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SAR EVALUATION REPORT

Applicant Name:
Samsung Electronics Co., Ltd.
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Gyeonggi-do, 16677, Korea

Date of Testing:
10/21/20 - 12/09/20
Test Site/Location:
PCTEST Lab, Columbia, MD, USA
Document Serial No.:
1M2009280154-01-R2.A3L

FCC ID: **A3LSMG998B**

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

DUT Type: Portable Handset
Application Type: Certification
FCC Rule Part(s): CFR §2.1093
Model: SM-G998B/DS
Additional Model(s) SM-G998B

Equipment Class	Band & Mode	Tx Frequency	SAR			
			1g Head (W/kg)	1g Body-Worn (W/kg)	1g Hotspot (W/kg)	10g Phablet (W/kg)
PCE	GSM/GPRS/EDGE 850	824.20 - 848.80 MHz	0.16	0.27	0.60	N/A
PCE	GSM/GPRS/EDGE 1900	1850.20 - 1909.80 MHz	< 0.1	0.23	0.81	1.58
PCE	UMTS 850	826.40 - 846.60 MHz	0.15	0.26	0.56	N/A
PCE	UMTS 1750	1712.4 - 1752.6 MHz	< 0.1	0.58	1.06	2.08
PCE	UMTS 1900	1852.4 - 1907.6 MHz	< 0.1	0.47	1.17	1.88
PCE	LTE Band 12	699.7 - 715.3 MHz	0.11	0.19	0.30	N/A
PCE	LTE Band 17	706.5 - 713.5 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 13	779.5 - 784.5 MHz	0.13	0.22	0.48	N/A
PCE	LTE Band 26 (Cell)	814.7 - 848.3 MHz	0.13	0.24	0.53	N/A
PCE	LTE Band 5 (Cell)	824.7 - 848.3 MHz	N/A	N/A	0.19	N/A
PCE	LTE Band 66 (AWS)	1710.7 - 1779.3 MHz	0.15	0.72	1.12	1.98
PCE	LTE Band 4 (AWS)	1710.7 - 1754.3 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 25 (PCS)	1850.7 - 1914.3 MHz	0.12	0.50	1.34	2.65
PCE	LTE Band 2 (PCS)	1850.7 - 1909.3 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 41	2498.5 - 2687.5 MHz	< 0.1	0.42	0.91	2.47
PCE	NR Band n5 (Cell)	826.5 - 846.5 MHz	< 0.1	< 0.1	0.17	N/A
PCE	NR Band n66 (AWS)	1712.5 - 1777.5 MHz	0.11	0.58	1.09	2.79
DTS	2.4 GHz WLAN	2412 - 2472 MHz	0.24	0.18	0.56	N/A
NII	U-NII-1	5180 - 5240 MHz	N/A	N/A	N/A	N/A
NII	U-NII-2A	5260 - 5320 MHz	0.12*	0.40*	N/A	1.07*
NII	U-NII-2C	5500 - 5720 MHz	0.21*	0.48*	N/A	0.63*
NII	U-NII-3	5745 - 5825 MHz	0.24*	0.36*	0.58*	N/A
DSS/DTS	Bluetooth	2402 - 2480 MHz	0.16	< 0.1	0.18	N/A
Simultaneous SAR per KDB 690783 D01v01r03:			0.73	1.39	1.59	3.86

*SAR values represent RF exposure during MIMO operations.

Note: This revised Test Report (S/N: 1M2009280154-01-R2.A3L) supersedes and replaces the previously issued test report on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.

This wireless portable device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment/general population exposure limits specified in ANSI/IEEE C95.1-1992 and has been tested in accordance with the measurement procedures specified in Section 1.8 of this report; for North American frequency bands only.

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

Randy Ortanez
President

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

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1 DEVICE UNDER TEST

1.1 Device Overview

Band & Mode	Operating Modes	Tx Frequency
GSM/GPRS/EDGE 850	Voice/Data	824.20 - 848.80 MHz
GSM/GPRS/EDGE 1900	Voice/Data	1850.20 - 1909.80 MHz
UMTS 850	Voice/Data	826.40 - 846.60 MHz
UMTS 1750	Voice/Data	1712.4 - 1752.6 MHz
UMTS 1900	Voice/Data	1852.4 - 1907.6 MHz
LTE Band 12	Voice/Data	699.7 - 715.3 MHz
LTE Band 17	Voice/Data	706.5 - 713.5 MHz
LTE Band 13	Voice/Data	779.5 - 784.5 MHz
LTE Band 26 (Cell)	Voice/Data	814.7 - 848.3 MHz
LTE Band 5 (Cell)	Voice/Data	824.7 - 848.3 MHz
LTE Band 66 (AWS)	Voice/Data	1710.7 - 1779.3 MHz
LTE Band 4 (AWS)	Voice/Data	1710.7 - 1754.3 MHz
LTE Band 25 (PCS)	Voice/Data	1850.7 - 1914.3 MHz
LTE Band 2 (PCS)	Voice/Data	1850.7 - 1909.3 MHz
LTE Band 41	Voice/Data	2498.5 - 2687.5 MHz
NR Band n5 (Cell)	Data	826.5 - 846.5 MHz
NR Band n66 (AWS)	Data	1712.5 - 1777.5 MHz
2.4 GHz WLAN	Voice/Data	2412 - 2472 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
U-NII-5	Voice/Data	5925 - 6425 MHz
U-NII-6	Voice/Data	6425 - 6525 MHz
U-NII-7	Voice/Data	6525 - 6875 MHz
U-NII-8	Voice/Data	6875 - 7125 MHz
Bluetooth	Data	2402 - 2480 MHz
NFC	Data	13.56 MHz

1.2 Power Reduction for SAR

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

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

1.3 Nominal and Maximum Output Power Specifications

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

1.3.1 2G/3G/4G/5G Output Power

GSM/GPRS/EDGE 850										
Power Level		Voice (in dBm)	Data - Burst Average GMSK (in dBm)				Data - Burst Average 8-PSK (in dBm)			
		1 TX Slot	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots
Max	Max allowed power	34.0	34.0	31.5	30.5	29.0	27.5	25.0	24.0	22.5
	Nominal	33.0	33.0	30.5	29.5	28.0	26.5	24.0	23.0	21.5
GSM/GPRS/EDGE 1900										
Power Level		Voice (in dBm)	Data - Burst Average GMSK (in dBm)				Data - Burst Average 8-PSK (in dBm)			
		1 TX Slot	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots
Max	Max allowed power	31.0	31.0	28.0	26.5	25.0	26.5	24.0	23.0	21.5
	Nominal	30.0	30.0	27.0	25.5	24.0	25.5	23.0	22.0	20.5
Hotspot Mode, Grip Sensor, and/or Earjack Activated	Max allowed power	29.0	29.0	26.0	24.5	23.0	26.5	24.0	23.0	21.5
	Nominal	28.0	28.0	25.0	23.5	22.0	25.5	23.0	22.0	20.5

UMTS Band 5 (850 MHz)					
Power Level		Modulated Average Output Power (in dBm)			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
Max	Max allowed power	25.5	24.0	24.0	24.0
	Nominal	24.5	23.0	23.0	23.0
UMTS Band 4 (1750 MHz)					
Power Level		Modulated Average Output Power (in dBm)			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
Max	Max allowed power	25.0	24.0	24.0	24.0
	Nominal	24.0	23.0	23.0	23.0
Hotspot Mode, Grip Sensor, and/or Earjack Activated	Max allowed power	22.0	22.0	22.0	22.0
	Nominal	21.0	21.0	21.0	21.0
UMTS Band 2 (1900 MHz)					
Power Level		Modulated Average Output Power (in dBm)			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
Max	Max allowed power	25.0	24.0	24.0	24.0
	Nominal	24.0	23.0	23.0	23.0
Hotspot Mode, Grip Sensor, and/or Earjack Activated	Max allowed power	22.0	22.0	22.0	22.0
	Nominal	21.0	21.0	21.0	21.0

Mode / Band		Modulated Average Output Power (in dBm)	
		Max	Hotspot Mode, Grip Sensor, and/or Earjack Activated
LTE FDD Band 12	Max allowed power	25.5	25.5
	Nominal	24.5	24.5
LTE FDD Band 17	Max allowed power	25.5	25.5
	Nominal	24.5	24.5
LTE FDD Band 13	Max allowed power	25.5	25.5
	Nominal	24.5	24.5
LTE FDD Band 26	Max allowed power	25.5	25.5
	Nominal	24.5	24.5
LTE FDD Band 66	Max allowed power	25.0	22.0
	Nominal	24.0	21.0
LTE FDD Band 4	Max allowed power	25.0	21.5
	Nominal	24.0	20.5
LTE FDD Band 25	Max allowed power	25.0	22.0
	Nominal	24.0	21.0
LTE FDD Band 2	Max allowed power	25.0	21.5
	Nominal	24.0	20.5
LTE TDD Band 41	Max allowed power	25.0	24.0
	Nominal	24.0	23.0
LTE TDD Band 41 (PC2)	Max allowed power	27.0	24.0
	Nominal	26.0	23.0

Mode / Band		Modulated Average Output Power (in dBm)	
		Max	5G NR Active
LTE FDD Band 5	Max allowed power	25.5	22.0
	Nominal	24.5	21.0

Mode / Band		Modulated Average Output Power (in dBm)	
		Max	Hotspot Mode, Grip Sensor, and/or Earjack Activated
NR FDD Band n5	Max allowed	25.5	25.5
	Nominal	24.5	24.5
NR FDD Band n66	Max allowed	25.0	22.0
	Nominal	24.0	21.0

1.3.2 2.4 GHz Maximum Bluetooth and SISO/MIMO WLAN Output Power

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

Mode	Band	IEEE 802.11 (in dBm)							
		SISO		MIMO					
		b		g (CDD + STBC)		n (CDD + STBC, SDM)		ax (SU) (CDD + STBC, SDM)	
Maximum/Nominal Power		Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max
2.4 GHz WIFI	2.45 GHz	18.0	19.0	20.0	21.0	19.0	20.0	19.0	20.0
				ch. 1: 17.5	18.5	ch. 1: 16.5	17.5		
				ch. 2: 19.5	20.5	ch. 2: 18.0	19.0	ch. 1: 17.0	18.0
				ch. 10: 18.5	19.5	ch. 10: 17.5	18.5	ch. 10: 17.5	18.5
				ch. 11: 18.5	19.5	ch. 11: 16.5	17.5	ch. 11: 14.5	15.5
				ch. 12: 14.5	15.5	ch. 12: 14.5	15.5	ch. 12: 14.5	15.5
				ch. 13: 13.5	14.5	ch. 13: 13.5	14.5	ch. 13: 13.5	14.5

Mode		Antenna 1	Antenna 2	Antenna 1 in Dual Mode	Antenna 2 in Dual Mode	Dual Mode
Bluetooth (1Mbps) (in dBm)	Maximum	18.0 dBm	18.0 dBm	11.5 dBm	11.5 dBm	14.5 dBm
	Nominal	17.0 dBm	17.0 dBm	10.5 dBm	10.5 dBm	13.5 dBm
Bluetooth (EDR) (in dBm)	Maximum	15.0 dBm	15.0 dBm	15.5 dBm	14.5 dBm	18.0 dBm
	Nominal	14.0 dBm	14.0 dBm	14.5 dBm	13.5 dBm	17.0 dBm
Bluetooth (LE) (in dBm)	Maximum		10.5 dBm			
	Nominal		9.5 dBm			

1.3.3 2.4 GHz Reduced WLAN Output Powers

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

The below table is applicable in the following conditions:

- RCV Active
- Simultaneous conditions with 5 or 6 GHz WLAN

Mode	Band	IEEE 802.11 (in dBm)							
		SISO		MIMO					
		b		g (CDD + STBC)		n (CDD + STBC, SDM)		ax (SU) (CDD + STBC, SDM)	
Maximum/Nominal Power		Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max
2.4 GHz WIFI	2.45 GHz	16.0	17.0	19.0	20.0	19.0	20.0	19.0	20.0
						ch. 1: 16.5	17.5		
				ch. 1: 17.5	18.5	ch. 2: 18.0	19.0	ch. 1: 17.0	18.0
				ch. 10: 18.5	19.5	ch. 10: 17.5	18.5	ch. 10: 17.5	18.5
				ch. 11: 18.5	19.5	ch. 11: 16.5	17.5	ch. 11: 14.5	15.5
				ch. 12: 14.5	15.5	ch. 12: 14.5	15.5	ch. 12: 14.5	15.5
				ch. 13: 13.5	14.5	ch. 13: 13.5	14.5	ch. 13: 13.5	14.5

The below table is applicable in the following conditions:

- RCV Active during simultaneous conditions with 5 or 6 GHz WLAN

Mode	Band	IEEE 802.11 (in dBm)							
		SISO		MIMO					
		b		g (CDD + STBC)		n (CDD + STBC, SDM)		ax (SU) (CDD + STBC, SDM)	
Maximum/Nominal Power		Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max
2.4 GHz WIFI	2.45 GHz	13.0	14.0	16.0	17.0	16.0	17.0	16.0	17.0
								ch. 11: 14.5	15.5
				ch. 12: 14.5	15.5	ch. 12: 14.5	15.5	ch. 12: 14.5	15.5
				ch. 13: 13.5	14.5	ch. 13: 13.5	14.5	ch. 13: 13.5	14.5

1.3.4 5 GHz Maximum MIMO WLAN Output Power

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

Mode	Band	IEEE 802.11 (in dBm) MIMO							
		a (CDD + STBC)		n (CDD + STBC, SDM)		ac (CDD + STBC, SDM)		ax (SU) (CDD + STBC, SDM)	
Maximum/Nominal Power		Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max
5 GHz WIFI (20MHz BW)	5200 MHz	20.0	21.0	20.0 ch. 36: 18.0	21.0 19.0	20.0 ch. 36: 18.0	21.0 19.0	20.0 ch. 36: 19.5	21.0 20.5
	5300 MHz	20.0 ch. 64: 18.5	21.0 19.5	20.0 ch. 64: 17.5	21.0 18.5	20.0 ch. 64: 17.5	21.0 18.5	20.0 ch. 64: 17.5	21.0 18.5
	5500 MHz	20.0	21.0	20.0	21.0	20.0	21.0	20.0	21.0
	5800 MHz	19.0	20.0	19.0	20.0	19.0	20.0	19.0	20.0
5 GHz WIFI (40MHz BW)	5200 MHz			19.0 ch. 38: 16.0	20.0 17.0	19.0 ch. 38: 16.0	20.0 17.0	19.0 ch. 38: 15.5	20.0 16.5
	5300 MHz			19.0 ch. 62: 15.5	20.0 16.5	19.0 ch. 62: 15.5	20.0 16.5	19.0 ch. 62: 16.0	20.0 17.0
	5500 MHz			19.0 ch. 102: 15.5	20.0 16.5	19.0 ch. 102: 15.5	20.0 16.5	19.0 ch. 102: 16.5	20.0 17.5
	5800 MHz			18.0	19.0	18.0	19.0	18.0	19.0
5 GHz WIFI (80MHz BW)	5200 MHz					15.5	16.5	15.5	16.5
	5300 MHz					15.5	16.5	15.5	16.5
	5500 MHz					18.0	19.0	18.0	19.0
	5800 MHz					18.0	19.0	18.0	19.0
5 GHz WIFI (160MHz BW)	5250 MHz					14.5	15.5	16.5	17.5
	5570 MHz					17.0	18.0	14.0	15.0

1.3.5 5 GHz Reduced WLAN Output Powers

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

The below table is applicable in the following conditions:

