.432
	LTE Band 66 (AWS)	1.166	0.277	0.174	0.313	See Table Below
	LTE Band 2 (PCS)	0.954	0.277	0.174	0.313	See Table Below
	LTE Band 7	0.815	0.277	0.174	0.313	1.579
	LTE Band 48	0.557	0.277	0.174	0.313	1.321
	LTE Band 41	1.020	0.277	0.174	0.313	See Table Below

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.421	0.277*	0.174	0.313	1.185
	Front	0.339	0.277*	0.174*	0.313*	1.103
	Top	-	0.277	0.174*	0.313*	0.764
	Bottom	1.061	-	-	-	1.061
	Right	0.052	-	-	-	0.052
	Left	0.075	0.277*	0.174*	0.313*	0.839
Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.446	0.277*	0.174	0.313	1.210
	Front	0.360	0.277*	0.174*	0.313*	1.124
	Top	-	0.277	0.174*	0.313*	0.764
	Bottom	1.090	-	-	-	1.090
	Right	0.068	-	-	-	0.068
	Left	0.079	0.277*	0.174*	0.313*	0.843
Simult Tx	Configuration	LTE Band 2 (PCS) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.701	0.277*	0.174	0.313	1.465
	Front	0.525	0.277*	0.174*	0.313*	1.289
	Top	-	0.277	0.174*	0.313*	0.764
	Bottom	0.954	-	-	-	0.954
	Right	0.068	-	-	-	0.068
	Left	0.083	0.277*	0.174*	0.313*	0.847
Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.432	0.277*	0.174	0.313	1.196
	Front	0.368	0.277*	0.174*	0.313*	1.132
	Top	-	0.277	0.174*	0.313*	0.764
	Bottom	0.999	-	-	-	0.999
	Right	0.060	-	-	-	0.060
	Left	0.069	0.277*	0.174*	0.313*	0.833
Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.728	0.277*	0.174	0.313	1.492
	Front	0.549	0.277*	0.174*	0.313*	1.313
	Top	-	0.277	0.174*	0.313*	0.764
	Bottom	1.166	-	-	-	1.166
	Right	0.076	-	-	-	0.076
	Left	0.089	0.277*	0.174*	0.313*	0.853
Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.497	0.277*	0.174	0.313	1.261
	Front	0.404	0.277*	0.174*	0.313*	1.168
	Top	-	0.277	0.174*	0.313*	0.764
	Bottom	1.020	-	-	-	1.020
	Right	-	-	-	-	-
	Left	0.201	0.277*	0.174*	0.313*	0.965

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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	Cell. EVDO	0.740	0.044	0.784
	PCS EVDO	1.061	0.044	1.105
	GPRS 850	0.745	0.044	0.789
	GPRS 1900	0.999	0.044	1.043
	UMTS 850	0.676	0.044	0.720
	UMTS 1900	1.090	0.044	1.134
	LTE Band 12	0.333	0.044	0.377
	LTE Band 13	0.556	0.044	0.600
	LTE Band 26 (Cell)	0.622	0.044	0.666
	LTE Band 5 (Cell)	0.668	0.044	0.712
	LTE Band 66 (AWS)	1.166	0.044	1.210
	LTE Band 2 (PCS)	0.954	0.044	0.998
	LTE Band 7	0.815	0.044	0.859
	LTE Band 48	0.557	0.044	0.601
	LTE Band 41	1.020	0.044	1.064

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

Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	4	1+2+3	1+2+4
Hotspot SAR	Cell. EVDO	0.740	0.044	0.693	0.217	1.477	1.001
	PCS EVDO	1.061	0.044	0.693	0.217	See Table Below	1.322
	GPRS 850	0.745	0.044	0.693	0.217	1.482	1.006
	GPRS 1900	0.999	0.044	0.693	0.217	See Table Below	1.260
	UMTS 850	0.676	0.044	0.693	0.217	1.413	0.937
	UMTS 1900	1.090	0.044	0.693	0.217	See Table Below	1.351
	LTE Band 12	0.333	0.044	0.693	0.217	1.070	0.594
	LTE Band 13	0.556	0.044	0.693	0.217	1.293	0.817
	LTE Band 26 (Cell)	0.622	0.044	0.693	0.217	1.359	0.883
	LTE Band 5 (Cell)	0.668	0.044	0.693	0.217	1.405	0.929
	LTE Band 66 (AWS)	1.166	0.044	0.693	0.217	See Table Below	1.427
	LTE Band 2 (PCS)	0.954	0.044	0.693	0.217	See Table Below	1.215
	LTE Band 7	0.815	0.044	0.693	0.217	1.552	1.076
	LTE Band 48	0.557	0.044	0.693	0.217	1.294	0.818
	LTE Band 41	1.020	0.044	0.693	0.217	See Table Below	1.281

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	GPRS 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			1	2	3	1+2+3
Hotspot SAR	Back	0.421	0.041	0.693	1.155	Hotspot SAR	Back	0.432	0.041	0.693	1.166
	Front	0.339	0.013	0.693*	1.045		Front	0.368	0.013	0.693*	1.074
	Top	-	0.044	0.442	0.486		Top	-	0.044	0.442	0.486
	Bottom	1.061	-	-	1.061		Bottom	0.999	-	-	0.999
	Right	0.052	-	-	0.052		Right	0.060	-	-	0.060
	Left	0.075	0.034	0.693*	0.802		Left	0.069	0.034	0.693*	0.796
Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Hotspot SAR	Back	0.446	0.041	0.693	1.180	Hotspot SAR	Back	0.728	0.041	0.693	1.462
	Front	0.360	0.013	0.693*	1.066		Front	0.549	0.013	0.693*	1.255
	Top	-	0.044	0.442	0.486		Top	-	0.044	0.442	0.486
	Bottom	1.090	-	-	1.090		Bottom	1.166	-	-	1.166
	Right	0.068	-	-	0.068		Right	0.076	-	-	0.076
	Left	0.079	0.034	0.693*	0.806		Left	0.089	0.034	0.693*	0.816
Simult Tx	Configuration	LTE Band 2 (PCS) SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	LTE Band 41 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			1	2	3	1+2+3
Hotspot SAR	Back	0.701	0.041	0.693	1.435	Hotspot SAR	Back	0.497	0.041	0.693	1.231
	Front	0.525	0.013	0.693*	1.231		Front	0.404	0.013	0.693*	1.110
	Top	-	0.044	0.442	0.486		Top	-	0.044	0.442	0.486
	Bottom	0.954	-	-	0.954		Bottom	1.020	-	-	1.020
	Right	0.068	-	-	0.068		Right	-	-	-	-
	Left	0.083	0.034	0.693*	0.810		Left	0.201	0.034	0.693*	0.928

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Exposure Condition	Mode	2G/3G/4G SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Cell. EVDO	0.740	0.044	0.790	1.574
	PCS EVDO	1.061	0.044	0.790	See Table Below
	GPRS 850	0.745	0.044	0.790	1.579
	GPRS 1900	0.999	0.044	0.790	See Table Below
	UMTS 850	0.676	0.044	0.790	1.510
	UMTS 1900	1.090	0.044	0.790	See Table Below
	LTE Band 12	0.333	0.044	0.790	1.167
	LTE Band 13	0.556	0.044	0.790	1.390
	LTE Band 26 (Cell)	0.622	0.044	0.790	1.456
	LTE Band 5 (Cell)	0.668	0.044	0.790	1.502
	LTE Band 66 (AWS)	1.166	0.044	0.790	See Table Below
	LTE Band 2 (PCS)	0.954	0.044	0.790	See Table Below
	LTE Band 7	0.815	0.044	0.790	See Table Below
	LTE Band 48	0.557	0.044	0.790	1.391
	LTE Band 41	1.020	0.044	0.790	See Table Below

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	Bluetooth SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3			1	2	3	1+2+3
Hotspot SAR	Back	0.421	0.041	0.790	1.252	Hotspot SAR	Back	0.432	0.041	0.790	1.263
	Front	0.339	0.013	0.790*	1.142		Front	0.368	0.013	0.790*	1.171
	Top	-	0.044	0.461	0.505		Top	-	0.044	0.461	0.505
	Bottom	1.061	-	-	1.061		Bottom	0.999	-	-	0.999
	Right	0.052	-	-	0.052		Right	0.060	-	-	0.060
	Left	0.075	0.034	0.790*	0.899		Left	0.069	0.034	0.790*	0.893
Hotspot SAR	Back	0.446	0.041	0.790	1.277	Hotspot SAR	Back	0.728	0.041	0.790	1.559
	Front	0.360	0.013	0.790*	1.163		Front	0.549	0.013	0.790*	1.352
	Top	-	0.044	0.461	0.505		Top	-	0.044	0.461	0.505
	Bottom	1.090	-	-	1.090		Bottom	1.166	-	-	1.166
	Right	0.068	-	-	0.068		Right	0.076	-	-	0.076
	Left	0.079	0.034	0.790*	0.903		Left	0.089	0.034	0.790*	0.913
Hotspot SAR	Back	0.701	0.041	0.790	1.532	Hotspot SAR	Back	0.550	0.041	0.790	1.381
	Front	0.525	0.013	0.790*	1.328		Front	0.403	0.013	0.790*	1.206
	Top	-	0.044	0.461	0.505		Top	-	0.044	0.461	0.505
	Bottom	0.954	-	-	0.954		Bottom	0.815	-	-	0.815
	Right	0.068	-	-	0.068		Right	-	-	-	-
	Left	0.083	0.034	0.790*	0.907		Left	0.266	0.034	0.790*	1.090

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
Hotspot SAR	Back	0.497	0.041	0.790	1.328
	Front	0.404	0.013	0.790*	1.207
	Top	-	0.044	0.461	0.505
	Bottom	1.020	-	-	1.020
	Right	-	-	-	-
	Left	0.201	0.034	0.790*	1.025

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12.6 Phablet Simultaneous Transmission Analysis

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

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

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

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		SPLSR	
		1	2	3	1+2	1+3	1+2	1+3
Phablet SAR	Back	1.982	1.427	2.686	3.409	See Note 1	N/A	0.07
	Front	1.758	0.480	0.056	2.238	1.814	N/A	N/A
	Top	-	1.823*	2.686*	1.823	2.686	N/A	N/A
	Bottom	2.989	-	-	2.989	2.989	N/A	N/A
	Right	0.395	-	-	0.395	0.395	N/A	N/A
	Left	0.739	1.823	0.325	2.562	1.064	N/A	N/A
	Left	0.739	1.823	0.325	2.562	1.064	N/A	N/A
Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)			
		1	2	3	1+2	1+3		
Phablet SAR	Back	-	1.427	2.686	1.427	2.686		
	Front	-	0.480	0.056	0.480	0.056		
	Top	-	1.823*	2.686*	1.823	2.686		
	Bottom	2.574	-	-	2.574	2.574		
	Right	-	-	-	0.000	0.000		
	Left	-	1.823	0.325	1.823	0.325		
	Left	-	1.823	0.325	1.823	0.325		
Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		SPLSR	
		1	2	3	1+2	1+3	1+2	1+3
Phablet SAR	Back	1.918	1.427	2.686	3.345	See Note 1	N/A	0.07
	Front	1.870	0.480	0.056	2.350	1.926	N/A	N/A
	Top	-	1.823*	2.686*	1.823	2.686	N/A	N/A
	Bottom	2.822	-	-	2.822	2.822	N/A	N/A
	Right	0.443	-	-	0.443	0.443	N/A	N/A
	Left	0.866	1.823	0.325	2.689	1.191	N/A	N/A
	Left	0.866	1.823	0.325	2.689	1.191	N/A	N/A
Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		SPLSR	
		1	2	3	1+2	1+3	1+2	1+3
Phablet SAR	Back	2.644	1.427	2.686	See Note 1	See Note 1	0.05	0.08
	Front	2.233	0.480	0.056	2.713	2.289	N/A	N/A
	Top	-	1.823*	2.686*	1.823	2.686	N/A	N/A
	Bottom	2.846	-	-	2.846	2.846	N/A	N/A
	Right	0.335	-	-	0.335	0.335	N/A	N/A
	Left	0.497	1.823	0.325	2.320	0.822	N/A	N/A
	Left	0.497	1.823	0.325	2.320	0.822	N/A	N/A
Simult Tx	Configuration	LTE Band 2 (PCS) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		SPLSR	
		1	2	3	1+2	1+3	1+2	1+3
Phablet SAR	Back	2.415	1.427	2.686	3.842	See Note 1	N/A	0.08
	Front	1.833	0.480	0.056	2.313	1.889	N/A	N/A
	Top	-	1.823*	2.686*	1.823	2.686	N/A	N/A
	Bottom	3.021	-	-	3.021	3.021	N/A	N/A
	Right	0.392	-	-	0.392	0.392	N/A	N/A
	Left	0.783	1.823	0.325	2.606	1.108	N/A	N/A
	Left	0.783	1.823	0.325	2.606	1.108	N/A	N/A

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Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		SPLSR	
		1	2	3	1+2	1+3	1+2	1+3
Phablet SAR	Back	2.096	1.427	2.686	3.523	See Note 1	N/A	0.07
	Front	1.672	0.480	0.056	2.152	1.728	N/A	N/A
	Top	-	1.823*	2.686*	1.823	2.686	N/A	N/A
	Bottom	3.138	-	-	3.138	3.138	N/A	N/A
	Right	-	-	-	-	-	-	-
	Left	1.149	1.823	0.325	2.972	1.474	N/A	N/A
Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		SPLSR	
		1	2	3	1+2	1+3	1+2	1+3
Phablet SAR	Back	2.310	1.427	2.686	3.737	See Note 1	N/A	0.08
	Front	1.330	0.480	0.056	1.810	1.386	N/A	N/A
	Top	-	1.823*	2.686*	1.823	2.686	N/A	N/A
	Bottom	2.132	-	-	2.132	2.132	N/A	N/A
	Right	-	-	-	-	-	-	-
	Left	0.653	1.823	0.325	2.476	0.978	N/A	N/A

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

Simult Tx	Configuration	PCS EVDO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR	Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	
		1	2	1+2	1+2			1	2	1+2	
Phablet SAR	Back	1.982	3.282	See Note 1	0.08	Phablet SAR	Back	-	3.282	3.282	
	Front	1.758	0.550	2.308	N/A		Front	-	0.550	0.550	
	Top	-	0.700	0.700	N/A		Top	-	0.700	0.700	
	Bottom	2.989	-	2.989	N/A		Bottom	2.574	-	2.574	
	Right	0.395	-	0.395	N/A		Right	-	-	-	
	Left	0.739	1.707	2.446	N/A		Left	-	1.707	1.707	

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR	Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2			1	2	1+2	1+2
Phablet SAR	Back	1.918	3.282	See Note 1	0.08	Phablet SAR	Back	2.644	3.282	See Note 1	0.10
	Front	1.870	0.550	2.420	N/A		Front	2.233	0.550	2.783	N/A
	Top	-	0.700	0.700	N/A		Top	-	0.700	0.700	N/A
	Bottom	2.822	-	2.822	N/A		Bottom	2.846	-	2.846	N/A
	Right	0.443	-	0.443	N/A		Right	0.335	-	0.335	N/A
	Left	0.866	1.707	2.573	N/A		Left	0.497	1.707	2.204	N/A

Simult Tx	Configuration	LTE Band 2 (PCS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR	Simult Tx	Configuration	LTE Band 7 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2			1	2	1+2	1+2
Phablet SAR	Back	2.415	3.282	See Note 1	0.10	Phablet SAR	Back	2.096	3.282	See Note 1	0.09
	Front	1.833	0.550	2.383	N/A		Front	1.672	0.550	2.222	N/A
	Top	-	0.700	0.700	N/A		Top	-	0.700	0.700	N/A
	Bottom	3.021	-	3.021	N/A		Bottom	3.138	-	3.138	N/A
	Right	0.392	-	-	-		Right	-	-	-	-
	Left	0.783	1.707	2.490	N/A		Left	1.149	1.707	2.856	N/A

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	SPLSR
		1	2	1+2	1+2
Phablet SAR	Back	2.310	3.282	See Note 1	0.10
	Front	1.330	0.550	1.880	N/A
	Top	-	0.700	0.700	N/A
	Bottom	2.132	-	2.132	N/A
	Right	-	-	-	-
	Left	0.653	1.707	2.360	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 4 W/kg for 10g, the SAR sum to peak locations can be analyzed to determine SAR distribution overlaps. When the SAR peak to location ratio (shown below) for each pair of antennas is ≤ 0.10 for 10g, simultaneous SAR evaluation is not required. The distance between the transmitters was calculated using the following formula.

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

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

12.7.1 Phablet Back Side SPLSR Evaluation and Analysis

Table 12-18
Peak SAR Locations for Phablet Back Side

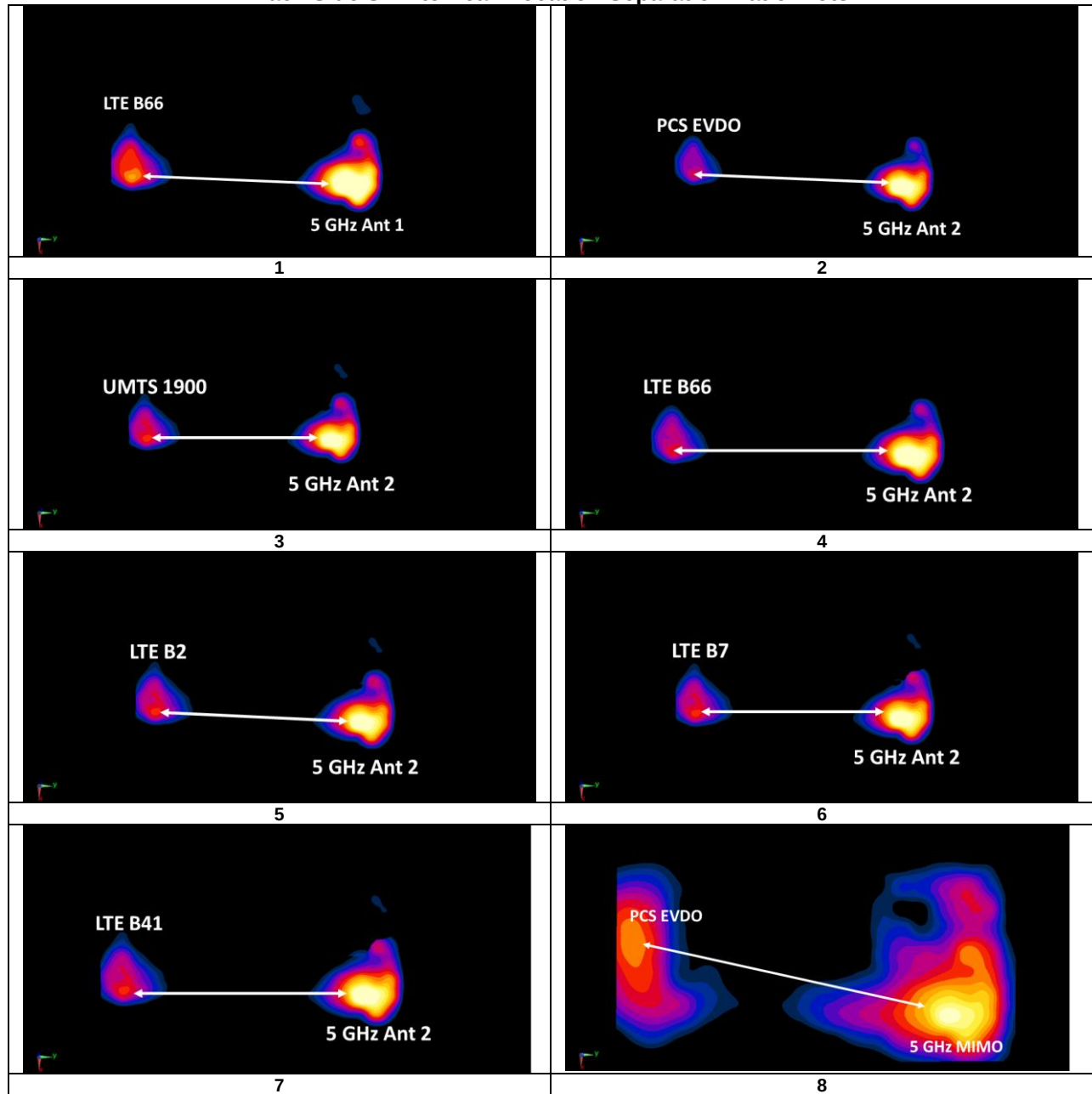
Mode/Band	x (mm)	y (mm)
5 GHz WLAN Ant 1	14.00	74.00
5 GHz WLAN Ant 2	12.00	60.00
5 GHz WLAN MIMO	9.00	61.00
PCS EVDO	-25.00	-82.50
UMTS 1900	-29.50	-85.50
LTE Band 66 (AWS)	-14.00	-85.50
LTE Band 2 (PCS)	-9.50	-78.00
LTE Band 7	0.20	-79.40
LTE Band 41	3.70	-76.80

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

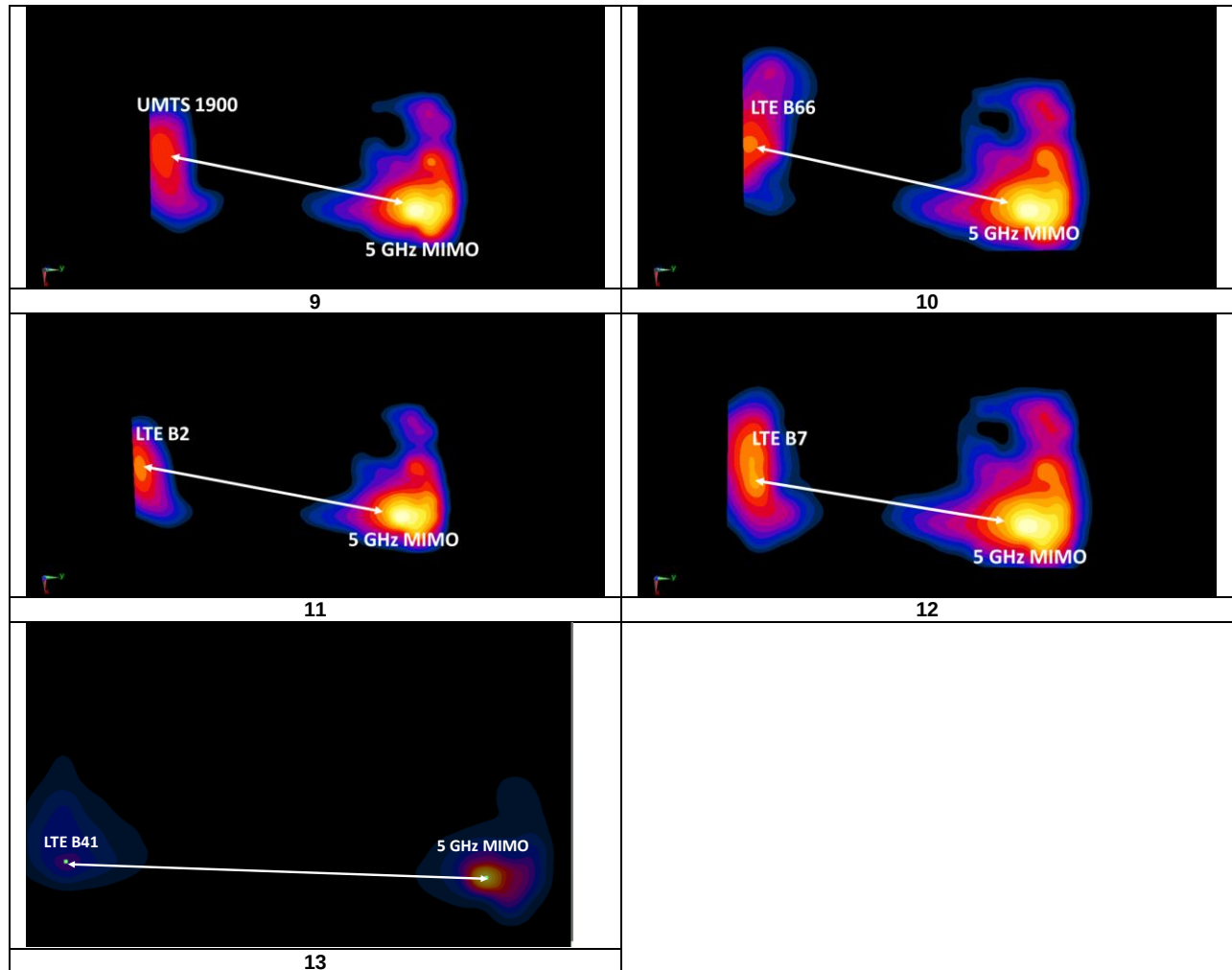
Antenna Pair		Standalone SAR (W/kg)		Standalone SAR Sum (W/kg)	Peak SAR Separation Distance (mm)	SPLS Ratio	Plot Number
Ant "a"	Ant "b"	a	b	a+b	D _{a-b}	(a+b) ^{1.5} /D _{a-b}	
LTE Band 66 (AWS)	5 GHz WLAN Ant 1	2.644	1.427	4.071	161.94	0.05	1
PCS EVDO	5 GHz WLAN Ant 2	1.982	2.686	4.668	147.23	0.07	2
UMTS 1900	5 GHz WLAN Ant 2	1.918	2.686	4.604	151.30	0.07	3
LTE Band 66 (AWS)	5 GHz WLAN Ant 2	2.644	2.686	5.33	147.80	0.08	4
LTE Band 2 (PCS)	5 GHz WLAN Ant 2	2.415	2.686	5.101	139.66	0.08	5
LTE Band 7	5 GHz WLAN Ant 2	2.096	2.686	4.782	139.90	0.07	6
LTE Band 41	5 GHz WLAN Ant 2	2.310	2.686	4.996	137.05	0.08	7
PCS EVDO	5 GHz WLAN MIMO	1.982	3.282	5.264	147.47	0.08	8
UMTS 1900	5 GHz WLAN MIMO	1.918	3.282	5.2	151.47	0.08	9
LTE Band 66 (AWS)	5 GHz WLAN MIMO	2.644	3.282	5.926	148.29	0.10	10
LTE Band 2 (PCS)	5 GHz WLAN MIMO	2.415	3.282	5.697	140.23	0.10	11
LTE Band 7	5 GHz WLAN MIMO	2.096	3.282	5.378	140.68	0.09	12
LTE Band 41	5 GHz WLAN MIMO	2.310	3.282	5.592	137.90	0.10	13

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



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12.8 Simultaneous Transmission Conclusion

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

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13 SAR MEASUREMENT VARIABILITY

13.1 Measurement Variability

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

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

- 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.
- 2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg ($\sim 10\%$ 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	Side	Spacing	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	Ratio	3rd Repeated SAR (1g)
	MHz	Ch.					(W/kg)	(W/kg)		(W/kg)		(W/kg)
1750	1770.00	132572	LTE Band 66 (AWS), ULCA, 20 MHz Bandwidth	QPSK, 1 RB, 0 RB Offset	bottom	10 mm	1.090	1.080	1.01	N/A	N/A	N/A
	1750.20	132374		QPSK, 1 RB, 99 RB Offset								
1900	1852.40	9262	UMTS 1900	RMC	bottom	10 mm	1.090	1.060	1.03	N/A	N/A	N/A
2600	2549.50	40185	LTE Band 41, 20 MHz Bandwidth	QPSK, 1 RB, 0 RB Offset	bottom	10 mm	0.903	0.884	1.02	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram					

Table 13-2
Phablet SAR Measurement Variability Results

PHABLET VARIABILITY RESULTS													
Band	FREQUENCY		Mode	Service	Data Rate (Mbps)	Side	Spacing	Measured SAR (10g)	1st Repeated SAR (10g)	Ratio	2nd Repeated SAR (10g)	Ratio	3rd Repeated SAR (10g)
	MHz	Ch.						(W/kg)	(W/kg)		(W/kg)		(W/kg)
1750	1745.00	132322	LTE Band 66 (AWS), ULCA, 20 MHz Bandwidth	QPSK, 50 RB, 50 RB Offset	N/A	bottom	0 mm	2.650	2.540	1.04	N/A	N/A	N/A
	1764.80	132520		QPSK, 50 RB, 0 RB Offset									
1900	1860.00	18700	LTE Band 2 (PCS), 20 MHz Bandwidth	QPSK, 50 RB, 50 RB Offset	N/A	bottom	0 mm	2.570	2.430	1.06	N/A	N/A	N/A
2450	2510.00	20850	LTE Band 7, 20 MHz Bandwidth	QPSK, 50 RB, 25 RB Offset	N/A	bottom	0 mm	2.850	2.810	1.01	N/A	N/A	N/A
2600	2535.00	21100	LTE Band 7, 20 MHz Bandwidth	QPSK, 50 RB, 0 RB Offset	N/A	bottom	0 mm	2.840	2.820	1.01	N/A	N/A	N/A
5250	5260.00	52	802.11n, 20 MHz Bandwidth	OFDM, MIMO	13	back	0 mm	3.020	2.690	1.12	N/A	N/A	N/A
5600	5600.00	120	802.11n, 20 MHz Bandwidth	OFDM, MIMO	13	back	0 mm	2.850	2.630	1.08	N/A	N/A	N/A
5750	5720.00	144	802.11n, 20 MHz Bandwidth	OFDM, MIMO	13	back	0 mm	2.110	1.990	1.06	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						

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13.2 Measurement Uncertainty

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

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14 ADDITIONAL TESTING PER FCC GUIDANCE

14.1 Tuner Testing

Per April 2019 TCB Workshop Notes, the following test procedures were followed to demonstrate that the SAR results in Section 11 represented the appropriate SAR test conditions. For bands with dynamic tuning implemented, SAR was measured according to the required FCC SAR test procedures with the dynamic tuner active to allow the device to automatically tune to the antenna state for the respective RF exposure test configurations. 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. 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.