- RCV Active

Mode	Band	IEEE 802.11 (in dBm)							
		MIMO							
		a (CDD + STBC)		n (CDD + STBC, SDM)		ac (CDD + STBC, SDM)		ax (SU) (CDD + STBC, SDM)	
Maximum/Nominal Power		Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max
5 GHz WIFI (20MHz BW)	5200 MHz	17.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0
	5300 MHz	17.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0
	5500 MHz	17.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0
	5800 MHz	17.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0
5 GHz WIFI (40MHz BW)	5200 MHz			17.0 ch. 38: 16.0	18.0 17.0	17.0 ch. 38: 16.0	18.0 17.0	17.0 ch. 38: 15.5	18.0 16.5
	5300 MHz			17.0 ch. 62: 15.5	18.0 16.5	17.0 ch. 62: 15.5	18.0 16.5	17.0 ch. 62: 16.0	18.0 17.0
	5500 MHz			17.0 ch. 102: 15.5	18.0 16.5	17.0 ch. 102: 15.5	18.0 16.5	17.0 ch. 102: 16.5	18.0 17.5
	5800 MHz			17.0	18.0	17.0	18.0	17.0	18.0
5 GHz WIFI (80MHz BW)	5200 MHz					15.5	16.5	15.5	16.5
	5300 MHz					15.5	16.5	15.5	16.5
	5500 MHz					17.0 ch. 106: 15.5	18.0 16.5	17.0 ch. 106: 15.0	18.0 16.0
	5800 MHz					17.0	18.0	17.0	18.0
5 GHz WIFI (160MHz BW)	5250 MHz					14.5	15.5	16.5	17.5
	5750 MHz					17.0	18.0	14.0	15.0

The below table is applicable in the following conditions:

- Simultaneous conditions with 2.4 GHz WLAN
- RCV Active during simultaneous conditions with 2.4 GHz WLAN

Mode	Band	IEEE 802.11 (in dBm)							
		MIMO							
		a (CDD + STBC)		n (CDD + STBC, SDM)		ac (CDD + STBC, SDM)		ax (SU) (CDD + STBC, SDM)	
Maximum/Nominal Power		Nominal	Max	Nominal	Max	Nominal	Max	Nominal	Max
5 GHz WIFI (20MHz BW)	5200 MHz	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0
	5300 MHz	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0
	5500 MHz	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0
	5800 MHz	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0
5 GHz WIFI (40MHz BW)	5200 MHz			16.0	17.0 1.0	16.0	17.0 1.0	16.0 ch. 38: 15.5	17.0 16.5
	5300 MHz			16.0 ch. 62: 15.5	17.0 16.5	16.0 ch. 62: 15.5	17.0 16.5	16.0 ch. 62: 15.5	17.0 16.5
	5500 MHz			16.0 ch. 102: 15.5	17.0 16.5	16.0 ch. 102: 15.5	17.0 16.5	16.0 ch. 102: 15.5	17.0 16.5
	5800 MHz			16.0	17.0	16.0	17.0	16.0	17.0
5 GHz WIFI (80MHz BW)	5200 MHz					15.5	16.5	15.5	16.5
	5300 MHz					15.5	16.5	15.5	16.5
	5500 MHz					16.0 ch. 106: 15.5	17.0 16.5	16.0 ch. 106: 15.0	17.0 16.0
	5800 MHz					16.0	17.0	16.0	17.0
5 GHz WIFI (160MHz BW)	5250 MHz					14.5	15.5	16.0	17.0
	5570 MHz					16.0	17.0	14.0	15.0

1.4 DUT Antenna Locations

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

Table 1-1
Device Edges/Sides for SAR Testing

Mode	Back	Front	Top	Bottom	Right	Left
GPRS 850	Yes	Yes	No	Yes	Yes	Yes
GPRS 1900	Yes	Yes	No	Yes	Yes	Yes
UMTS 850	Yes	Yes	No	Yes	Yes	Yes
UMTS 1750	Yes	Yes	No	Yes	Yes	Yes
UMTS 1900	Yes	Yes	No	Yes	Yes	Yes
LTE Band 12	Yes	Yes	No	Yes	Yes	Yes
LTE Band 13	Yes	Yes	No	Yes	Yes	Yes
LTE Band 26 (Cell)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 5 (Cell)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 66 (AWS)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 25 (PCS)	Yes	Yes	No	Yes	Yes	Yes
LTE Band 41	Yes	Yes	No	Yes	No	Yes
NR Band n5 (Cell)	Yes	Yes	No	Yes	Yes	Yes
NR Band n66 (AWS)	Yes	Yes	No	Yes	Yes	Yes
2.4 GHz WLAN Ant 1	Yes	Yes	Yes	No	No	Yes
2.4 GHz WLAN Ant 2	Yes	Yes	No	No	No	Yes
2.4 GHz WLAN MIMO	Yes	Yes	Yes	No	No	Yes
5 GHz WLAN MIMO	Yes	Yes	Yes	No	No	Yes
Bluetooth Ant 1	Yes	Yes	Yes	No	No	Yes
Bluetooth Ant 2	Yes	Yes	No	No	No	Yes
Bluetooth MIMO	Yes	Yes	Yes	No	No	Yes

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

1.5 Near Field Communications (NFC) Antenna

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

1.6 Simultaneous Transmission Capabilities

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

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

Table 1-2
Simultaneous Transmission Scenarios

No.	Capable Transmit Configuration	Head	Body-Worn Accessory	Wireless Router	Phablet	Notes
1	GSM voice + 2.4 GHz WLAN Ant 1	Yes	Yes	N/A	Yes	
2	GSM voice + 2.4 GHz WLAN Ant 2	Yes	Yes	N/A	Yes	
3	GSM voice + 2.4 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
4	GSM voice + 5 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
5	GSM voice + 2.4 GHz WLAN Ant 1 + 5 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
6	GSM voice + 2.4 GHz WLAN Ant 2 + 5 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
7	GSM voice + 2.4 GHz WLAN MIMO + 5 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
8	GSM voice + 2.4 GHz Bluetooth Ant 1	Yes^	Yes	N/A	Yes	* Bluetooth Tethering is considered
9	GSM voice + 2.4 GHz Bluetooth Ant 2	Yes^	Yes	N/A	Yes	* Bluetooth Tethering is considered
10	GSM voice + 2.4 GHz Bluetooth Dual Mode	Yes^	Yes	N/A	Yes	* Bluetooth Tethering is considered
11	GSM voice + 2.4 GHz Bluetooth Ant 1 + 5 GHz WLAN MIMO	Yes^	Yes	N/A	Yes	* Bluetooth Tethering is considered
12	GSM voice + 2.4 GHz Bluetooth Ant 2 + 5 GHz WLAN MIMO	Yes^	Yes	N/A	Yes	* Bluetooth Tethering is considered
13	GSM voice + 2.4 GHz Bluetooth Dual Mode + 5 GHz WLAN MIMO	Yes^	Yes	N/A	Yes	* Bluetooth Tethering is considered
14	GSM voice + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
15	GSM voice + 2.4 GHz WLAN Ant 1 + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
16	GSM voice + 2.4 GHz WLAN Ant 2 + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
17	GSM voice + 2.4 GHz WLAN MIMO + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
18	GSM voice + 2.4 GHz Bluetooth Ant 1 + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	* Bluetooth Tethering is considered
19	GSM voice + 2.4 GHz Bluetooth Ant 2 + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	* Bluetooth Tethering is considered
20	GSM voice + 2.4 GHz Bluetooth Dual Mode + 6 GHz WLAN MIMO	Yes^	Yes	N/A	Yes	* Bluetooth Tethering is considered
21	UMTS + 2.4 GHz WLAN Ant 1	Yes	Yes	Yes	Yes	
22	UMTS + 2.4 GHz WLAN Ant 2	Yes	Yes	Yes	Yes	
23	UMTS + 2.4 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
24	UMTS + 5 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
25	UMTS + 2.4 GHz WLAN Ant 1 + 5 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
26	UMTS + 2.4 GHz WLAN Ant 2 + 5 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
27	UMTS + 2.4 GHz WLAN MIMO + 5 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
28	UMTS + 2.4 GHz Bluetooth Ant 1	Yes^	Yes	Yes^	Yes	* Bluetooth Tethering is considered
29	UMTS + 2.4 GHz Bluetooth Ant 2	Yes^	Yes	Yes^	Yes	* Bluetooth Tethering is considered
30	UMTS + 2.4 GHz Bluetooth Dual Mode	Yes^	Yes	Yes^	Yes	* Bluetooth Tethering is considered
31	UMTS + 2.4 GHz Bluetooth Ant 1 + 5 GHz WLAN MIMO	Yes^	Yes	Yes^	Yes	* Bluetooth Tethering is considered
32	UMTS + 2.4 GHz Bluetooth Ant 2 + 5 GHz WLAN MIMO	Yes^	Yes	Yes^	Yes	* Bluetooth Tethering is considered
33	UMTS + 2.4 GHz Bluetooth Dual Mode + 5 GHz WLAN MIMO	Yes^	Yes	Yes^	Yes	* Bluetooth Tethering is considered
34	UMTS + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
35	UMTS + 2.4 GHz WLAN Ant 1 + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
36	UMTS + 2.4 GHz WLAN Ant 2 + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
37	UMTS + 2.4 GHz WLAN MIMO + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
38	UMTS + 2.4 GHz Bluetooth Ant 1 + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	* Bluetooth Tethering is considered
39	UMTS + 2.4 GHz Bluetooth Ant 2 + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	* Bluetooth Tethering is considered
40	UMTS + 2.4 GHz Bluetooth Dual Mode + 6 GHz WLAN MIMO	Yes^	Yes	N/A	Yes	* Bluetooth Tethering is considered
41	LTE + 2.4 GHz WLAN Ant 1	Yes	Yes	Yes	Yes	
42	LTE + 2.4 GHz WLAN Ant 2	Yes	Yes	Yes	Yes	
43	LTE + 2.4 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
44	LTE + 5 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
45	LTE + 2.4 GHz WLAN Ant 1 + 5 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
46	LTE + 2.4 GHz WLAN Ant 2 + 5 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
47	LTE + 2.4 GHz WLAN MIMO + 5 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
48	LTE + 2.4 GHz Bluetooth Ant 1	Yes^	Yes	Yes^	Yes	* Bluetooth Tethering is considered
49	LTE + 2.4 GHz Bluetooth Ant 2	Yes^	Yes	Yes^	Yes	* Bluetooth Tethering is considered
50	LTE + 2.4 GHz Bluetooth Dual Mode	Yes^	Yes	Yes^	Yes	* Bluetooth Tethering is considered
51	LTE + 2.4 GHz Bluetooth Ant 1 + 5 GHz WLAN MIMO	Yes^	Yes	Yes^	Yes	* Bluetooth Tethering is considered
52	LTE + 2.4 GHz Bluetooth Ant 2 + 5 GHz WLAN MIMO	Yes^	Yes	Yes^	Yes	* Bluetooth Tethering is considered
53	LTE + 2.4 GHz Bluetooth Dual Mode + 5 GHz WLAN MIMO	Yes^	Yes	Yes^	Yes	* Bluetooth Tethering is considered
54	LTE + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
55	LTE + 2.4 GHz WLAN Ant 1 + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
56	LTE + 2.4 GHz WLAN Ant 2 + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
57	LTE + 2.4 GHz WLAN MIMO + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
58	LTE + 2.4 GHz Bluetooth Ant 1 + 6 GHz WLAN MIMO	Yes^	Yes	N/A	Yes	* Bluetooth Tethering is considered
59	LTE + 2.4 GHz Bluetooth Ant 2 + 6 GHz WLAN MIMO	Yes^	Yes	N/A	Yes	* Bluetooth Tethering is considered
60	LTE + 2.4 GHz Bluetooth Dual Mode + 6 GHz WLAN MIMO	Yes^	Yes	N/A	Yes	* Bluetooth Tethering is considered
61	LTE + NR	Yes	Yes	N/A	Yes	
62	LTE + NR + 2.4 GHz WLAN Ant 1	Yes	Yes	Yes	Yes	
63	LTE + NR + 2.4 GHz WLAN Ant 2	Yes	Yes	Yes	Yes	
64	LTE + NR + 2.4 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
65	LTE + NR + 5 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
66	LTE + NR + 2.4 GHz WLAN Ant 1 + 5 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
67	LTE + NR + 2.4 GHz WLAN Ant 2 + 5 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
68	LTE + NR + 2.4 GHz WLAN MIMO + 5 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
69	LTE + NR + 2.4 GHz Bluetooth Ant 1	Yes^	Yes	Yes^	Yes	* Bluetooth Tethering is considered
70	LTE + NR + 2.4 GHz Bluetooth Ant 2	Yes^	Yes	Yes^	Yes	* Bluetooth Tethering is considered
71	LTE + NR + 2.4 GHz Bluetooth Dual Mode	Yes^	Yes	Yes^	Yes	* Bluetooth Tethering is considered
72	LTE + NR + 2.4 GHz Bluetooth Ant 1 + 5 GHz WLAN MIMO	Yes^	Yes	Yes^	Yes	* Bluetooth Tethering is considered
73	LTE + NR + 2.4 GHz Bluetooth Ant 2 + 5 GHz WLAN MIMO	Yes^	Yes	Yes^	Yes	* Bluetooth Tethering is considered
74	LTE + NR + 2.4 GHz Bluetooth Dual Mode + 5 GHz WLAN MIMO	Yes^	Yes	Yes^	Yes	* Bluetooth Tethering is considered
75	LTE + NR + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
76	LTE + NR + 2.4 GHz WLAN Ant 1 + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
77	LTE + NR + 2.4 GHz WLAN Ant 2 + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
78	LTE + NR + 2.4 GHz WLAN MIMO + 6 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
79	LTE + NR + 2.4 GHz Bluetooth Ant 1 + 6 GHz WLAN MIMO	Yes^	Yes	N/A	Yes	* Bluetooth Tethering is considered
80	LTE + NR + 2.4 GHz Bluetooth Ant 2 + 6 GHz WLAN MIMO	Yes^	Yes	N/A	Yes	* Bluetooth Tethering is considered
81	LTE + NR + 2.4 GHz Bluetooth Dual Mode + 6 GHz WLAN MIMO	Yes^	Yes	N/A	Yes	* Bluetooth Tethering is considered
82	NR + 2.4 GHz WLAN Ant 1	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
83	NR + 2.4 GHz WLAN Ant 2	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
84	NR + 2.4 GHz WLAN MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
85	NR + 5 GHz WLAN MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
86	NR + 2.4 GHz WLAN Ant 1 + 5 GHz WLAN MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
87	NR + 2.4 GHz WLAN Ant 2 + 5 GHz WLAN MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
88	NR + 2.4 GHz WLAN MIMO + 5 GHz WLAN MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered
89	NR + 2.4 GHz Bluetooth Ant 1	Yes*^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered * Bluetooth Tethering is considered
90	NR + 2.4 GHz Bluetooth Ant 2	Yes*^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered * Bluetooth Tethering is considered
91	NR + 2.4 GHz Bluetooth Dual Mode	Yes*^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered * Bluetooth Tethering is considered
92	NR + 2.4 GHz Bluetooth Ant 1 + 5 GHz WLAN MIMO	Yes*^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered * Bluetooth Tethering is considered
93	NR + 2.4 GHz Bluetooth Ant 2 + 5 GHz WLAN MIMO	Yes*^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered * Bluetooth Tethering is considered
94	NR + 2.4 GHz Bluetooth Dual Mode + 5 GHz WLAN MIMO	Yes*^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered * Bluetooth Tethering is considered
95	NR + 6 GHz WLAN MIMO	Yes*	Yes*	N/A	Yes	* Pre-installed VOIP applications are considered
96	NR + 2.4 GHz WLAN Ant 1 + 6 GHz WLAN MIMO	Yes*	Yes*	N/A	Yes	* Pre-installed VOIP applications are considered
97	NR + 2.4 GHz WLAN Ant 2 + 6 GHz WLAN MIMO	Yes*	Yes*	N/A	Yes	* Pre-installed VOIP applications are considered
98	NR + 2.4 GHz WLAN MIMO + 6 GHz WLAN MIMO	Yes*	Yes*	N/A	Yes	* Pre-installed VOIP applications are considered
99	NR + 2.4 GHz Bluetooth Ant 1 + 6 GHz WLAN MIMO	Yes*^	Yes*	N/A	Yes	* Pre-installed VOIP applications are considered * Bluetooth Tethering is considered
100	NR + 2.4 GHz Bluetooth Ant 2 + 6 GHz WLAN MIMO	Yes*^	Yes*	N/A	Yes	* Pre-installed VOIP applications are considered * Bluetooth Tethering is considered
101	NR + 2.4 GHz Bluetooth Dual Mode + 6 GHz WLAN MIMO	Yes*^	Yes*	N/A	Yes	* Pre-installed VOIP applications are considered * Bluetooth Tethering is considered
102	GPRS/EDGE + 2.4 GHz WLAN Ant 1	N/A	N/A	Yes	Yes	
103	GPRS/EDGE + 2.4 GHz WLAN Ant 2	N/A	N/A	Yes	Yes	
104	GPRS/EDGE + 2.4 GHz WLAN MIMO	N/A	N/A	Yes	Yes	
105	GPRS/EDGE + 5 GHz WLAN MIMO	N/A	N/A	Yes	Yes	
106	GPRS/EDGE + 2.4 GHz WLAN Ant 1 + 5 GHz WLAN MIMO	N/A	N/A	Yes	Yes	
107	GPRS/EDGE + 2.4 GHz WLAN Ant 2 + 5 GHz WLAN MIMO	N/A	N/A	Yes	Yes	
108	GPRS/EDGE + 2.4 GHz WLAN MIMO + 5 GHz WLAN MIMO	N/A	N/A	Yes	Yes	
109	GPRS/EDGE + 2.4 GHz Bluetooth Ant 1	N/A	N/A	Yes^	Yes	* Bluetooth Tethering is considered
110	GPRS/EDGE + 2.4 GHz Bluetooth Ant 2	N/A	N/A	Yes^	Yes	* Bluetooth Tethering is considered
111	GPRS/EDGE + 2.4 GHz Bluetooth Dual Mode	N/A	N/A	Yes^	Yes	* Bluetooth Tethering is considered
112	GPRS/EDGE + 2.4 GHz Bluetooth Ant 1 + 5 GHz WLAN MIMO	N/A	N/A	Yes^	Yes	* Bluetooth Tethering is considered
113	GPRS/EDGE + 2.4 GHz Bluetooth Ant 2 + 5 GHz WLAN MIMO	N/A	N/A	Yes^	Yes	* Bluetooth Tethering is considered
114	GPRS/EDGE + 2.4 GHz Bluetooth Dual Mode + 5 GHz WLAN MIMO	N/A	N/A	Yes^	Yes	* Bluetooth Tethering is considered
115	GPRS/EDGE + 6 GHz WLAN MIMO	N/A	N/A	N/A	Yes	
116	GPRS/EDGE + 2.4 GHz WLAN Ant 1 + 6 GHz WLAN MIMO	N/A	N/A	N/A	Yes	
117	GPRS/EDGE + 2.4 GHz WLAN Ant 2 + 6 GHz WLAN MIMO	N/A	N/A	N/A	Yes	
118	GPRS/EDGE + 2.4 GHz WLAN MIMO + 6 GHz WLAN MIMO	N/A	N/A	N/A	Yes	
119	GPRS/EDGE + 2.4 GHz Bluetooth Ant 1 + 6 GHz WLAN MIMO	N/A	N/A	N/A	Yes	
120	GPRS/EDGE + 2.4 GHz Bluetooth Ant 2 + 6 GHz WLAN MIMO	N/A	N/A	N/A	Yes	
121	GPRS/EDGE + 2.4 GHz Bluetooth Dual Mode + 6 GHz WLAN MIMO	N/A	N/A	N/A	Yes	