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

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Table 14-1
UMTS/CDMA Supplemental Head SAR Data

Supplemental Head SAR Data							
UMTS 850		UMTS 1900		CDMA BC0		CDMA BC1	
RMC		RMC		RC3 / SO55		RC3 / SO55	
Test Position	Right Cheek	Test Position	Left Cheek	Test Position	Right Cheek	Test Position	Left Cheek
Frequency (MHz)	836.60	Frequency (MHz)	1880.00	Frequency (MHz)	836.52	Frequency (MHz)	1880.00
Channel	4183	Channel	9400	Channel	384	Channel	600
Measured 1g SAR (W/kg)	0.140	Measured 1g SAR (W/kg)	0.123	Measured 1g SAR (W/kg)	0.167	Measured 1g SAR (W/kg)	0.118
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 0)	0.226	Auto-tune (State 0)	0.179	Auto-tune (State 0)	0.305	Auto-tune (State 0)	0.148
Default (State 0)	0.216	Default (State 0)	0.183	Default (State 0)	0.313	Default (State 0)	0.142
State 0	0.216	State 0	0.183	State 0	0.313	State 0	0.142
State 1	0.205	State 11	0.146	State 15	0.034	State 21	0.138
State 2	0.197	State 12	0.132	State 16	0.168	State 22	0.138
State 3	0.193	State 13	0.121	State 17	0.164	State 23	0.144
State 4	0.191	State 14	0.108	State 18	0.224	State 24	0.147
State 5	0.188	State 15	0.089	State 19	0.232	State 25	0.137
State 6	0.176	State 51	0.183	State 20	0.235	State 26	0.143

Table 14-2
LTE Supplemental Head SAR Data

Supplemental Head SAR Data											
LTE Band 12		LTE Band 13		LTE Band 26		LTE Band 5		LTE Band 66		LTE Band 2	
QPSK, 10 MHz Bandwidth, 1 RB, 25 RB Offsets		QPSK, 10 MHz Bandwidth, 1 RB, 25 RB Offsets		QPSK, 15 MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 20 MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 20 MHz Bandwidth, 1 RB, 99 RB Offsets	
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)	707.50	Frequency (MHz)	782.00	Frequency (MHz)	831.50	Frequency (MHz)	836.50	Frequency (MHz)	1770.00	Frequency (MHz)	1860.00
Channel	23095	Channel	23230	Channel	26865	Channel	20525	Channel	132572	Channel	18700
Measured 1g SAR (W/kg)	0.107	Measured 1g SAR (W/kg)	0.127	Measured 1g SAR (W/kg)	0.108	Measured 1g SAR (W/kg)	0.184	Measured 1g SAR (W/kg)	0.124	Measured 1g SAR (W/kg)	0.104
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 54)	0.138	Auto-tune (State 0)	0.152	Auto-tune (State 0)	0.252	Auto-tune (State 0)	0.245	Auto-tune (State 31)	0.131	Auto-tune (State 0)	0.152
Default (State 0)	0.138	Default (State 0)	0.147	Default (State 0)	0.250	Default (State 0)	0.245	Default (State 0)	0.106	Default (State 0)	0.154
State 0	0.138	State 0	0.147	State 0	0.250	State 0	0.245	State 0	0.106	State 0	0.154
State 30	0.005	State 35	0.153	State 50	0.120	State 45	0.062	State 31	0.132	State 18	0.143
State 31	0.002	State 36	0.152	State 51	0.227	State 46	0.042	State 55	0.064	State 20	0.143
State 32	0.075	State 37	0.100	State 52	0.111	State 47	0.024	State 56	0.083	State 21	0.143
State 33	0.080	State 38	0.140	State 53	0.119	State 48	0.245	State 57	0.106	State 22	0.149
State 34	0.095	State 39	0.134	State 54	0.224	State 49	0.121	State 58	0.068	State 23	0.153
State 54	0.137	State 40	0.110	State 55	0.109	State 50	0.132	State 59	0.086	State 53	0.144

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Table 14-3
UMTS/CDMA Supplemental Body SAR Data

Supplemental Body SAR Data							
UMTS 850		UMTS 1900		CDMA BC0		CDMA BC1	
RMC		RMC		EVDO Rev. 0		EVDO Rev. 0	
Test Position	Back	Test Position	Bottom	Test Position	Back	Test Position	Bottom
Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm
Frequency (MHz)	846.60	Frequency (MHz)	1852.40	Frequency (MHz)	848.31	Frequency (MHz)	1880.00
Channel	4233	Channel	9262	Channel	777	Channel	600
Measured 1g SAR (W/kg)	0.531	Measured 1g SAR (W/kg)	1.090	Measured 1g SAR (W/kg)	0.657	Measured 1g SAR (W/kg)	0.901
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 0)	0.852	Auto-tune (State 29)	1.783	Auto-tune (State 0)	0.947	Auto-tune (State 0)	1.467
Default (State 0)	0.873	Default (State 0)	1.745	Default (State 0)	0.943	Default (State 0)	1.465
State 0	0.873	State 0	1.745	State 0	0.943	State 0	1.465
State 5	0.869	State 1	1.752	State 10	0.529	State 1	1.451
State 20	0.646	State 2	1.723	State 11	0.437	State 2	1.397
State 21	0.652	State 3	1.714	State 12	0.328	State 3	1.392
State 22	0.666	State 4	1.714	State 13	0.267	State 4	1.383
State 23	0.666	State 5	1.696	State 14	0.203	State 5	1.375
State 24	0.668	State 6	1.674	State 15	0.150	State 6	1.355
		State 7	1.658			State 7	1.337
		State 8	1.658			State 8	1.343
		State 9	1.608			State 9	1.297
		State 10	1.560			State 10	1.251
		State 11	1.495			State 11	1.189
		State 12	1.375			State 12	1.100
		State 13	1.295			State 13	1.032
		State 14	1.178			State 14	0.943
		State 15	1.017			State 15	0.824
		State 16	1.382			State 16	1.167
		State 17	1.342			State 17	1.148
		State 18	1.488			State 18	1.238
		State 19	1.505			State 19	1.247
		State 20	1.525			State 20	1.255
		State 21	1.529			State 21	1.265
		State 22	1.569			State 22	1.286
		State 23	1.582			State 23	1.296
		State 24	1.574			State 24	1.291
		State 25	1.638			State 25	1.334
		State 26	1.694			State 26	1.371
		State 27	1.751			State 27	1.412
		State 28	1.798			State 28	1.461
		State 29	1.800			State 29	1.484
		State 30	1.759			State 30	1.496
		State 31	1.591			State 31	1.449
		State 32	1.546			State 32	1.262
		State 33	1.545			State 33	1.272
		State 34	1.555			State 34	1.229
		State 35	1.560			State 35	1.220
		State 36	1.552			State 36	1.219
		State 37	1.553			State 37	1.210
		State 38	1.541			State 38	1.192
		State 39	1.534			State 39	1.185
		State 40	1.526			State 40	1.186
		State 41	1.497			State 41	1.152
		State 42	1.478			State 42	1.119
		State 43	1.441			State 43	1.070
		State 44	1.376			State 44	1.000
		State 45	1.310			State 45	0.946
		State 46	1.215			State 46	0.869
		State 47	1.071			State 47	0.767
		State 48	1.562			State 48	1.321
		State 49	1.216			State 49	1.065
		State 50	1.376			State 50	1.139
		State 51	1.742			State 51	1.450
		State 52	1.356			State 52	1.156
		State 53	1.532			State 53	1.256
		State 54	1.689			State 54	1.425
		State 55	1.264			State 55	1.092
		State 56	1.479			State 56	1.224
		State 57	1.746			State 57	1.452
		State 58	1.370			State 58	1.161
		State 59	1.542			State 59	1.259

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Table 14-4
LTE Supplemental Body SAR Data

Supplemental Body SAR Data											
LTE Band 12		LTE Band 13		LTE Band 26		LTE Band 5		LTE Band 66		LTE Band 2	
QPSK, 10 MHz Bandwidth, 1 RB, 25 RB Offsets		QPSK, 10 MHz Bandwidth, 1 RB, 25 RB Offsets		QPSK, 15 MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offsets		QPSK, 20 MHz Bandwidth, 1 RB, 99 RB Offsets		QPSK, 20 MHz Bandwidth, 1 RB, 0 RB Offsets	
Test Position	Back	Test Position	Back	Test Position	Back	Test Position	Back	Test Position	Bottom	Test Position	Bottom
Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm
Frequency (MHz)	707.50	Frequency (MHz)	782.00	Frequency (MHz)	831.50	Frequency (MHz)	836.50	Frequency (MHz)	1770.00	Frequency (MHz)	1880.00
Channel	23095	Channel	23230	Channel	26865	Channel	20525	Channel	132572	Channel	18900
Measured 1g SAR (W/kg)	0.276	Measured 1g SAR (W/kg)	0.489	Measured 1g SAR (W/kg)	0.558	Measured 1g SAR (W/kg)	0.477	Measured 1g SAR (W/kg)	1.010	Measured 1g SAR (W/kg)	0.827
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 0)	0.490	Auto-tune (State 57)	0.742	Auto-tune (State 0)	0.883	Auto-tune (State 2)	0.763	Auto-tune (State 29)	1.679	Auto-tune (State 0)	1.273
Default (State 0)	0.487	Default (State 0)	0.741	Default (State 0)	0.848	Default (State 0)	0.745	Default (State 0)	1.497	Default (State 0)	1.285
State 0	0.487	State 0	0.741	State 0	0.848	State 0	0.745	State 0	1.497	State 0	1.285
State 25	0.157	State 30	0.087	State 45	0.185	State 2	0.766	State 1	1.484	State 1	1.268
State 26	0.114	State 31	0.052	State 46	0.124	State 40	0.559	State 2	1.498	State 2	1.222
State 27	0.081	State 32	0.420	State 47	0.076	State 41	0.533	State 3	1.498	State 3	1.215
State 28	0.049	State 33	0.414	State 48	0.840	State 42	0.457	State 4	1.495	State 4	1.207
State 29	0.035	State 34	0.586	State 49	0.410	State 43	0.358	State 5	1.495	State 5	1.200
State 30	0.023	State 57	0.741	State 50	0.446	State 44	0.229	State 6	1.492	State 6	1.179
								State 7	1.486	State 7	1.169
								State 8	1.485	State 8	1.178
								State 9	1.479	State 9	1.132
								State 10	1.470	State 10	1.104
								State 11	1.457	State 11	1.054
								State 12	1.430	State 12	0.972
								State 13	1.405	State 13	0.910
								State 14	1.363	State 14	0.834
								State 15	1.289	State 15	0.728
								State 16	0.942	State 16	0.976
								State 17	0.911	State 17	0.956
								State 18	1.074	State 18	1.044
								State 19	1.099	State 19	1.054
								State 20	1.112	State 20	1.058
								State 21	1.124	State 21	1.067
								State 22	1.170	State 22	1.084
								State 23	1.192	State 23	1.089
								State 24	1.188	State 24	1.085
								State 25	1.287	State 25	1.127
								State 26	1.372	State 26	1.161
								State 27	1.484	State 27	1.203
								State 28	1.614	State 28	1.247
								State 29	1.681	State 29	1.283
								State 30	1.664	State 30	1.294
								State 31	1.481	State 31	1.278
								State 32	1.205	State 32	1.094
								State 33	1.193	State 33	1.096
								State 34	1.265	State 34	1.065
								State 35	1.274	State 35	1.058
								State 36	1.280	State 36	1.059
								State 37	1.282	State 37	1.048
								State 38	1.303	State 38	1.032
								State 39	1.315	State 39	1.025
								State 40	1.301	State 40	1.024
								State 41	1.335	State 41	0.998
								State 42	1.358	State 42	0.966
								State 43	1.390	State 43	0.931
								State 44	1.429	State 44	0.872
								State 45	1.447	State 45	0.831
								State 46	1.461	State 46	0.765
								State 47	1.442	State 47	0.683
								State 48	1.394	State 48	1.143
								State 49	0.834	State 49	0.895
								State 50	1.123	State 50	0.979
								State 51	1.470	State 51	1.256
								State 52	0.926	State 52	0.973
								State 53	1.186	State 53	1.085
								State 54	1.447	State 54	1.233
								State 55	0.863	State 55	0.924
								State 56	1.161	State 56	1.057
								State 57	1.476	State 57	1.258
								State 58	0.932	State 58	0.979
								State 59	1.198	State 59	1.084

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Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	86480	(9kHz-40GHz) Signal Generator	4/29/2019	Annual	4/29/2020	3613400315
Agilent	N9020A	N/A Signal Analyzer	4/20/2019	Annual	4/20/2020	US46470561
Agilent	N4010A	Wireless Connectivity Test Set	N/A	N/A	N/A	GB4450273
Agilent	E5515C	Wireless Communications Test Set	2/7/2018	Triennial	2/7/2021	GB43304447
Agilent	E5515C	Wireless Communications Test Set	5/22/2018	Biennial	5/22/2020	GB43193563
Agilent	8753ES	S-Parameter Network Analyzer	3/11/2019	Annual	3/11/2020	US39170122
Agilent	E4438C	ESG Vector Signal Generator	3/11/2019	Biennial	3/11/2021	MY42082659
Agilent	8753ES	S-Parameter Network Analyzer	7/30/2018	Annual	7/30/2019	MY40000670
Agilent	N4010A	Wireless Connectivity Test Set	N/A	N/A	N/A	GB46170464
Agilent	N5182A-506	MXG Vector Signal Generator	6/19/2018	Annual	6/19/2019	MY48180366
Agilent	34405A	Digital Multimeter	6/21/2017	Biennial	6/21/2019	TW46220115
Amplifier Research	1551G6	Amplifier	CBT	N/A	CBT	433972
Amplifier Research	1551G6	Amplifier	CBT	N/A	CBT	433974
Amplifier Research	1551G6	Amplifier	CBT	N/A	CBT	433976
Amplifier Research	150A100C	DC Amplifier	CBT	N/A	CBT	348812
Anritsu	MT8821C	Radio Communication Analyzer	11/6/2018	Annual	11/6/2019	6200901190
Anritsu	MT8821C	Radio Communication Analyzer	7/26/2018	Annual	7/26/2019	6201144418
Anritsu	MT8821C	Radio Communication Analyzer	7/24/2018	Annual	7/24/2019	6201664756
Anritsu	MT8821C	Radio Communication Analyzer	3/6/2019	Annual	3/6/2020	6201381794
Anritsu	MT8821C	Radio Communication Analyzer	1/25/2020	Annual	1/25/2020	6201895213
Anritsu	MT8820C	Radio Communication Analyzer	3/29/2019	Annual	3/29/2020	6201300721
Anritsu	ML2496A	Power Meter	6/19/2018	Annual	6/19/2019	130609
Anritsu	MT8821C	Radio Communication Analyzer	7/24/2018	Annual	7/24/2019	6201664756
Anritsu	MA24106A	USB Power Sensor	9/20/2018	Annual	9/20/2019	1344545
Anritsu	MA24106A	USB Power Sensor	9/20/2018	Annual	9/20/2019	1344559
Anritsu	MA2411B	Pulse Power Sensor	11/20/2018	Annual	11/20/2019	1339008
Anritsu	MT8862A	Wireless Connectivity Test Set	7/3/2018	Annual	7/3/2019	6261782395
Anritsu	MG3692C	Signal Generator	10/5/2018	Annual	10/5/2019	163005
Anritsu	MT8000A	Radio Communication Test Station	11/14/2018	Annual	11/14/2019	6261914237
Control Company	4040	Therm / Clock / Humidity Monitor	10/9/2018	Biennial	10/9/2020	181647811
Control Company	4352	Ultra Long Stem Thermometer	11/29/2018	Biennial	11/29/2020	181766816
Keysight	772D	Dual Directional Coupler	CBT	N/A	CBT	MY52180215
MCL	BW-N6W5+	6dB Attenuator	CBT	N/A	CBT	1139
Mini-Circuits	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-3500+	Low Pass Filter DC to 3700 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	BW-N20W5	Power Attenuator	CBT	N/A	CBT	1226
Narda	4014C-6	4 - 8 GHz SMA 6 dB Directional Coupler	CBT	N/A	CBT	N/A
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Narda	BW-S3W2	Attenuator (3dB)	CBT	N/A	CBT	120
Pasternack	PE2208-6	Bidirectional Coupler	CBT	N/A	CBT	N/A
Pasternack	PE2209-10	Bidirectional Coupler	CBT	N/A	CBT	N/A
Pasternack	PE5011-1	Torque Wrench	7/19/2017	Biennial	7/19/2019	N/A
Rohde & Schwarz	CMW500	Radio Communication Tester	6/9/2018	Annual	6/9/2019	108843
Rohde & Schwarz	CMW500	Radio Communication Tester	11/5/2018	Annual	11/5/2019	140148
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	5/29/2018	Annual	5/29/2019	161662
SPEAG	DAK-12	Dielectric Assessment Kit (10MHz - 3GHz)	3/13/2019	Annual	3/13/2020	1102
SPEAG	D750V3	750 MHz SAR Dipole	1/15/2018	Biennial	1/15/2020	1003
SPEAG	D835V2	835 MHz SAR Dipole	1/22/2019	Annual	1/22/2020	4d132
SPEAG	DI765V2	1765 MHz SAR Dipole	5/23/2018	Biennial	5/23/2020	1008
SPEAG	DI900V2	1900 MHz SAR Dipole	10/23/2018	Annual	10/23/2019	5d080
SPEAG	D2450V2	2450 MHz SAR Dipole	9/11/2017	Biennial	9/11/2019	797
SPEAG	D2600V2	2600 MHz SAR Dipole	9/13/2018	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	D5GHV2	5 GHz SAR Dipole	9/21/2016	Triennial	9/21/2019	1191
SPEAG	D835V2	835 MHz SAR Dipole	10/19/2018	Annual	10/19/2019	4d133
SPEAG	DI750V2	1750 MHz SAR Dipole	10/22/2018	Annual	10/22/2019	1150
SPEAG	DI900V2	1900 MHz SAR Dipole	10/23/2018	Annual	10/23/2019	5d149
SPEAG	D1900V2	1900 MHz SAR Dipole	2/21/2019	Annual	2/21/2020	5d148
SPEAG	D2450V2	2450 MHz SAR Dipole	8/17/2017	Biennial	8/17/2019	719
SPEAG	D2600V2	2600 MHz SAR Dipole	4/11/2018	Biennial	4/11/2020	1004
SPEAG	D5GHV2	5 GHz SAR Dipole	8/10/2018	Annual	8/10/2019	1237
SPEAG	D5GHV2	5 GHz SAR Dipole	1/16/2018	Biennial	1/16/2020	1057
SPEAG	EX30V4	SAR Probe	6/25/2018	Annual	6/25/2019	7409
SPEAG	EX30V4	SAR Probe	5/16/2019	Annual	5/16/2020	7406
SPEAG	EX30V4	SAR Probe	8/23/2018	Annual	8/23/2019	7308
SPEAG	EX30V4	SAR Probe	1/25/2019	Annual	1/25/2020	3589
SPEAG	EX30V4	SAR Probe	4/24/2019	Annual	4/24/2020	7357
SPEAG	EX30V4	SAR Probe	1/24/2019	Annual	1/24/2020	7488
SPEAG	EX30V4	SAR Probe	2/19/2019	Annual	2/19/2020	3914
SPEAG	EX30V4	SAR Probe	7/20/2018	Annual	7/20/2019	7410
SPEAG	EX30V4	SAR Probe	2/19/2019	Annual	2/19/2020	7417
SPEAG	DAE4	Dasy Data Acquisition Electronics	6/18/2018	Annual	6/18/2019	1334
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/8/2019	Annual	5/8/2020	859
SPEAG	DAE4	Dasy Data Acquisition Electronics	10/3/2018	Annual	10/3/2019	1558
SPEAG	DAE4	Dasy Data Acquisition Electronics	8/22/2018	Annual	8/22/2019	1450
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/18/2019	Annual	4/18/2020	1407
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/15/2019	Annual	1/15/2020	1530
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/14/2019	Annual	2/14/2020	1272
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/11/2018	Annual	7/11/2019	1322
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/13/2019	Annual	2/13/2020	665
SPEAG	DAK-3.5	Dielectric Assessment Kit	5/7/2019	Annual	5/7/2020	1070

Note:

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

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16 MEASUREMENT UNCERTAINTIES

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

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17 CONCLUSION

17.1 Measurement Conclusion

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

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

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APPENDIX A: SAR TEST DATA

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0097M

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

Medium: 835 Head Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$; $\sigma = 0.917 \text{ S/m}$; $\epsilon_r = 42.606$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 06-04-2019; Ambient Temp: 22.2°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7409; ConvF(9.67, 9.67, 9.67) @ 836.52 MHz; Calibrated: 6/25/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1334; Calibrated: 6/18/2018

Phantom: SAM 30 with CRP v5.0 right; Type: QD000P40CD; Serial: TP:1759

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

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

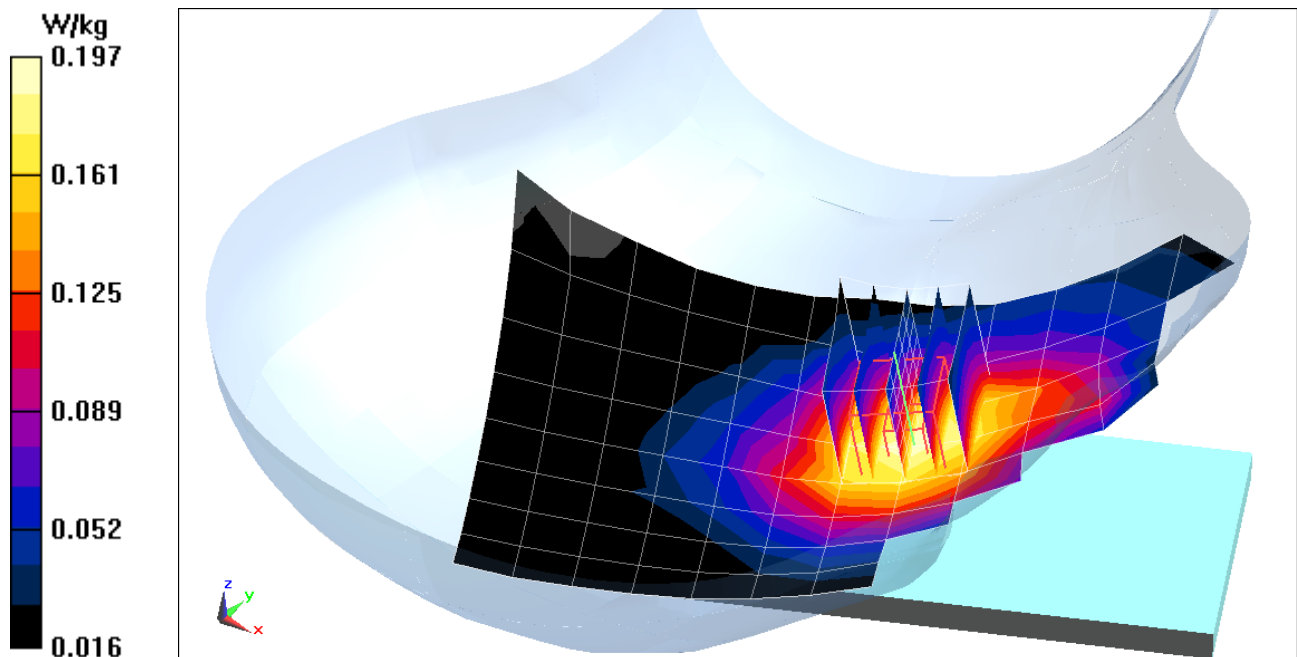
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 13.80 V/m; Power Drift = -0.21 dB

Peak SAR (extrapolated) = 0.215 W/kg

SAR(1 g) = 0.167 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0137M

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

Medium: 1900 Head Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.427 \text{ S/m}$; $\epsilon_r = 39.005$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 05-29-2019; Ambient Temp: 21.1°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7308; ConvF(8.26, 8.26, 8.26) @ 1880 MHz; Calibrated: 8/23/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1558; Calibrated: 10/3/2018

Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1966

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

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

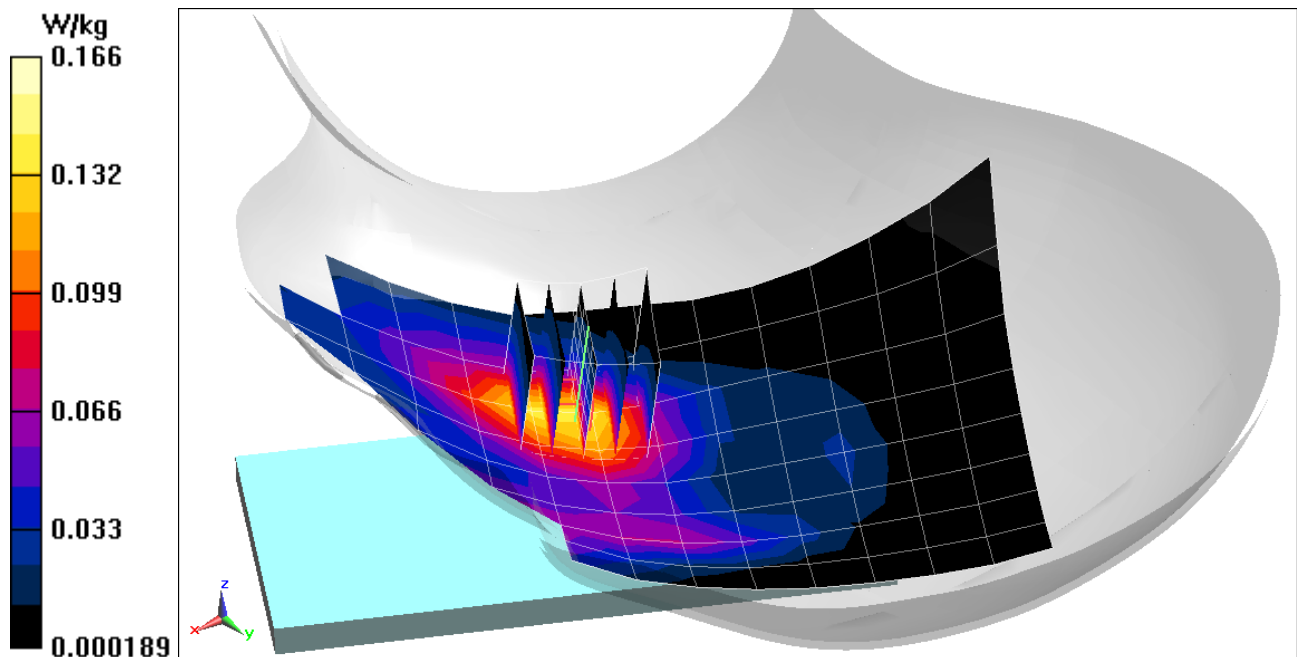
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 8.828 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.194 W/kg

SAR(1 g) = 0.118 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0137M

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

Medium: 835 Head Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$; $\sigma = 0.894 \text{ S/m}$; $\epsilon_r = 40.902$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 05-20-2019; Ambient Temp: 20.8°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7409; ConvF(9.67, 9.67, 9.67) @ 836.6 MHz; Calibrated: 6/25/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1334; Calibrated: 6/18/2018

Phantom: Left 30-SAM V5.0; Type: QD 000 P40 CD; Serial: 1715

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

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

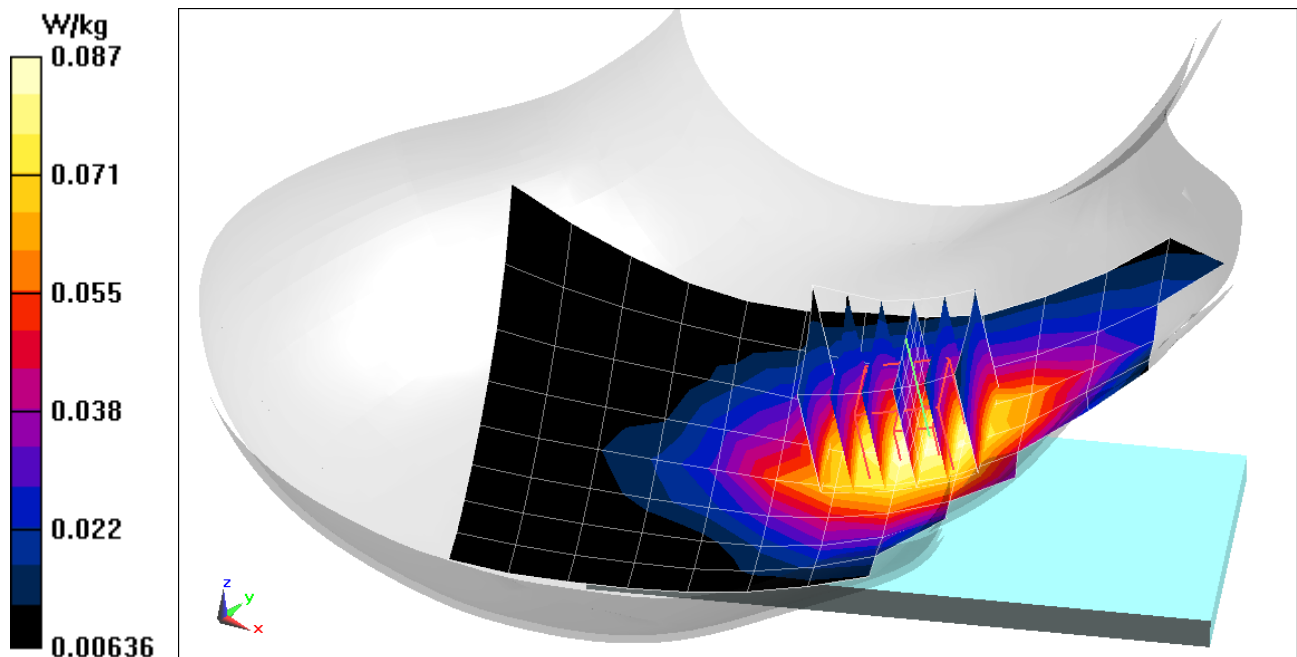
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 9.211 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.0940 W/kg

SAR(1 g) = 0.074 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0137M

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

Medium: 1900 Head Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.437 \text{ S/m}$; $\epsilon_r = 38.233$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 05-22-2019; Ambient Temp: 22.6°C; Tissue Temp: 20.6°C

Probe: EX3DV4 - SN7308; ConvF(8.26, 8.26, 8.26) @ 1880 MHz; Calibrated: 8/23/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1558; Calibrated: 10/3/2018

Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1966

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

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

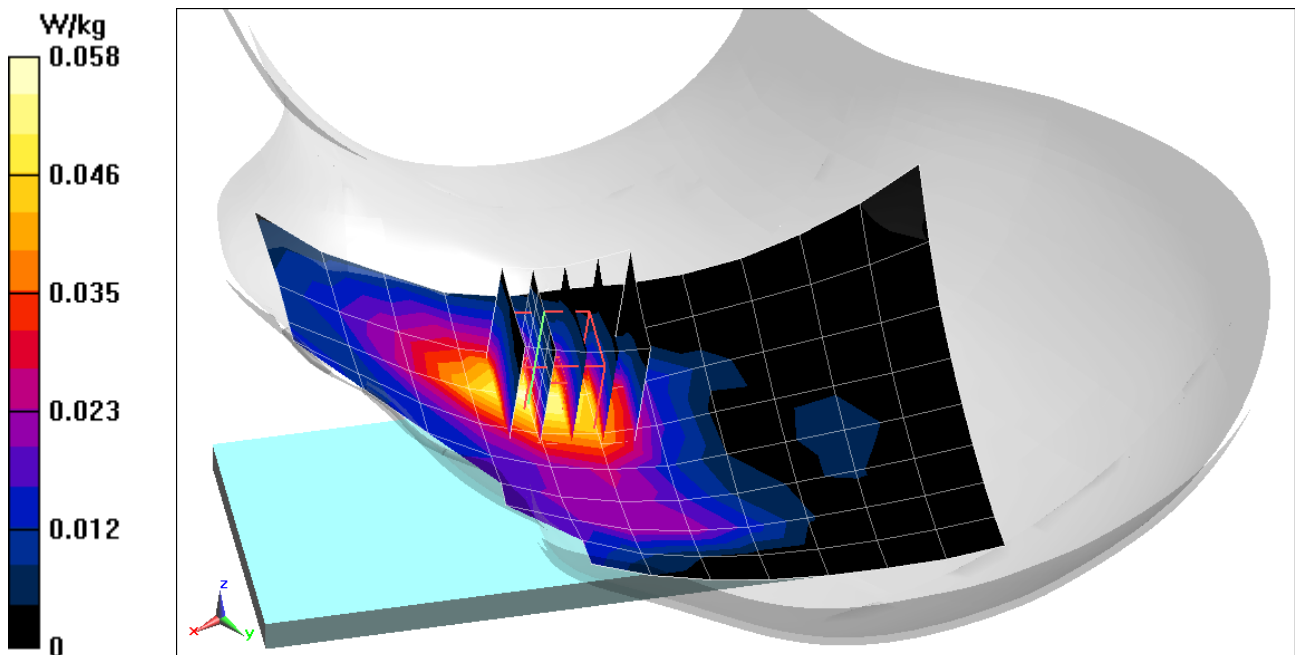
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 5.699 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.0700 W/kg

SAR(1 g) = 0.043 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0137M

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

Medium: 835 Head Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$; $\sigma = 0.894 \text{ S/m}$; $\epsilon_r = 40.902$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 05-20-2019; Ambient Temp: 20.8°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7409; ConvF(9.67, 9.67, 9.67) @ 836.6 MHz; Calibrated: 6/25/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1334; Calibrated: 6/18/2018

Phantom: Left 30-SAM V5.0; Type: QD 000 P40 CD; Serial: 1715

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

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

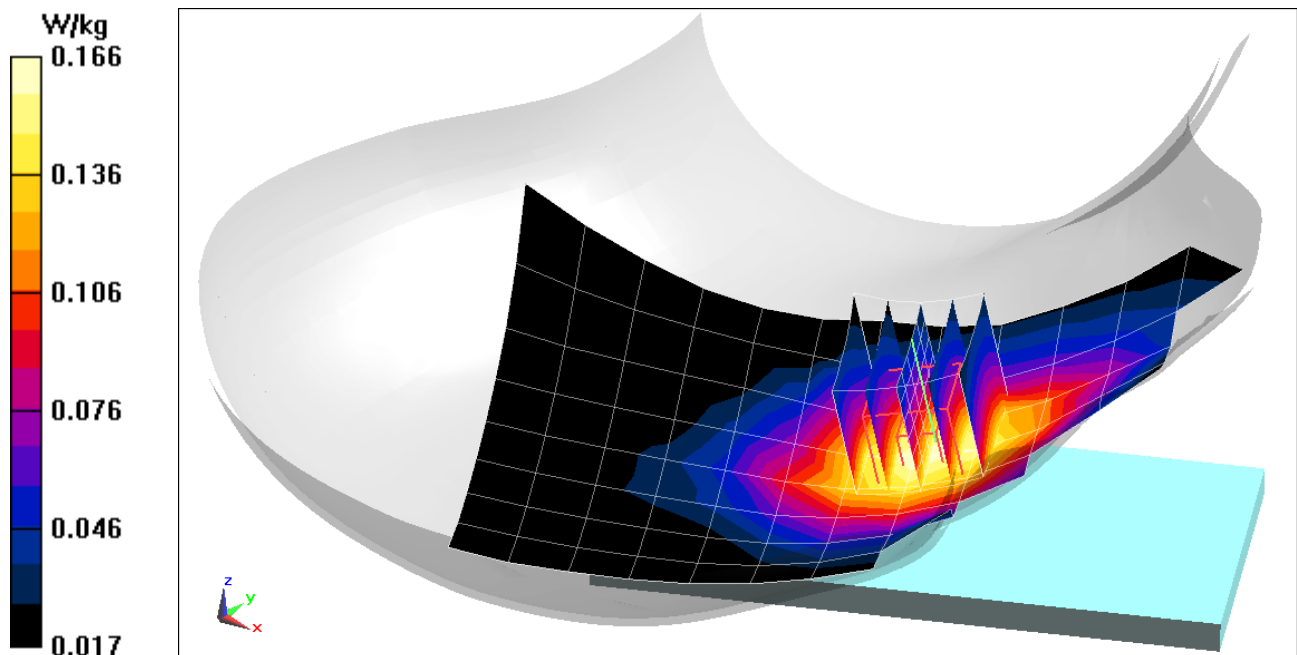
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 12.77 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.182 W/kg

SAR(1 g) = 0.140 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0137M

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

Medium: 1900 Head Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.427 \text{ S/m}$; $\epsilon_r = 39.005$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 05-29-2019; Ambient Temp: 21.1°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7308; ConvF(8.26, 8.26, 8.26) @ 1880 MHz; Calibrated: 8/23/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1558; Calibrated: 10/3/2018

Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1966

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

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

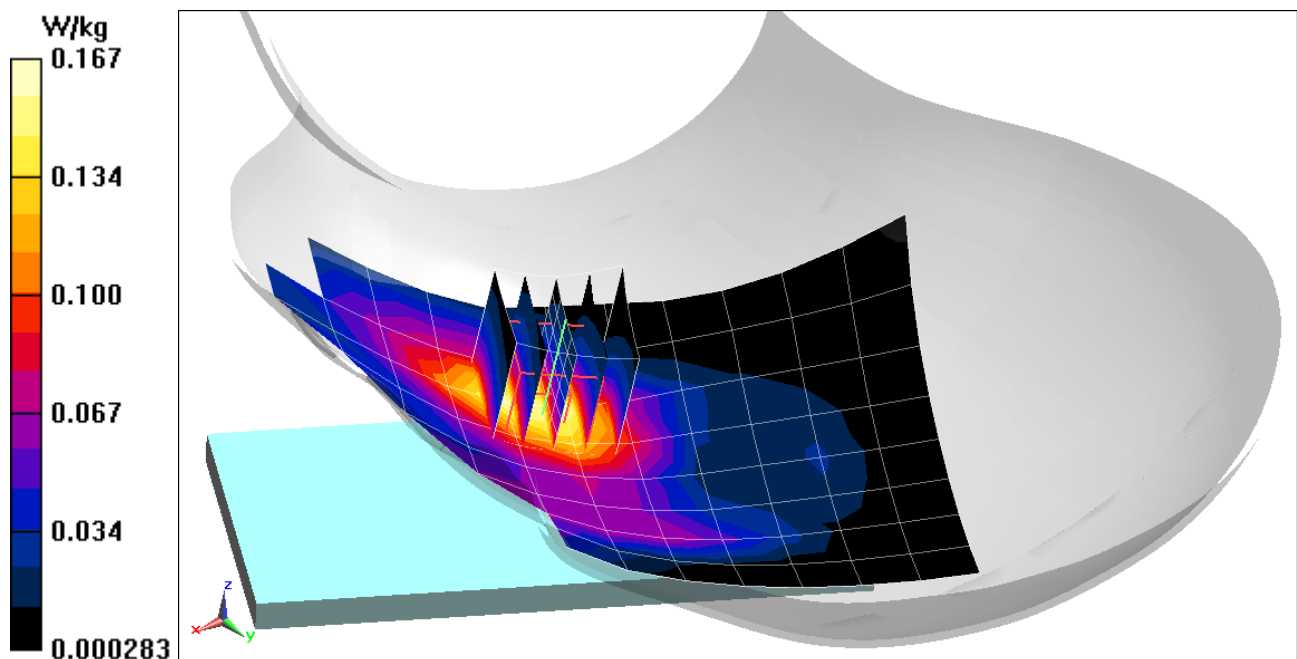
Area Scan (9x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 9.732 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.195 W/kg

SAR(1 g) = 0.123 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0122M

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

Medium: 750 Head Medium parameters used (interpolated):

$f = 707.5 \text{ MHz}$; $\sigma = 0.89 \text{ S/m}$; $\epsilon_r = 43.495$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 05-14-2019; Ambient Temp: 21.6°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7409; ConvF(9.91, 9.91, 9.91) @ 707.5 MHz; Calibrated: 6/25/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1334; Calibrated: 6/18/2018

Phantom: SAM 30 with CRP v5.0 right; Type: QD000P40CD; Serial: TP:1759

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 12, Right Head, Cheek, Mid.ch,
10 MHz Bandwidth, QPSK, 1 RB, 25 RB Offset**

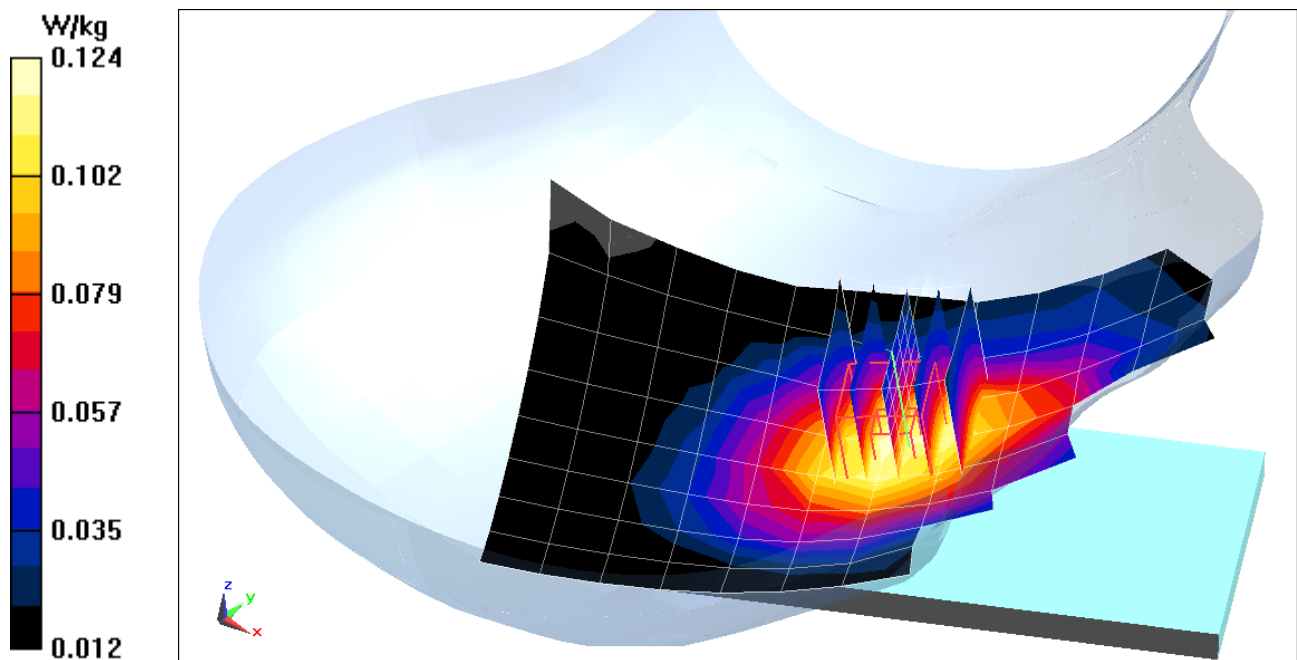
Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 11.51 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.137 W/kg

SAR(1 g) = 0.107 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0122M

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

Medium: 750 Head Medium parameters used (interpolated):

$f = 782 \text{ MHz}$; $\sigma = 0.908 \text{ S/m}$; $\epsilon_r = 43.563$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 06-07-2019; Ambient Temp: 21.5°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7357; ConvF(10.26, 10.26, 10.26) @ 782 MHz; Calibrated: 4/24/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/18/2019

Phantom: Twin-SAM V5.0 (30) Back Right; Type: QD 000 P40 CD; Serial: 1692

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 13, Right Head, Cheek, Mid.ch,
10 MHz Bandwidth, QPSK, 1 RB, 25 RB Offset**

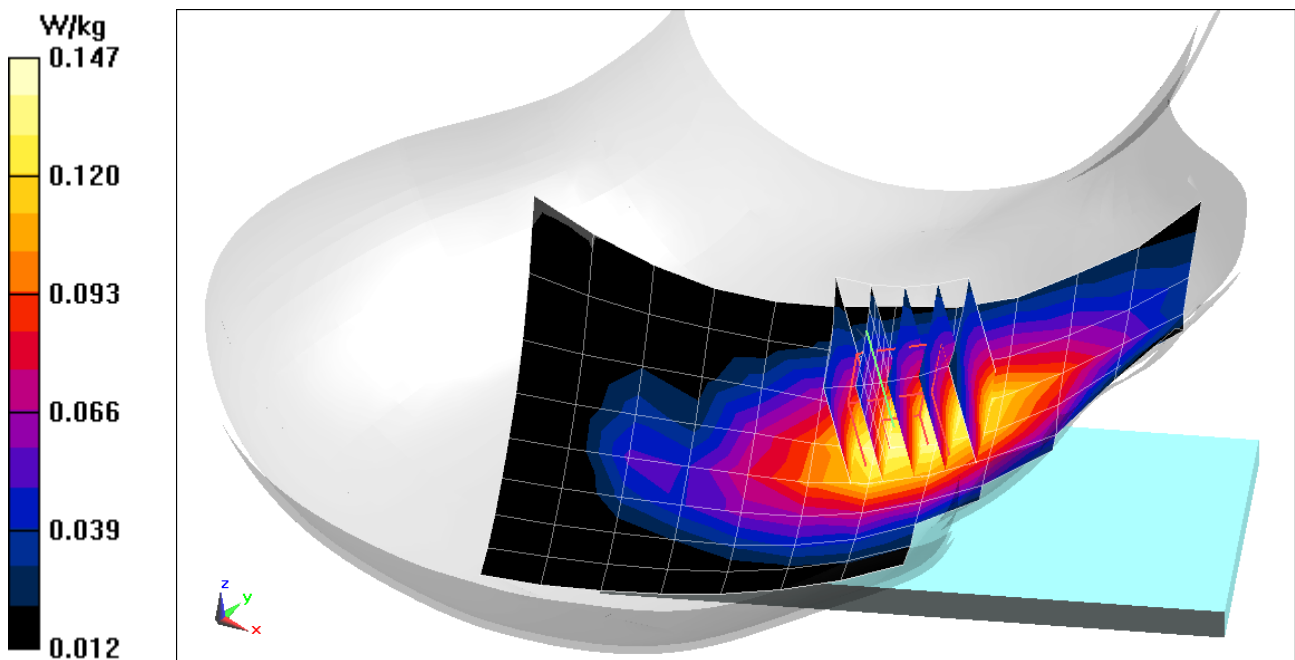
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 12.06 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.161 W/kg

SAR(1 g) = 0.127 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0122M

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

Medium: 835 Head Medium parameters used (interpolated):

$f = 831.5 \text{ MHz}$; $\sigma = 0.889 \text{ S/m}$; $\epsilon_r = 40.966$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 05-20-2019; Ambient Temp: 20.8°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7409; ConvF(9.67, 9.67, 9.67) @ 831.5 MHz; Calibrated: 6/25/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1334; Calibrated: 6/18/2018

Phantom: Left 30-SAM V5.0; Type: QD 000 P40 CD; Serial: 1715

Measurement SW: DASY52, Version 52.10 (2); 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**

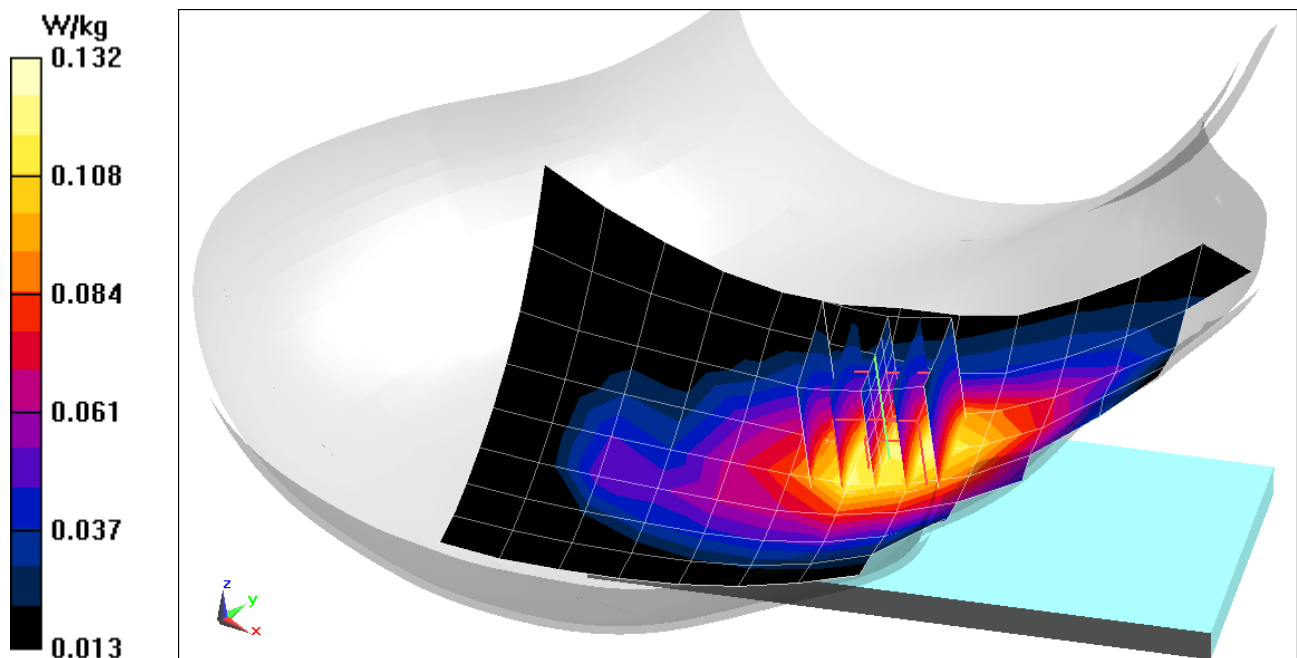
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 11.59 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.145 W/kg

SAR(1 g) = 0.108 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0448M

Communication System: UID 0, LTE Band 5 (Cell.); Frequency: 836.5 MHz; Duty Cycle: 1:1

Medium: 835 Head Medium parameters used (interpolated):

$f = 836.5 \text{ MHz}$; $\sigma = 0.919 \text{ S/m}$; $\epsilon_r = 41.622$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 06-20-2019; Ambient Temp: 21.4°C; Tissue Temp: 22.8°C

Probe: EX3DV4 - SN7406; ConvF(9.78, 9.78, 9.78) @ 836.5 MHz; Calibrated: 5/16/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn859; Calibrated: 5/8/2019

Phantom: SAM 30 with CRP v5.0 right; Type: QD000P40CD; Serial: TP:1759

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 5 (Cell.), ULCA, Right Head, Cheek

PCC: 10 MHz Bandwidth, QPSK, Ch. 20525, 1 RB, 0 RB Offset

SCC: 5 MHz Bandwidth, QPSK, Ch. 20453, 1 RB, 24 RB Offset

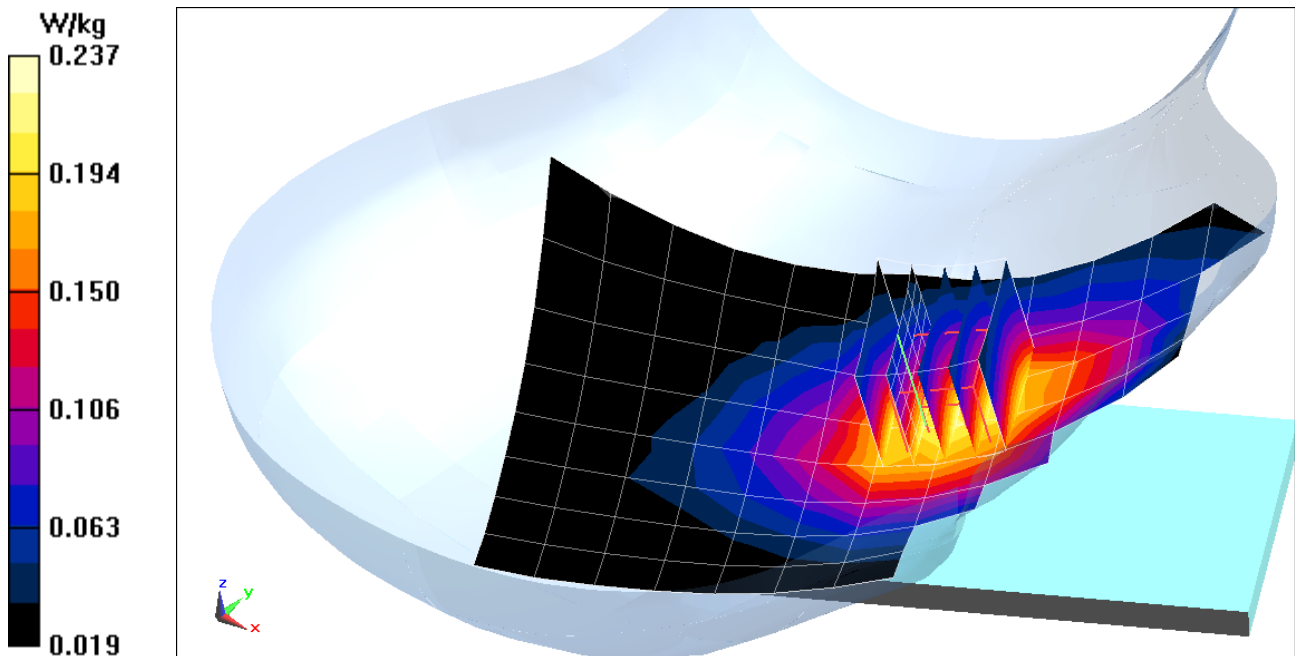
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 15.41 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.257 W/kg

SAR(1 g) = 0.201 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0448M

Communication System: UID 0, _LTE Band 66 (AWS); Frequency: 1770 MHz; Duty Cycle: 1:1

Medium: 1750 Head Medium parameters used (interpolated):

$f = 1770 \text{ MHz}$; $\sigma = 1.374 \text{ S/m}$; $\epsilon_r = 39.74$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 06-19-2019; Ambient Temp: 21.9°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7406; ConvF(8.57, 8.57, 8.57) @ 1770 MHz; Calibrated: 5/16/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn859; Calibrated: 5/8/2019

Phantom: SAM 30 with CRP v5.0 right; Type: QD000P40CD; Serial: TP:1759

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 66 (AWS), ULCA, Left Head, Cheek

PCC: 20 MHz Bandwidth, QPSK, Ch. 132572, 1 RB, 0 RB Offset

SCC: 20 MHz Bandwidth, QPSK, Ch. 132374 1 RB, 99 RB Offset

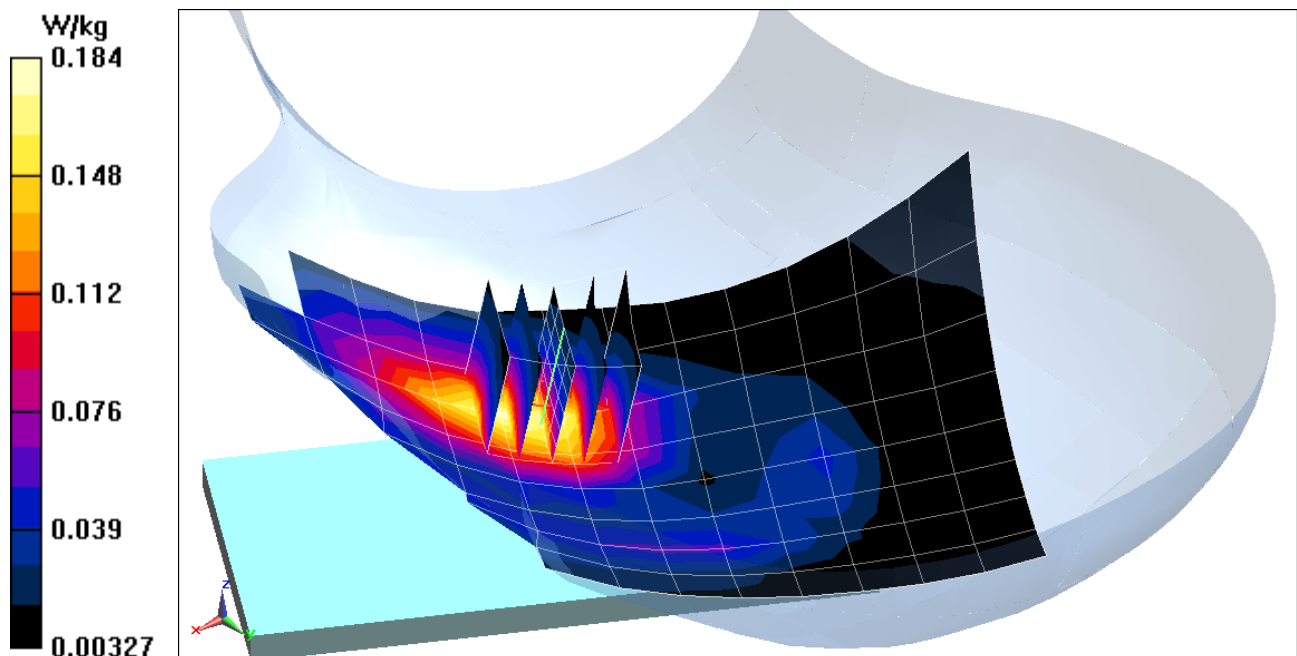
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 10.97 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.211 W/kg

SAR(1 g) = 0.137 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0134M

Communication System: UID 0, _LTE Band 2 (PCS); Frequency: 1860 MHz; Duty Cycle: 1:1

Medium: 1900 Head Medium parameters used (interpolated):

$f = 1860 \text{ MHz}$; $\sigma = 1.406 \text{ S/m}$; $\epsilon_r = 39.108$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 05-29-2019; Ambient Temp: 21.1°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7308; ConvF(8.26, 8.26, 8.26) @ 1860 MHz; Calibrated: 8/23/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1558; Calibrated: 10/3/2018

Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1966

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 2 (PCS), Left Head, Cheek, Low.ch,
20 MHz Bandwidth, QPSK, 1 RB, 99 RB Offset**

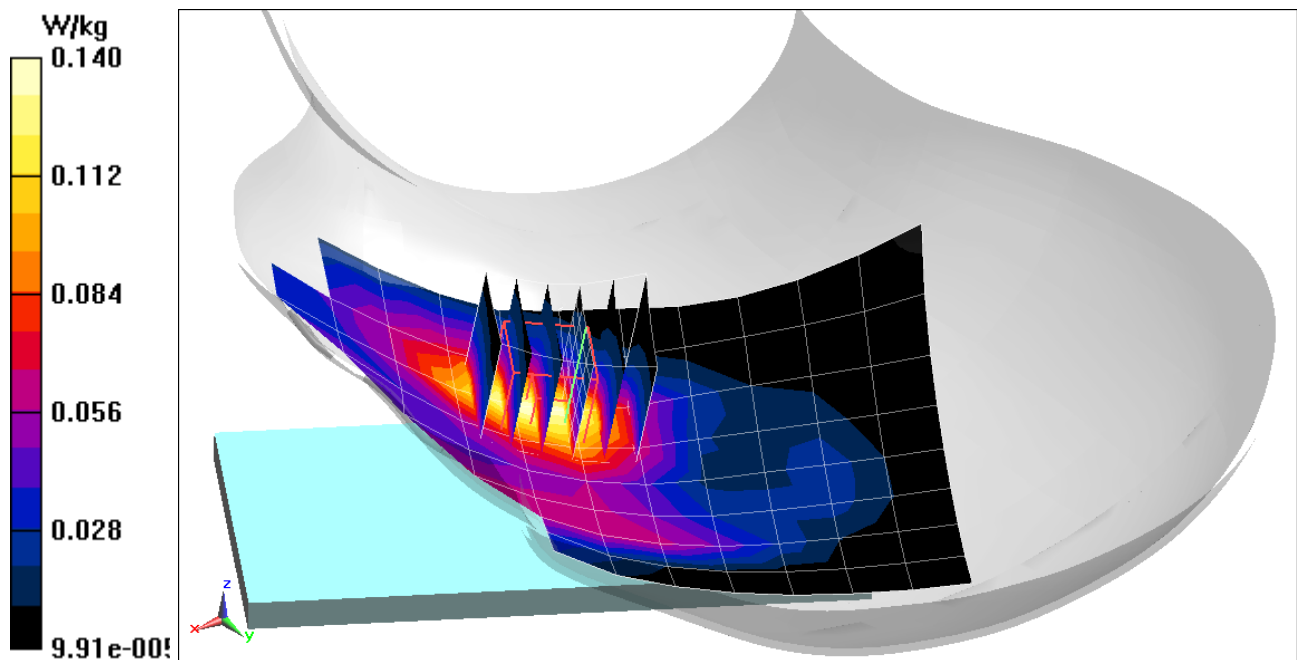
Area Scan (9x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 8.998 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.169 W/kg

SAR(1 g) = 0.104 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0094M

Communication System: UID 0, _LTE Band 7; Frequency: 2560 MHz; Duty Cycle: 1:1

Medium: 2450 Head Medium parameters used (interpolated):

$f = 2560 \text{ MHz}$; $\sigma = 1.904 \text{ S/m}$; $\epsilon_r = 38.634$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 05-20-2019; Ambient Temp: 23.1°C; Tissue Temp: 21.4°C

Probe: EX3DV4 - SN3589; ConvF(6.25, 6.25, 6.25) @ 2560 MHz; Calibrated: 1/25/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1450; Calibrated: 8/22/2018

Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 7, Left Head, Cheek, High.ch, QPSK,
20 MHz Bandwidth, 1 RB, 50 RB Offset**

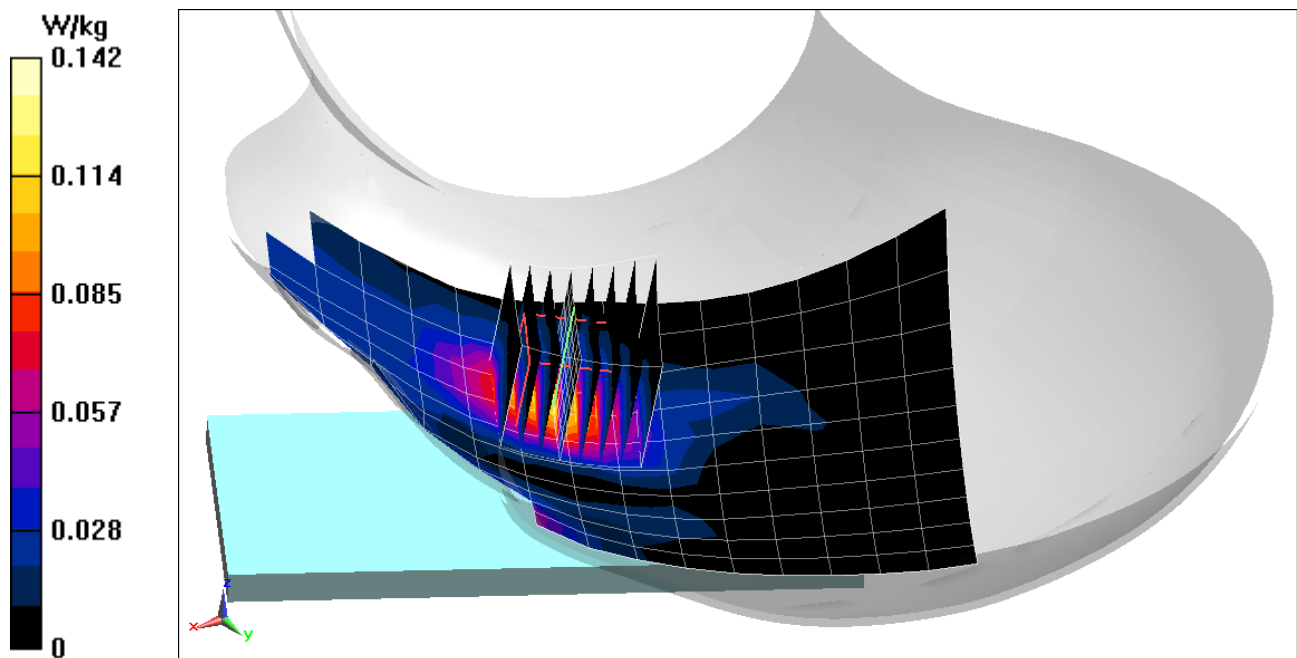
Area Scan (11x18x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (9x8x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 6.467 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 0.171 W/kg

SAR(1 g) = 0.097 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0094M

Communication System: UID 0, LTE Band 48; Frequency: 3603.3 MHz; Duty Cycle: 1:1.58

Medium: 3500 Head Medium parameters used (interpolated):

$f = 3603.3 \text{ MHz}$; $\sigma = 2.88 \text{ S/m}$; $\epsilon_r = 39.006$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 06-13-2019; Ambient Temp: 24.0°C; Tissue Temp: 20.8°C

Probe: EX3DV4 - SN3589; ConvF(6.02, 6.02, 6.02) @ 3603.3 MHz; Calibrated: 1/25/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1450; Calibrated: 8/22/2018

Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 48 Right Head, Tilt, Low-Mid.ch,
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

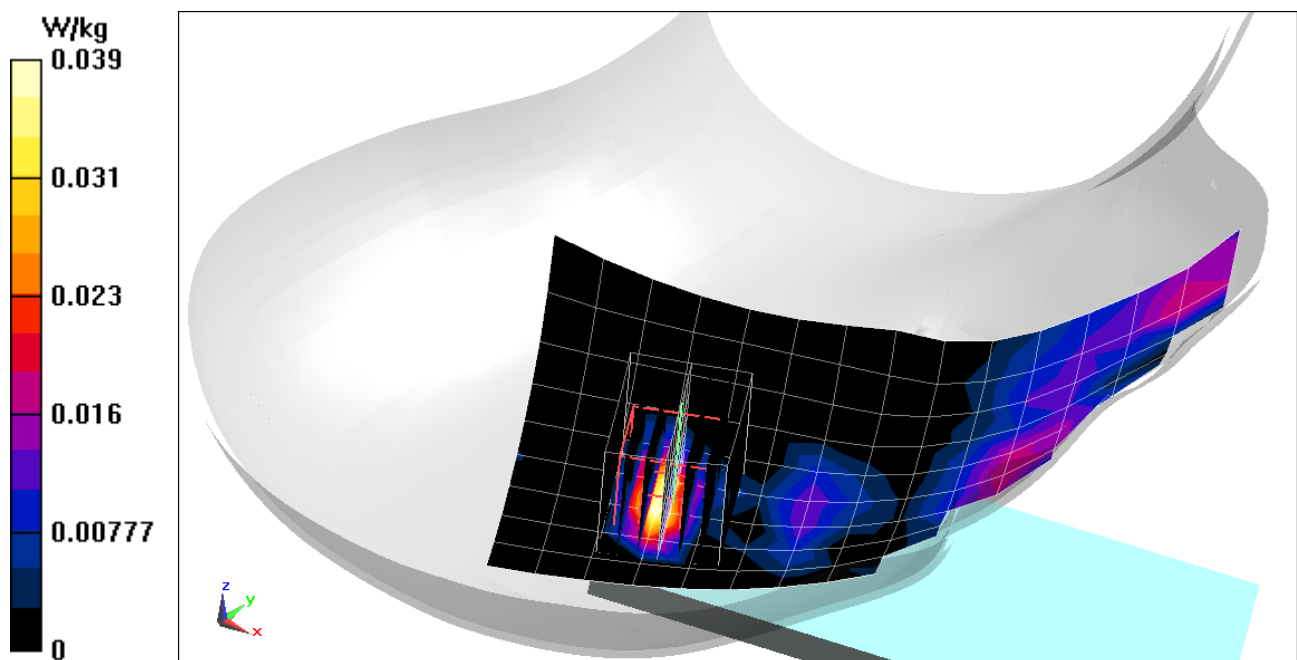
Area Scan (10x17x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (9x7x8)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=1.4\text{mm}$; Graded Ratio: 1.4

Reference Value = 3.027 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 0.0560 W/kg

SAR(1 g) = 0.021 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0094M

Communication System: UID 0, _LTE Band 41; Frequency: 2593 MHz; Duty Cycle: 1:1.58

Medium: 2450 Head Medium parameters used (interpolated):

$f = 2593 \text{ MHz}$; $\sigma = 1.93 \text{ S/m}$; $\epsilon_r = 38.578$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 05-20-2019; Ambient Temp: 23.1°C; Tissue Temp: 21.4°C

Probe: EX3DV4 - SN3589; ConvF(6.25, 6.25, 6.25) @ 2593 MHz; Calibrated: 1/25/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1450; Calibrated: 8/22/2018

Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

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

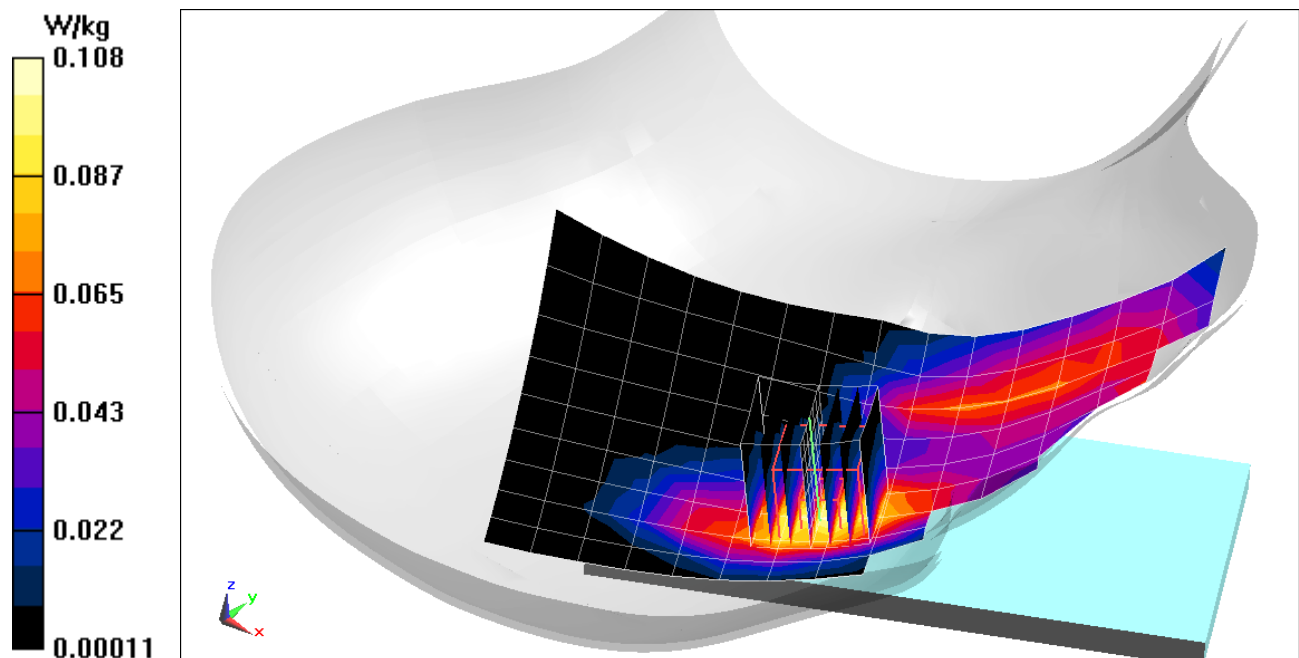
Area Scan (10x17x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 6.987 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.130 W/kg

SAR(1 g) = 0.072 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0060M

Communication System: UID 0, _IEEE 802.11b; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: 2450 Head Medium parameters used (interpolated):