1. 2.4 GHz WLAN and 2.4 GHz Bluetooth share the same antenna path and cannot transmit simultaneously.
2. All licensed modes share the same antenna path and cannot transmit simultaneously.
3. When the user utilizes multiple services in UMTS 3G mode it uses multi-Radio Access Bearer or multi-RAB. The power control is based on a physical control channel (Dedicated Physical Control Channel [DPCCH]) and power control will be adjusted to meet the needs of both services. Therefore, the UMTS+WLAN scenario also represents the UMTS Voice/DATA + WLAN Hotspot scenario.
4. Per the manufacturer, WIFI Direct is not expected to be used in conjunction with a held-to-ear or body-worn accessory voice call. Therefore, there are no simultaneous transmission scenarios involving WIFI direct beyond that listed in the above table.
5. 5 GHz Wireless Router is only supported for the U-NII-3 by S/W, therefore U-NII-1, U-NII-2A, and U-NII-2C were not evaluated for wireless router conditions.
6. This device supports 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. 2.4 GHz WLAN antenna can transmit independently or together when operating with MIMO. 5/6 GHz WLAN can transmit only when operating with MIMO.
7. This device supports VOLTE.
8. This device supports VOWIFI.
9. This device supports Bluetooth Tethering.
10. LTE + 5G NR FR1 Scenarios are limited to EN-DC combinations with anchor bands as shown in the NR FR1 checklist.
11. 5 GHz WLAN and 6 GHz WLAN share the same antenna path and cannot transmit simultaneously.
12. 6 GHz Wireless Router is not supported, therefore it was not evaluated for wireless router conditions.

1.7 Miscellaneous SAR Test Considerations

(A) WIFI/BT

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

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

This device supports IEEE 802.11ax with the following features:

a) Up to 160 MHz Bandwidth only for 5 GHz and 6 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 and 6 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 2.4 GHz and U-NII-3 WLAN operations since wireless router 1g SAR was < 1.2 W/kg.

This device supports 6 GHz WIFI Operations. RF Exposure assessment for these bands can be found in the WIFI6E RF Exposure Report SN 1M2009280154-25-R2.A3L. Simultaneous transmission analysis is addressed in section 12 of this report

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.

This device supports channel 1-13 for 2.4 GHz WLAN. Because channel 12/13 targets are not higher than that of channels 1-11, channels 1, 6, and 11 were considered for SAR testing per FCC KDB 248227 D01V02r02

(B) Licensed Transmitter(s)

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

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

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

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

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

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

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

This device supports both Power Class 2 (PC2) and Power Class 3 (PC3) for LTE Band 41. Per May 2017 TCB Workshop Notes, SAR tests were performed with Power Class 3 (given the specific UL/DL limitations for Power Class 2). Additionally, SAR testing for the Power Class 2 condition was evaluated for the highest configuration in Power Class 3 for each test configuration to confirm the results were scalable linearly (See Section 14).

NR implementation supports SA and NSA mode. In EN-DC mode, NR operates with the LTE Bands shown in the NR FR1 checklist acting as anchor bands. Per FCC guidance, SAR tests for NR Bands and LTE Anchors Bands were performed separately due to limitations in SAR probe calibration factors. Please see Section 11 for more details.

1.8 Guidance Applied

- IEEE 1528-2013
- FCC KDB Publication 941225 D01v03r01, D05v02r04, D05Av01r02, D06v02r01 (2G/3G/4G and Hotspot)
- FCC KDB Publication 248227 D01v02r02 (SAR Considerations for 802.11 Devices)
- FCC KDB Publication 447498 D01v06 (General SAR Guidance)
- FCC KDB Publication 865664 D01v01r04, D02v01r02 (SAR Measurements up to 6 GHz)
- FCC KDB Publication 648474 D04v01r03 (Phablet Procedures)
- FCC KDB Publication 616217 D04v01r02 (Proximity Sensor)
- October 2013 TCB Workshop Notes (GPRS Testing Considerations)
- May 2017 TCB Workshop Notes (LTE 4x4 Downlink MIMO, LTE Band 41 Power Class 2/3)
- April 2018 TCB Workshop Notes (LTE Carrier Aggregation)
- April 2019 TCB Workshop Notes (IEEE 802.11ax)

1.9 Device Serial Numbers

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

1.10 Bibliography

Report Type	Report Serial Number
WIFI 6E RF Exposure Report	1M2009280154-25-R2.A3L

2 LTE AND NR INFORMATION

LTE Information					
Form Factor	Portable Handset				
Frequency Range of each LTE transmission band	LTE Band 12 (699.7 - 715.3 MHz)				
	LTE Band 17 (706.5 - 713.5 MHz)				
	LTE Band 13 (779.5 - 784.5 MHz)				
	LTE Band 26 (Cell) (814.7 - 848.3 MHz)				
	LTE Band 5 (Cell) (824.7 - 848.3 MHz)				
	LTE Band 66 (AWS) (1710.7 - 1779.3 MHz)				
	LTE Band 4 (AWS) (1710.7 - 1754.3 MHz)				
	LTE Band 25 (PCS) (1850.7 - 1914.3 MHz)				
	LTE Band 2 (PCS) (1850.7 - 1909.3 MHz)				
	LTE Band 41 (2498.5 - 2687.5 MHz)				
Channel Bandwidths	LTE Band 12: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 17: 5 MHz, 10 MHz				
	LTE Band 13: 5 MHz, 10 MHz				
	LTE Band 26 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz				
	LTE Band 5 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 66 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 4 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 25 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 2 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 41: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
Channel Numbers and Frequencies (MHz)	Low	Low-Mid	Mid	Mid-High	High
LTE Band 12: 1.4 MHz	699.7 (23017)		707.5 (23095)	715.3 (23173)	
LTE Band 12: 3 MHz	700.5 (23025)		707.5 (23095)	714.5 (23165)	
LTE Band 12: 5 MHz	701.5 (23035)		707.5 (23095)	713.5 (23155)	
LTE Band 12: 10 MHz	704 (23060)		707.5 (23095)	711 (23130)	
LTE Band 17: 5 MHz	706.5 (23755)		710 (23790)	713.5 (23825)	
LTE Band 17: 10 MHz	709 (23780)		710 (23790)	711 (23800)	
LTE Band 13: 5 MHz	779.5 (23205)		782 (23230)	784.5 (23255)	
LTE Band 13: 10 MHz	N/A		782 (23230)	N/A	
LTE Band 26 (Cell): 1.4 MHz	814.7 (26697)		831.5 (26865)	848.3 (27033)	
LTE Band 26 (Cell): 3 MHz	815.5 (26705)		831.5 (26865)	847.5 (27025)	
LTE Band 26 (Cell): 5 MHz	816.5 (26715)		831.5 (26865)	846.5 (27015)	
LTE Band 26 (Cell): 10 MHz	819 (26740)		831.5 (26865)	844 (26990)	
LTE Band 26 (Cell): 15 MHz	821.5 (26765)		831.5 (26865)	841.5 (26965)	
LTE Band 5 (Cell): 1.4 MHz	824.7 (20407)		836.5 (20525)	848.3 (20643)	
LTE Band 5 (Cell): 3 MHz	825.5 (20415)		836.5 (20525)	847.5 (20635)	
LTE Band 5 (Cell): 5 MHz	826.5 (20425)		836.5 (20525)	846.5 (20625)	
LTE Band 5 (Cell): 10 MHz	829 (20450)		836.5 (20525)	844 (20600)	
LTE Band 66 (AWS): 1.4 MHz	1710.7 (131979)		1745 (132322)	1779.3 (132665)	
LTE Band 66 (AWS): 3 MHz	1711.5 (131987)		1745 (132322)	1778.5 (132657)	
LTE Band 66 (AWS): 5 MHz	1712.5 (131997)		1745 (132322)	1777.5 (132647)	
LTE Band 66 (AWS): 10 MHz	1715 (132022)		1745 (132322)	1775 (132622)	
LTE Band 66 (AWS): 15 MHz	1717.5 (132047)		1745 (132322)	1772.5 (132597)	
LTE Band 66 (AWS): 20 MHz	1720 (132072)		1745 (132322)	1770 (132572)	
LTE Band 4 (AWS): 1.4 MHz	1710.7 (19957)		1732.5 (20175)	1754.3 (20393)	
LTE Band 4 (AWS): 3 MHz	1711.5 (19965)		1732.5 (20175)	1753.5 (20385)	
LTE Band 4 (AWS): 5 MHz	1712.5 (19975)		1732.5 (20175)	1752.5 (20375)	
LTE Band 4 (AWS): 10 MHz	1715 (20000)		1732.5 (20175)	1750 (20350)	
LTE Band 4 (AWS): 15 MHz	1717.5 (20025)		1732.5 (20175)	1747.5 (20325)	
LTE Band 4 (AWS): 20 MHz	1720 (20050)		1732.5 (20175)	1745 (20300)	
LTE Band 25 (PCS): 1.4 MHz	1850.7 (26047)		1882.5 (26365)	1914.3 (26683)	
LTE Band 25 (PCS): 3 MHz	1851.5 (26055)		1882.5 (26365)	1913.5 (26675)	
LTE Band 25 (PCS): 5 MHz	1852.5 (26065)		1882.5 (26365)	1912.5 (26665)	
LTE Band 25 (PCS): 10 MHz	1855 (26090)		1882.5 (26365)	1910 (26640)	
LTE Band 25 (PCS): 15 MHz	1857.5 (26115)		1882.5 (26365)	1907.5 (26615)	
LTE Band 25 (PCS): 20 MHz	1860 (26140)		1882.5 (26365)	1905 (26590)	
LTE Band 2 (PCS): 1.4 MHz	1850.7 (18607)		1880 (18900)	1909.3 (19193)	
LTE Band 2 (PCS): 3 MHz	1851.5 (18615)		1880 (18900)	1908.5 (19185)	
LTE Band 2 (PCS): 5 MHz	1852.5 (18625)		1880 (18900)	1907.5 (19175)	
LTE Band 2 (PCS): 10 MHz	1855 (18650)		1880 (18900)	1905 (19150)	
LTE Band 2 (PCS): 15 MHz	1857.5 (18675)		1880 (18900)	1902.5 (19125)	
LTE Band 2 (PCS): 20 MHz	1860 (18700)		1880 (18900)	1900 (19100)	
LTE Band 41: 5 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 10 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 15 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 20 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
UE Category	DL UE Cat 20, UL UE Cat 18				
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 features as shown in Appendix F. Uplink communications are done on the PCC. The following LTE Release 15 Features are not supported: Relay, HetNet, Enhanced MIMO, eICIC, WIFI Offloading, eMBMS, Cross-Carrier Scheduling, Enhanced SC-FDMA.				