$f = 2437 \text{ MHz}$; $\sigma = 1.807 \text{ S/m}$; $\epsilon_r = 37.903$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 05-28-2019; Ambient Temp: 22.1°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN3589; ConvF(6.46, 6.46, 6.46) @ 2437 MHz; Calibrated: 1/25/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1450; Calibrated: 8/22/2018

Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

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

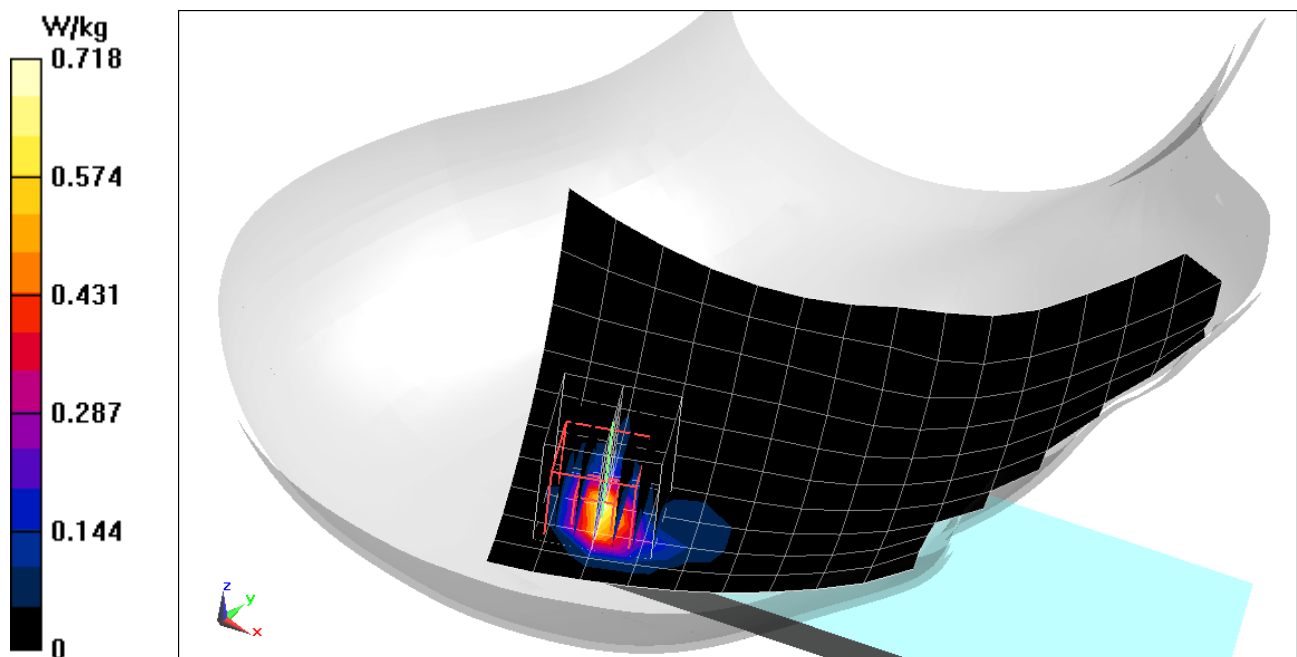
Area Scan (11x18x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 4.305 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.988 W/kg

SAR(1 g) = 0.348 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0459M

Communication System: UID 0, _IEEE 802.11ac; Frequency: 5690 MHz; Duty Cycle: 1:1

Medium: 5GHz Head Medium parameters used (interpolated):

$f = 5690 \text{ MHz}$; $\sigma = 5.079 \text{ S/m}$; $\epsilon_r = 34.013$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 06-10-2019; Ambient Temp: 21.6°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7406; ConvF(5.23, 5.23, 5.23) @ 5690 MHz; Calibrated: 5/16/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn859; Calibrated: 5/8/2019

Phantom: SAM with CRP v5.0 (Right); Type: QD000P40CD; Serial: TP:1759

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

**Mode: IEEE 802.11ac, Antenna 1, U-NII-2C, 80 MHz Bandwidth,
Right Head, Tilt, Ch 138, 29.3 Mbps**

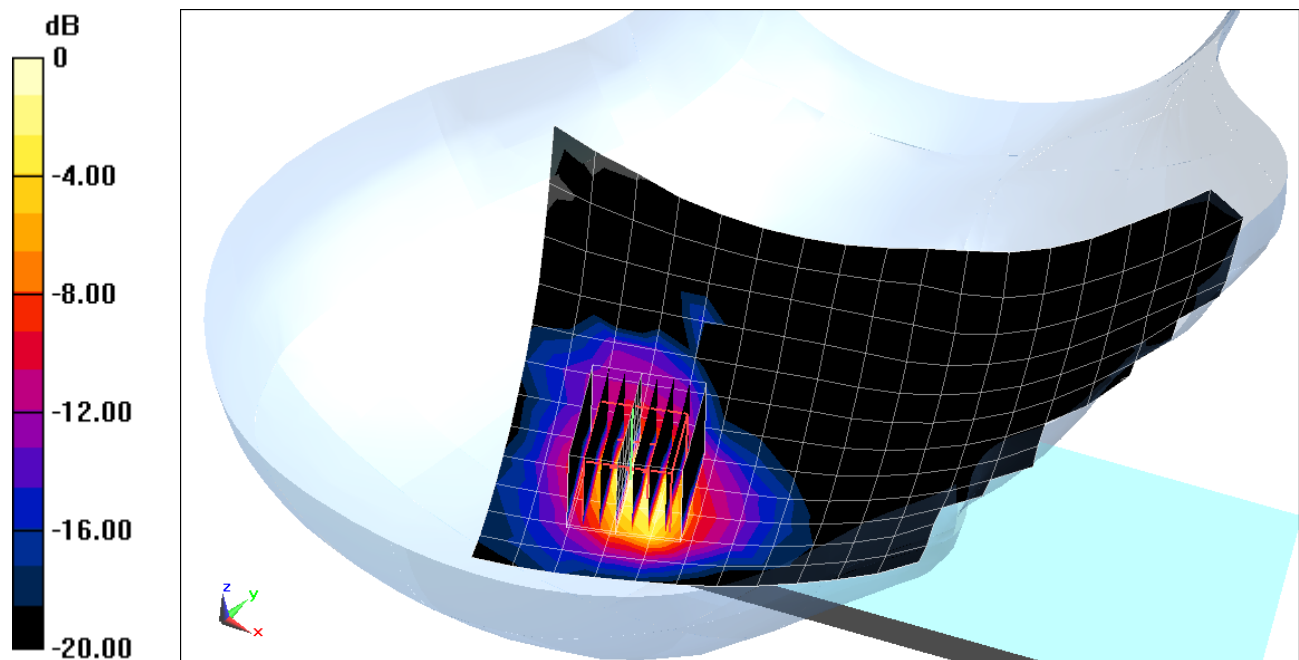
Area Scan (13x22x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Zoom Scan (9x8x7)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=1.4\text{mm}$; Graded Ratio: 1.4

Reference Value = 2.277 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 1.88 W/kg

SAR(1 g) = 0.354 W/kg



0 dB = 1.06 W/kg = 0.25 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0459M

Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.297

Medium: 2450 Head Medium parameters used (interpolated):

$f = 2441 \text{ MHz}$; $\sigma = 1.846 \text{ S/m}$; $\epsilon_r = 40.223$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 06-17-2019; Ambient Temp: 22.5°C; Tissue Temp: 20.5°C

Probe: EX3DV4 - SN3589; ConvF(6.46, 6.46, 6.46) @ 2441 MHz; Calibrated: 1/25/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1450; Calibrated: 8/22/2018

Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

Mode: Bluetooth, Right Head, Cheek, Ch 39, 1Mbps

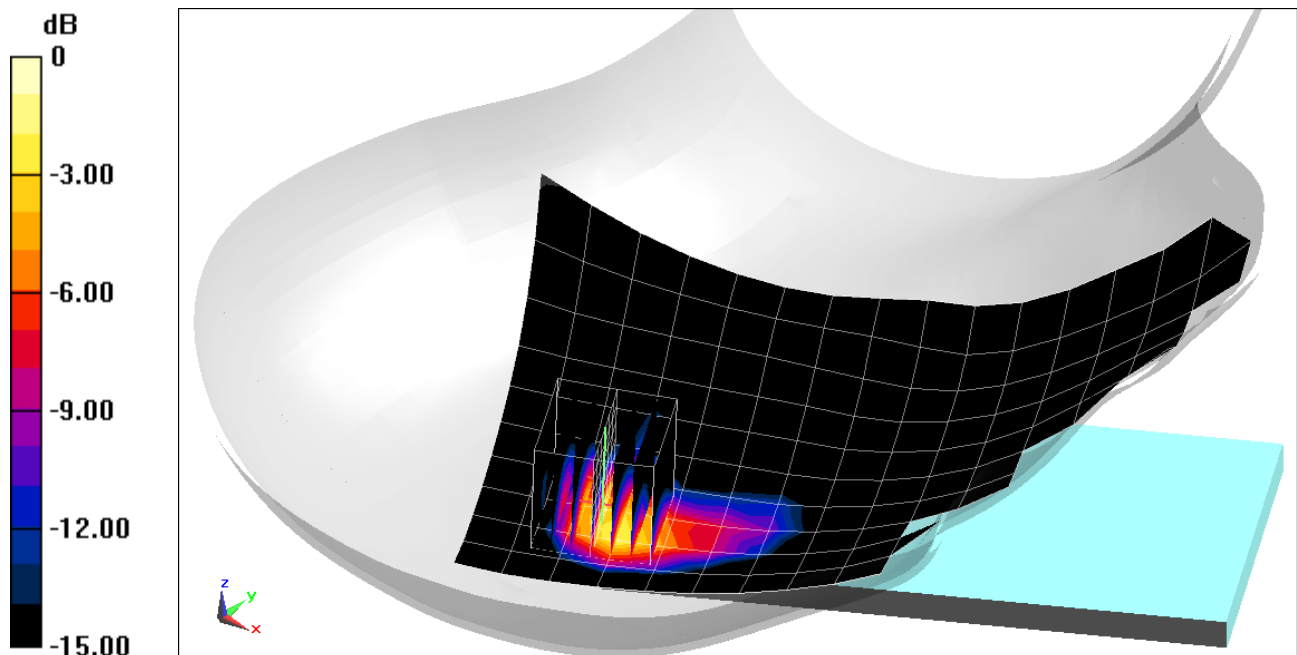
Area Scan (11x19x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 13.42 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.767 W/kg

SAR(1 g) = 0.281 W/kg



0 dB = 0.581 W/kg = -2.36 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0137M

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

Medium: 835 Body Medium parameters used (interpolated):

$f = 836.52 \text{ MHz}$; $\sigma = 0.997 \text{ S/m}$; $\epsilon_r = 53.28$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 05-16-2019; Ambient Temp: 19.8°C; Tissue Temp: 19.7°C

Probe: EX3DV4 - SN7488; ConvF(11.03, 11.03, 11.03) @ 836.52 MHz; Calibrated: 1/24/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1530; Calibrated: 1/15/2019

Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1800

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

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

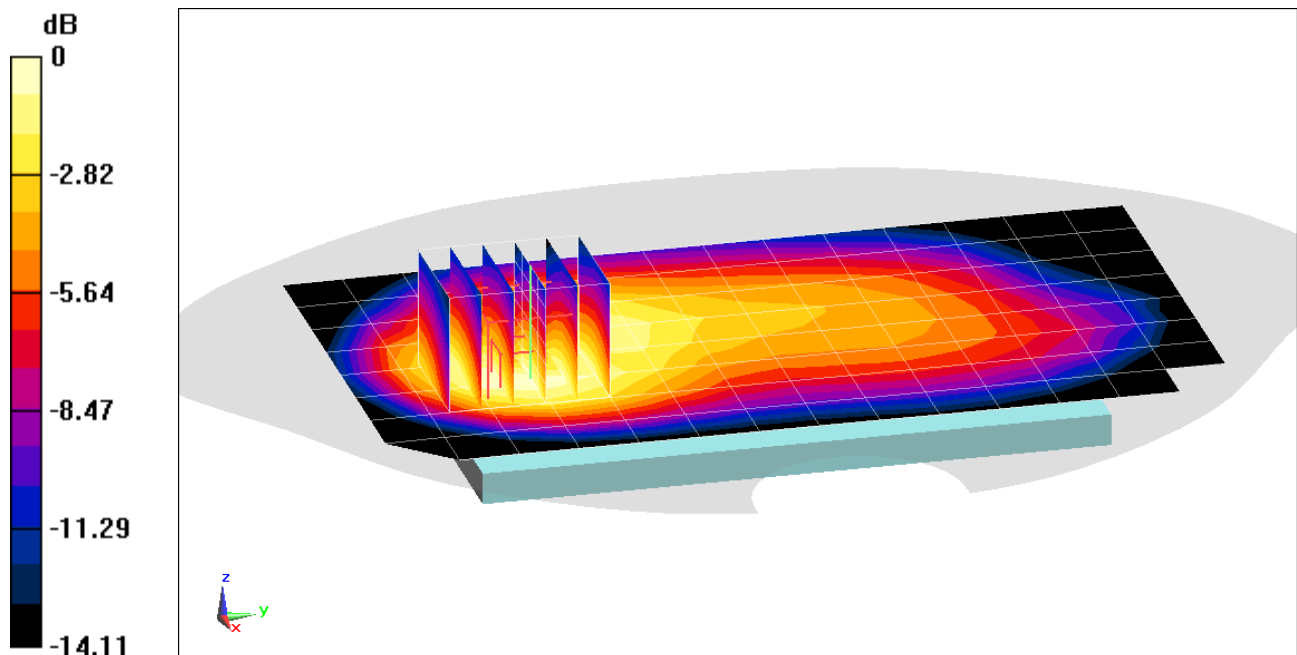
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 15.41 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 0.370 W/kg

SAR(1 g) = 0.227 W/kg



0 dB = 0.311 W/kg = -5.07 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0472M

Communication System: UID 0, CDMA; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium: 835 Body Medium parameters used (interpolated):

$f = 824.7 \text{ MHz}$; $\sigma = 0.999 \text{ S/m}$; $\epsilon_r = 53.026$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-05-2019; Ambient Temp: 22.7°C; Tissue Temp: 20.2°C

Probe: EX3DV4 - SN7488; ConvF(11.03, 11.03, 11.03) @ 824.7 MHz; Calibrated: 1/24/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1530; Calibrated: 1/15/2019

Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1800

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

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

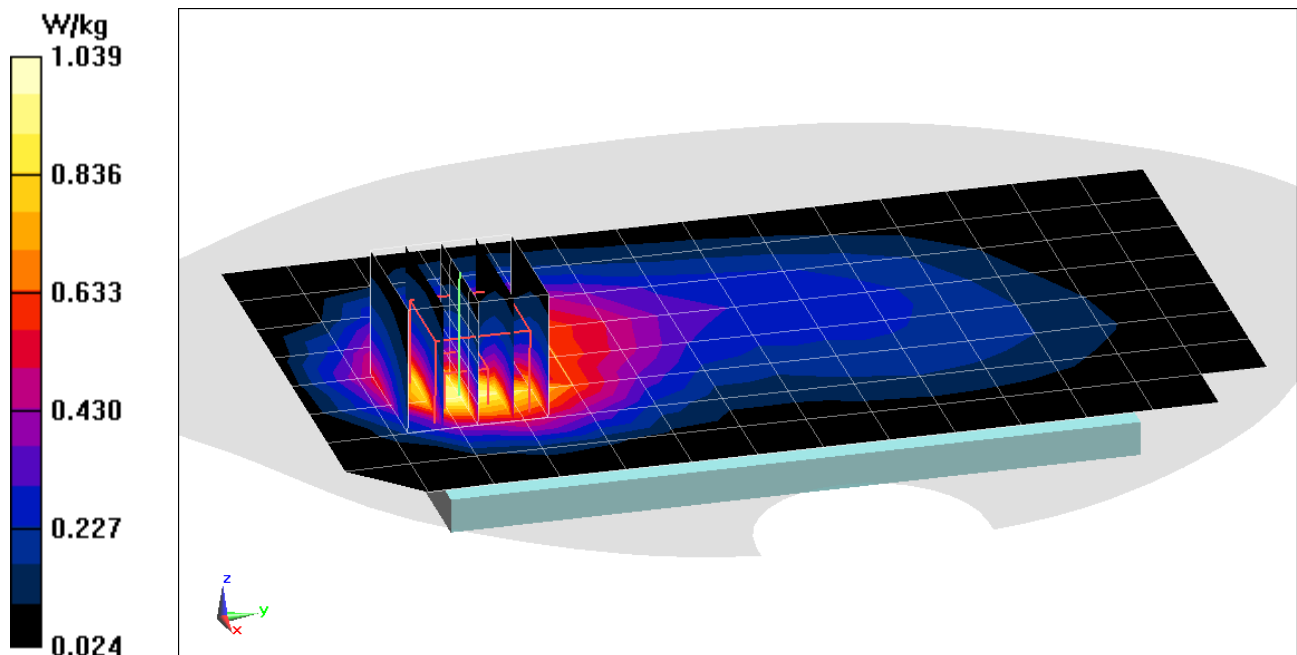
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 27.61 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 1.24 W/kg

SAR(1 g) = 0.708 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0137M

Communication System: UID 0, CDMA; Frequency: 1851.25 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1851.25 \text{ MHz}$; $\sigma = 1.53 \text{ S/m}$; $\epsilon_r = 51.831$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 05-21-2019; Ambient Temp: 23.2°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7410; ConvF(7.78, 7.78, 7.78) @ 1851.25 MHz; Calibrated: 7/20/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1322; Calibrated: 7/11/2018

Phantom: Front; Type: QD 000 P40 CD; Serial: 1686

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

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

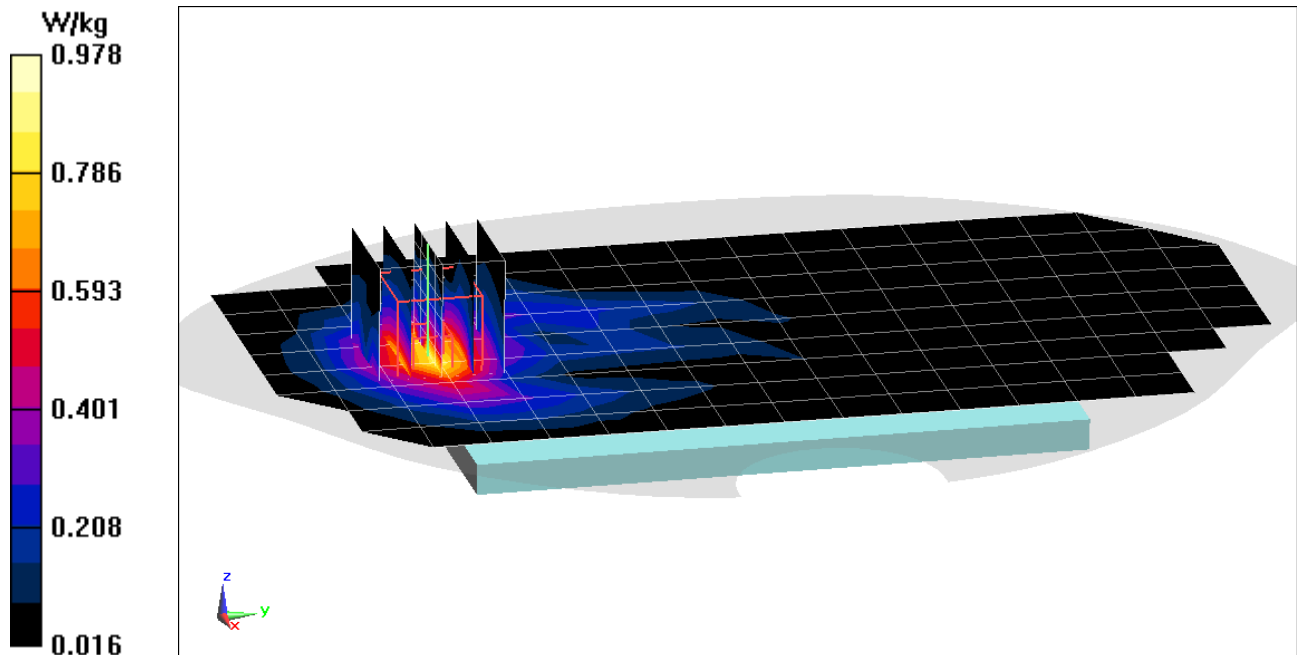
Area Scan (10x18x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 22.28 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 1.17 W/kg

SAR(1 g) = 0.696 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0109M

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

Medium: 1900 Body Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.548 \text{ S/m}$; $\epsilon_r = 51.975$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-05-2019; Ambient Temp: 22.8°C; Tissue Temp: 23.5°C

Probe: EX3DV4 - SN7410; ConvF(7.78, 7.78, 7.78) @ 1880 MHz; Calibrated: 7/20/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1322; Calibrated: 7/11/2018

Phantom: Front; Type: QD 000 P40 CD; Serial: 1686

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: PCS EVDO Rev. 0, Body SAR, Bottom Edge, Mid.ch

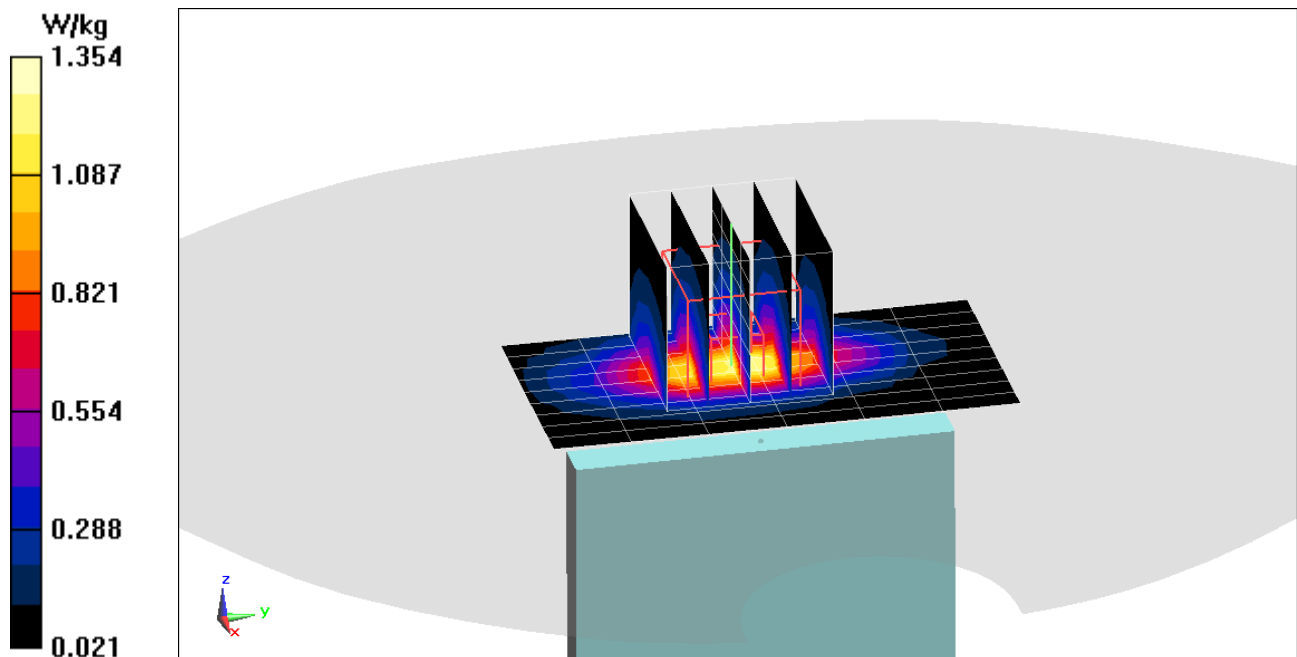
Area Scan (10x7x1): Measurement grid: $dx=5\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 25.64 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 1.58 W/kg

SAR(1 g) = 0.901 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0137M

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

Medium: 835 Body Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$; $\sigma = 0.997 \text{ S/m}$; $\epsilon_r = 53.28$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 05-16-2019; Ambient Temp: 19.8°C; Tissue Temp: 19.7°C

Probe: EX3DV4 - SN7488; ConvF(11.03, 11.03, 11.03) @ 836.6 MHz; Calibrated: 1/24/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1530; Calibrated: 1/15/2019

Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1800

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

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

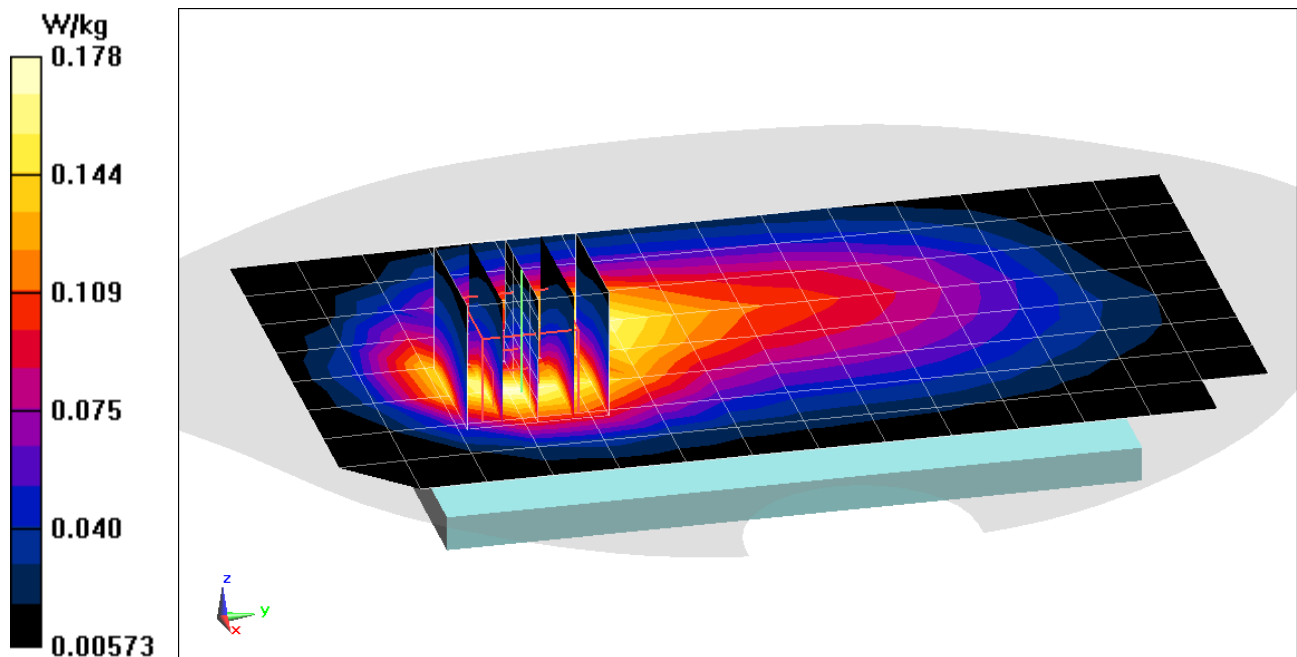
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 11.63 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.211 W/kg

SAR(1 g) = 0.128 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0137M

Communication System: UID 0, GSM GPRS; 3 Tx slots; Frequency: 848.8 MHz; Duty Cycle: 1:2.76

Medium: 835 Body Medium parameters used (interpolated):

$f = 848.8 \text{ MHz}$; $\sigma = 0.959 \text{ S/m}$; $\epsilon_r = 52.559$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-18-2019; Ambient Temp: 22.4°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN3914; ConvF(9.46, 9.46, 9.46) @ 848.8 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 2/14/2019

Phantom: SAM with CRP v5.0 Left; Type: QD000P40CD; Serial: 1687

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

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

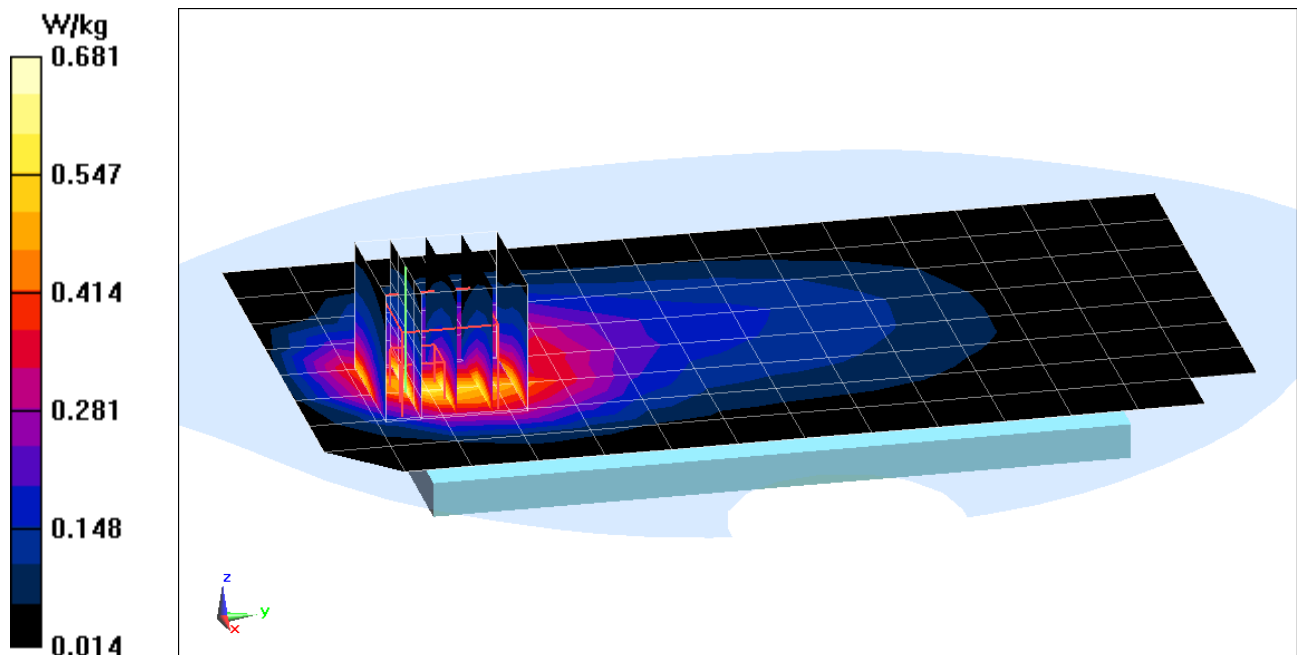
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 22.95 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 0.842 W/kg

SAR(1 g) = 0.473 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0442M

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

Medium: 1900 Body Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.545 \text{ S/m}$; $\epsilon_r = 52.296$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-07-2019; Ambient Temp: 22.2°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7410; ConvF(7.78, 7.78, 7.78) @ 1880 MHz; Calibrated: 7/20/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1322; Calibrated: 7/11/2018

Phantom: Front; Type: QD 000 P40 CD; Serial: 1686

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

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

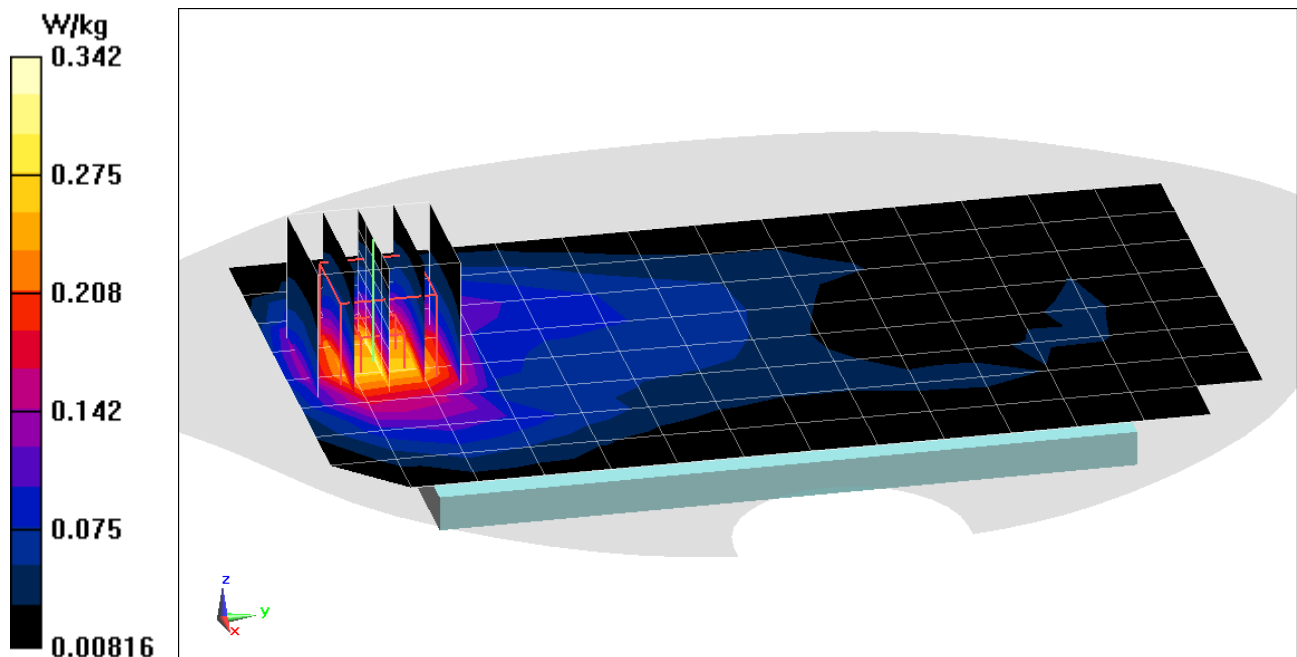
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 13.27 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.396 W/kg