NR Information			
Form Factor	Portable Handset		
Frequency Range of each LTE transmission band	NR Band n5 (Cell) (826.5 - 846.5 MHz)		
	NR Band n66 (AWS) (1712.5 - 1777.5 MHz)		
Channel Bandwidths	NR Band n5 (Cell): 5 MHz, 10 MHz, 15 MHz, 20 MHz		
	NR Band n66 (AWS): 5 MHz, 10 MHz, 15 MHz, 20 MHz		
Channel Numbers and Frequencies (MHz)			
NR Band n5 (Cell): 5 MHz	826.5 (165300)	836.5 (167300)	846.5 (169300)
NR Band n5 (Cell): 10 MHz	829 (165800)	836.5 (167300)	844 (168800)
NR Band n5 (Cell): 15 MHz	831.5 (166300)	836.5 (167300)	841.5 (168300)
NR Band n5 (Cell): 20 MHz	834 (166800)	836.5 (167300)	839 (167800)
NR Band n66 (AWS): 5 MHz	1712.5 (342500)	1745 (349000)	1777.5 (355500)
NR Band n66 (AWS): 10 MHz	1715 (343000)	1745 (349000)	1775 (355000)
NR Band n66 (AWS): 15 MHz	1717.5 (343500)	1745 (349000)	1772.5 (354500)
NR Band n66 (AWS): 20 MHz	1720 (344000)	1745 (349000)	1770 (354000)
SCS for NR Band n5/n66	15 kHz		
Modulations Supported in UL	DFT-s-OFDM: QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM		
A-MPR (Additional MPR) disabled for SAR Testing?	YES		
EN-DC Carrier Aggregation Possible Combinations	The technical description includes all the possible carrier aggregation combinations		
LTE Anchor Bands for NR Band n5 (Cell)	LTE Band 66/2		
LTE Anchor Bands for NR Band n66 (AWS)	LTE Band 12/5		

3 INTRODUCTION

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

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

3.1 SAR Definition

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

Equation 3-1
SAR Mathematical Equation

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

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

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

where:

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

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

4 DOSIMETRIC ASSESSMENT

4.1 Measurement Procedure

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

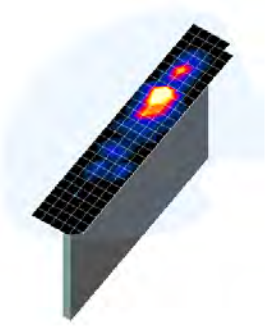

Figure 4-1
Sample SAR Area Scan

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

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

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

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

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

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

*Also compliant to IEEE 1528-2013 Table 6

5 DEFINITION OF REFERENCE POINTS

5.1 EAR REFERENCE POINT

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

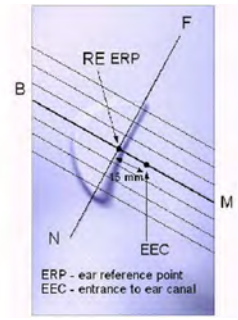

Figure 5-1
Close-Up Side view of ERP

5.2 HANDSET REFERENCE POINTS

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

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

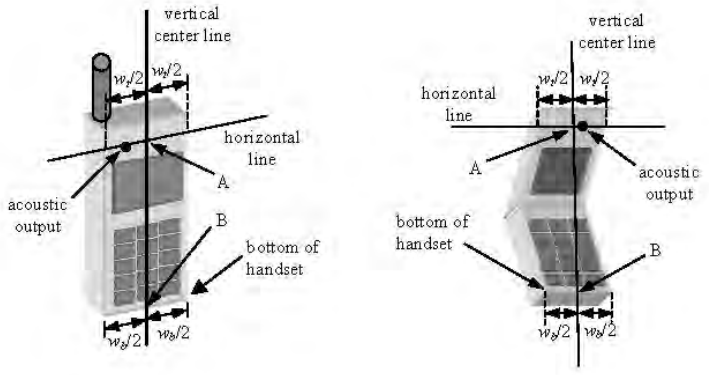

Figure 5-3
Handset Vertical Center & Horizontal Line Reference Points

6 TEST CONFIGURATION POSITIONS

6.1 Device Holder

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

6.2 Positioning for Cheek

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

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

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

6.3 Positioning for Ear / 15º Tilt

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

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

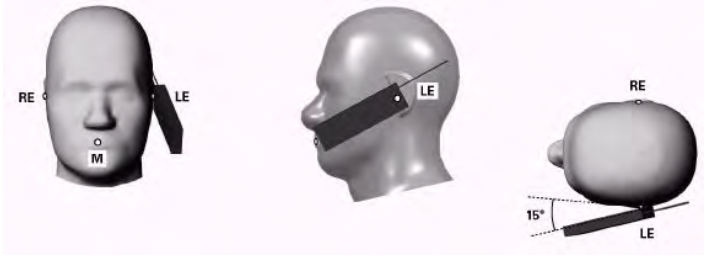

Figure 6-2 Front, Side and Top View of Ear/15º Tilt Position

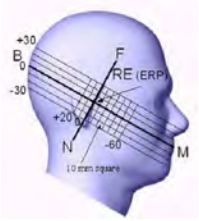

Figure 6-3
Side view w/ relevant markings

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

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

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

6.5 Body-Worn Accessory Configurations

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

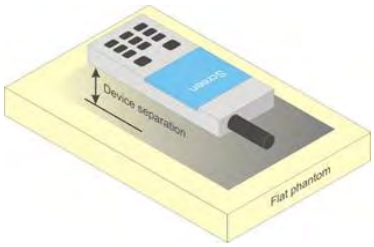

Figure 6-4
Sample Body-Worn Diagram

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

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

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

6.6 Extremity Exposure Configurations

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

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

6.7 Wireless Router Configurations

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

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

6.8 Phablet Configurations

For smart phones with a display diagonal dimension > 150 mm or an overall diagonal dimension > 160 mm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, the phablets procedures outlined in KDB Publication 648474 D04v01r03 should be applied to evaluate SAR compliance. A device marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance. In addition to the normally required head and body-worn accessory SAR test procedures required for handsets, the UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna <=25 mm from that surface or edge, in direct contact with the phantom, for 10g SAR. The UMPC mini-tablet 1g SAR at 5 mm is not required. When hotspot mode applies, 10g SAR is required only for the surfaces and edges with hotspot mode 1g SAR > 1.2 W/kg.

6.9 Proximity Sensor Considerations

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

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

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

7 RF EXPOSURE LIMITS

7.1 Uncontrolled Environment

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

7.2 Controlled Environment

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

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

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

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

8 FCC MEASUREMENT PROCEDURES

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

8.1 Measured and Reported SAR

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

8.2 3G SAR Test Reduction Procedure

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

8.3 Procedures Used to Establish RF Signal for SAR

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

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

8.4 SAR Measurement Conditions for UMTS

8.4.1 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.

8.4.2 Head SAR Measurements

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

8.4.3 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.

8.4.4 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.

8.4.5 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.

8.4.6 SAR Measurement Conditions for DC-HSDPA

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

8.5 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).

8.5.1 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.

8.5.2 MPR

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

8.5.3 A-MPR

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

8.5.4 Required RB Size and RB Offsets for SAR Testing

According to FCC KDB 941225 D05v02r04:

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

8.5.5 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.

8.5.6 Downlink Only Carrier Aggregation

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

8.6 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.

8.6.1 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.

8.6.2 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.

8.6.3 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.

8.6.4 Initial Test Position Procedure

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

8.6.5 2.4 GHz SAR Test Requirements

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

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

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

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

8.6.6 OFDM Transmission Mode and SAR Test Channel Selection

When the same maximum output power was specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration with the largest channel bandwidth, lowest order modulation and lowest data rate. When the maximum output power of a channel is the same for equivalent OFDM configurations; for example, 802.11a, 802.11n and 802.11ac or 802.11g and 802.11n with the same channel bandwidth, modulation and data rate etc., the lower order 802.11 mode i.e., 802.11a, then 802.11n and 802.11ac or 802.11g then 802.11n, is used for SAR measurement. Per April 2019 TCB Workshop guidance, 802.11ax was considered the highest order 802.11 mode. 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.

8.6.7 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 8.6.6). When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

8.6.8 Subsequent Test Configuration Procedures

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

8.6.9 MIMO SAR considerations

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

9 RF CONDUCTED POWERS

9.1 GSM Conducted Powers

Table 9-1
Maximum Conducted Power

Maximum Burst-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 850	128	33.13	33.16	30.78	**29.63**	28.12	26.75	24.73	23.54	22.15
	190	33.29	33.30	30.95	**29.77**	28.29	27.02	25.00	23.84	22.28
	251	33.26	33.21	31.00	**29.84**	28.58	26.09	24.86	23.90	22.22
GSM 1900	512	29.99	30.03	27.23	**25.68**	23.44	25.57	23.66	22.22	20.94
	661	30.09	30.09	27.46	**25.80**	24.20	25.70	23.75	22.77	21.00
	810	30.21	30.17	27.30	**25.70**	23.99	25.63	23.44	22.41	20.67

Calculated Maximum Frame-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 850	128	23.93	23.96	24.59	**25.20**	24.94	17.55	18.54	19.11	18.97
	190	24.09	24.10	24.76	**25.34**	25.11	17.82	18.81	19.41	19.10
	251	24.06	24.01	24.81	**25.41**	25.40	16.89	18.67	19.47	19.04
GSM 1900	512	20.79	20.83	21.04	**21.25**	20.26	16.37	17.47	17.79	17.76
	661	20.89	20.89	21.27	**21.37**	21.02	16.50	17.56	18.34	17.82
	810	21.01	20.97	21.11	**21.27**	20.81	16.43	17.25	17.98	17.49

GSM 850	**Frame Avg.Targets:**	23.80	23.80	24.31	**25.07**	24.82	17.30	17.81	18.57	18.32
GSM 1900		20.80	20.80	20.81	**21.07**	20.82	16.30	16.81	17.57	17.32

Table 9-2
Reduced Conducted Power - Hotspot, Grip Sensor and/or Earjack Mode Active

Maximum Burst-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 1900	512	28.23	28.26	25.10	**23.45**	21.94	25.57	23.66	22.22	20.94
	661	28.49	28.52	25.61	**23.85**	22.31	25.70	23.75	22.77	21.00
	810	28.44	28.46	25.47	**23.67**	22.12	25.63	23.44	22.41	20.67

Calculated Maximum Frame-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 1900	512	19.03	19.06	18.91	**19.02**	18.76	16.37	17.47	17.79	17.76
	661	19.29	19.32	19.42	**19.42**	19.13	16.50	17.56	18.34	17.82
	810	19.24	19.26	19.28	**19.24**	18.94	16.43	17.25	17.98	17.49
GSM 1900	**Frame Avg.Targets:**	18.80	18.80	18.81	**19.07**	18.82	16.30	16.81	17.57	17.32

Note:

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

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

Figure 9-1
Power Measurement Setup

9.2 UMTS Conducted Powers

Table 9-3
Maximum Conducted Power

3GPP Release Version	Mode	3GPP 34.121 Subtest	Cellular Band [dBm]			AWS Band [dBm]			PCS Band [dBm]			3GPP MPR [dB]
			4132	4183	4233	1312	1412	1513	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	25.25	25.39	25.46	24.89	24.93	24.69	24.58	24.62	24.38	-
99		12.2 kbps AMR	25.21	25.33	25.43	24.91	24.89	24.65	24.53	24.66	24.36	-
6	HSDPA	Subtest 1	23.44	23.68	23.62	23.64	23.78	23.96	23.47	23.50	23.52	0
6		Subtest 2	22.45	22.63	22.70	22.61	22.78	22.89	22.54	22.49	22.35	0
6		Subtest 3	21.42	21.67	21.65	21.41	21.74	21.83	21.11	21.46	21.00	0.5
6		Subtest 4	21.39	21.68	21.67	21.44	21.76	21.74	21.03	21.45	20.97	0.5
6	HSUPA	Subtest 1	22.33	22.48	22.47	22.40	22.52	22.70	22.25	22.20	22.02	0
6		Subtest 2	20.28	20.43	20.44	20.20	20.59	20.73	19.72	20.20	19.56	2
6		Subtest 3	21.30	21.49	21.50	21.32	21.60	21.65	20.88	21.22	20.70	1
6		Subtest 4	20.27	20.44	20.08	19.75	20.25	20.33	19.27	19.80	19.12	2
6		Subtest 5	23.35	23.54	23.53	23.58	23.69	23.90	23.40	23.35	23.15	0
8	DC-HSDPA	Subtest 1	23.42	23.76	23.78	23.63	23.80	23.78	23.38	23.52	23.45	0
8		Subtest 2	22.83	22.96	23.05	22.60	23.00	23.00	22.73	22.76	22.60	0
8		Subtest 3	21.84	22.01	22.09	21.60	22.03	22.02	21.61	21.68	21.47	0.5
8		Subtest 4	21.55	21.80	21.80	21.57	21.85	21.79	21.35	21.46	21.18	0.5

Table 9-4
Reduced Conducted Power - Hotspot, Grip Sensor and/or Earjack Mode Active

3GPP Release Version	Mode	3GPP 34.121 Subtest	AWS Band [dBm]			PCS Band [dBm]			3GPP MPR [dB]
			1312	1412	1513	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	21.68	21.93	21.93	21.53	21.59	21.41	-
99		12.2 kbps AMR	21.63	21.85	21.90	21.51	21.54	21.40	-
6	HSDPA	Subtest 1	21.26	21.42	21.40	21.04	21.12	20.91	0
6		Subtest 2	21.13	21.37	21.29	21.00	21.04	20.86	0
6		Subtest 3	21.15	21.36	21.41	20.75	21.17	20.58	0.5
6		Subtest 4	21.12	21.45	21.37	20.69	21.15	20.54	0.5
6	HSUPA	Subtest 1	20.04	20.26	20.30	19.88	19.93	19.77	0
6		Subtest 2	19.98	20.20	20.28	19.71	19.90	19.70	2
6		Subtest 3	19.99	20.18	20.32	19.78	19.88	19.76	1
6		Subtest 4	19.97	20.23	20.35	19.78	19.85	19.79	2
6		Subtest 5	20.03	20.20	20.27	20.90	20.99	20.85	0
8	DC-HSDPA	Subtest 1	21.24	21.39	21.34	20.99	21.21	20.97	0
8		Subtest 2	21.25	21.42	21.16	21.01	21.04	20.99	0
8		Subtest 3	21.05	21.38	21.44	20.97	21.15	21.05	0.5
8		Subtest 4	21.15	21.40	21.38	20.89	21.09	20.95	0.5

DC-HSDPA considerations

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

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

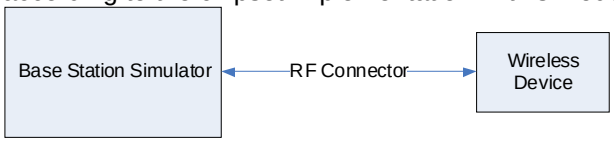

Figure 9-2
Power Measurement Setup

9.3 LTE Conducted Powers

9.3.1 LTE Band 12

Table 9-5
LTE Band 12 Maximum Conducted Powers - 10 MHz Bandwidth

LTE Band 12 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23095 (707.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**25.37**	0	0
	1	25	24.92		0
	1	49	24.96		0
	25	0	23.72	0-1	1
	25	12	**23.91**		1
	25	25	23.54		1
	50	0	23.70		1
16QAM	1	0	23.77	0-1	1
	1	25	23.61		1
	1	49	23.62		1
	25	0	22.70	0-2	2
	25	12	22.56		2
	25	25	22.62		2
	50	0	22.80		2
64QAM	1	0	22.83	0-2	2
	1	25	22.71		2
	1	49	22.58		2
	25	0	21.78	0-3	3
	25	12	21.61		3
	25	25	21.57		3
	50	0	21.87		3
256QAM	1	0	21.85	0-5	3
	1	25	21.54		3
	1	49	21.49		3
	25	0	20.80		4
	25	12	20.65		4
	25	25	20.64		4
	50	0	20.82		4

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

Table 9-6
LTE Band 12 Maximum Conducted Powers - 5 MHz Bandwidth

LTE Band 12 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23035 (701.5 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23155 (713.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.32	25.15	24.90	0	0
	1	12	25.26	25.07	24.75		0
	1	24	25.32	25.12	24.92		0
	12	0	23.83	23.60	23.50	0-1	1
	12	6	23.80	23.57	23.50		1
	12	13	23.80	23.60	23.47		1
	25	0	23.82	23.61	23.49		1
16QAM	1	0	24.27	23.92	23.61	0-1	1
	1	12	23.95	23.67	23.67		1
	1	24	24.18	23.54	23.65		1
	12	0	22.89	22.53	22.51	0-2	2
	12	6	22.87	22.54	22.49		2
	12	13	22.86	22.54	22.46		2
	25	0	22.82	22.57	22.50		2
64QAM	1	0	22.98	22.66	22.39	0-2	2
	1	12	22.85	22.56	22.38		2
	1	24	22.91	22.63	22.35		2
	12	0	21.76	21.59	21.40	0-3	3
	12	6	21.76	21.55	21.43		3
	12	13	21.73	21.55	21.37		3
	25	0	21.80	21.52	21.45		3
256QAM	1	0	21.97	21.80	21.48	0-5	3
	1	12	21.86	21.88	21.39		3
	1	24	21.92	21.75	21.43		3
	12	0	20.91	20.67	20.55		4
	12	6	20.91	20.67	20.54		4
	12	13	20.90	20.67	20.52		4
	25	0	20.86	20.71	20.56		4

Table 9-7
LTE Band 12 Maximum Conducted Powers - 3 MHz Bandwidth

LTE Band 12 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23025 (700.5 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23165 (714.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.31	25.05	24.92	0	0
	1	7	25.25	24.83	24.87		0
	1	14	25.31	25.06	24.92		0
	8	0	23.86	23.61	23.51	0-1	1
	8	4	23.78	23.59	23.44		1
	8	7	23.80	23.58	23.44		1
	15	0	23.83	23.59	23.47		1
16QAM	1	0	23.98	23.67	23.69	0-1	1
	1	7	23.70	23.45	23.64		1
	1	14	23.91	23.57	23.60		1
	8	0	22.81	22.65	22.58	0-2	2
	8	4	22.79	22.62	22.49		2
	8	7	22.78	22.61	22.50		2
	15	0	22.88	22.58	22.48		2
64QAM	1	0	22.91	22.65	22.62	0-2	2
	1	7	22.90	22.45	22.43		2
	1	14	23.05	22.44	22.60		2
	8	0	21.85	21.60	21.50	0-3	3
	8	4	21.76	21.57	21.42		3
	8	7	21.81	21.55	21.42		3
	15	0	21.92	21.55	21.36		3
256QAM	1	0	21.83	21.76	21.76	0-5	3
	1	7	21.74	21.72	21.95		3
	1	14	21.81	21.78	21.95		3
	8	0	20.92	20.74	20.63		4
	8	4	20.87	20.72	20.54		4
	8	7	20.84	20.67	20.54		4
	15	0	20.90	20.65	20.55		4

Table 9-8
LTE Band 12 Maximum Conducted Powers - 1.4 MHz Bandwidth

LTE Band 12 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 23017 (699.7 MHz)	Mid Channel 23095 (707.5 MHz)	High Channel 23173 (715.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	25.42	25.16	25.00	0	0
	1	2	25.10	24.99	24.91		0
	1	5	25.33	25.09	24.96		0
	3	0	25.43	25.15	24.86		0
	3	2	25.25	24.99	24.90		0
	3	3	25.28	25.02	24.99		0
	6	0	23.90	23.63	23.50	0-1	1
16QAM	1	0	23.86	23.64	23.31	0-1	1
	1	2	23.92	23.80	23.44		1
	1	5	23.87	23.67	23.36		1
	3	0	23.87	23.55	23.63		1
	3	2	23.75	23.60	23.54		1
	3	3	23.94	23.68	23.42		1
	6	0	22.95	22.56	22.61	0-2	2
64QAM	1	0	23.13	22.82	22.48	0-2	2
	1	2	22.93	22.62	22.36		2
	1	5	22.78	22.70	22.51		2
	3	0	23.13	22.67	22.38		2
	3	2	22.93	22.71	22.53		2
	3	3	22.98	22.71	22.47		2
	6	0	21.82	21.70	21.46	0-3	3
256QAM	1	0	22.09	21.48	21.51	0-5	3
	1	2	22.05	21.62	21.62		3
	1	5	22.01	21.57	21.47		3
	3	0	21.90	21.83	21.74		3
	3	2	21.75	21.85	21.66		3
	3	3	21.84	21.65	21.63		3
	6	0	20.92	20.64	20.64		4

9.3.2 LTE Band 13

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

LTE Band 13 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23230 (782.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**24.53**	0	0
	1	25	24.51		0
	1	49	24.41		0
	25	0	**23.34**	0-1	1
	25	12	23.19		1
	25	25	23.15		1
	50	0	23.21		1
16QAM	1	0	23.13	0-1	1
	1	25	23.13		1
	1	49	23.05		1
	25	0	22.26	0-2	2
	25	12	22.12		2
	25	25	22.10		2
	50	0	22.15		2
64QAM	1	0	22.20	0-2	2
	1	25	22.28		2
	1	49	22.21		2
	25	0	21.25	0-3	3
	25	12	21.15		3
	25	25	21.10		3
	50	0	21.18		3
256QAM	1	0	21.18	0-5	3
	1	25	21.13		3
	1	49	21.13		3
	25	0	20.27		4
	25	12	20.19		4
	25	25	20.17		4
	50	0	20.22		4

Table 9-10
LTE Band 13 Maximum Conducted Powers - 5 MHz Bandwidth

LTE Band 13 5 MHz Bandwidth					
Modulation	**RB Size**	**RB Offset**	**Mid Channel** **23230 (782.0 MHz)** **Conducted Power [dBm]**	**MPR Allowed per 3GPP [dB]**	**MPR [dB]**
QPSK	1	0	24.45	0	0
	1	12	24.34		0
	1	24	24.47		0
	12	0	23.07	0-1	1
	12	6	23.06		1
	12	13	23.06		1
	25	0	23.06		1
16QAM	1	0	23.35	0-1	1
	1	12	23.18		1
	1	24	23.35		1
	12	0	22.08	0-2	2
	12	6	22.02		2
	12	13	22.06		2
	25	0	22.08		2
64QAM	1	0	22.07	0-2	2
	1	12	22.05		2
	1	24	22.02		2
	12	0	21.00	0-3	3
	12	6	21.00		3
	12	13	21.00		3
	25	0	21.03		3
256QAM	1	0	21.24	0-5	3
	1	12	21.09		3
	1	24	21.16		3
	12	0	20.11		4
	12	6	20.12		4
	12	13	20.09		4
	25	0	20.17		4

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

9.3.3 LTE Band 26

Table 9-11
LTE Band 26 (Cell) Maximum Conducted Powers - 15 MHz Bandwidth

LTE Band 26 (Cell) 15 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 26865 (831.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**24.92**	0	0
	1	36	24.75		0
	1	74	24.80		0
	36	0	**23.45**	0-1	1
	36	18	23.33		1
	36	37	23.37		1
	75	0	23.36		1
16QAM	1	0	23.49	0-1	1
	1	36	23.36		1
	1	74	23.37		1
	36	0	22.55	0-2	2
	36	18	22.33		2
	36	37	22.35		2
	75	0	22.52		2
64QAM	1	0	22.58	0-2	2
	1	36	22.37		2
	1	74	22.45		2
	36	0	21.62	0-3	3
	36	18	21.30		3
	36	37	21.44		3
	75	0	21.43		3
256QAM	1	0	21.70	0-5	3
	1	36	21.49		3
	1	74	21.59		3
	36	0	20.62		4
	36	18	20.45		4
	36	37	20.43		4
	75	0	20.60		4

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

Table 9-12
LTE Band 26 (Cell) Maximum Conducted Powers - 10 MHz Bandwidth

LTE Band 26 (Cell) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26740 (819.0 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 26990 (844.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.73	24.75	24.90	0	0
	1	25	24.73	24.72	24.89		0
	1	49	24.70	24.66	24.20		0
	25	0	23.27	23.30	23.39	0-1	1
	25	12	23.27	23.30	23.37		1
	25	25	23.26	23.26	23.36		1
	50	0	23.29	23.30	23.38		1
16QAM	1	0	23.46	23.60	23.57	0-1	1
	1	25	23.40	23.57	23.46		1
	1	49	23.40	23.52	23.20		1
	25	0	22.29	22.31	22.42	0-2	2
	25	12	22.31	22.33	22.41		2
	25	25	22.29	22.30	22.43		2
	50	0	22.34	22.30	22.37		2
64QAM	1	0	22.54	22.60	22.71	0-2	2
	1	25	22.52	22.61	22.60		2
	1	49	22.50	22.59	22.58		2
	25	0	21.32	21.36	21.40	0-3	3
	25	12	21.30	21.35	21.42		3
	25	25	21.28	21.35	21.43		3
	50	0	21.31	21.31	21.41		3
256QAM	1	0	21.52	21.56	21.57	0-5	3
	1	25	21.45	21.43	21.56		3
	1	49	21.54	21.47	21.44		3
	25	0	20.45	20.43	20.52		4
	25	12	20.43	20.41	20.52		4
	25	25	20.42	20.40	20.51		4
	50	0	20.41	20.42	20.49		4

Table 9-13
LTE Band 26 (Cell) Maximum Conducted Powers - 5 MHz Bandwidth

LTE Band 26 (Cell) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26715 (816.5 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 27015 (846.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.76	24.71	24.87	0	0
	1	12	24.72	24.56	24.70		0
	1	24	24.78	24.71	24.71		0
	12	0	23.28	23.31	23.42	0-1	1
	12	6	23.29	23.30	23.40		1
	12	13	23.30	23.32	23.40		1
	25	0	23.30	23.32	23.41		1
16QAM	1	0	23.54	23.53	23.73	0-1	1
	1	12	23.31	23.36	23.64		1
	1	24	23.48	23.48	23.69		1
	12	0	22.31	22.35	22.43	0-2	2
	12	6	22.30	22.35	22.44		2
	12	13	22.29	22.35	22.42		2
	25	0	22.34	22.35	22.43		2
64QAM	1	0	22.50	22.45	22.61	0-2	2
	1	12	22.42	22.40	22.45		2
	1	24	22.44	22.45	22.48		2
	12	0	21.30	21.35	21.37	0-3	3
	12	6	21.31	21.34	21.36		3
	12	13	21.31	21.33	21.34		3
	25	0	21.30	21.35	21.37		3
256QAM	1	0	21.46	21.47	21.54	0-5	3
	1	12	21.37	21.40	21.44		3
	1	24	21.54	21.42	21.47		3
	12	0	20.42	20.42	20.54		4
	12	6	20.44	20.41	20.56		4
	12	13	20.42	20.39	20.53		4
	25	0	20.37	20.45	20.55		4

Table 9-14
LTE Band 26 (Cell) Maximum Conducted Powers - 3 MHz Bandwidth

LTE Band 26 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26705 (815.5 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 27025 (847.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.70	24.75	24.89	0	0
	1	7	24.51	24.70	24.88		0
	1	14	24.73	24.69	24.79		0
	8	0	23.28	23.33	23.48	0-1	1
	8	4	23.27	23.30	23.50		1
	8	7	23.27	23.31	23.31		1
	15	0	23.30	23.31	23.46		1
16QAM	1	0	23.41	23.49	23.61	0-1	1
	1	7	23.26	23.39	23.55		1
	1	14	23.34	23.50	23.49		1
	8	0	22.42	22.44	22.39	0-2	2
	8	4	22.42	22.38	22.41		2
	8	7	22.38	22.41	22.44		2
	15	0	22.30	22.46	22.30		2
64QAM	1	0	22.46	22.49	22.42	0-2	2
	1	7	22.40	22.47	22.32		2
	1	14	22.39	22.36	22.47		2
	8	0	21.35	21.38	21.47	0-3	3
	8	4	21.28	21.39	21.49		3
	8	7	21.32	21.26	21.44		3
	15	0	21.32	21.30	21.46		3
256QAM	1	0	21.27	21.42	21.67	0-5	3
	1	7	21.15	21.43	21.66		3
	1	14	21.31	21.41	21.59		3
	8	0	20.41	20.47	20.51		4
	8	4	20.36	20.51	20.44		4
	8	7	20.41	20.47	20.44		4
	15	0	20.36	20.43	20.48		4

Table 9-15
LTE Band 26 (Cell) Maximum Conducted Powers - 1.4 MHz Bandwidth

LTE Band 26 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26697 (814.7 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 27033 (848.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.64	24.52	24.71	0	0
	1	2	24.65	24.39	24.69		0
	1	5	24.49	24.52	24.66		0
	3	0	24.62	24.39	24.49		0
	3	2	24.61	24.34	24.55		0
	3	3	24.53	24.34	24.49		0
	6	0	23.30	23.20	23.36	0-1	1
16QAM	1	0	23.28	23.52	23.41	0-1	1
	1	2	23.41	23.44	23.47		1
	1	5	23.49	23.46	23.45		1
	3	0	23.31	23.32	23.36		1
	3	2	23.29	23.41	23.36		1
	3	3	23.36	23.40	23.42		1
	6	0	22.43	22.31	22.47	0-2	2
64QAM	1	0	22.23	22.45	22.51	0-2	2
	1	2	22.41	22.31	22.49		2
	1	5	22.33	22.34	22.48		2
	3	0	22.24	22.42	22.38		2
	3	2	22.23	22.43	22.41		2
	3	3	22.31	22.45	22.46		2
	6	0	21.31	21.49	21.40	0-3	3
256QAM	1	0	21.41	21.62	21.58	0-5	3
	1	2	21.42	21.44	21.66		3
	1	5	21.46	21.52	21.59		3
	3	0	21.23	21.11	21.35		3
	3	2	21.17	21.00	21.29		3
	3	3	21.17	21.10	21.30		3
	6	0	20.53	20.25	20.54	0-5	4

9.3.4 LTE Band 5

Table 9-16
LTE Band 5 (Cell) Reduced Conducted Powers - 5G NR Active - 10 MHz Bandwidth

LTE Band 5 (Cell) 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 20525 (836.5 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	21.50	0	0
	1	25	**21.61**		0
	1	49	21.43		0
	25	0	**21.58**	0-1	0
	25	12	21.53		0
	25	25	21.51		0
	50	0	21.57		0
16QAM	1	0	21.81	0-1	0
	1	25	21.40		0
	1	49	21.67		0
	25	0	21.63	0-2	0
	25	12	21.61		0
	25	25	21.65		0
	50	0	21.56		0
64QAM	1	0	21.75	0-2	0
	1	25	21.82		0
	1	49	21.40		0
	25	0	20.65	0-3	1
	25	12	20.45		1
	25	25	20.38		1
	50	0	20.46		1
256QAM	1	0	20.77	0-5	1
	1	25	20.65		1
	1	49	20.78		1
	25	0	19.57		2
	25	12	19.67		2
	25	25	19.55		2
	50	0	19.49		2

Table 9-17
LTE Band 5 (Cell) Reduced Conducted Powers - 5G NR Active - 5 MHz Bandwidth