SAR(1 g) = 0.243 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0442M

Communication System: UID 0, _GSM GPRS; 4 Tx slots; Frequency: 1909.8 MHz; Duty Cycle: 1:2.076

Medium: 1900 Body Medium parameters used:

$f = 1910 \text{ MHz}$; $\sigma = 1.579 \text{ S/m}$; $\epsilon_r = 52.223$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-07-2019; Ambient Temp: 22.2°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7410; ConvF(7.78, 7.78, 7.78) @ 1909.8 MHz; Calibrated: 7/20/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1322; Calibrated: 7/11/2018

Phantom: Front; Type: QD 000 P40 CD; Serial: 1686

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

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

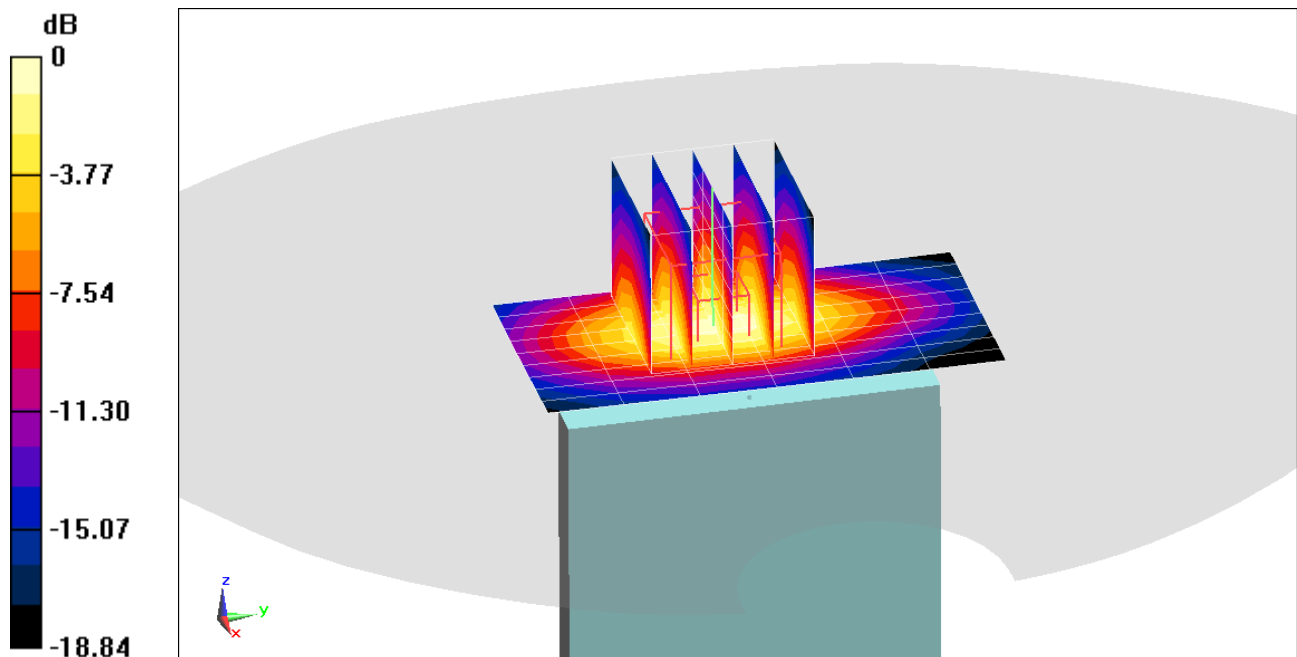
Area Scan (10x7x1): Measurement grid: $dx=5\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 22.99 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 1.37 W/kg

SAR(1 g) = 0.758 W/kg



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

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0137M

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

Medium: 835 Body Medium parameters used (interpolated):

$f = 836.6 \text{ MHz}$; $\sigma = 0.997 \text{ S/m}$; $\epsilon_r = 53.28$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 05-16-2019; Ambient Temp: 19.8°C; Tissue Temp: 19.7°C

Probe: EX3DV4 - SN7488; ConvF(11.03, 11.03, 11.03) @ 836.6 MHz; Calibrated: 1/24/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1530; Calibrated: 1/15/2019

Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1800

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

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

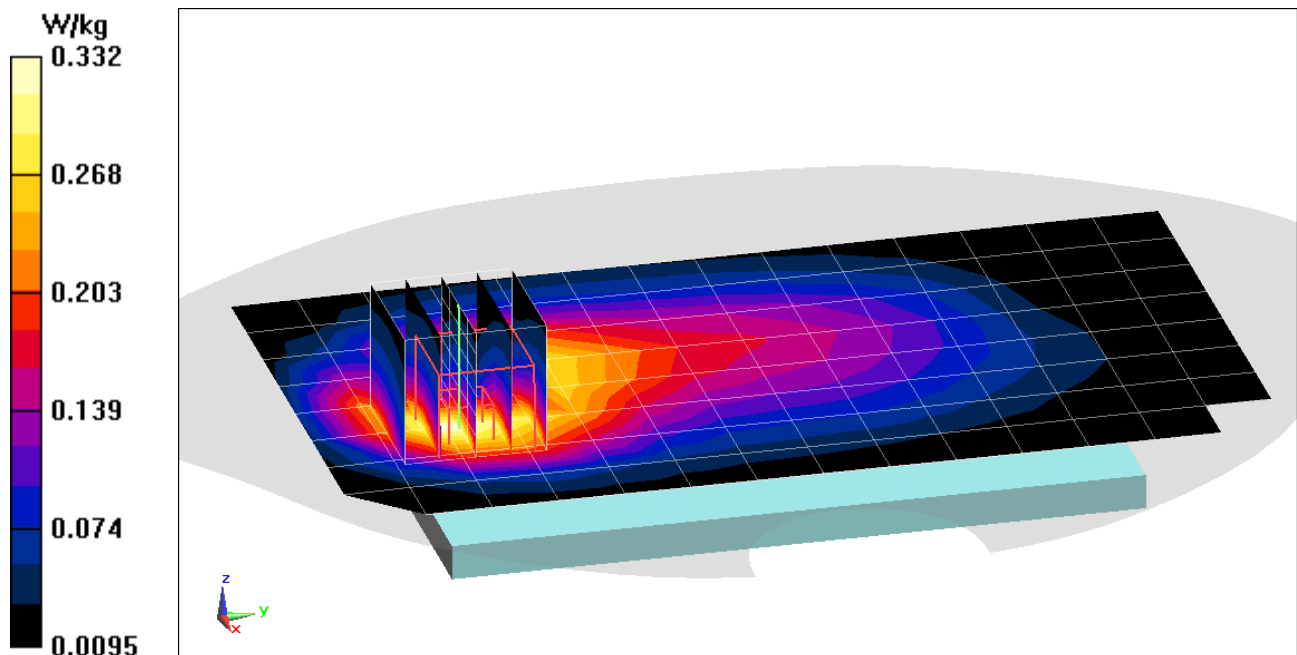
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 15.96 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.393 W/kg

SAR(1 g) = 0.238 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0137M

Communication System: UID 0, UMTS; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: 835 Body Medium parameters used (interpolated):

$f = 846.6 \text{ MHz}$; $\sigma = 1.001 \text{ S/m}$; $\epsilon_r = 53.259$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05-16-2019; Ambient Temp: 19.8°C; Tissue Temp: 19.7°C

Probe: EX3DV4 - SN7488; ConvF(11.03, 11.03, 11.03) @ 846.6 MHz; Calibrated: 1/24/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1530; Calibrated: 1/15/2019

Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1800

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: UMTS 850, Body SAR, Back side, High.ch

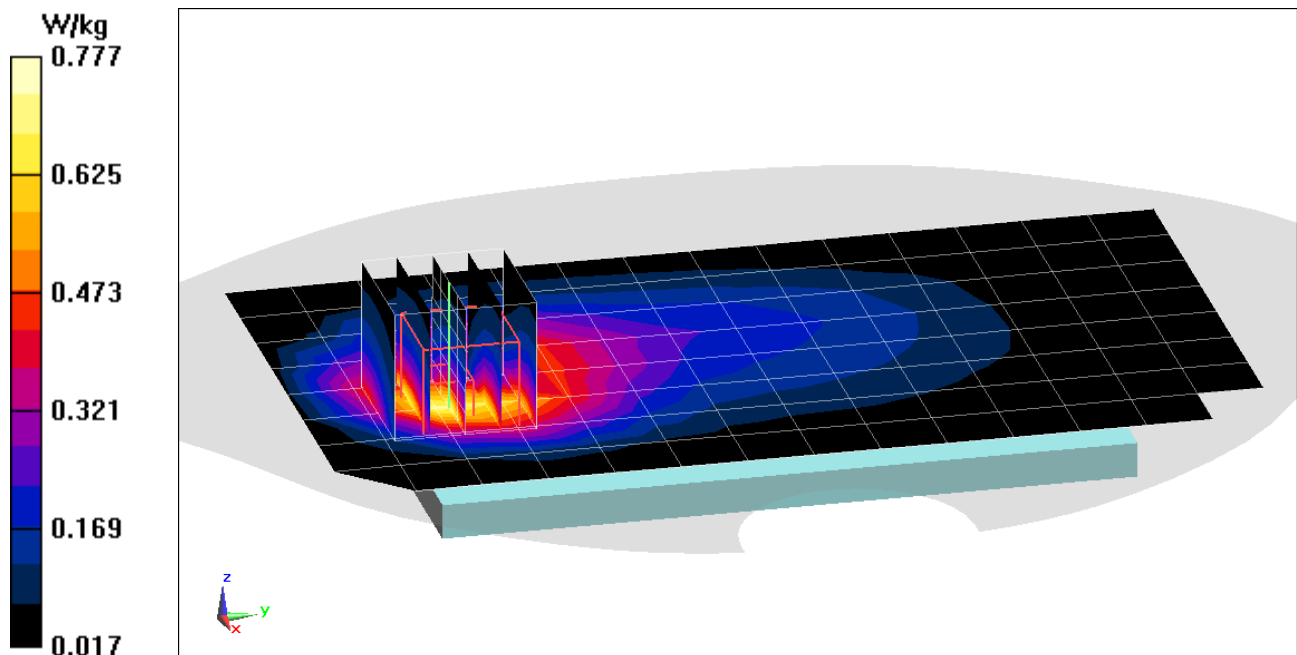
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 23.87 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.925 W/kg

SAR(1 g) = 0.531 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0442M

Communication System: UID 0, UMTS; Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1852.4 \text{ MHz}$; $\sigma = 1.522 \text{ S/m}$; $\epsilon_r = 52.294$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date:06-10-2019; Ambient Temp: 22.0°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN7410; ConvF(7.78, 7.78, 7.78) @ 1852.4 MHz; Calibrated: 7/20/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1322; Calibrated: 7/11/2018

Phantom: Front; Type: QD 000 P40 CD; Serial: 1686

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

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

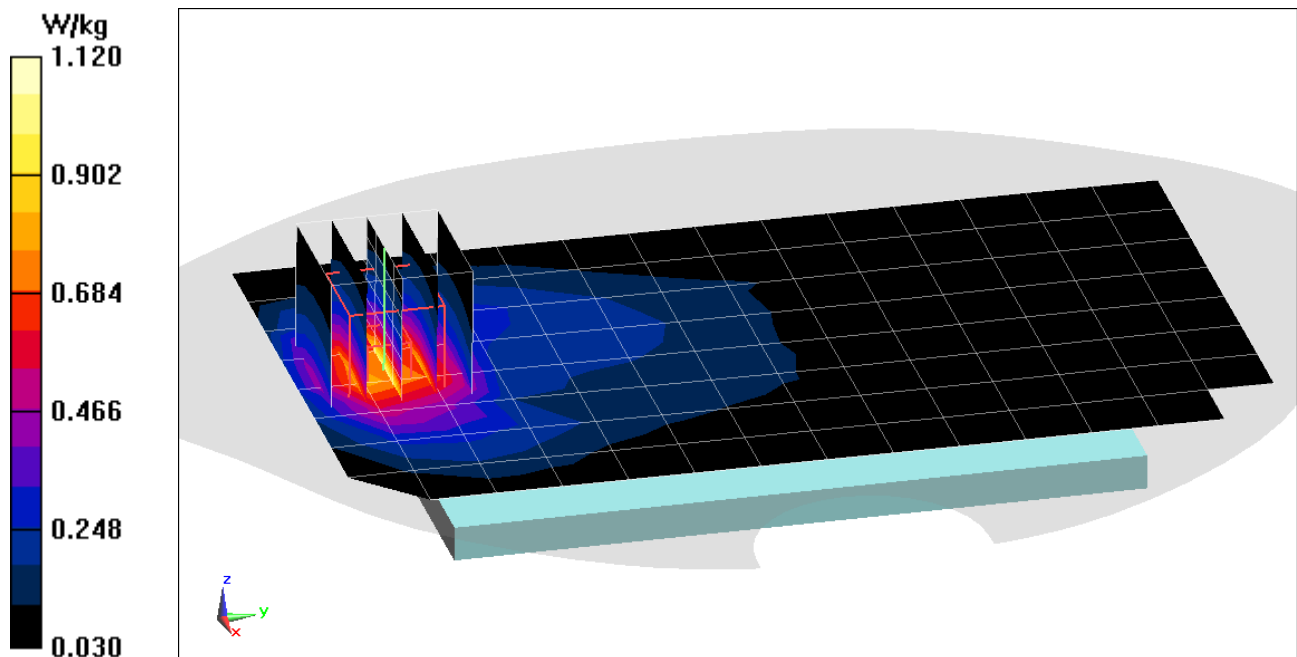
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 23.93 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.29 W/kg

SAR(1 g) = 0.791 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0442M

Communication System: UID 0, UMTS; Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1852.4 \text{ MHz}$; $\sigma = 1.522 \text{ S/m}$; $\epsilon_r = 52.294$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-10-2019; Ambient Temp: 22.0°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN7410; ConvF(7.78, 7.78, 7.78) @ 1852.4 MHz; Calibrated: 7/20/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1322; Calibrated: 7/11/2018

Phantom: Front; Type: QD 000 P40 CD; Serial: 1686

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

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

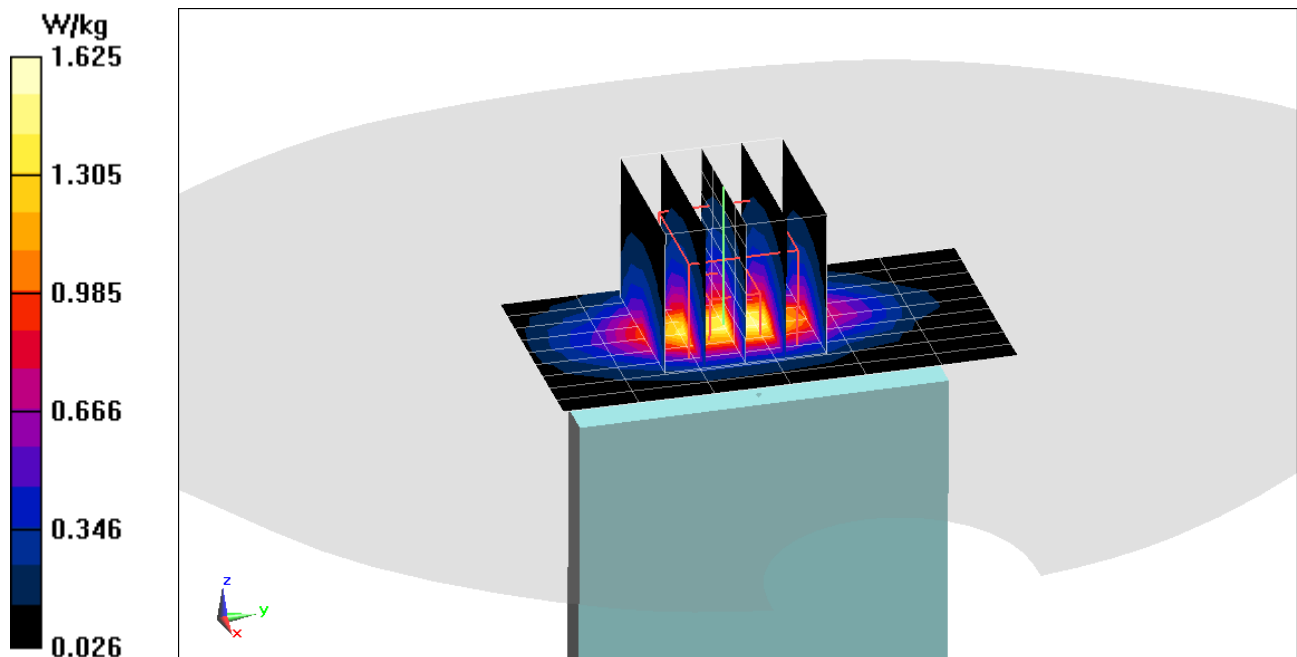
Area Scan (10x7x1): Measurement grid: dx=5mm, dy=15mm

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

Reference Value = 28.38 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.89 W/kg

SAR(1 g) = 1.09 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0122M

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

Medium: 750 Body Medium parameters used (interpolated):

$f = 707.5 \text{ MHz}$; $\sigma = 0.922 \text{ S/m}$; $\epsilon_r = 56.657$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 05-16-2019; Ambient Temp: 22.8°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN7357; ConvF(10.19, 10.19, 10.19) @ 707.5 MHz; Calibrated: 4/24/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/18/2019

Phantom: Twin-SAM V4.0 Front Right; Type: QD 000 P40 CC; Serial: 1167

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 12, Body SAR, Back side, Mid.ch,
10 MHz Bandwidth, QPSK, 1 RB, 25 RB Offset**

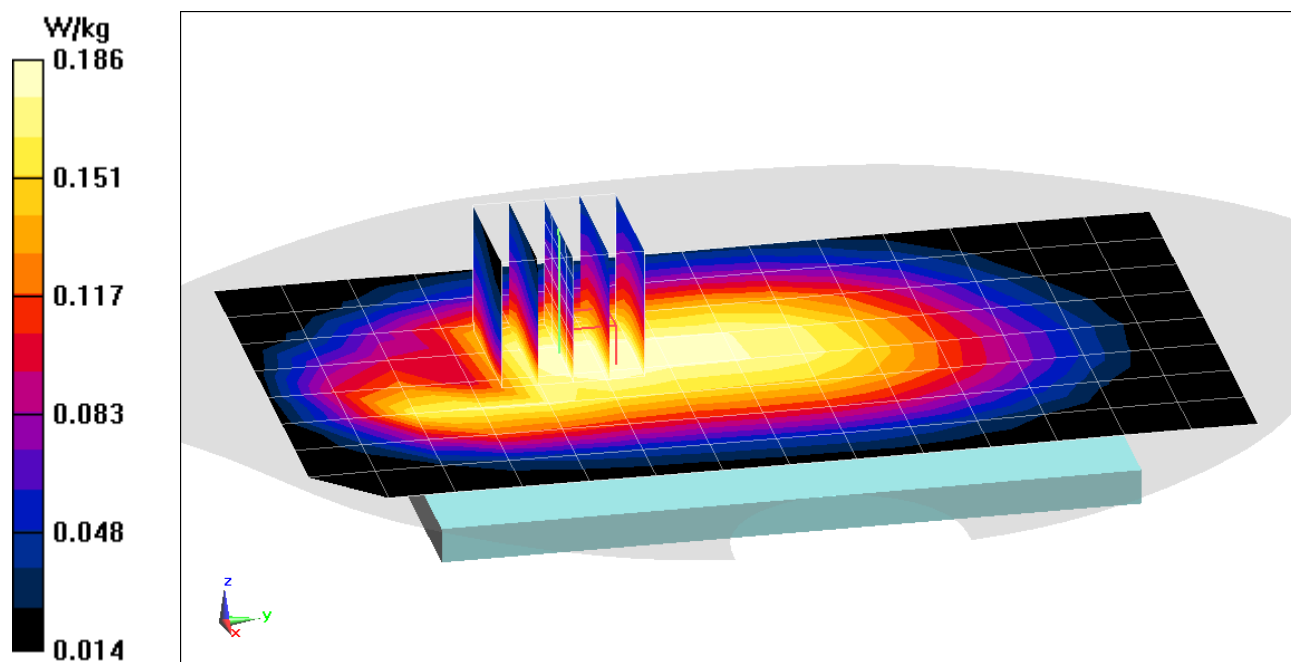
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 13.10 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.203 W/kg

SAR(1 g) = 0.155 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0122M

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

Medium: 750 Body Medium parameters used (interpolated):

$f = 707.5 \text{ MHz}$; $\sigma = 0.922 \text{ S/m}$; $\epsilon_r = 56.657$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05-16-2019; Ambient Temp: 22.8°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN7357; ConvF(10.19, 10.19, 10.19) @ 707.5 MHz; Calibrated: 4/24/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/18/2019

Phantom: Twin-SAM V4.0 Front Right; Type: QD 000 P40 CC; Serial: 1167

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 12, Body SAR, Back side, Mid.ch,
10 MHz Bandwidth, QPSK, 1 RB, 25 RB Offset**

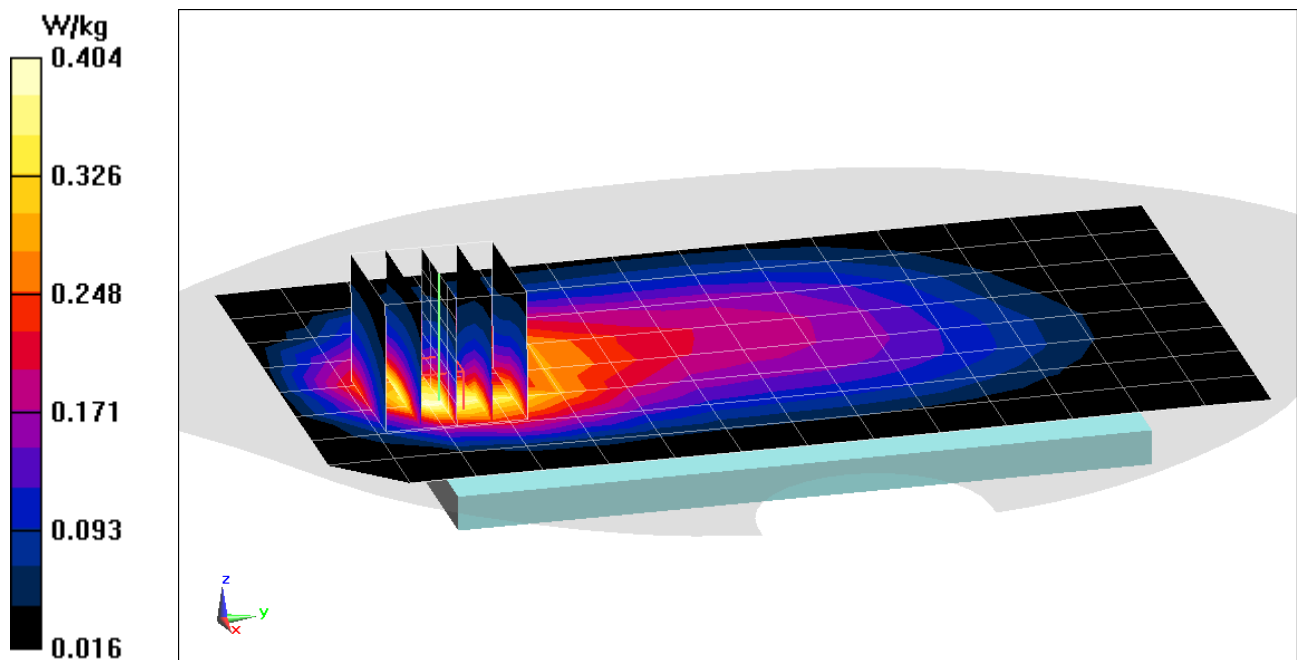
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 17.95 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.484 W/kg

SAR(1 g) = 0.276 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0122M

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

Medium: 750 Body Medium parameters used (interpolated):

$f = 782 \text{ MHz}$; $\sigma = 0.948 \text{ S/m}$; $\epsilon_r = 56.475$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 05-16-2019; Ambient Temp: 22.8°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN7357; ConvF(10.19, 10.19, 10.19) @ 782 MHz; Calibrated: 4/24/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/18/2019

Phantom: Twin-SAM V4.0 Front Right; Type: QD 000 P40 CC; Serial: 1167

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

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

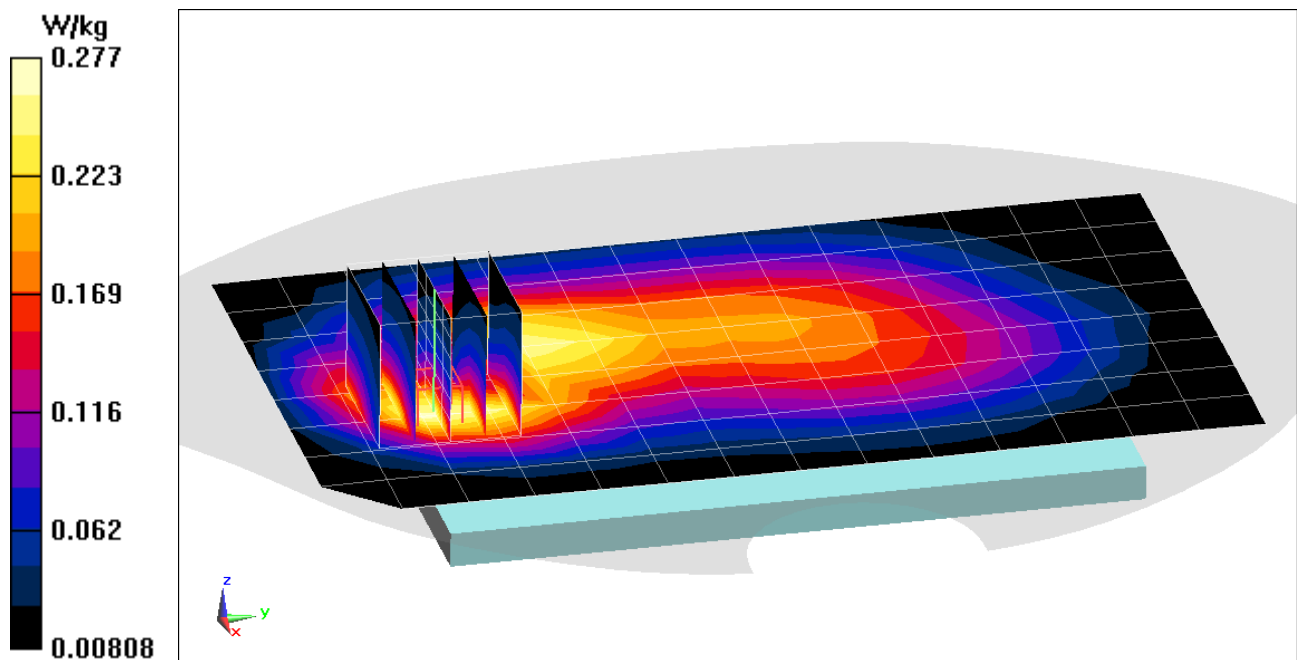
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 14.99 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.321 W/kg

SAR(1 g) = 0.197 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0122M

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

Medium: 750 Body Medium parameters used (interpolated):

$f = 782 \text{ MHz}$; $\sigma = 0.948 \text{ S/m}$; $\epsilon_r = 56.475$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05-16-2019; Ambient Temp: 22.8°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN7357; ConvF(10.19, 10.19, 10.19) @ 782 MHz; Calibrated: 4/24/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/18/2019

Phantom: Twin-SAM V4.0 Front Right; Type: QD 000 P40 CC; Serial: 1167

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

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

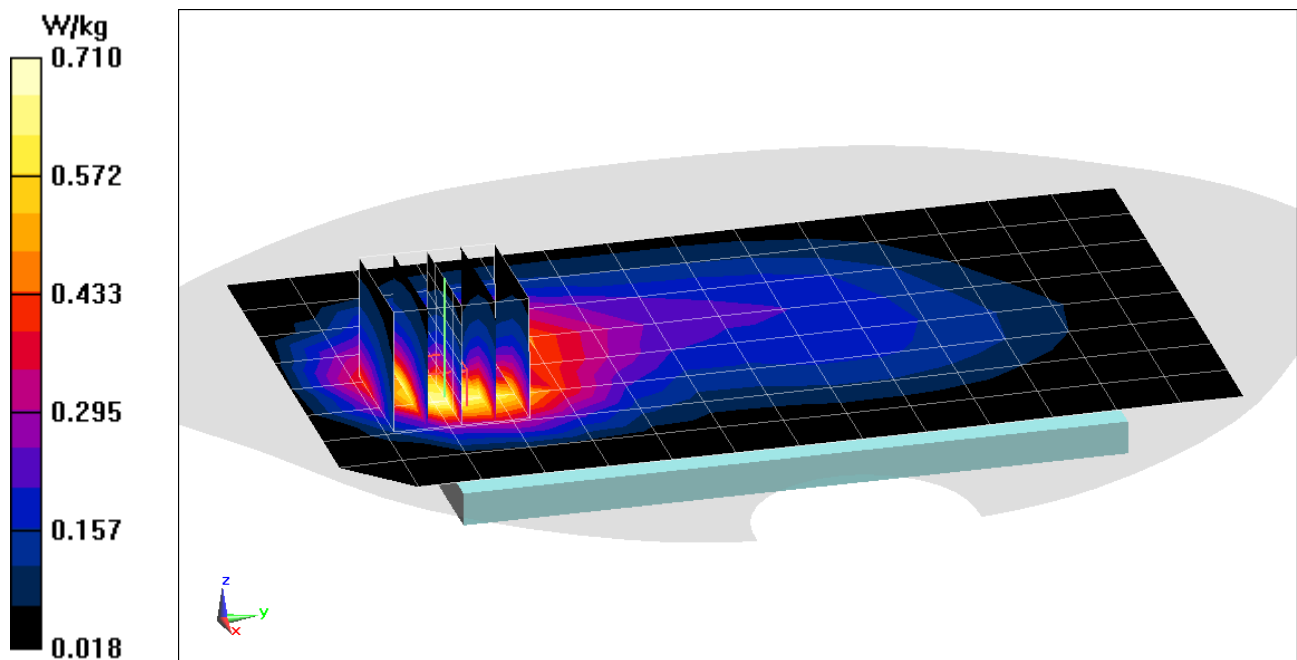
Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 23.65 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.840 W/kg

SAR(1 g) = 0.489 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0122M

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

Medium: 835 Body Medium parameters used (interpolated):

$f = 831.5 \text{ MHz}$; $\sigma = 0.977 \text{ S/m}$; $\epsilon_r = 53.689$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 05-13-2019; Ambient Temp: 19.7°C; Tissue Temp: 19.2°C

Probe: EX3DV4 - SN7488; ConvF(11.03, 11.03, 11.03) @ 831.5 MHz; Calibrated: 1/24/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1530; Calibrated: 1/15/2019

Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1800

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 26 (Cell.), Body SAR, Back side, Mid.ch,
15 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

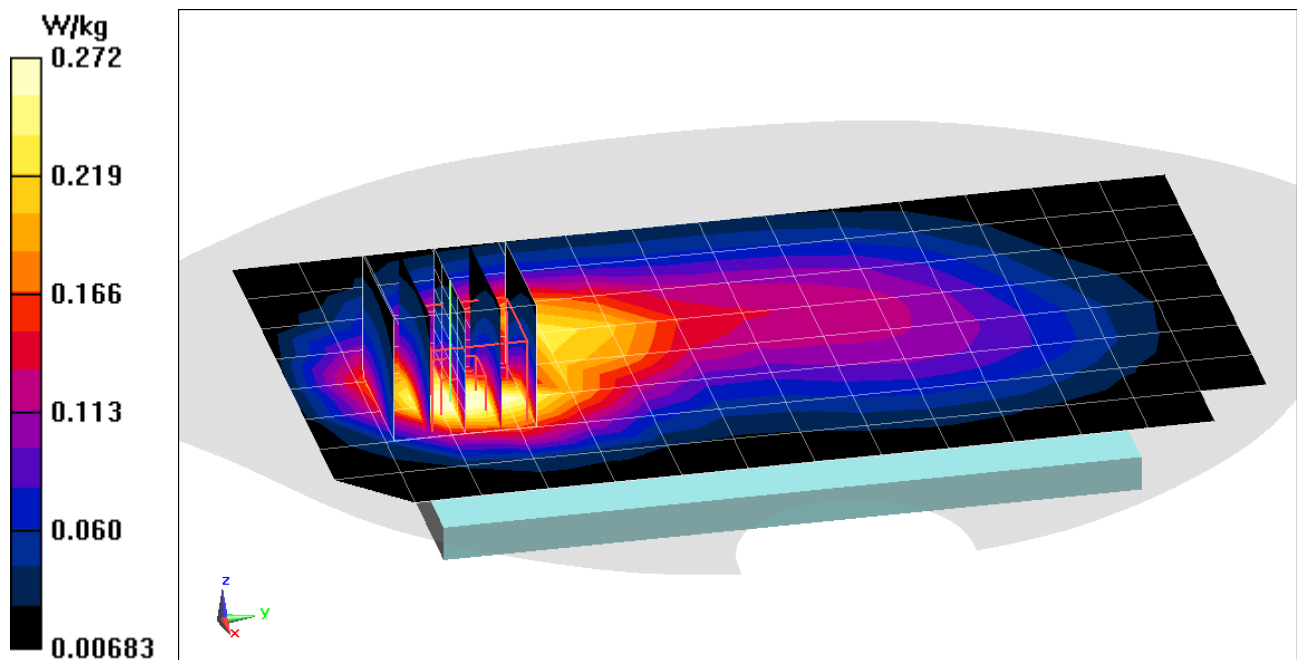
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 14.57 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 0.320 W/kg

SAR(1 g) = 0.191 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0439M

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

Medium: 835 Body Medium parameters used (interpolated):

$f = 831.5 \text{ MHz}$; $\sigma = 0.941 \text{ S/m}$; $\epsilon_r = 52.734$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-18-2019; Ambient Temp: 22.4°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN3914; ConvF(9.46, 9.46, 9.46) @ 831.5 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 2/14/2019

Phantom: SAM with CRP v5.0 Left; Type: QD000P40CD; Serial: 1687

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 26 (Cell.), Body SAR, Back side, Mid.ch,
15 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

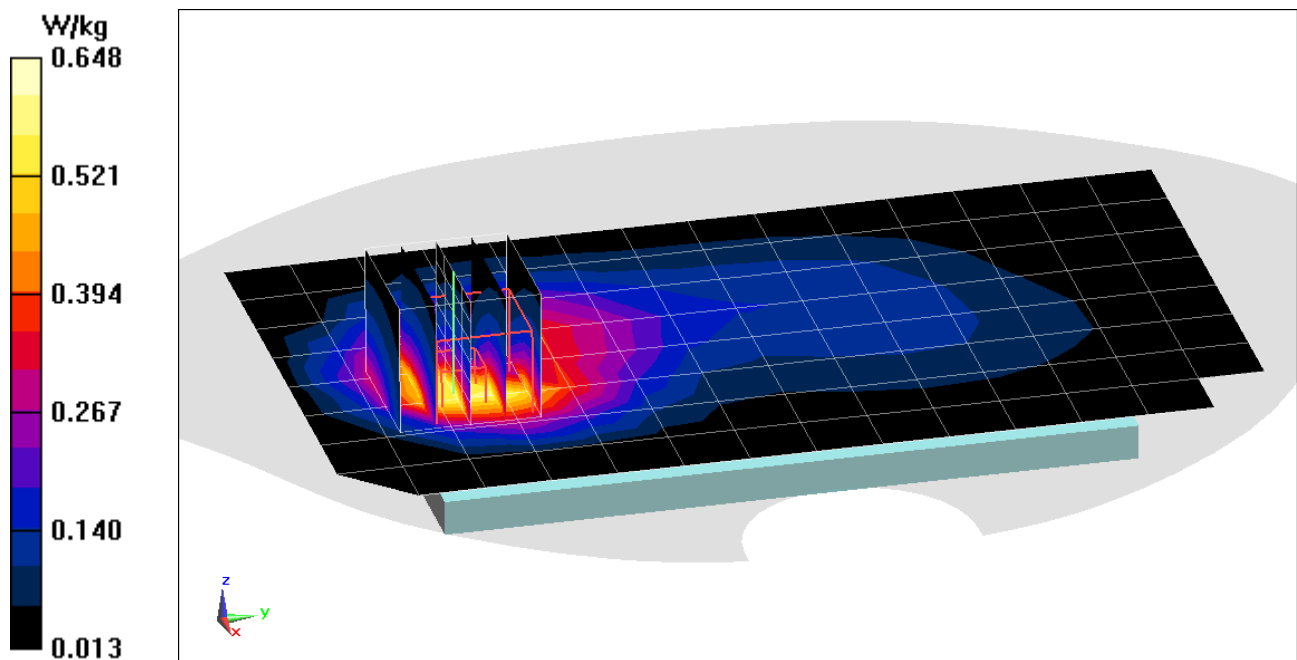
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 24.90 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 0.974 W/kg

SAR(1 g) = 0.558 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0197M

Communication System: UID 0, LTE Band 5; Frequency: 836.5 MHz; Duty Cycle: 1:1

Medium: 835 Body Medium parameters used (interpolated):

$f = 836.5 \text{ MHz}$; $\sigma = 1.005 \text{ S/m}$; $\epsilon_r = 53.013$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date:06-05-2019; Ambient Temp: 22.7°C; Tissue Temp: 20.2°C

Probe: EX3DV4 - SN7488; ConvF(11.03, 11.03, 11.03) @ 836.5 MHz; Calibrated: 1/24/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1530; Calibrated: 1/15/2019

Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1800

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 5 (Cell.), ULCA, Body SAR, Back side

PCC: 10 MHz Bandwidth, QPSK, Ch. 20525, 1 RB, 0 RB Offset

SCC: 5 MHz Bandwidth, QPSK, Ch. 20453, 1 RB, 24 RB Offset

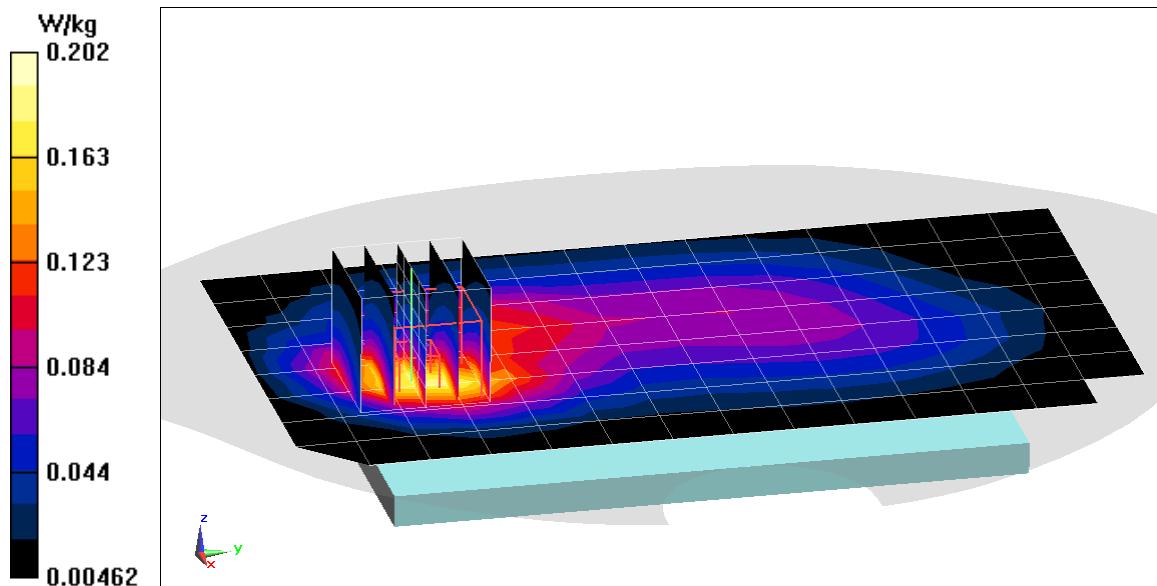
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 12.23 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.240 W/kg

SAR(1 g) = 0.141 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0439M

Communication System: UID 0, LTE Band 5; Frequency: 836.5 MHz; Duty Cycle: 1:1

Medium: 835 Body Medium parameters used (interpolated):

$f = 836.5 \text{ MHz}$; $\sigma = 0.946 \text{ S/m}$; $\epsilon_r = 52.683$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-18-2019; Ambient Temp: 22.4°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN3914; ConvF(9.46, 9.46, 9.46) @ 836.5 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 2/14/2019

Phantom: SAM with CRP v5.0 Left; Type: QD000P40CD; Serial: 1687

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 5 (Cell.), ULCA, Body SAR, Back Side

PCC: 10 MHz Bandwidth, QPSK, Ch. 20525, 1 RB, 0 RB Offset

SCC: 5 MHz Bandwidth, QPSK, Ch. 20453, 1 RB, 24 RB Offset

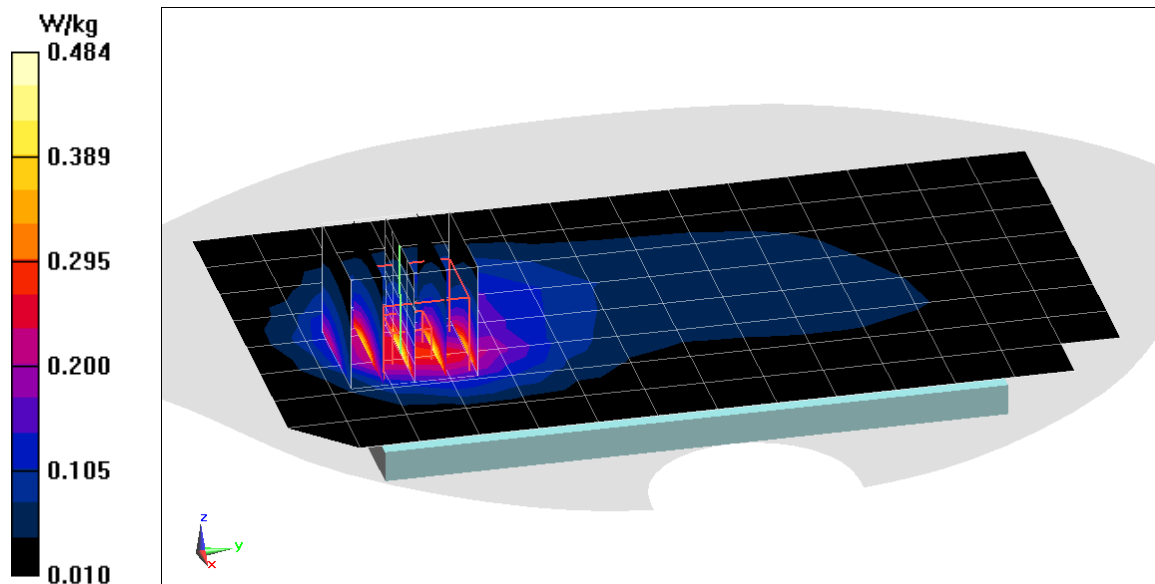
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 23.63 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.935 W/kg

SAR(1 g) = 0.516 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0470M

Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1770 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used (interpolated):

$f = 1770 \text{ MHz}$; $\sigma = 1.517 \text{ S/m}$; $\epsilon_r = 51.812$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-10-2019; Ambient Temp: 22.8°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN3914; ConvF(7.89, 7.89, 7.89) @ 1770 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 2/14/2019

Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: 1646

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 66 (AWS), ULCA, Body SAR, Back side

PCC: 20 MHz Bandwidth, QPSK, Ch. 132572, 1 RB, 0 RB Offset

SCC: 20 MHz Bandwidth, QPSK, Ch. 132374 1 RB, 99 RB Offset

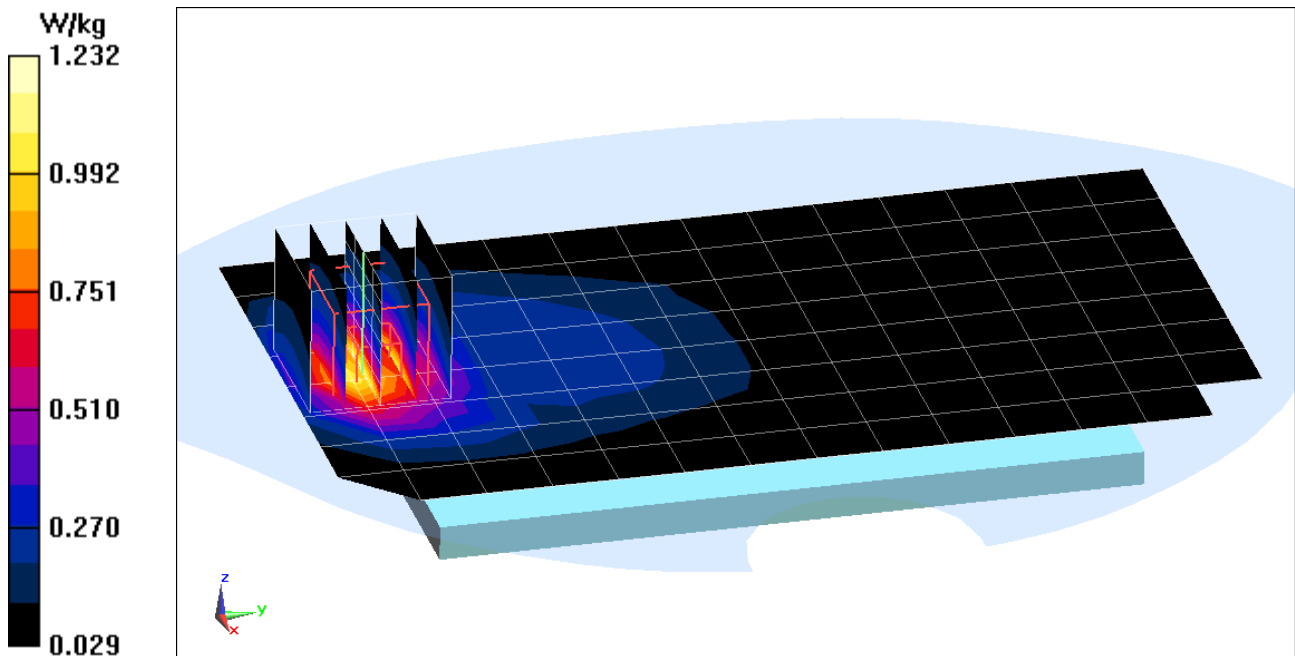
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 23.80 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 1.49 W/kg

SAR(1 g) = 0.891 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0448M

Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1770 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used (interpolated):

$f = 1770 \text{ MHz}$; $\sigma = 1.518 \text{ S/m}$; $\epsilon_r = 52.598$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-26-2019; Ambient Temp: 21.2°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7357; ConvF(8.26, 8.26, 8.26) @ 1770 MHz; Calibrated: 4/24/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/18/2019

Phantom: Twin-SAM V5.0 Back Right; Type: QD 000 P40 CD; Serial: 1692

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 66 (AWS), ULCA, Body SAR, Bottom Edge
PCC: 20 MHz Bandwidth, QPSK, Ch. 132572, 1 RB, 0 RB Offset
SCC: 20 MHz Bandwidth, QPSK, Ch. 132374 1 RB, 99 RB Offset

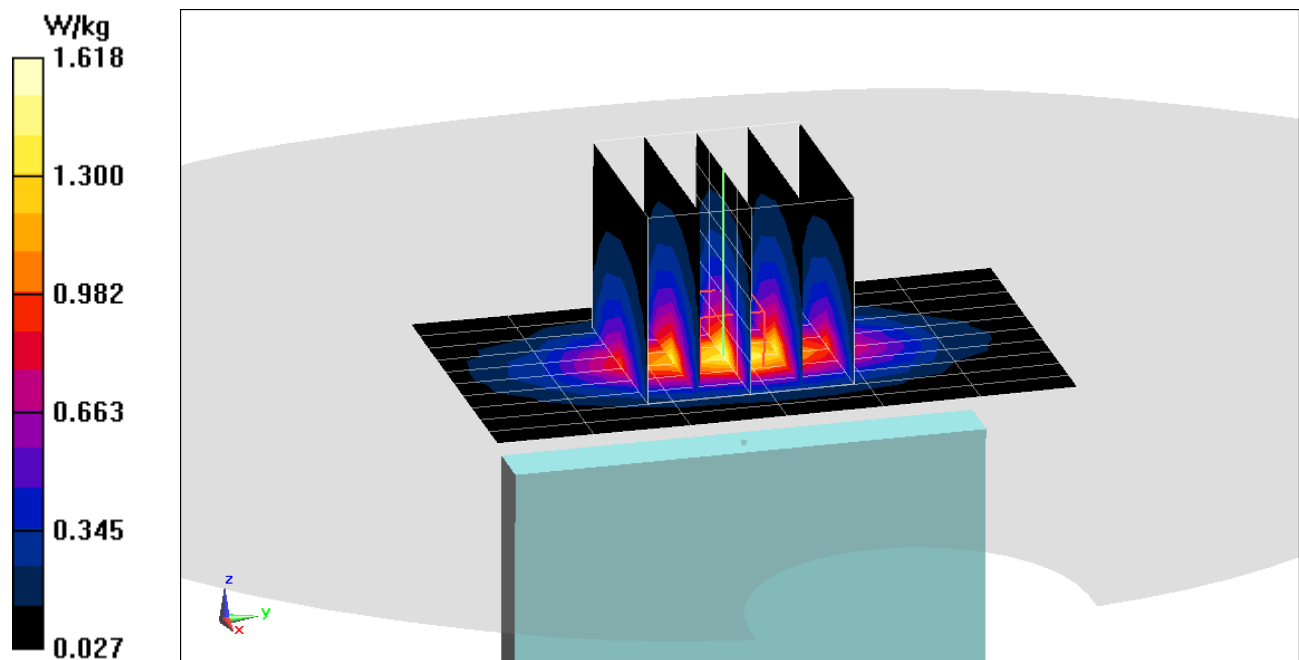
Area Scan (11x7x1): Measurement grid: $dx=5\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 28.21 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 1.92 W/kg

SAR(1 g) = 1.09 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0109M

Communication System: UID 0, LTE Band 2 (PCS); Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1900 \text{ MHz}$; $\sigma = 1.584 \text{ S/m}$; $\epsilon_r = 52.248$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 05-29-2019; Ambient Temp: 23.1°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7410; ConvF(7.78, 7.78, 7.78) @ 1900 MHz; Calibrated: 7/20/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1322; Calibrated: 7/11/2018

Phantom: Front; Type: QD 000 P40 CD; Serial: 1686

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 2 (PCS), Body SAR, Back side, High.ch,
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

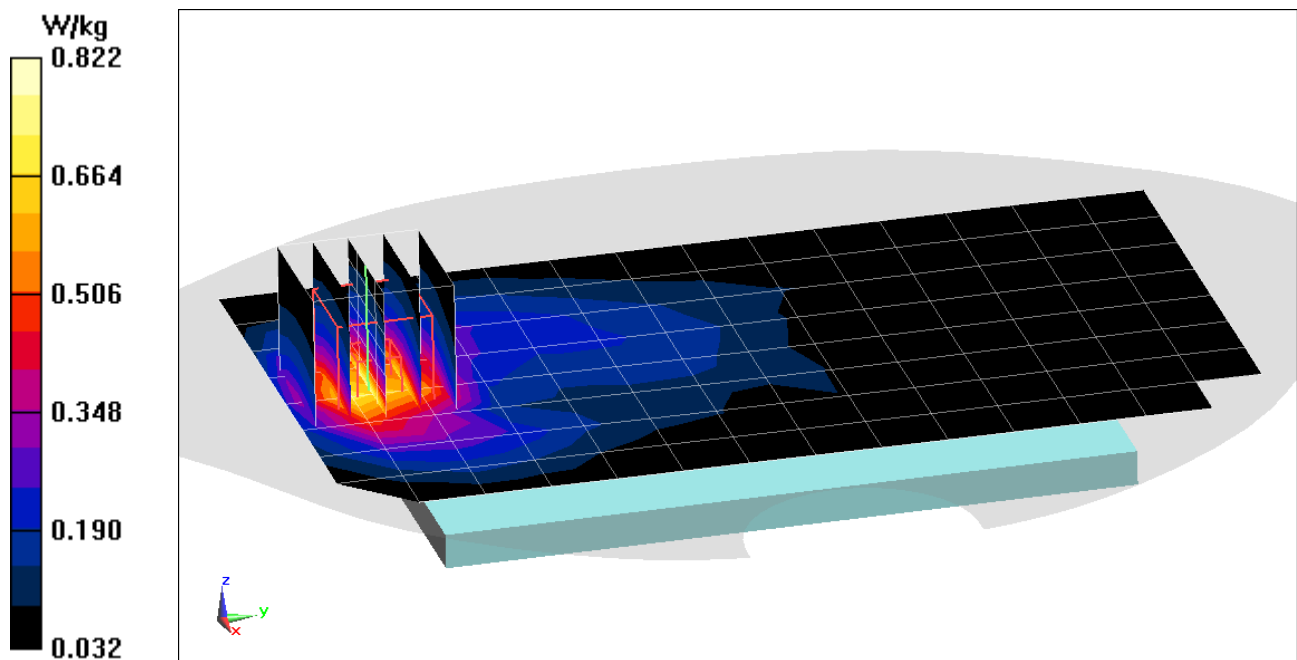
Area Scan (9x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 20.17 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.953 W/kg

SAR(1 g) = 0.598 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0109M

Communication System: UID 0, LTE Band 2 (PCS); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used:

$f = 1880 \text{ MHz}$; $\sigma = 1.561 \text{ S/m}$; $\epsilon_r = 52.323$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05-29-2019; Ambient Temp: 23.1°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7410; ConvF(7.78, 7.78, 7.78) @ 1880 MHz; Calibrated: 7/20/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1322; Calibrated: 7/11/2018

Phantom: Front; Type: QD 000 P40 CD; Serial: 1686

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 2 (PCS), Body SAR, Bottom Edge, Mid.ch,
20 MHz Bandwidth, QPSK, 50 RB, 50 RB Offset**

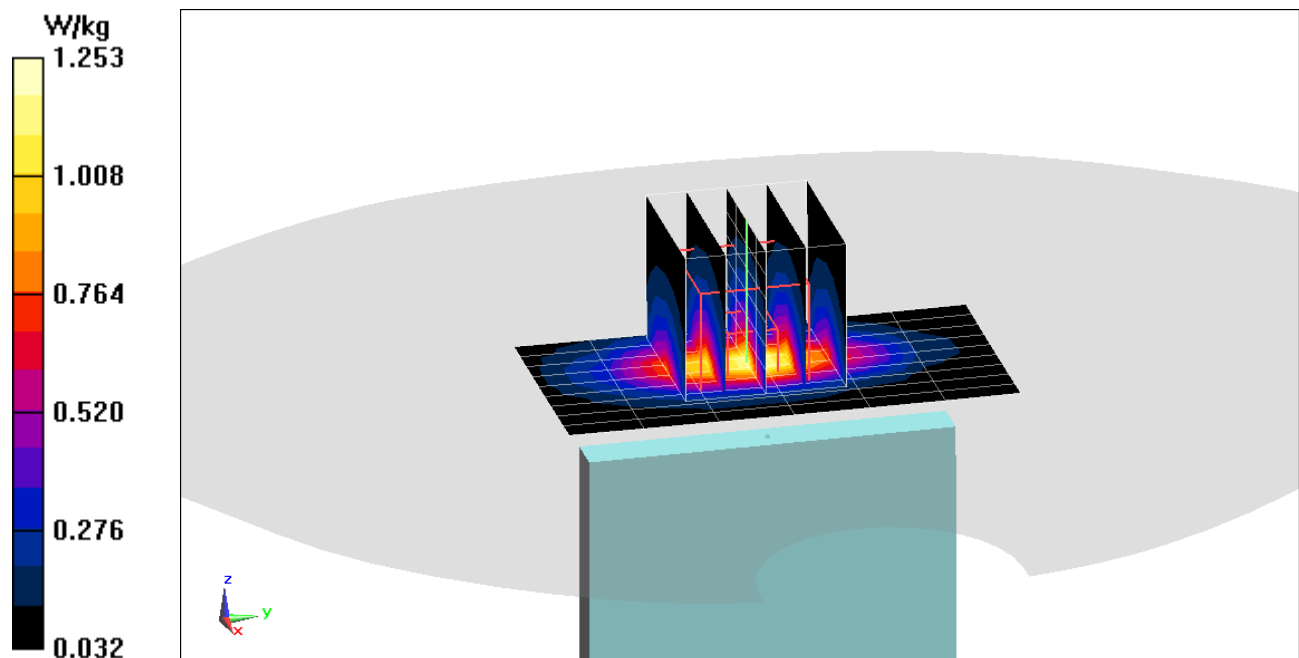
Area Scan (10x7x1): Measurement grid: dx=5mm, dy=15mm

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

Reference Value = 24.65 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 1.46 W/kg

SAR(1 g) = 0.840 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0437M

Communication System: UID 0, LTE Band 7; Frequency: 2560 MHz; Duty Cycle: 1:1

Medium: 2450 Body Medium parameters used (interpolated):

$f = 2560 \text{ MHz}$; $\sigma = 2.154 \text{ S/m}$; $\epsilon_r = 51.013$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-11-2019; Ambient Temp: 24.6°C; Tissue Temp: 24.5°C

Probe: EX3DV4 - SN7417; ConvF(7.37, 7.37, 7.37) @ 2560 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/13/2019

Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 7, Body SAR, Back side, High.ch,
20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset**

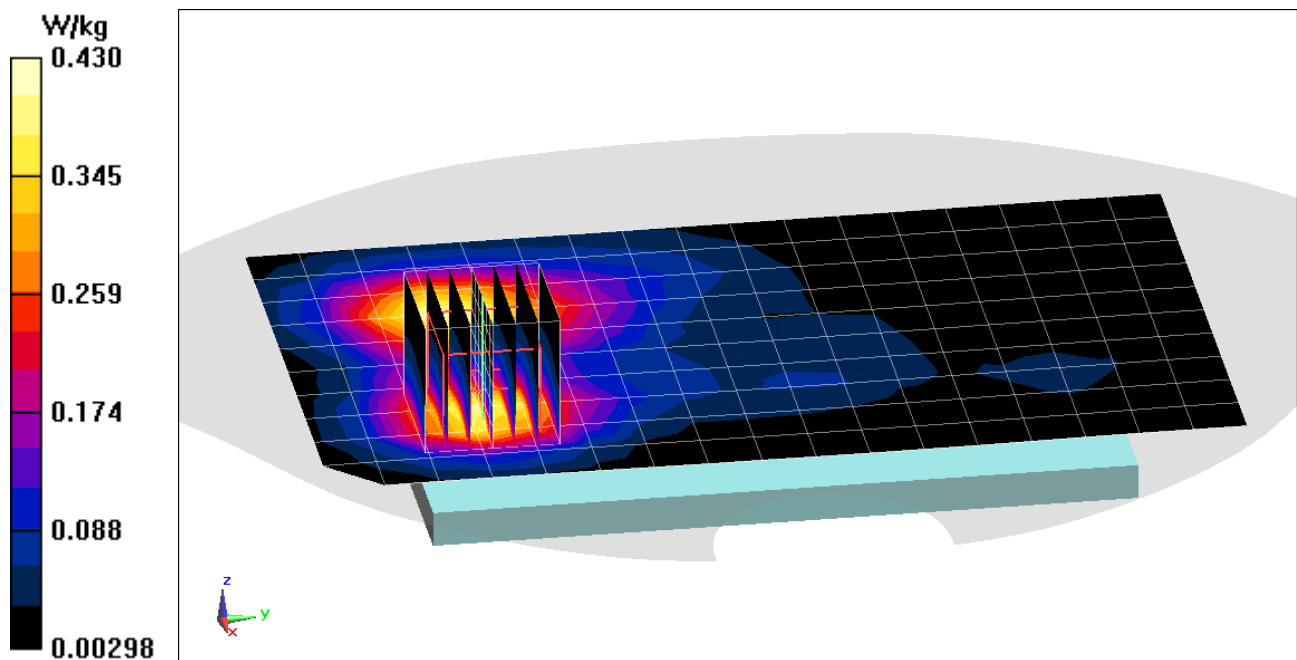
Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.70 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.542 W/kg

SAR(1 g) = 0.269 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0813M

Communication System: UID 0, _LTE Band 7; Frequency: 2560 MHz; Duty Cycle: 1:1

Medium: 2450 Body Medium parameters used (interpolated):

$f = 2560 \text{ MHz}$; $\sigma = 2.175 \text{ S/m}$; $\epsilon_r = 51.176$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05-26-2019; Ambient Temp: 22.8°C; Tissue Temp: 23.1°C

Probe: EX3DV4 - SN7417; ConvF(7.37, 7.37, 7.37) @ 2560 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/13/2019

Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 7, Body SAR, Bottom Edge, High.ch,
20 MHz Bandwidth, QPSK, 50 RB, 0 RB Offset**

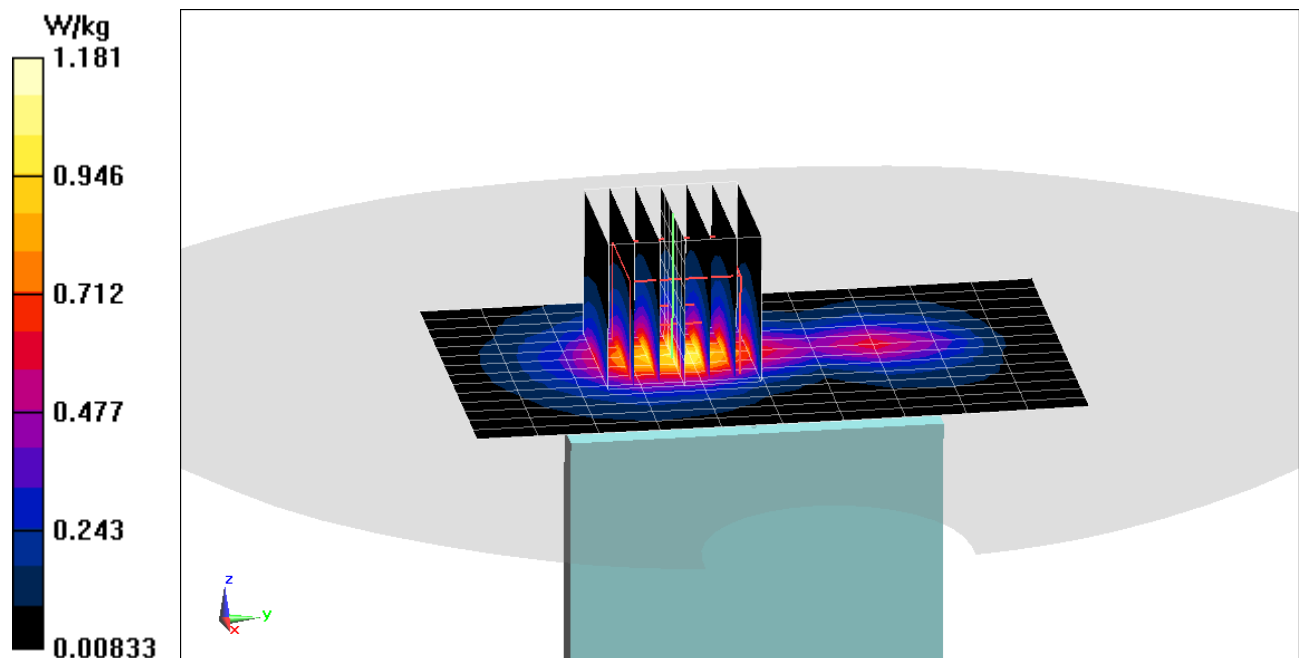
Area Scan (15x11x1): Measurement grid: dx=5mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 19.36 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.46 W/kg

SAR(1 g) = 0.740 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0134M

Communication System: UID 0, LTE Band 48; Frequency: 3603.3 MHz; Duty Cycle: 1:1.58

Medium: 3500 Body Medium parameters used (interpolated):

$f = 3603.3$ MHz; $\sigma = 3.489$ S/m; $\epsilon_r = 50.929$; $\rho = 1000$ kg/m³

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-12-2019; Ambient Temp: 23.1°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN3914; ConvF(6.58, 6.58, 6.58) @ 3603.3 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 2/14/2019

Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: 1646

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 48, Body SAR, Back side, Low-Mid.ch,
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

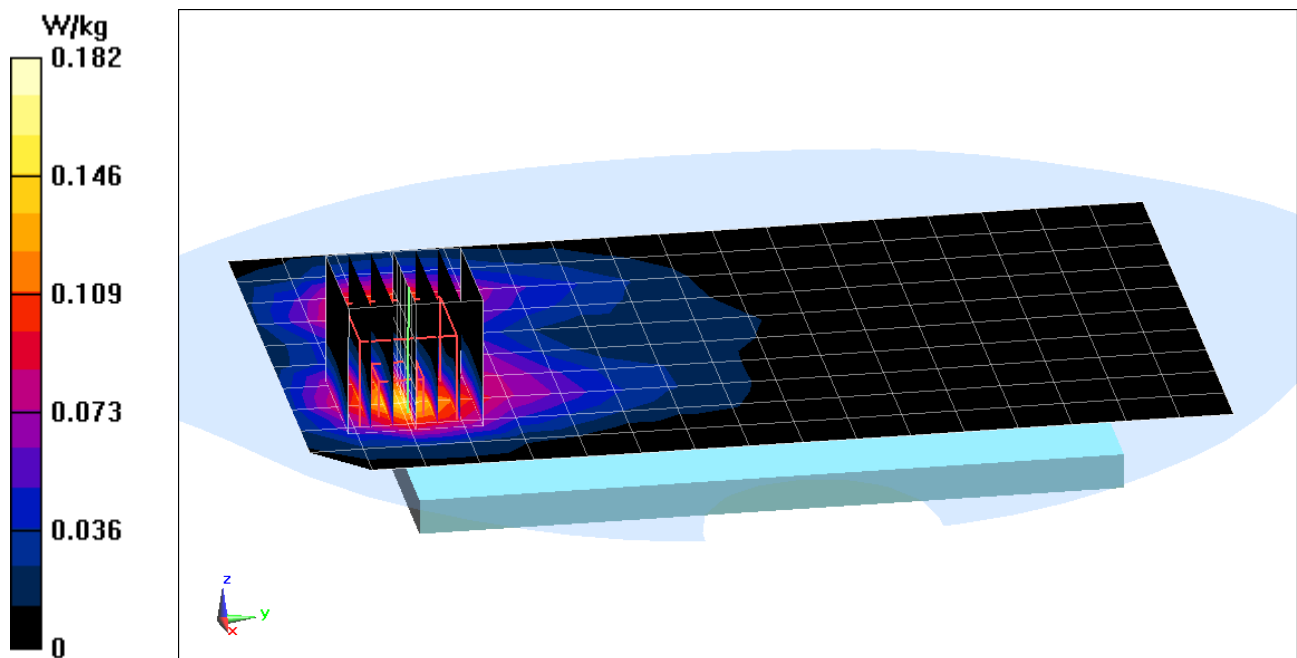
Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=1.4mm; Graded Ratio: 1.4

Reference Value = 5.493 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.268 W/kg

SAR(1 g) = 0.099 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0134M

Communication System: UID 0, LTE Band 48; Frequency: 3603.3 MHz; Duty Cycle: 1:1.58

Medium: 3500 Body Medium parameters used (interpolated):