LTE Band 5 (Cell) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20425 (826.5 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20625 (846.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	22.00	21.64	21.33	0	0
	1	12	21.95	21.69	21.34		0
	1	24	21.96	21.62	21.45		0
	12	0	21.93	21.65	21.43	0-1	0
	12	6	22.00	21.61	21.47		0
	12	13	21.98	21.62	21.38		0
	25	0	22.00	21.60	21.46		0
16QAM	1	0	21.71	21.71	21.52	0-1	0
	1	12	21.65	21.75	21.55		0
	1	24	21.74	21.72	21.61		0
	12	0	21.73	21.76	21.49	0-2	0
	12	6	21.64	21.60	21.39		0
	12	13	21.65	21.65	21.43		0
	25	0	21.71	21.66	21.39		0
64QAM	1	0	21.64	21.59	21.51	0-2	0
	1	12	21.72	21.58	21.43		0
	1	24	21.75	21.63	21.44		0
	12	0	20.71	20.50	20.33	0-3	1
	12	6	20.66	20.69	20.32		1
	12	13	20.64	20.60	20.33		1
	25	0	20.60	20.65	20.30		1
256QAM	1	0	20.71	20.57	20.41	0-5	1
	1	12	20.63	20.49	20.35		1
	1	24	20.66	20.49	20.36		1
	12	0	19.96	19.60	19.46		2
	12	6	19.97	19.64	19.51		2
	12	13	19.85	19.63	19.44		2
	25	0	19.99	19.69	19.49		2

Table 9-18
LTE Band 5 (Cell) Reduced Conducted Powers - 5G NR Active - 3 MHz Bandwidth

LTE Band 5 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20415 (825.5 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20635 (847.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	21.96	21.61	21.40	0	0
	1	7	21.96	21.65	21.35		0
	1	14	21.97	21.63	21.43		0
	8	0	21.98	21.64	21.44	0-1	0
	8	4	21.95	21.60	21.37		0
	8	7	21.95	21.63	21.39		0
	15	0	22.00	21.62	21.43		0
16QAM	1	0	21.88	21.74	21.44	0-1	0
	1	7	21.89	21.75	21.52		0
	1	14	21.92	21.74	21.54		0
	8	0	21.82	21.75	21.50	0-2	0
	8	4	21.85	21.73	21.44		0
	8	7	21.78	21.66	21.43		0
	15	0	21.79	21.67	21.40		0
64QAM	1	0	21.68	21.65	21.43	0-2	0
	1	7	21.69	21.60	21.52		0
	1	14	21.73	21.62	21.49		0
	8	0	20.69	20.62	20.43	0-3	1
	8	4	20.82	20.64	20.41		1
	8	7	20.79	20.67	20.39		1
	15	0	20.73	20.63	20.35		1
256QAM	1	0	20.72	20.60	20.37	0-5	1
	1	7	20.74	20.49	20.36		1
	1	14	20.65	20.53	20.41		1
	8	0	20.00	19.77	19.50		2
	8	4	19.95	19.73	19.50		2
	8	7	19.94	19.72	19.45		2
	15	0	19.96	19.73	19.44		2

Table 9-19
LTE Band 5 (Cell) Reduced Conducted Powers - 5G NR Active - 1.4 MHz Bandwidth

LTE Band 5 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20407 (824.7 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20643 (848.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	21.70	21.53	21.75	0	0
	1	2	21.69	21.49	21.64		0
	1	5	21.73	21.46	21.75		0
	3	0	21.72	21.61	21.76		0
	3	2	21.71	21.53	21.66		0
	3	3	21.62	21.55	21.65		0
	6	0	21.65	21.55	21.74	0-1	0
16QAM	1	0	21.73	21.72	21.88	0-1	0
	1	2	21.71	21.70	21.81		0
	1	5	21.63	21.73	21.85		0
	3	0	21.76	21.62	21.78		0
	3	2	21.61	21.47	21.71		0
	3	3	21.67	21.58	21.68		0
	6	0	21.64	21.52	21.73	0-2	0
64QAM	1	0	21.75	21.29	21.78	0-2	0
	1	2	21.83	21.52	21.81		0
	1	5	21.92	21.55	21.75		0
	3	0	21.83	21.49	21.64		0
	3	2	21.84	21.49	21.68		0
	3	3	21.72	21.59	21.84		0
	6	0	20.63	20.47	20.74	0-3	1
256QAM	1	0	20.77	20.28	20.87	0-5	1
	1	2	20.81	20.34	20.98		1
	1	5	20.80	20.47	20.97		1
	3	0	20.75	20.37	20.62		1
	3	2	20.76	20.38	20.73		1
	3	3	20.86	20.48	20.78		1
	6	0	19.66	19.41	19.75		2

9.3.5 LTE Band 66

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

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132072 (1720.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132572 (1770.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.71	23.82	23.78	0	0
	1	50	23.68	**24.02**	23.72		0
	1	99	23.63	23.90	23.33		0
	50	0	22.33	22.67	22.75	0-1	1
	50	25	22.46	**22.83**	22.34		1
	50	50	22.43	22.75	22.39		1
	100	0	22.30	22.67	22.52		1
16QAM	1	0	22.00	22.48	22.28	0-1	1
	1	50	22.30	22.73	22.50		1
	1	99	22.22	22.45	22.30		1
	50	0	21.19	21.61	21.40	0-2	2
	50	25	21.37	21.71	21.37		2
	50	50	21.34	21.66	21.40		2
	100	0	21.25	21.59	21.43		2
64QAM	1	0	20.93	21.44	21.11	0-2	2
	1	50	21.25	21.77	21.26		2
	1	99	21.25	21.53	21.21		2
	50	0	20.13	20.57	20.51	0-3	3
	50	25	20.27	20.60	20.32		3
	50	50	20.32	20.59	20.27		3
	100	0	20.19	20.59	20.42		3
256QAM	1	0	20.10	20.51	20.20	0-5	3
	1	50	20.35	20.65	20.35		3
	1	99	20.27	20.65	20.35		3
	50	0	19.19	19.59	19.34		4
	50	25	19.38	19.66	19.34		4
	50	50	19.26	19.63	19.33		4
	100	0	19.22	19.58	19.40		4

Table 9-21
LTE Band 66 (AWS) Maximum Conducted Powers - 15 MHz Bandwidth

LTE Band 66 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132047 (1717.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132597 (1772.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.93	24.36	24.04	0	0
	1	36	23.96	24.34	24.05		0
	1	74	24.00	24.28	24.12		0
	36	0	22.61	22.89	22.69	0-1	1
	36	18	22.66	22.89	22.73		1
	36	37	22.65	22.88	22.72		1
	75	0	22.64	22.90	22.73		1
16QAM	1	0	22.48	22.98	22.77	0-1	1
	1	36	22.52	22.95	22.77		1
	1	74	22.58	22.92	22.79		1
	36	0	21.54	21.82	21.60	0-2	2
	36	18	21.58	21.83	21.63		2
	36	37	21.59	21.81	21.62		2
	75	0	21.58	21.84	21.64		2
64QAM	1	0	21.47	22.04	21.70	0-2	2
	1	36	21.50	22.03	21.72		2
	1	74	21.54	22.02	21.74		2
	36	0	20.53	20.79	20.58	0-3	3
	36	18	20.57	20.80	20.62		3
	36	37	20.59	20.77	20.63		3
	75	0	20.50	20.79	20.59		3
256QAM	1	0	20.50	20.90	20.77	0-5	3
	1	36	20.56	20.85	20.77		3
	1	74	20.60	20.95	20.82		3
	36	0	19.52	19.84	19.65		4
	36	18	19.55	19.83	19.66		4
	36	37	19.57	19.82	19.68		4
	75	0	19.54	19.83	19.66		4

Table 9-22
LTE Band 66 (AWS) Maximum Conducted Powers - 10 MHz Bandwidth

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132022 (1715.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132622 (1775.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.90	24.26	24.06	0	0
	1	25	23.88	24.30	24.08		0
	1	49	23.97	24.22	24.09		0
	25	0	22.43	22.78	22.54	0-1	1
	25	12	22.48	22.78	22.57		1
	25	25	22.47	22.77	22.57		1
	50	0	22.44	22.78	22.55		1
16QAM	1	0	22.57	22.85	22.82	0-1	1
	1	25	22.57	22.77	22.85		1
	1	49	22.66	22.83	22.82		1
	25	0	21.38	21.77	21.52	0-2	2
	25	12	21.41	21.80	21.55		2
	25	25	21.43	21.76	21.52		2
	50	0	21.36	21.74	21.46		2
64QAM	1	0	21.35	21.99	21.66	0-2	2
	1	25	21.30	22.05	21.66		2
	1	49	21.44	21.85	21.73		2
	25	0	20.29	20.61	20.38	0-3	3
	25	12	20.31	20.66	20.40		3
	25	25	20.36	20.63	20.37		3
	50	0	20.27	20.61	20.33		3
256QAM	1	0	20.50	20.84	20.84	0-5	3
	1	25	20.49	20.78	20.94		3
	1	49	20.53	20.85	20.84		3
	25	0	19.49	19.87	19.61		4
	25	12	19.52	19.88	19.62		4
	25	25	19.53	19.87	19.66		4
	50	0	19.48	19.80	19.59		4

Table 9-23
LTE Band 66 (AWS) Maximum Conducted Powers - 5 MHz Bandwidth

LTE Band 66 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131997 (1712.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132647 (1777.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.00	24.35	24.05	0	0
	1	12	24.01	24.27	23.87		0
	1	24	24.05	24.34	24.07		0
	12	0	22.46	22.79	22.60	0-1	1
	12	6	22.46	22.79	22.60		1
	12	13	22.46	22.80	22.59		1
	25	0	22.47	22.76	22.58		1
16QAM	1	0	22.78	23.10	22.70	0-1	1
	1	12	22.54	22.88	22.62		1
	1	24	22.76	23.11	22.65		1
	12	0	21.42	21.72	21.54	0-2	2
	12	6	21.41	21.72	21.53		2
	12	13	21.44	21.73	21.53		2
	25	0	21.40	21.74	21.51		2
64QAM	1	0	21.67	21.97	21.53	0-2	2
	1	12	21.60	21.92	21.50		2
	1	24	21.63	21.95	21.54		2
	12	0	20.25	20.63	20.38	0-3	3
	12	6	20.27	20.62	20.39		3
	12	13	20.27	20.62	20.38		3
	25	0	20.24	20.61	20.38		3
256QAM	1	0	20.60	20.87	20.62	0-5	3
	1	12	20.50	20.75	20.50		3
	1	24	20.67	20.90	20.63		3
	12	0	19.52	19.84	19.60		4
	12	6	19.54	19.82	19.57		4
	12	13	19.52	19.82	19.59		4
	25	0	19.45	19.81	19.60		4

Table 9-24
LTE Band 66 (AWS) Maximum Conducted Powers - 3 MHz Bandwidth

LTE Band 66 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131987 (1711.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132657 (1778.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.05	24.28	24.10	0	0
	1	7	23.99	24.09	24.06		0
	1	14	24.07	24.31	24.07		0
	8	0	22.63	22.86	22.66	0-1	1
	8	4	22.54	22.84	22.64		1
	8	7	22.56	22.82	22.65		1
	15	0	22.52	22.83	22.63		1
16QAM	1	0	22.55	22.82	22.88	0-1	1
	1	7	22.52	22.77	22.78		1
	1	14	22.54	22.73	22.89		1
	8	0	21.58	21.92	21.72	0-2	2
	8	4	21.54	21.88	21.64		2
	8	7	21.52	21.85	21.69		2
	15	0	21.46	21.77	21.58		2
64QAM	1	0	21.44	21.94	21.70	0-2	2
	1	7	21.40	21.84	21.56		2
	1	14	21.50	21.96	21.75		2
	8	0	20.45	20.72	20.54	0-3	3
	8	4	20.46	20.71	20.50		3
	8	7	20.43	20.71	20.53		3
	15	0	20.36	20.66	20.35		3
256QAM	1	0	20.68	20.86	20.90	0-5	3
	1	7	20.59	20.71	20.80		3
	1	14	20.68	20.91	20.81		3
	8	0	19.58	19.91	19.72		4
	8	4	19.56	19.87	19.65		4
	8	7	19.53	19.84	19.68		4
	15	0	19.60	19.83	19.64		4

Table 9-25
LTE Band 66 (AWS) Maximum Conducted Powers - 1.4 MHz Bandwidth

LTE Band 66 (AWS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131979 (1710.7 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132665 (1779.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.15	24.42	24.29	0	0
	1	2	23.99	24.26	24.02		0
	1	5	24.09	24.32	24.22		0
	3	0	24.08	24.19	24.17		0
	3	2	23.95	24.24	24.00		0
	3	3	24.02	24.39	24.06		0
	6	0	22.65	22.92	22.77	0-1	1
16QAM	1	0	22.72	22.68	22.55	0-1	1
	1	2	22.82	22.77	22.56		1
	1	5	22.78	22.76	22.70		1
	3	0	22.52	22.85	22.57		1
	3	2	22.59	22.80	22.70		1
	3	3	22.67	22.71	22.77		1
	6	0	21.60	21.87	21.69	0-2	2
64QAM	1	0	21.60	21.77	21.80	0-2	2
	1	2	21.35	21.86	21.55		2
	1	5	21.55	21.89	21.70		2
	3	0	21.56	21.70	21.74		2
	3	2	21.51	21.77	21.61		2
	3	3	21.58	21.88	21.60		2
	6	0	20.60	20.82	20.66	0-3	3
256QAM	1	0	20.57	20.81	20.84	0-5	3
	1	2	20.45	20.80	20.80		3
	1	5	20.68	20.80	20.79		3
	3	0	20.53	20.86	20.58		3
	3	2	20.58	20.87	20.54		3
	3	3	20.72	20.78	20.66		3
	6	0	19.57	19.98	19.66		4

Table 9-26
LTE Band 66 (AWS) Reduced Conducted Powers - Hotspot, Grip Sensor and/or Earjack Mode Active - 20 MHz Bandwidth

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132072 (1720.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132572 (1770.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.54	20.84	20.58	0	0
	1	50	20.61	20.82	20.76		0
	1	99	20.64	**20.89**	20.77		0
	50	0	20.48	20.78	20.54	0-1	0
	50	25	20.54	**20.79**	20.59		0
	50	50	20.55	20.73	20.61		0
	100	0	20.54	20.75	20.57		0
16QAM	1	0	20.57	20.96	20.55	0-1	0
	1	50	20.77	21.05	20.60		0
	1	99	20.72	20.87	20.56		0
	50	0	20.33	20.65	20.37	0-2	0
	50	25	20.38	20.65	20.42		0
	50	50	20.42	20.59	20.40		0
	100	0	20.37	20.63	20.43		0
64QAM	1	0	20.42	20.73	20.36	0-2	0
	1	50	20.57	20.75	20.44		0
	1	99	20.59	20.62	20.38		0
	50	0	20.30	20.66	20.37	0-3	0
	50	25	20.36	20.66	20.44		0
	50	50	20.38	20.59	20.41		0
	100	0	20.33	20.58	20.40		0
256QAM	1	0	20.78	20.93	20.78	0-5	0
	1	50	20.82	20.98	20.91		0
	1	99	20.87	20.87	20.80		0
	50	0	19.54	19.82	19.62		1
	50	25	19.60	19.82	19.65		1
	50	50	19.59	19.79	19.63		1
	100	0	19.53	19.77	19.62		1

Table 9-27
LTE Band 66 (AWS) Reduced Conducted Powers - Hotspot, Grip Sensor and/or Earjack Mode Active - 15 MHz Bandwidth