$f = 3603.3 \text{ MHz}$; $\sigma = 3.489 \text{ S/m}$; $\epsilon_r = 50.929$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-12-2019; Ambient Temp: 23.1°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN3914; ConvF(6.58, 6.58, 6.58) @ 3603.3 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 2/14/2019

Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: 1646

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 48, Body SAR, Bottom Edge, Low-Mid.ch,
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

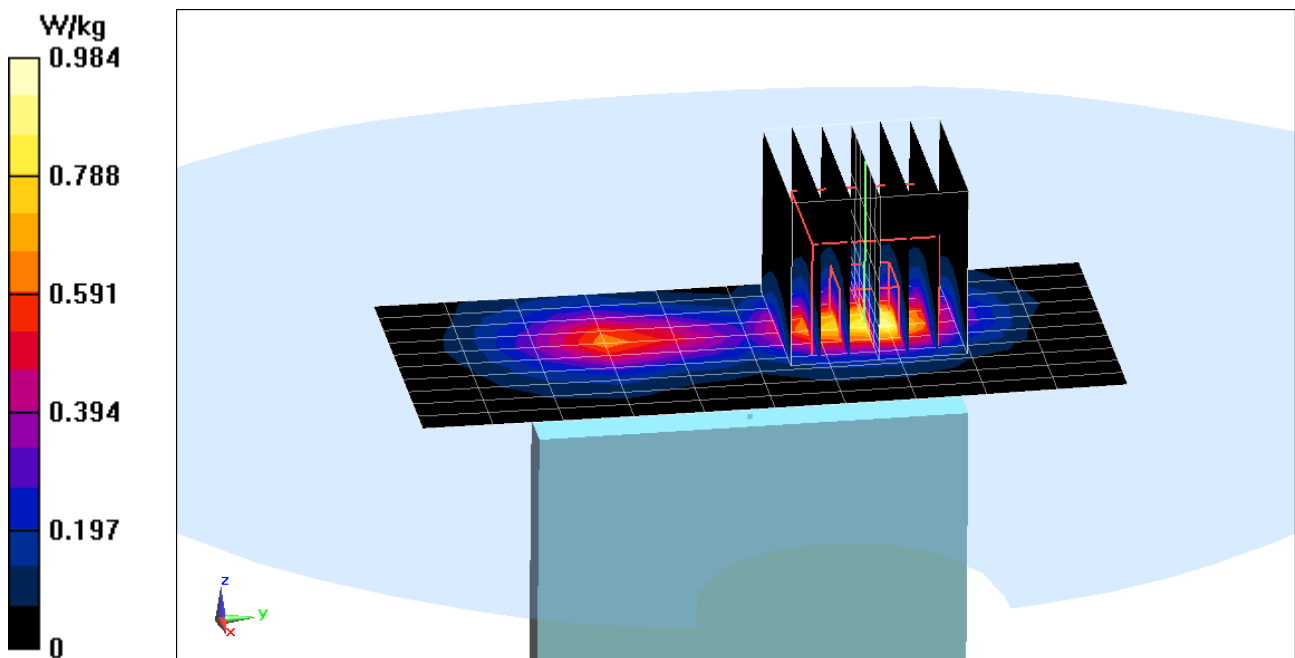
Area Scan (11x11x1): Measurement grid: $dx=5\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x8)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=1.4\text{mm}$; Graded Ratio: 1.4

Reference Value = 12.59 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 1.44 W/kg

SAR(1 g) = 0.494 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0439M

Communication System: UID 0, _LTE Band 41; Frequency: 2593 MHz; Duty Cycle: 1:1.58

Medium: 2450 Body Medium parameters used (interpolated):

$f = 2593 \text{ MHz}$; $\sigma = 2.199 \text{ S/m}$; $\epsilon_r = 52.096$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 05-20-2019; Ambient Temp: 23.0°C; Tissue Temp: 22.7°C

Probe: EX3DV4 - SN7417; ConvF(7.37, 7.37, 7.37) @ 2593 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/13/2019

Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 41, Body SAR, Back side, Mid.ch,
20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset**

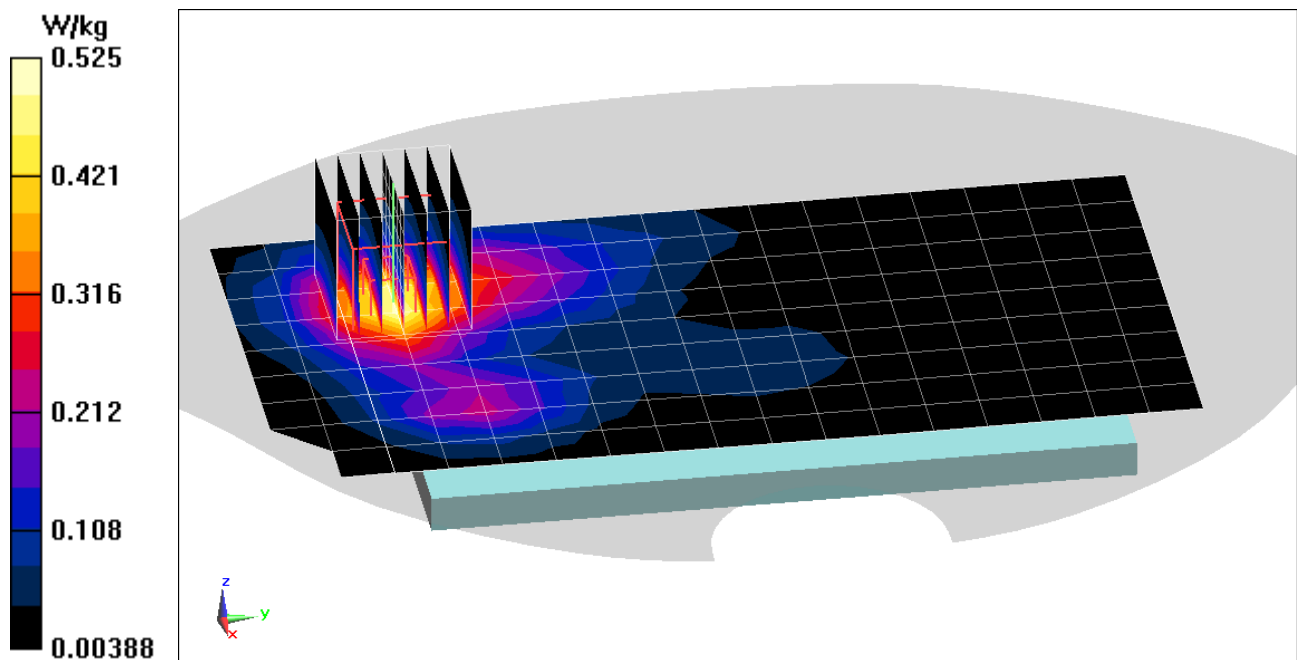
Area Scan (10x3x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 12.94 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.642 W/kg

SAR(1 g) = 0.341 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0094M

Communication System: UID 0, LTE Band 41; Frequency: 2549.5 MHz; Duty Cycle: 1:1.58

Medium: 2450 Body Medium parameters used:

$f = 2550 \text{ MHz}$; $\sigma = 2.16 \text{ S/m}$; $\epsilon_r = 50.458$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05-30-2019; Ambient Temp: 24.6°C; Tissue Temp: 22.3°C

Probe: EX3DV4 - SN7417; ConvF(7.37, 7.37, 7.37) @ 2549.5 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/13/2019

Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 41, Body SAR, Bottom Edge, Low-Mid.ch,
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

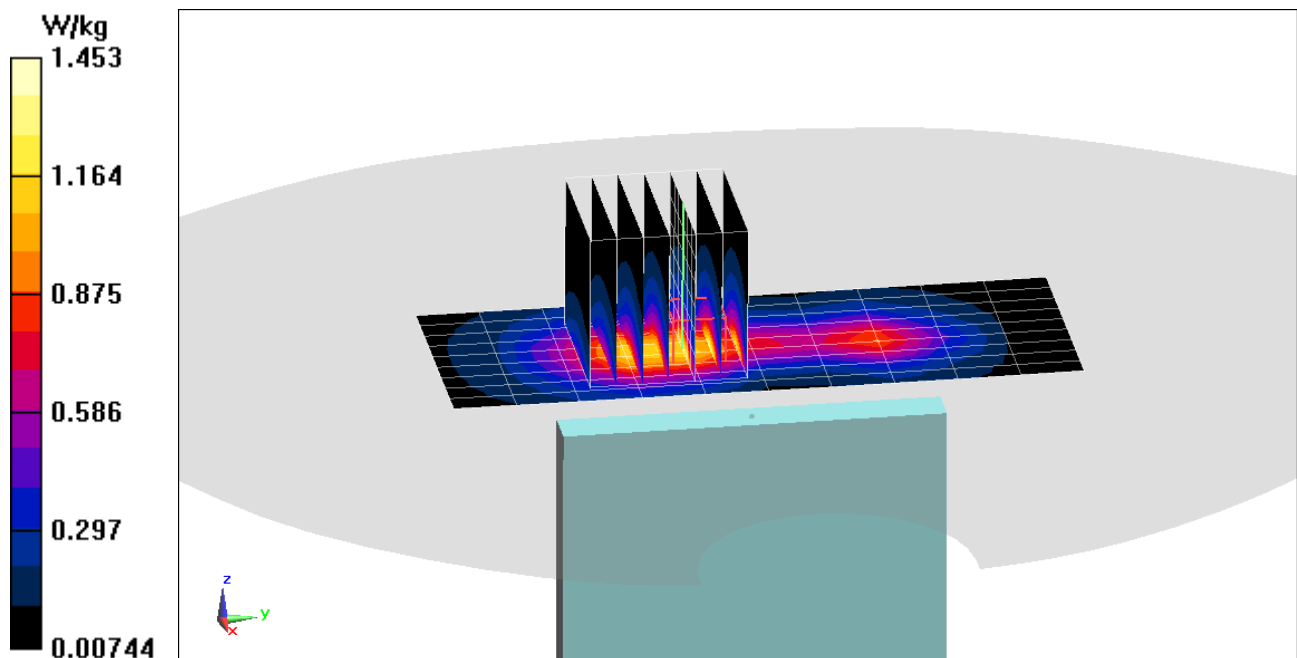
Area Scan (10x11x1): Measurement grid: dx=5mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 20.29 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 1.86 W/kg

SAR(1 g) = 0.903 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0115M

Communication System: UID 0, _IEEE 802.11b; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: 2450 Body Medium parameters used (interpolated):

$f = 2437 \text{ MHz}$; $\sigma = 2.019 \text{ S/m}$; $\epsilon_r = 52.675$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 05-15-2019; Ambient Temp: 21.6°C; Tissue Temp: 20.2°C

Probe: EX3DV4 - SN7308; ConvF(7.57, 7.57, 7.57) @ 2437 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 (2);SEMCAD X Version 14.6.12 (7450)

Mode: IEEE 802.11b, Antenna 1, 22 MHz Bandwidth, Body SAR, Ch 6, 1 Mbps, Back Side

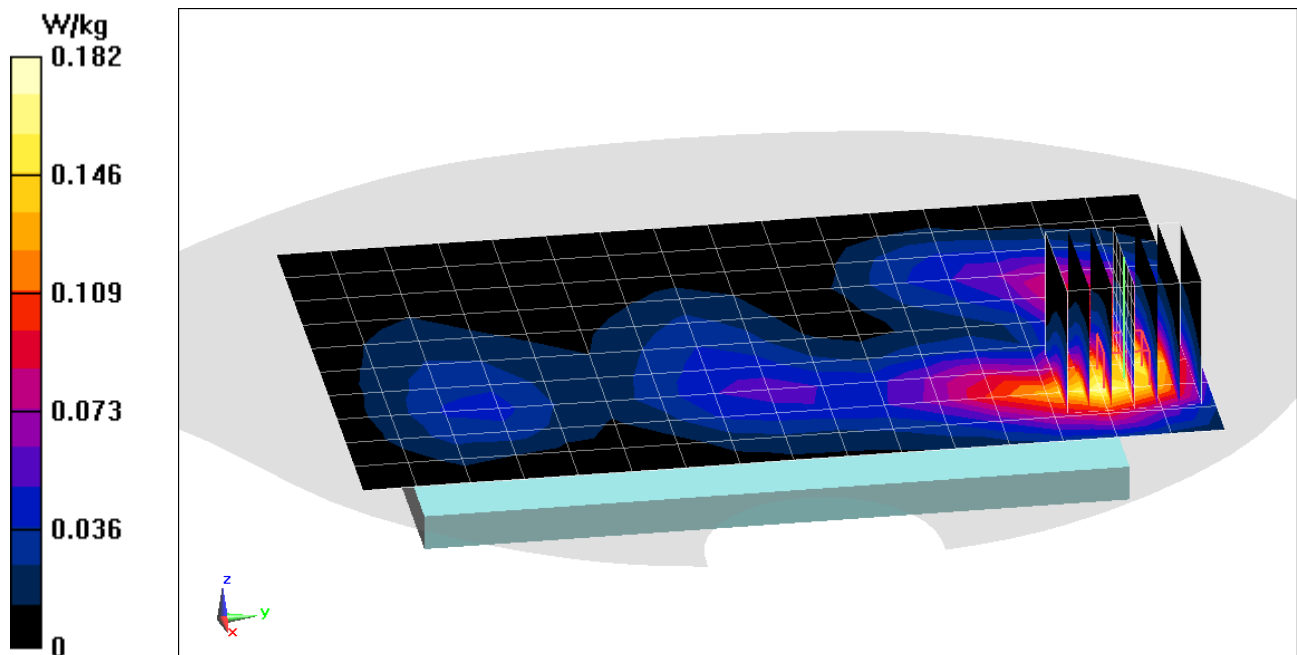
Area Scan (11x17x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.075 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.224 W/kg

SAR(1 g) = 0.117 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0115M

Communication System: UID 0, _IEEE 802.11b; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: 2450 Body Medium parameters used (interpolated):

$f = 2437 \text{ MHz}$; $\sigma = 2.019 \text{ S/m}$; $\epsilon_r = 52.675$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 05-15-2019; Ambient Temp: 21.6°C; Tissue Temp: 20.2°C

Probe: EX3DV4 - SN7308; ConvF(7.57, 7.57, 7.57) @ 2437 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 (2);SEMCAD X Version 14.6.12 (7450)

Mode: IEEE 802.11b, Antenna 1, 22 MHz Bandwidth, Body SAR, Ch 6, 1 Mbps, Top Edge

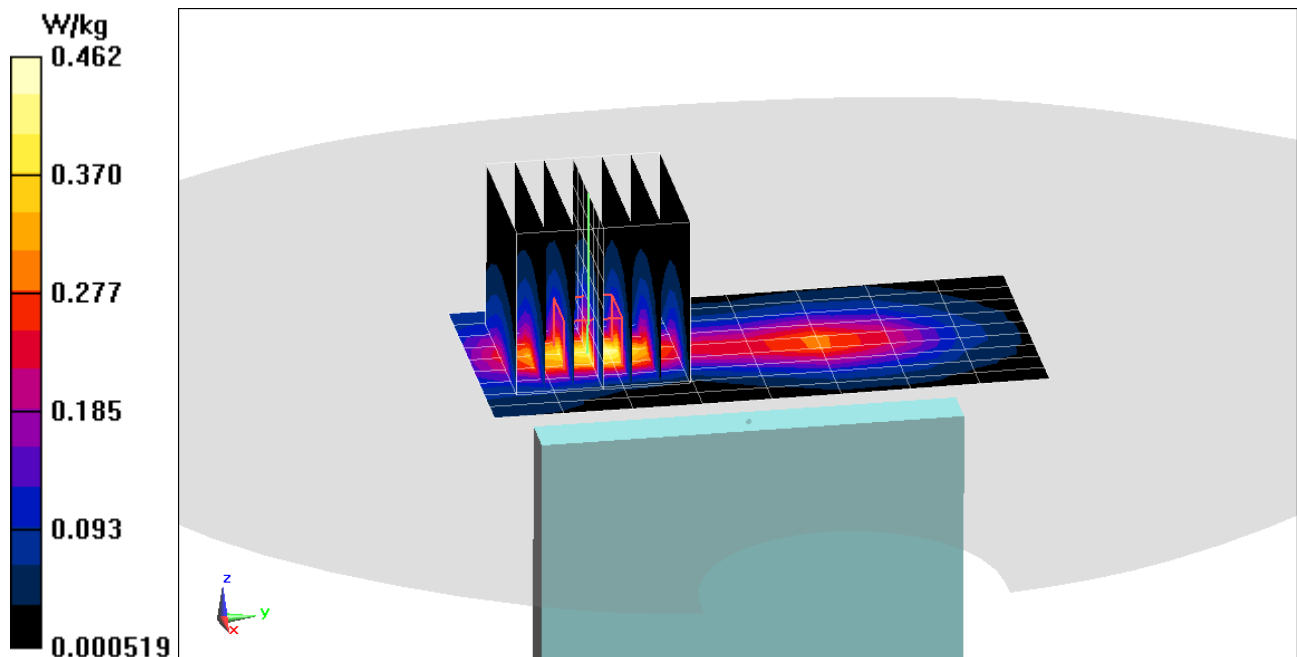
Area Scan (10x9x1): Measurement grid: $dx=5\text{mm}$, $dy=12\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 8.948 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.571 W/kg

SAR(1 g) = 0.275 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0437M

Communication System: UID 0, 802.11n 5.2-5.8 GHz Band; Frequency: 5745 MHz; Duty Cycle: 1:1

Medium: 5GHz Body Medium parameters used:

$f = 5785 \text{ MHz}$; $\sigma = 6.227 \text{ S/m}$; $\epsilon_r = 46.669$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-14-2019; Ambient Temp: 22.8°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN7308; ConvF(4.18, 4.18, 4.18) @ 5745 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 (2);SEMCAD X Version 14.6.12 (7450)

**Mode: IEEE 802.11n, MIMO, UNII-3, 20 MHz Bandwidth, Body SAR, Ch 149, 13 Mbps,
Back Side**

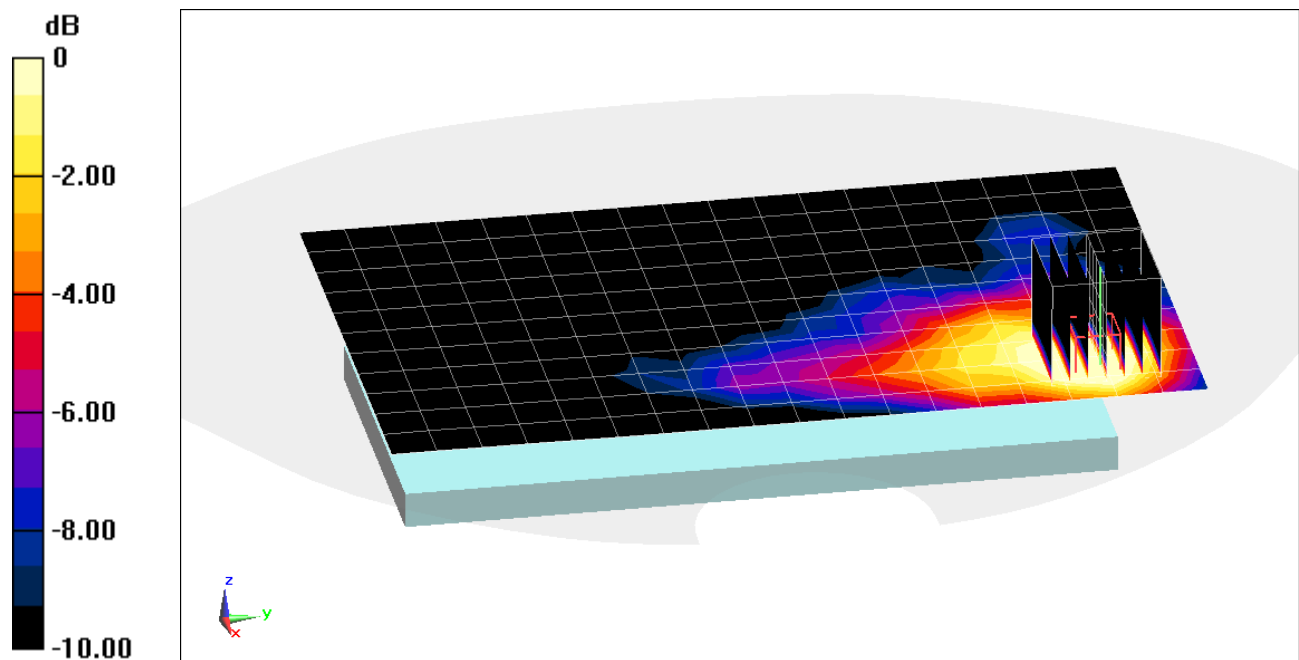
Area Scan (12x19x1): Measurement grid: dx=10mm, dy=10mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4

Reference Value = 9.629 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.89 W/kg

SAR(1 g) = 0.482 W/kg



0 dB = 1.13 W/kg = 0.53 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0459M

Communication System: UID 0, 802.11n 5.2-5.8 GHz Band; Frequency: 5785 MHz; Duty Cycle: 1:1

Medium: 5GHz Body Medium parameters used:

$f = 5785 \text{ MHz}$; $\sigma = 6.227 \text{ S/m}$; $\epsilon_r = 46.669$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-14-2019; Ambient Temp: 22.8°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN7308; ConvF(4.18, 4.18, 4.18) @ 5785 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 (2);SEMCAD X Version 14.6.12 (7450)

Mode: IEEE 802.11n, MIMO, UNII-3, 20 MHz Bandwidth, Body SAR, Ch 157, 13 Mbps, Back Side

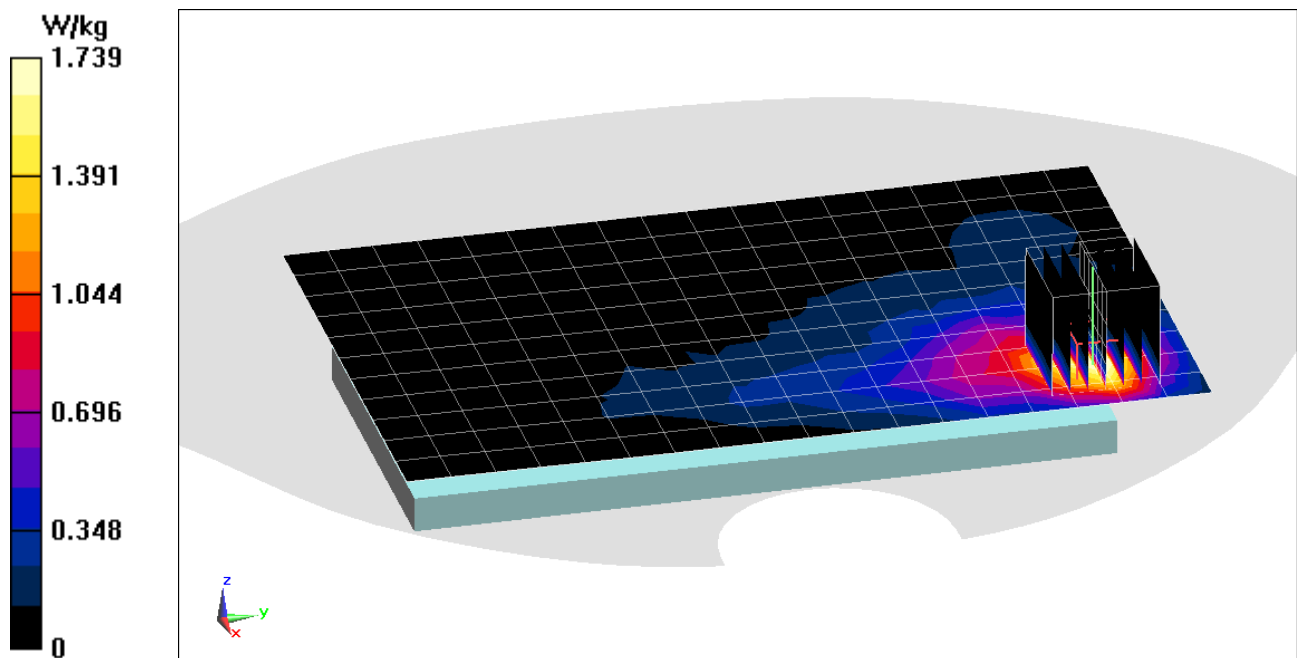
Area Scan (12x19x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=1.4\text{mm}$; Graded Ratio: 1.4

Reference Value = 11.71 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 3.02 W/kg

SAR(1 g) = 0.723 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0437M

Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.297

Medium: 2450 Body Medium parameters used (interpolated):

$f = 2441 \text{ MHz}$; $\sigma = 2.015 \text{ S/m}$; $\epsilon_r = 51.377$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-11-2019; Ambient Temp: 24.6°C; Tissue Temp: 24.5°C

Probe: EX3DV4 - SN7417; ConvF(7.51, 7.51, 7.51) @ 2441 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/13/2019

Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: Bluetooth, Body SAR, Ch 39, 1 Mbps, Back Side

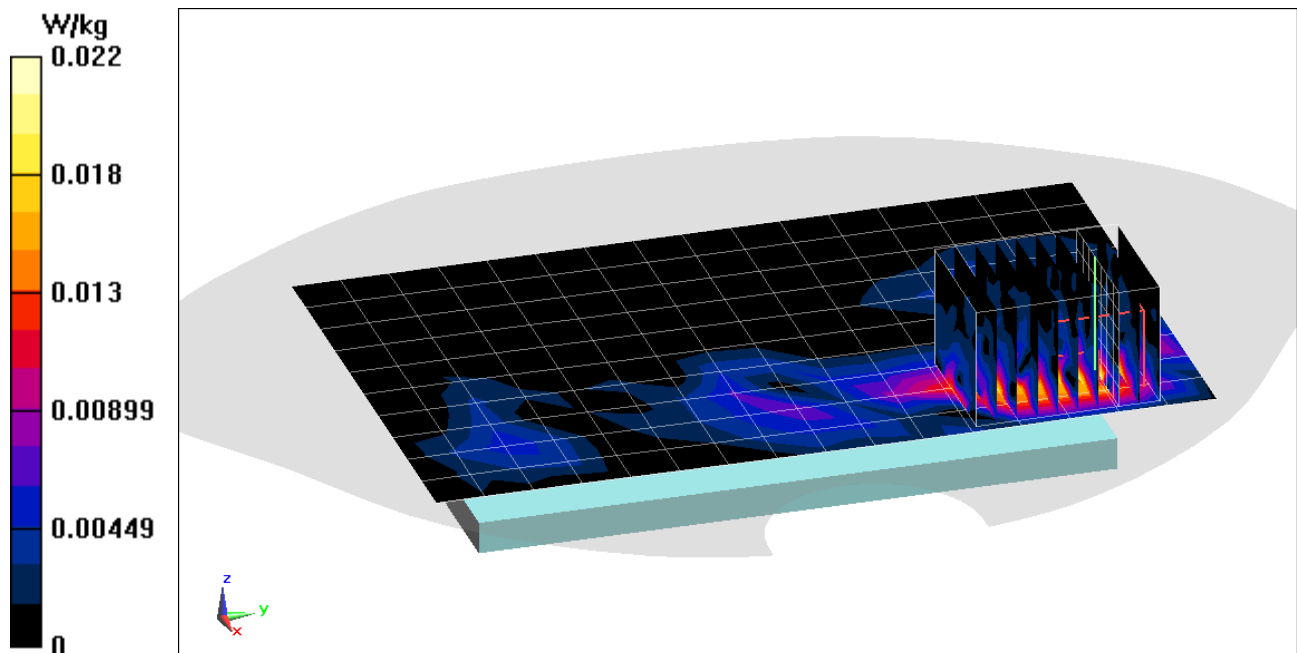
Area Scan (11x17x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$

Zoom Scan (8x10x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 1.798 V/m; Power Drift = 0.20 dB

Peak SAR (extrapolated) = 0.0300 W/kg

SAR(1 g) = 0.013 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0437M

Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.297

Medium: 2450 Body Medium parameters used (interpolated):

$f = 2441 \text{ MHz}$; $\sigma = 2.015 \text{ S/m}$; $\epsilon_r = 51.377$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 06-11-2019; Ambient Temp: 24.6°C; Tissue Temp: 24.5°C

Probe: EX3DV4 - SN7417; ConvF(7.51, 7.51, 7.51) @ 2441 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/13/2019

Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: Bluetooth, Body SAR, Ch 39, 1 Mbps, Top Edge

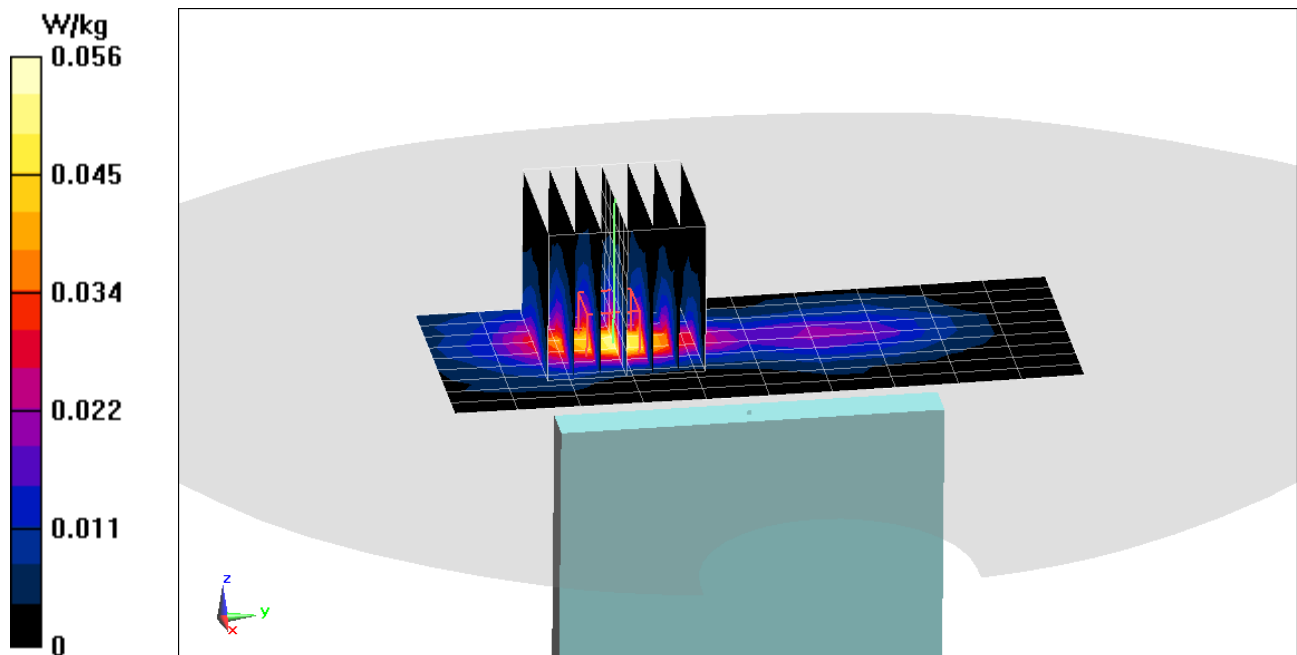
Area Scan (10x11x1): Measurement grid: dx=5mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.400 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.0710 W/kg

SAR(1 g) = 0.033 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0109M

Communication System: UID 0, CDMA; Frequency: 1908.75 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1908.75 \text{ MHz}$; $\sigma = 1.582 \text{ S/m}$; $\epsilon_r = 51.883$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 06-05-2019; Ambient Temp: 22.8°C; Tissue Temp: 23.5°C

Probe: EX3DV4 - SN7410; ConvF(7.78, 7.78, 7.78) @ 1908.75 MHz; Calibrated: 7/20/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1322; Calibrated: 7/11/2018

Phantom: Front; Type: QD 000 P40 CD; Serial: 1686

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

Mode: PCS EVDO Rev. 0, Phablet SAR, Bottom Edge, High.ch

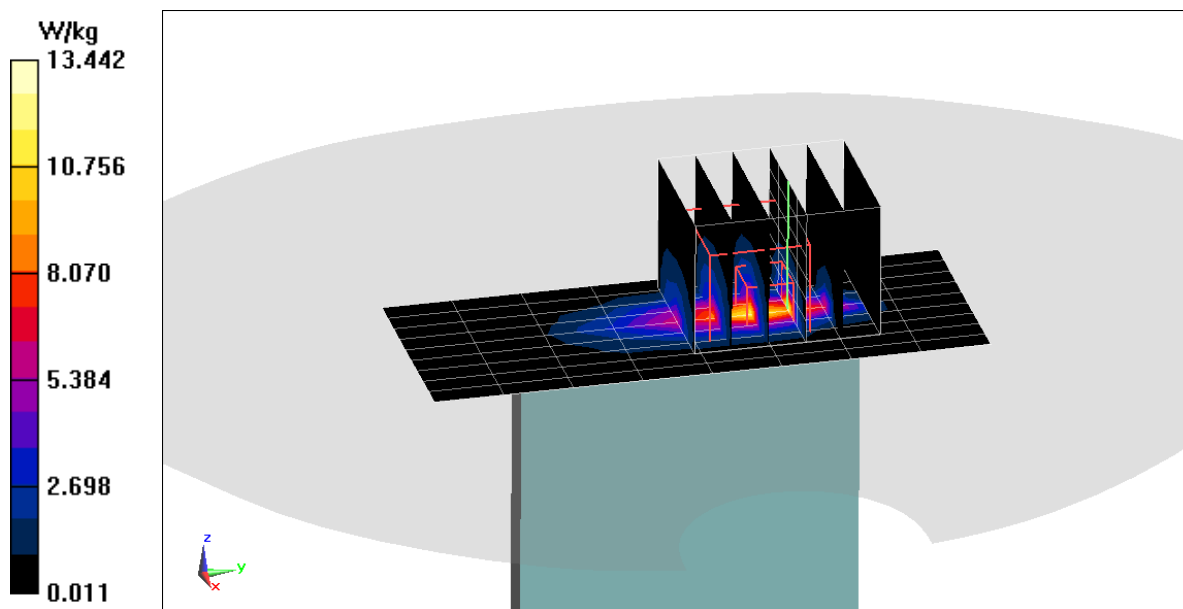
Area Scan (10x9x1): Measurement grid: $dx=5\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 66.09 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 19.1 W/kg

SAR(10 g) = 2.51 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0442M

Communication System: UID 0, _GSM GPRS; 3 Tx slots; Frequency: 1850.2 MHz; Duty Cycle: 1:2.76

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1850.2 \text{ MHz}$; $\sigma = 1.51 \text{ S/m}$; $\epsilon_r = 51.887$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 06-12-2019; Ambient Temp: 22.6°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7410; ConvF(7.78, 7.78, 7.78) @ 1850.2 MHz; Calibrated: 7/20/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1322; Calibrated: 7/11/2018

Phantom: Front; Type: QD 000 P40 CD; Serial: 1686

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

Mode: GPRS 1900, Phablet SAR, Bottom Edge, Low.ch, 3 Tx Slots

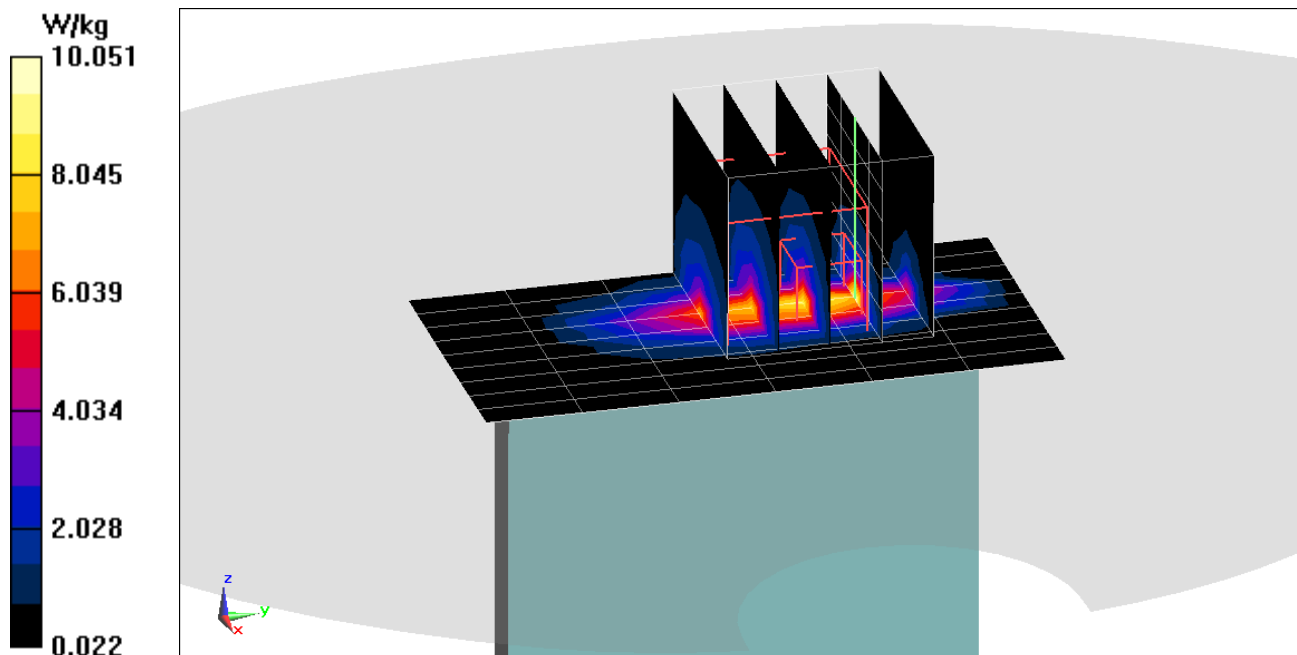
Area Scan (10x7x1): Measurement grid: $dx=5\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 58.55 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 13.2 W/kg

SAR(10 g) = 2.15 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0442M

Communication System: UID 0, UMTS; Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1852.4 \text{ MHz}$; $\sigma = 1.522 \text{ S/m}$; $\epsilon_r = 52.294$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 06-10-2019; Ambient Temp: 22.0°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN7410; ConvF(7.78, 7.78, 7.78) @ 1852.4 MHz; Calibrated: 7/20/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1322; Calibrated: 7/11/2018

Phantom: Front; Type: QD 000 P40 CD; Serial: 1686

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

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

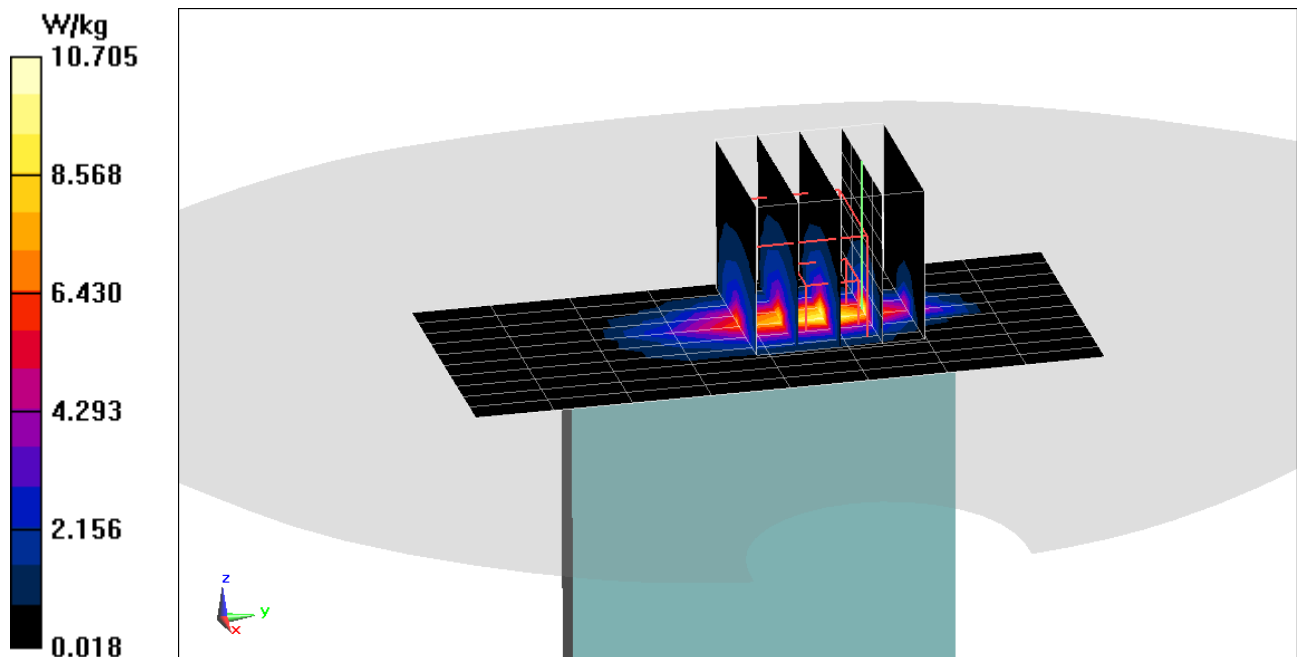
Area Scan (11x9x1): Measurement grid: $dx=5\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 63.71 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 14.9 W/kg

SAR(10 g) = 2.33 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0470M

Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1745 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used (interpolated):

$f = 1745 \text{ MHz}$; $\sigma = 1.488 \text{ S/m}$; $\epsilon_r = 51.912$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 06-10-2019; Ambient Temp: 22.8°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN3914; ConvF(7.89, 7.89, 7.89) @ 1745 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1272; Calibrated: 2/14/2019

Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: 1646

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

Mode: LTE Band 66 (AWS), ULCA, Phablet SAR, Bottom Edge
PCC: 20 MHz Bandwidth, Ch. 132322, QPSK, 50 RB, 50 RB Offset
SCC: 20 MHz Bandwidth, Ch. 132520, QPSK, 50 RB, 0 RB Offset

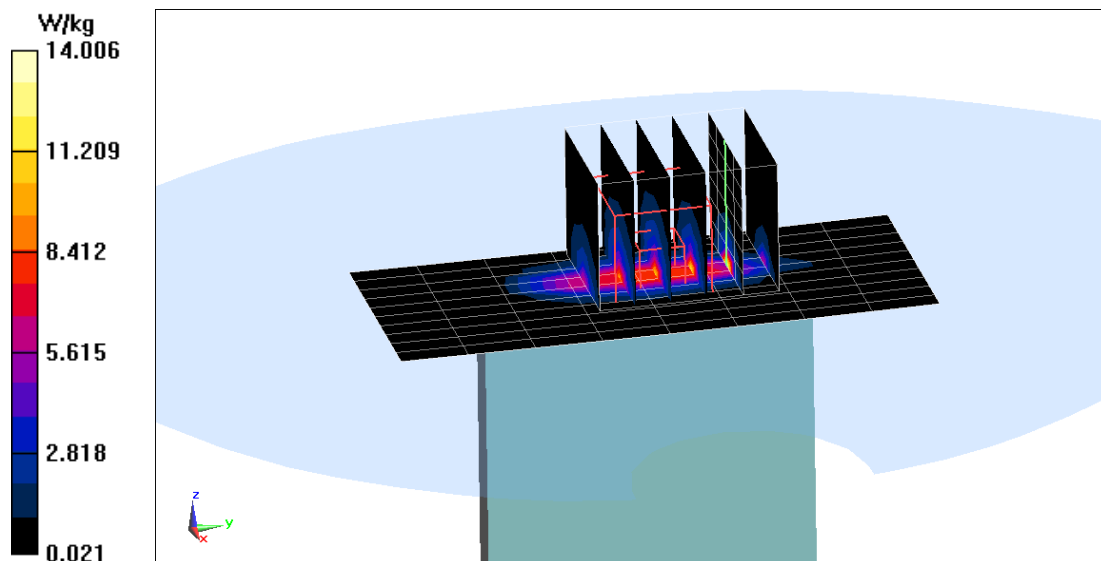
Area Scan (11x9x1): Measurement grid: $dx=5\text{mm}$, $dy=15\text{mm}$

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

Reference Value = 67.23 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 18.6 W/kg

SAR(10 g) = 2.65 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0109M

Communication System: UID 0, _LTE Band 2 (PCS); Frequency: 1860 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1860 \text{ MHz}$; $\sigma = 1.521 \text{ S/m}$; $\epsilon_r = 52.272$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 06-19-2019; Ambient Temp: 22.6°C; Tissue Temp: 22.3°C

Probe: EX3DV4 - SN7410; ConvF(7.78, 7.78, 7.78) @ 1860 MHz; Calibrated: 7/20/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1322; Calibrated: 7/11/2018

Phantom: Front; Type: QD 000 P40 CD; Serial: 1686

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 2 (PCS), Phablet SAR, Bottom Edge, Low.ch,
20 MHz Bandwidth, QPSK, 50 RB, 50 RB Offset**

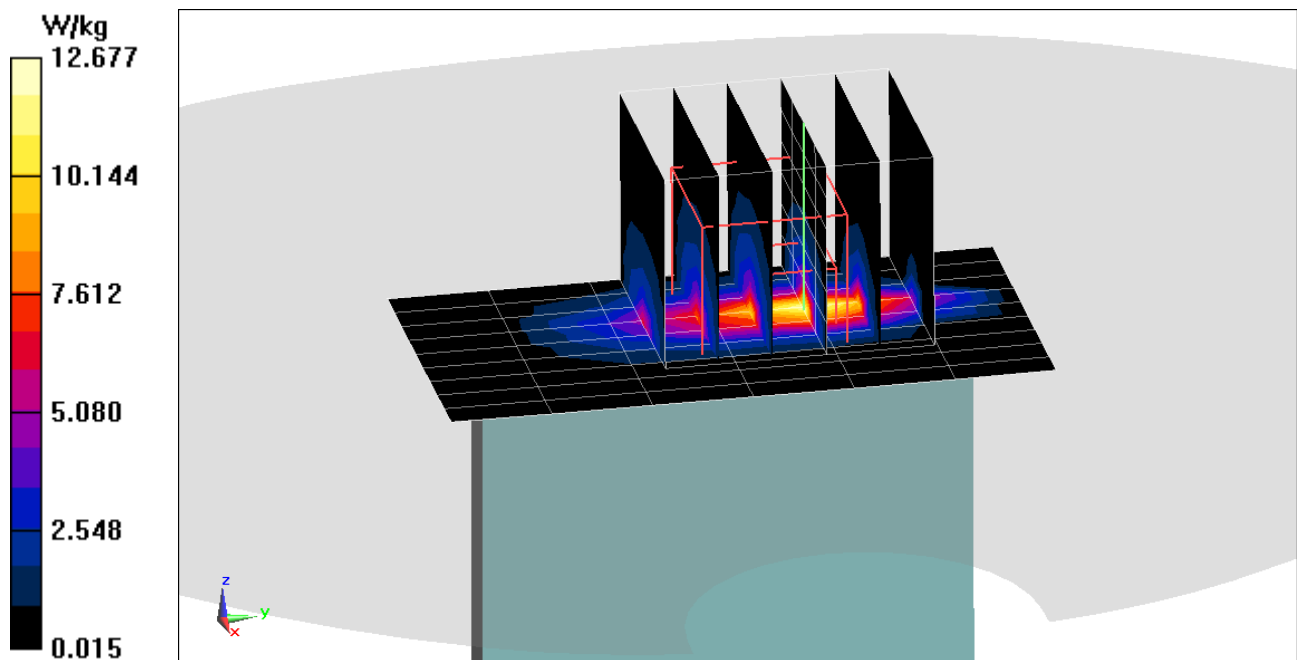
Area Scan (10x7x1): Measurement grid: dx=5mm, dy=15mm

Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 69.57 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 15.9 W/kg

SAR(10 g) = 2.57 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0813M

Communication System: UID 0, LTE Band 7; Frequency: 2510 MHz; Duty Cycle: 1:1

Medium: 2450 Body Medium parameters used (interpolated):

$f = 2510 \text{ MHz}$; $\sigma = 2.115 \text{ S/m}$; $\epsilon_r = 51.331$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 05-26-2019; Ambient Temp: 22.8°C; Tissue Temp: 23.1°C

Probe: EX3DV4 - SN7417; ConvF(7.51, 7.51, 7.51) @ 2510 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/13/2019

Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 7, Phablet SAR, Bottom Edge, Low.ch,
20 MHz Bandwidth, QPSK, 50 RB, 25 RB Offset**

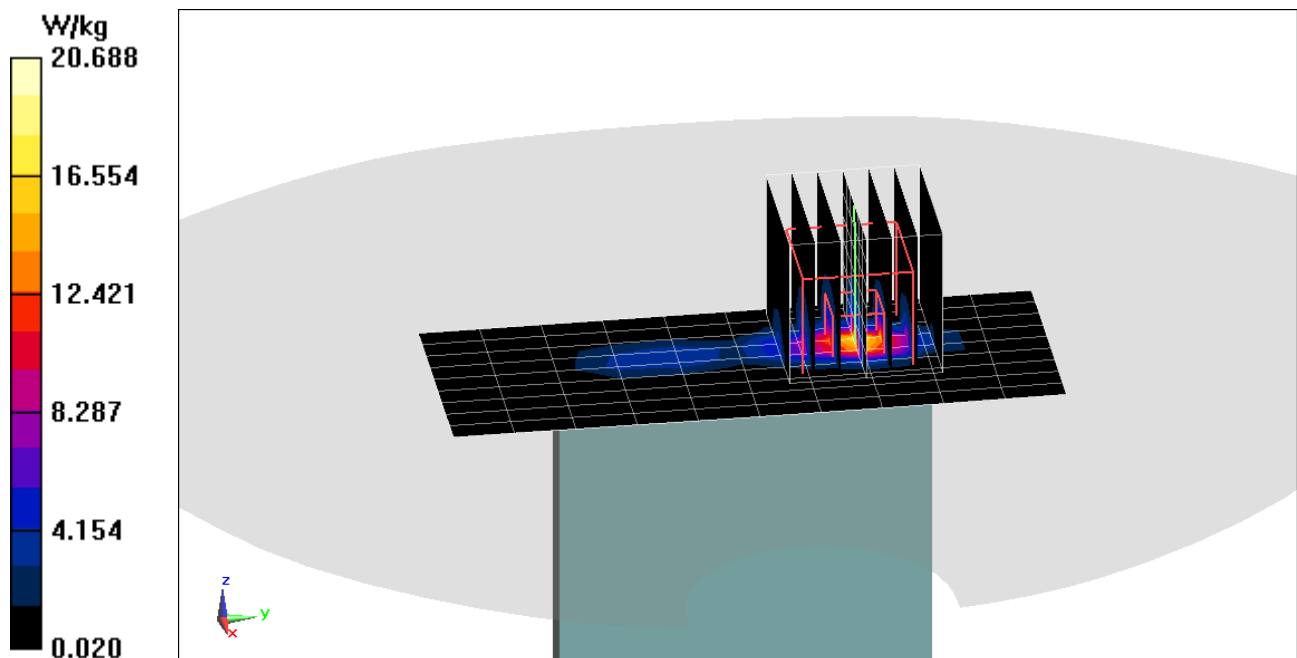
Area Scan (10x11x1): Measurement grid: dx=5mm, dy=12mm

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 73.21 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 29.2 W/kg

SAR(10 g) = 2.85 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0439M

Communication System: UID 0, LTE Band 41; Frequency: 2506 MHz; Duty Cycle: 1:1.58

Medium: 2450 Body Medium parameters used (interpolated):

$f = 2506 \text{ MHz}$; $\sigma = 2.106 \text{ S/m}$; $\epsilon_r = 51.537$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 06-08-2019; Ambient Temp: 22.7°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7417; ConvF(7.51, 7.51, 7.51) @ 2506 MHz; Calibrated: 2/19/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn665; Calibrated: 2/13/2019

Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 41, Phablet SAR, Back side, Low.ch,
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

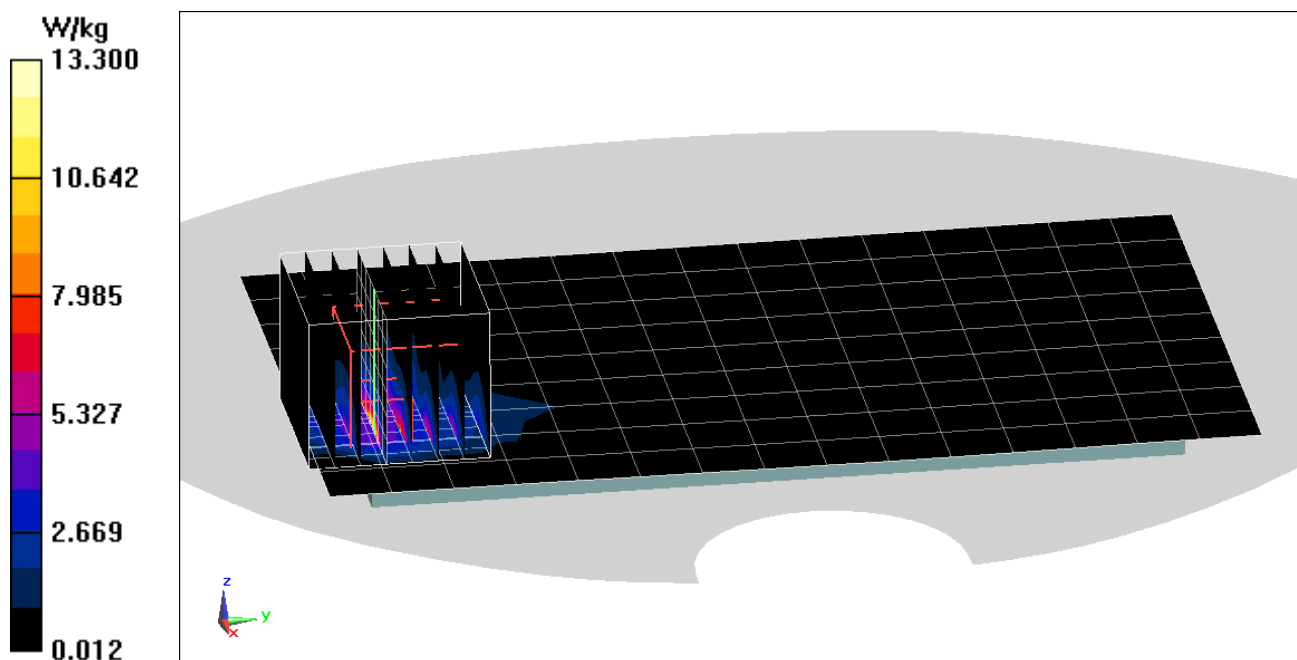
Area Scan (10x16x1): Measurement grid: dx=12mm, dy=12mm

Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 58.40 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 18.6 W/kg

SAR(10 g) = 2.2 W/kg



PCTEST ENGINEERING LABORATORY, INC.

DUT: A3LSMN976V; Type: Portable Handset; Serial: 0115M

Communication System: UID 0, 802.11n 5.2-5.8 GHz Band; Frequency: 5260 MHz; Duty Cycle: 1:1

Medium: 5 GHz Body Medium parameters used:

$f = 5260 \text{ MHz}$; $\sigma = 5.42 \text{ S/m}$; $\epsilon_r = 47.306$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 05-20-2019; Ambient Temp: 21.1°C; Tissue Temp: 20.2°C

Probe: EX3DV4 - SN7308; ConvF(4.48, 4.48, 4.48) @ 5260 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 (2); SEMCAD X Version 14.6.12 (7450)

**Mode: IEEE 802.11n, MIMO, UNII-2A, 20 MHz Bandwidth,
Phablet SAR, Ch 52, 13 Mbps, Back Side**

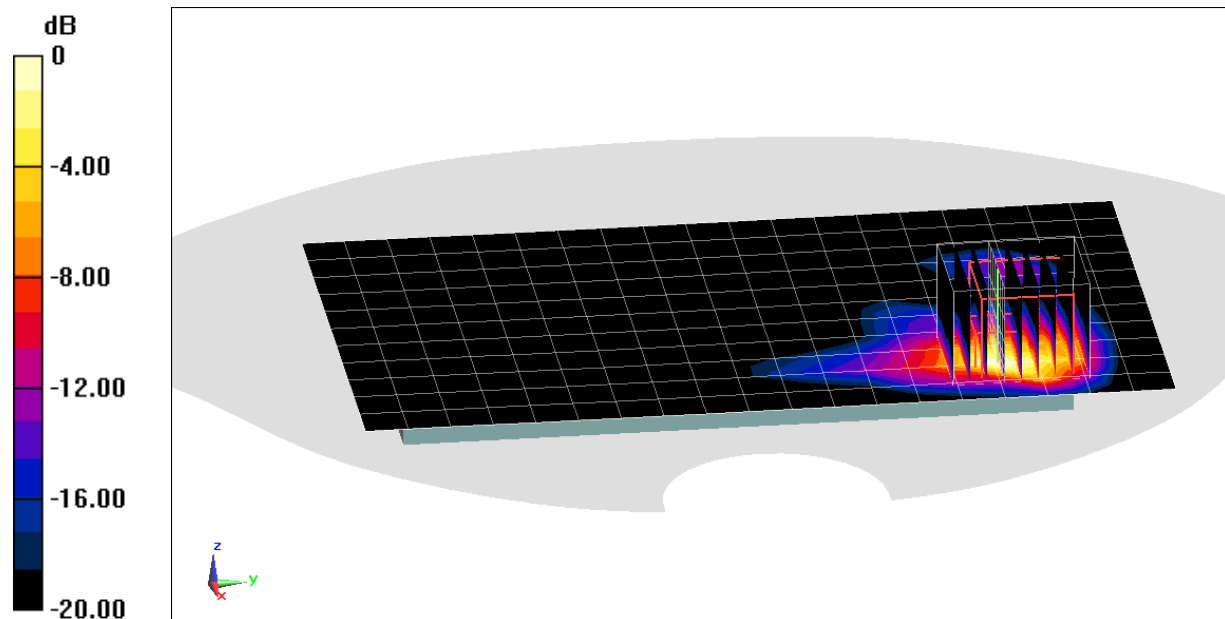
Area Scan (12x20x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Zoom Scan (8x9x7)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=1.4\text{mm}$; Graded Ratio: 1.4

Reference Value = 46.16 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 60.3 W/kg

SAR(10 g) = 3.02 W/kg



0 dB = 27.9 W/kg = 14.46 dBW/kg

APPENDIX B: SYSTEM VERIFICATION

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1003

Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: 750 Head Medium parameters used (interpolated):

$f = 750 \text{ MHz}$; $\sigma = 0.904 \text{ S/m}$; $\epsilon_r = 43.382$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 05-14-2019; Ambient Temp: 21.6°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7409; ConvF(9.91, 9.91, 9.91) @ 750 MHz; Calibrated: 6/25/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1334; Calibrated: 6/18/2018

Phantom: SAM 30 with CRP v5.0 right; Type: QD000P40CD; Serial: TP:1759

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

750 MHz System Verification at 23.0 dBm (200 mW)

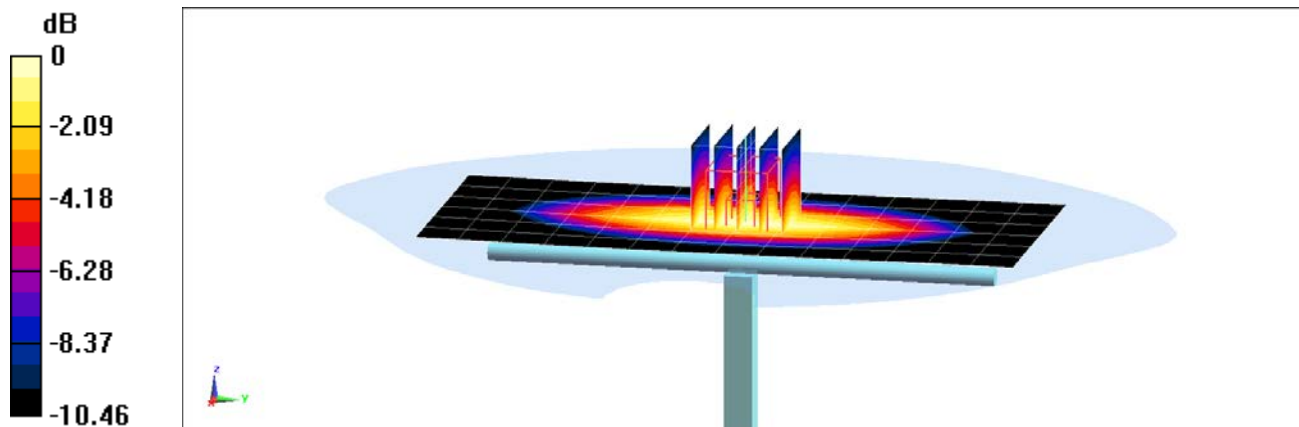
Area Scan (7x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Peak SAR (extrapolated) = 2.72 W/kg

SAR(1 g) = 1.76 W/kg

Deviation(1 g) = 6.28%



0 dB = 2.39 W/kg = 3.78 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1003

Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: 750 Head; Medium parameters used (interpolated):

$f = 750 \text{ MHz}$; $\sigma = 0.897 \text{ S/m}$; $\epsilon_r = 43.695$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 06-07-2019; Ambient Temp: 21.5°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7357; ConvF(10.26, 10.26, 10.26) @ 750 MHz; Calibrated: 4/24/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1407; Calibrated: 4/18/2019

Phantom: Twin-SAM V5.0 (30) Back Right; Type: QD 000 P40 CD; Serial: 1692

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

750 MHz System Verification at 23.0 dBm (200 mW)

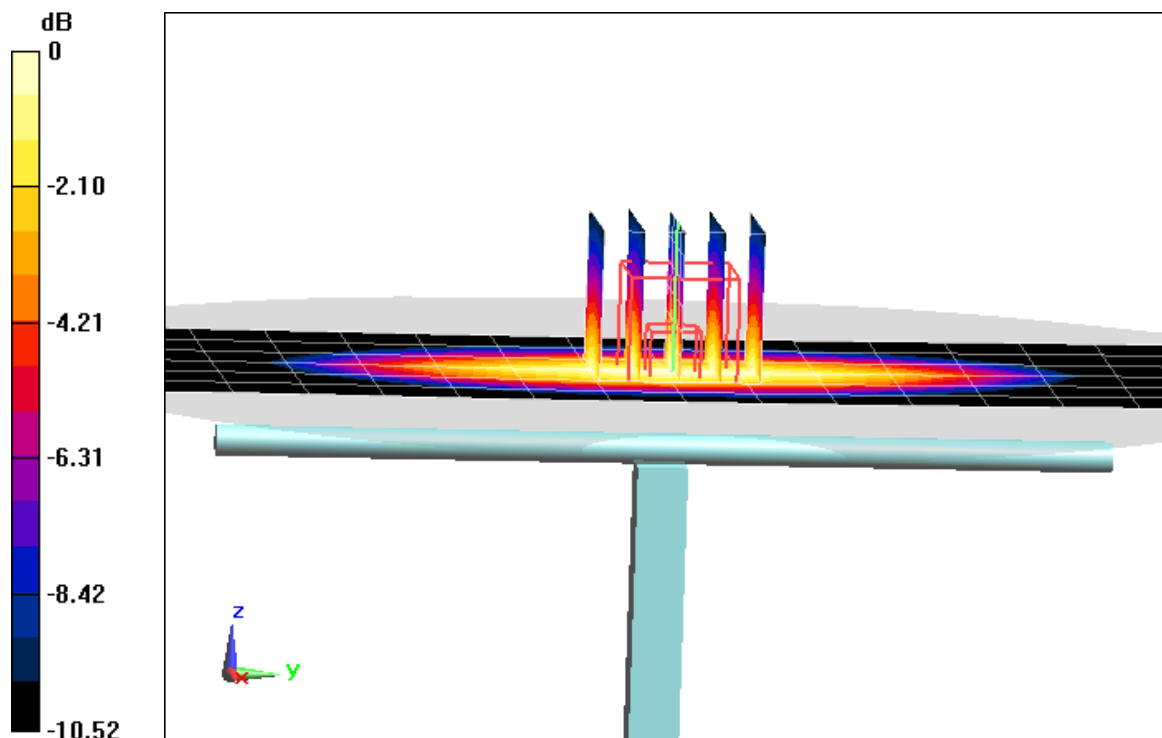
Area Scan (7x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Peak SAR (extrapolated) = 2.38 W/kg

SAR(1 g) = 1.58 W/kg

Deviation(1 g) = -4.59%



0 dB = 2.11 W/kg = 3.24 dBW/kg

PCTEST ENGINEERING LABORATORY, INC.

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d132

Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: 835 Head Medium parameters used:

$f = 835 \text{ MHz}$; $\sigma = 0.892 \text{ S/m}$; $\epsilon_r = 40.922$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 05-20-2019; Ambient Temp: 20.8°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7409; ConvF(9.67, 9.67, 9.67) @ 835 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 (2); SEMCAD X Version 14.6.12 (7450)

835 MHz System Verification at 23.0 dBm (200 mW)

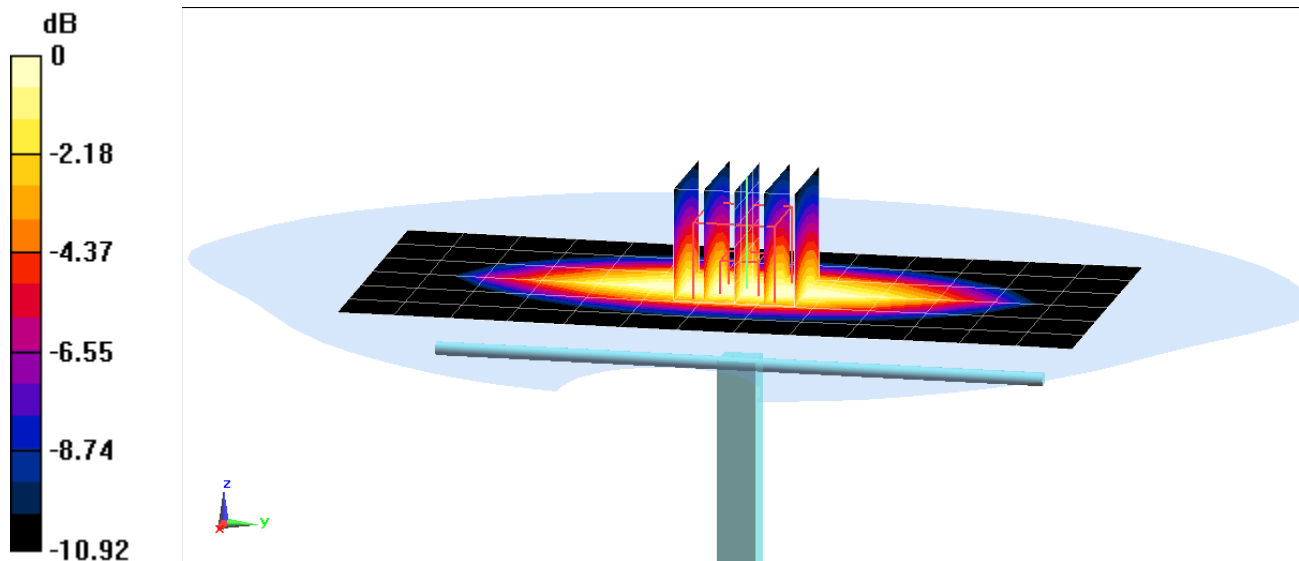
Area Scan (7x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Peak SAR (extrapolated) = 3.06 W/kg

SAR(1 g) = 1.94 W/kg

Deviation(1 g) = 1.15%



0 dB = 2.66 W/kg = 4.25 dBW/kg