LTE Band 66 (AWS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132047 (1717.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132597 (1772.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.49	20.81	20.66	0	0
	1	36	20.51	20.76	20.64		0
	1	74	20.59	20.79	20.68		0
	36	0	20.70	21.00	20.76	0-1	0
	36	18	20.74	20.98	20.79		0
	36	37	20.75	20.97	20.79		0
	75	0	20.71	20.97	20.78		0
16QAM	1	0	20.51	21.03	20.69	0-1	0
	1	36	20.54	20.95	20.67		0
	1	74	20.60	20.92	20.69		0
	36	0	20.50	20.86	20.56	0-2	0
	36	18	20.56	20.84	20.60		0
	36	37	20.57	20.82	20.59		0
	75	0	20.55	20.82	20.60		0
64QAM	1	0	20.49	20.91	20.60	0-2	0
	1	36	20.54	20.83	20.62		0
	1	74	20.58	20.82	20.64		0
	36	0	20.53	20.87	20.55	0-3	0
	36	18	20.58	20.87	20.57		0
	36	37	20.60	20.82	20.57		0
	75	0	20.52	20.80	20.56		0
256QAM	1	0	20.60	20.74	20.89	0-5	0
	1	36	20.64	20.72	20.87		0
	1	74	20.73	20.70	20.88		0
	36	0	19.58	19.84	19.58		1
	36	18	19.59	19.85	19.61		1
	36	37	19.62	19.83	19.60		1
	75	0	19.56	19.82	19.62		1

Table 9-28
LTE Band 66 (AWS) Reduced Conducted Powers - Hotspot, Grip Sensor and/or Earjack Mode Active - 10 MHz Bandwidth

LTE Band 66 (AWS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132022 (1715.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132622 (1775.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.45	20.71	20.51	0	0
	1	25	20.51	20.75	20.56		0
	1	49	20.50	20.69	20.57		0
	25	0	20.37	20.68	20.45	0-1	0
	25	12	20.40	20.69	20.45		0
	25	25	20.41	20.69	20.48		0
	50	0	20.39	20.66	20.43		0
16QAM	1	0	20.49	20.82	20.60	0-1	0
	1	25	20.55	20.80	20.64		0
	1	49	20.58	20.81	20.69		0
	25	0	20.23	20.57	20.30	0-2	0
	25	12	20.28	20.55	20.31		0
	25	25	20.30	20.55	20.34		0
	50	0	20.20	20.52	20.29		0
64QAM	1	0	20.49	20.77	20.53	0-2	0
	1	25	20.48	20.66	20.49		0
	1	49	20.53	20.70	20.54		0
	25	0	20.20	20.56	20.30	0-3	0
	25	12	20.24	20.54	20.31		0
	25	25	20.23	20.52	20.31		0
	50	0	20.16	20.49	20.27		0
256QAM	1	0	20.67	21.00	20.90	0-5	0
	1	25	20.84	21.06	21.00		0
	1	49	20.80	20.95	20.94		0
	25	0	19.45	19.73	19.52		1
	25	12	19.51	19.73	19.54		1
	25	25	19.54	19.72	19.56		1
	50	0	19.47	19.75	19.53		1

Table 9-29
LTE Band 66 (AWS) Reduced Conducted Powers - Hotspot, Grip Sensor and/or Earjack Mode Active - 5 MHz Bandwidth

LTE Band 66 (AWS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131997 (1712.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132647 (1777.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.47	20.68	20.47	0	0
	1	12	20.49	20.50	20.30		0
	1	24	20.55	20.69	20.53		0
	12	0	20.40	20.70	20.49	0-1	0
	12	6	20.40	20.69	20.50		0
	12	13	20.42	20.70	20.51		0
	25	0	20.38	20.69	20.47		0
16QAM	1	0	20.57	20.83	20.66	0-1	0
	1	12	20.38	20.70	20.52		0
	1	24	20.60	20.79	20.63		0
	12	0	20.24	20.58	20.32	0-2	0
	12	6	20.25	20.57	20.31		0
	12	13	20.26	20.57	20.32		0
	25	0	20.22	20.55	20.29		0
64QAM	1	0	20.52	20.60	20.37	0-2	0
	1	12	20.46	20.54	20.34		0
	1	24	20.52	20.62	20.36		0
	12	0	20.24	20.58	20.33	0-3	0
	12	6	20.26	20.57	20.33		0
	12	13	20.27	20.57	20.32		0
	25	0	20.19	20.51	20.28		0
256QAM	1	0	20.57	20.68	20.55	0-5	0
	1	12	20.47	20.58	20.54		0
	1	24	20.62	20.63	20.56		0
	12	0	19.47	19.74	19.52		1
	12	6	19.51	19.72	19.52		1
	12	13	19.48	19.73	19.53		1
	25	0	19.43	19.74	19.53		1

Table 9-30
LTE Band 66 (AWS) Reduced Conducted Powers - Hotspot, Grip Sensor and/or Earjack Mode Active - 3 MHz Bandwidth

LTE Band 66 (AWS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131987 (1711.5 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132657 (1778.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.57	20.80	20.60	0	0
	1	7	20.54	20.76	20.41		0
	1	14	20.62	20.78	20.67		0
	8	0	20.69	20.93	20.72	0-1	0
	8	4	20.61	20.86	20.67		0
	8	7	20.65	20.87	20.70		0
	15	0	20.51	20.82	20.62		0
16QAM	1	0	20.55	20.93	20.60	0-1	0
	1	7	20.39	20.82	20.54		0
	1	14	20.55	20.95	20.58		0
	8	0	20.49	20.87	20.58	0-2	0
	8	4	20.51	20.81	20.52		0
	8	7	20.50	20.82	20.56		0
	15	0	20.35	20.72	20.46		0
64QAM	1	0	20.54	20.93	20.68	0-2	0
	1	7	20.34	20.82	20.60		0
	1	14	20.50	20.96	20.62		0
	8	0	20.46	20.75	20.52	0-3	0
	8	4	20.44	20.73	20.50		0
	8	7	20.45	20.70	20.48		0
	15	0	20.33	20.64	20.42		0
256QAM	1	0	20.70	21.08	20.66	0-5	0
	1	7	20.62	21.00	20.57		0
	1	14	20.70	21.01	20.67		0
	8	0	19.57	19.93	19.71		1
	8	4	19.55	19.89	19.67		1
	8	7	19.53	19.83	19.68		1
	15	0	19.63	19.84	19.62		1

Table 9-31
LTE Band 66 (AWS) Reduced Conducted Powers - Hotspot, Grip Sensor and/or Earjack Mode Active - 1.4 MHz Bandwidth

LTE Band 66 (AWS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 131979 (1710.7 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132665 (1779.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.69	20.95	20.83	0	0
	1	2	20.50	20.80	20.57		0
	1	5	20.62	20.88	20.77		0
	3	0	20.54	20.75	20.61		0
	3	2	20.42	20.75	20.55		0
	3	3	20.48	20.93	20.60		0
	6	0	20.79	21.04	20.88	0-1	0
16QAM	1	0	20.50	20.77	20.54	0-1	0
	1	2	20.64	20.97	20.66		0
	1	5	20.57	20.84	20.55		0
	3	0	20.41	20.74	20.50		0
	3	2	20.42	20.68	20.48		0
	3	3	20.54	20.66	20.52		0
	6	0	20.68	20.86	20.73	0-2	0
64QAM	1	0	20.56	20.74	20.80	0-2	0
	1	2	20.34	20.77	20.61		0
	1	5	20.45	20.83	20.67		0
	3	0	20.30	20.71	20.50		0
	3	2	20.34	20.64	20.49		0
	3	3	20.36	20.72	20.50		0
	6	0	20.66	20.91	20.70	0-3	0
256QAM	1	0	20.84	20.72	20.70	0-5	0
	1	2	20.83	20.83	20.67		0
	1	5	20.87	20.70	20.77		0
	3	0	20.67	20.94	20.68		0
	3	2	20.57	20.84	20.60		0
	3	3	20.70	20.87	20.64		0
	6	0	19.63	19.82	19.66		1

9.3.6 LTE Band 25

Table 9-32
LTE Band 25 (PCS) Maximum Conducted Powers - 20 MHz Bandwidth

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26140 (1860.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26590 (1905.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.54	23.62	23.61	0	0
	1	50	**23.79**	23.76	23.60		0
	1	99	23.45	23.56	23.43		0
	50	0	**22.67**	22.50	22.46	0-1	1
	50	25	22.52	22.59	22.36		1
	50	50	22.37	22.60	22.48		1
	100	0	22.42	22.52	22.40		1
16QAM	1	0	22.10	22.45	22.05	0-1	1
	1	50	22.33	22.46	22.17		1
	1	99	22.15	22.30	21.91		1
	50	0	21.29	21.56	21.37	0-2	2
	50	25	21.33	21.45	21.19		2
	50	50	21.30	21.33	21.08		2
	100	0	21.31	21.39	21.27		2
64QAM	1	0	21.11	21.31	20.88	0-2	2
	1	50	21.38	21.43	20.98		2
	1	99	21.11	21.26	20.83		2
	50	0	20.21	20.40	20.13	0-3	3
	50	25	20.26	20.32	20.11		3
	50	50	20.17	20.27	20.09		3
	100	0	20.15	20.34	20.12		3
256QAM	1	0	20.20	20.33	20.55	0-5	3
	1	50	20.30	20.45	20.67		3
	1	99	20.30	20.44	20.53		3
	50	0	19.38	19.57	19.31		4
	50	25	19.40	19.55	19.25		4
	50	50	19.38	19.49	19.21		4
	100	0	19.40	19.52	19.34		4

Table 9-33
LTE Band 25 (PCS) Maximum Conducted Powers - 15 MHz Bandwidth

LTE Band 25 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26115 (1857.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26615 (1907.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.82	23.85	23.75	0	0
	1	36	23.85	23.92	23.80		0
	1	74	23.90	24.00	23.33		0
	36	0	22.45	22.54	22.39	0-1	1
	36	18	22.47	22.55	22.40		1
	36	37	22.46	22.56	22.40		1
	75	0	22.47	22.56	22.39		1
16QAM	1	0	22.40	22.72	22.40	0-1	1
	1	36	22.45	22.75	22.41		1
	1	74	22.49	22.74	22.35		1
	36	0	21.37	21.45	21.28	0-2	2
	36	18	21.39	21.47	21.28		2
	36	37	21.39	21.46	21.25		2
	75	0	21.37	21.48	21.28		2
64QAM	1	0	21.17	21.50	21.18	0-2	2
	1	36	21.19	21.51	21.22		2
	1	74	21.22	21.54	21.20		2
	36	0	20.27	20.38	20.16	0-3	3
	36	18	20.30	20.41	20.17		3
	36	37	20.29	20.40	20.15		3
	75	0	20.22	20.34	20.11		3
256QAM	1	0	20.43	20.81	20.69	0-5	3
	1	36	20.53	20.88	20.77		3
	1	74	20.60	20.92	20.74		3
	36	0	19.50	19.62	19.43		4
	36	18	19.52	19.65	19.48		4
	36	37	19.51	19.66	19.46		4
	75	0	19.52	19.65	19.41		4

Table 9-34
LTE Band 25 (PCS) Maximum Conducted Powers - 10 MHz Bandwidth

LTE Band 25 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26090 (1855.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26640 (1910.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.82	23.99	23.78	0	0
	1	25	23.85	24.10	23.81		0
	1	49	23.90	24.07	23.82		0
	25	0	22.39	22.57	22.25	0-1	1
	25	12	22.39	22.56	22.25		1
	25	25	22.41	22.56	22.24		1
	50	0	22.38	22.55	22.23		1
16QAM	1	0	22.40	22.57	22.49	0-1	1
	1	25	22.55	22.62	22.50		1
	1	49	22.43	22.61	22.42		1
	25	0	21.30	21.44	21.16	0-2	2
	25	12	21.29	21.52	21.16		2
	25	25	21.32	21.44	21.14		2
	50	0	21.26	21.46	21.13		2
64QAM	1	0	21.23	21.68	21.30	0-2	2
	1	25	21.24	21.66	21.21		2
	1	49	21.34	21.61	21.24		2
	25	0	20.13	20.28	19.98	0-3	3
	25	12	20.12	20.28	19.94		3
	25	25	20.14	20.29	19.95		3
	50	0	20.07	20.19	19.86		3
256QAM	1	0	20.47	20.57	20.70	0-5	3
	1	25	20.63	20.64	20.82		3
	1	49	20.60	20.62	20.63		3
	25	0	19.54	19.68	19.43		4
	25	12	19.55	19.72	19.41		4
	25	25	19.58	19.74	19.37		4
	50	0	19.53	19.66	19.39		4

Table 9-35
LTE Band 25 (PCS) Maximum Conducted Powers - 5 MHz Bandwidth

LTE Band 25 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26065 (1852.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26665 (1912.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.03	24.11	23.80	0	0
	1	12	24.05	24.07	23.62		0
	1	24	24.09	24.17	23.85		0
	12	0	22.48	22.56	22.33	0-1	1
	12	6	22.47	22.56	22.30		1
	12	13	22.48	22.55	22.28		1
	25	0	22.48	22.53	22.27		1
16QAM	1	0	22.70	22.59	22.41	0-1	1
	1	12	22.53	22.42	22.28		1
	1	24	22.72	22.62	22.34		1
	12	0	21.40	21.45	21.17	0-2	2
	12	6	21.38	21.43	21.14		2
	12	13	21.39	21.44	21.13		2
	25	0	21.35	21.42	21.12		2
64QAM	1	0	21.60	21.64	20.98	0-2	2
	1	12	21.52	21.64	20.93		2
	1	24	21.61	21.65	20.96		2
	12	0	20.15	20.25	19.95	0-3	3
	12	6	20.16	20.23	19.94		3
	12	13	20.15	20.25	19.91		3
	25	0	20.11	20.22	19.90		3
256QAM	1	0	20.55	20.60	20.30	0-5	3
	1	12	20.56	20.58	20.18		3
	1	24	20.74	20.73	20.27		3
	12	0	19.59	19.66	19.38		4
	12	6	19.62	19.68	19.35		4
	12	13	19.62	19.69	19.36		4
	25	0	19.60	19.68	19.39		4

Table 9-36
LTE Band 25 (PCS) Maximum Conducted Powers - 3 MHz Bandwidth

LTE Band 25 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26055 (1851.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26675 (1913.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.01	24.12	23.88	0	0
	1	7	24.00	24.07	23.70		0
	1	14	24.02	24.15	23.69		0
	8	0	22.62	22.67	22.48	0-1	1
	8	4	22.54	22.59	22.42		1
	8	7	22.53	22.59	22.39		1
	15	0	22.52	22.56	22.35		1
16QAM	1	0	22.70	22.72	22.28	0-1	1
	1	7	22.57	22.67	22.17		1
	1	14	22.79	22.68	22.20		1
	8	0	21.59	21.59	21.35	0-2	2
	8	4	21.52	21.52	21.27		2
	8	7	21.55	21.49	21.24		2
	15	0	21.38	21.54	21.20		2
64QAM	1	0	21.41	21.44	21.25	0-2	2
	1	7	21.32	21.29	21.19		2
	1	14	21.53	21.51	21.22		2
	8	0	20.35	20.46	20.09	0-3	3
	8	4	20.32	20.39	20.09		3
	8	7	20.33	20.41	20.08		3
	15	0	20.12	20.32	19.96		3
256QAM	1	0	20.64	20.75	20.22	0-5	3
	1	7	20.66	20.69	20.13		3
	1	14	20.74	20.77	20.26		3
	8	0	19.71	19.73	19.48		4
	8	4	19.69	19.62	19.44		4
	8	7	19.71	19.65	19.44		4
	15	0	19.68	19.71	19.45		4

Table 9-37
LTE Band 25 (PCS) Maximum Conducted Powers - 1.4 MHz Bandwidth

LTE Band 25 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26047 (1850.7 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26683 (1914.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	24.16	24.23	24.10	0	0
	1	2	23.99	24.08	23.87		0
	1	5	24.10	24.17	24.05		0
	3	0	24.14	24.08	23.94		0
	3	2	24.02	24.09	23.86		0
	3	3	24.08	24.23	23.88		0
	6	0	22.60	22.73	22.57	0-1	1
16QAM	1	0	22.65	22.48	22.30	0-1	1
	1	2	22.73	22.54	22.36		1
	1	5	22.66	22.64	22.34		1
	3	0	22.43	22.60	22.35		1
	3	2	22.53	22.57	22.35		1
	3	3	22.61	22.48	22.43		1
	6	0	21.59	21.68	21.47	0-2	2
64QAM	1	0	21.58	21.35	21.37	0-2	2
	1	2	21.38	21.47	21.18		2
	1	5	21.57	21.45	21.30		2
	3	0	21.42	21.50	21.31		2
	3	2	21.41	21.53	21.24		2
	3	3	21.44	21.57	21.25		2
	6	0	20.57	20.44	20.35	0-3	3
256QAM	1	0	20.67	20.65	20.56	0-5	3
	1	2	20.59	20.77	20.44		3
	1	5	20.78	20.70	20.61		3
	3	0	20.67	20.83	20.42		3
	3	2	20.78	20.84	20.34		3
	3	3	20.81	20.81	20.39		3
	6	0	19.68	19.79	19.47		4

Table 9-38
LTE Band 25 (PCS) Reduced Conducted Powers - Hotspot, Grip Sensor and/or Earjack Mode Active - 20 MHz Bandwidth

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26140 (1860.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26590 (1905.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.75	20.92	20.67	0	0
	1	50	20.92	**20.98**	20.67		0
	1	99	20.82	20.93	20.40		0
	50	0	20.64	20.79	20.59	0-1	0
	50	25	20.71	**20.84**	20.65		0
	50	50	20.69	20.81	20.64		0
	100	0	20.68	20.82	20.64		0
16QAM	1	0	20.66	20.85	20.66	0-1	0
	1	50	20.79	20.96	20.80		0
	1	99	20.72	20.90	20.51		0
	50	0	20.43	20.62	20.34	0-2	0
	50	25	20.48	20.64	20.42		0
	50	50	20.48	20.59	20.37		0
	100	0	20.48	20.62	20.38		0
64QAM	1	0	20.40	20.75	20.47	0-2	0
	1	50	20.54	20.84	20.66		0
	1	99	20.41	20.81	20.37		0
	50	0	19.97	20.15	19.89	0-3	0
	50	25	20.03	20.18	19.97		0
	50	50	20.04	20.14	19.90		0
	100	0	20.03	20.11	19.93		0
256QAM	1	0	20.19	20.75	20.43	0-5	0
	1	50	20.39	20.85	20.64		0
	1	99	20.35	20.82	20.50		0
	50	0	19.37	19.57	19.37		1
	50	25	19.42	19.63	19.43		1
	50	50	19.42	19.60	19.40		1
	100	0	19.43	19.57	19.37		1

Table 9-39
LTE Band 25 (PCS) Reduced Conducted Powers - Hotspot, Grip Sensor and/or Earjack Mode Active - 15 MHz Bandwidth

LTE Band 25 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26115 (1857.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26615 (1907.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.55	20.85	20.67	0	0
	1	36	20.56	20.82	20.68		0
	1	74	20.60	20.90	20.61		0
	36	0	20.73	20.96	20.80	0-1	0
	36	18	20.76	21.00	20.83		0
	36	37	20.76	21.01	20.82		0
	75	0	20.72	20.99	20.81		0
16QAM	1	0	20.61	20.88	20.70	0-1	0
	1	36	20.62	20.87	20.73		0
	1	74	20.64	20.88	20.64		0
	36	0	20.51	20.79	20.57	0-2	0
	36	18	20.55	20.81	20.60		0
	36	37	20.55	20.81	20.56		0
	75	0	20.52	20.78	20.54		0
64QAM	1	0	20.38	20.78	20.59	0-2	0
	1	36	20.40	20.79	20.61		0
	1	74	20.44	20.82	20.41		0
	36	0	20.07	20.30	20.11	0-3	0
	36	18	20.10	20.30	20.07		0
	36	37	20.10	20.27	20.07		0
	75	0	20.09	20.29	20.00		0
256QAM	1	0	20.23	20.40	20.47	0-5	0
	1	36	20.28	20.43	20.52		0
	1	74	20.32	20.50	20.48		0
	36	0	19.30	19.50	19.32		1
	36	18	19.35	19.54	19.32		1
	36	37	19.32	19.57	19.30		1
	75	0	19.33	19.57	19.32		1

Table 9-40
LTE Band 25 (PCS) Reduced Conducted Powers - Hotspot, Grip Sensor and/or Earjack Mode Active - 10 MHz Bandwidth

LTE Band 25 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26090 (1855.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26640 (1910.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.80	20.86	20.78	0	0
	1	25	20.74	20.97	20.80		0
	1	49	20.80	20.92	20.74		0
	25	0	20.69	20.83	20.62	0-1	0
	25	12	20.71	20.84	20.62		0
	25	25	20.71	20.84	20.62		0
	50	0	20.64	20.78	20.53		0
16QAM	1	0	20.64	20.81	20.72	0-1	0
	1	25	20.60	20.90	20.77		0
	1	49	20.65	20.85	20.67		0
	25	0	20.47	20.65	20.42	0-2	0
	25	12	20.52	20.66	20.41		0
	25	25	20.55	20.65	20.35		0
	50	0	20.43	20.60	20.30		0
64QAM	1	0	20.76	20.75	20.51	0-2	0
	1	25	20.71	20.78	20.42		0
	1	49	20.72	20.77	20.52		0
	25	0	20.02	20.20	19.96	0-3	0
	25	12	20.03	20.20	19.94		0
	25	25	20.06	20.19	19.90		0
	50	0	19.99	20.14	19.83		0
256QAM	1	0	20.15	20.59	20.60	0-5	0
	1	25	20.62	20.60	20.69		0
	1	49	20.40	20.51	20.50		0
	25	0	19.51	19.65	19.41		1
	25	12	19.51	19.66	19.40		1
	25	25	19.53	19.68	19.39		1
	50	0	19.48	19.62	19.38		1

Table 9-41
LTE Band 25 (PCS) Reduced Conducted Powers - Hotspot, Grip Sensor and/or Earjack Mode Active - 5 MHz Bandwidth

LTE Band 25 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26065 (1852.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26665 (1912.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.91	20.99	20.76	0	0
	1	12	20.89	20.92	20.56		0
	1	24	20.94	20.98	20.73		0
	12	0	20.77	20.84	20.65	0-1	0
	12	6	20.76	20.84	20.64		0
	12	13	20.79	20.83	20.62		0
	25	0	20.74	20.81	20.59		0
16QAM	1	0	20.87	20.93	20.72	0-1	0
	1	12	20.64	20.70	20.60		0
	1	24	20.84	20.94	20.65		0
	12	0	20.58	20.65	20.44	0-2	0
	12	6	20.57	20.65	20.43		0
	12	13	20.58	20.66	20.41		0
	25	0	20.53	20.64	20.34		0
64QAM	1	0	20.82	20.89	20.55	0-2	0
	1	12	20.77	20.87	20.51		0
	1	24	20.82	20.90	20.53		0
	12	0	20.02	20.17	19.88	0-3	0
	12	6	20.06	20.16	19.85		0
	12	13	20.07	20.17	19.85		0
	25	0	20.04	20.19	19.81		0
256QAM	1	0	20.61	20.44	20.47	0-5	0
	1	12	20.62	20.34	20.40		0
	1	24	20.69	20.54	20.49		0
	12	0	19.54	19.59	19.35		1
	12	6	19.56	19.58	19.34		1
	12	13	19.56	19.61	19.35		1
	25	0	19.53	19.62	19.34		1

Table 9-42
LTE Band 25 (PCS) Reduced Conducted Powers - Hotspot, Grip Sensor and/or Earjack Mode Active - 3 MHz Bandwidth

LTE Band 25 (PCS) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26055 (1851.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26675 (1913.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.68	20.79	20.71	0	0
	1	7	20.62	20.53	20.65		0
	1	14	20.67	20.77	20.67		0
	8	0	20.74	20.91	20.68	0-1	0
	8	4	20.67	20.83	20.62		0
	8	7	20.72	20.85	20.62		0
	15	0	20.58	20.74	20.50		0
16QAM	1	0	20.52	20.66	20.62	0-1	0
	1	7	20.44	20.56	20.53		0
	1	14	20.63	20.56	20.64		0
	8	0	20.53	20.68	20.46	0-2	0
	8	4	20.50	20.65	20.42		0
	8	7	20.53	20.67	20.42		0
	15	0	20.37	20.56	20.26		0
64QAM	1	0	20.51	20.75	20.64	0-2	0
	1	7	20.26	20.55	20.46		0
	1	14	20.60	20.61	20.65		0
	8	0	20.01	20.14	20.00	0-3	0
	8	4	20.00	20.10	19.97		0
	8	7	20.03	20.16	19.97		0
	15	0	19.95	20.07	19.82		0
256QAM	1	0	20.33	20.36	20.54	0-5	0
	1	7	20.25	20.18	20.41		0
	1	14	20.21	20.30	20.48		0
	8	0	19.46	19.63	19.37		1
	8	4	19.45	19.54	19.31		1
	8	7	19.44	19.62	19.28		1
	15	0	19.50	19.53	19.32		1

Table 9-43
LTE Band 25 (PCS) Reduced Conducted Powers - Hotspot, Grip Sensor and/or Earjack Mode Active - 1.4 MHz Bandwidth

LTE Band 25 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26047 (1850.7 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26683 (1914.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	20.94	21.00	20.90	0	0
	1	2	20.78	20.83	20.70		0
	1	5	20.85	20.90	20.83		0
	3	0	20.70	20.73	20.48		0
	3	2	20.60	20.68	20.40		0
	3	3	20.63	20.85	20.45		0
	6	0	21.05	21.10	20.96	0-1	0
16QAM	1	0	20.62	20.49	20.55	0-1	0
	1	2	20.66	20.63	20.60		0
	1	5	20.64	20.55	20.61		0
	3	0	20.42	20.69	20.30		0
	3	2	20.44	20.69	20.30		0
	3	3	20.54	20.66	20.33		0
	6	0	20.87	20.92	20.81	0-2	0
64QAM	1	0	20.73	20.73	20.63	0-2	0
	1	2	20.53	20.77	20.50		0
	1	5	20.63	20.81	20.56		0
	3	0	20.39	20.56	20.29		0
	3	2	20.37	20.61	20.25		0
	3	3	20.41	20.65	20.28		0
	6	0	20.35	20.38	20.30	0-3	0
256QAM	1	0	20.50	20.48	20.65	0-5	0
	1	2	20.39	20.54	20.43		0
	1	5	20.54	20.54	20.58		0
	3	0	20.63	20.67	20.42		0
	3	2	20.59	20.69	20.40		0
	3	3	20.63	20.70	20.35		0
	6	0	19.46	19.56	19.46		1

9.3.7 LTE Band 41

Table 9-44
LTE Band 41 PC3 Maximum Conducted Powers - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	23.83	23.83	**24.04**	23.61	23.64	0	0
	1	50	23.96	24.01	23.99	23.79	23.85		0
	1	99	23.79	23.71	23.96	23.49	23.50		0
	50	0	22.66	22.90	23.19	22.81	22.81	0-1	1
	50	25	22.63	22.82	**23.20**	22.87	22.85		1
	50	50	22.59	22.85	23.10	22.90	22.76		1
	100	0	22.55	22.84	23.19	22.77	22.74		1
16QAM	1	0	22.92	22.73	23.19	22.78	22.79	0-1	1
	1	50	23.06	22.84	23.16	22.84	22.83		1
	1	99	22.85	22.65	22.94	22.60	22.70		1
	50	0	21.67	21.83	22.16	21.80	21.87	0-2	2
	50	25	21.65	21.86	22.14	21.86	21.94		2
	50	50	21.59	21.78	22.06	21.76	21.89		2
	100	0	21.59	21.78	22.05	21.78	21.80		2
64QAM	1	0	21.75	21.61	21.97	21.58	21.85	0-2	2
	1	50	21.79	21.70	21.93	21.61	21.92		2
	1	99	21.65	21.45	21.83	21.43	21.77		2
	50	0	20.63	21.05	21.22	20.85	20.87	0-3	3
	50	25	20.70	20.96	21.24	20.81	20.91		3
	50	50	20.65	20.90	21.14	20.85	20.83		3
	100	0	20.60	20.87	21.07	20.89	20.79		3
256QAM	1	0	20.88	20.63	21.10	20.62	20.49	0-5	3
	1	50	20.94	20.53	21.05	20.58	20.34		3
	1	99	20.70	20.50	20.90	20.43	20.35		3
	50	0	20.19	20.11	20.51	20.35	20.19		4
	50	25	20.33	20.11	20.49	20.32	20.09		4
	50	50	20.28	20.08	20.40	20.28	19.98		4
	100	0	20.16	20.01	20.38	20.22	20.06		4

Table 9-45
LTE Band 41 PC3 Maximum Conducted Powers - 15 MHz Bandwidth

LTE Band 41 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	24.12	24.00	24.14	23.98	23.83	0	0
	1	36	24.10	23.95	24.08	23.96	23.76		0
	1	74	24.08	23.97	24.06	23.97	23.77		0
	36	0	23.26	22.97	23.32	23.02	22.94	0-1	1
	36	18	23.22	23.01	23.33	22.97	22.98		1
	36	37	23.21	23.09	23.29	22.99	22.93		1
	75	0	23.19	23.08	23.28	23.01	22.89		1
16QAM	1	0	23.23	23.02	22.96	22.87	22.86	0-1	1
	1	36	23.24	22.98	22.88	22.79	22.95		1
	1	74	23.21	22.97	22.99	22.87	22.93		1
	36	0	22.10	21.98	22.25	21.98	21.96	0-2	2
	36	18	22.08	22.02	22.22	22.00	21.93		2
	36	37	22.11	21.97	22.28	21.89	21.93		2
	75	0	22.04	21.96	22.14	21.92	21.88		2
64QAM	1	0	22.05	21.87	22.07	21.80	21.84	0-2	2
	1	36	22.01	21.87	22.10	21.90	21.80		2
	1	74	21.92	21.79	22.02	21.79	21.75		2
	36	0	21.18	21.08	21.19	20.99	20.76	0-3	3
	36	18	21.21	21.04	21.16	21.01	20.75		3
	36	37	21.20	21.05	21.10	21.03	20.78		3
	75	0	21.07	20.97	21.13	20.95	20.78		3
256QAM	1	0	20.66	20.70	20.90	20.75	20.94	0-5	3
	1	36	20.67	20.65	21.05	20.77	21.00		3
	1	74	20.63	20.88	21.07	20.82	20.92		3
	36	0	20.55	20.28	20.63	20.40	20.30		4
	36	18	20.49	20.35	20.56	20.33	20.29		4
	36	37	20.52	20.38	20.64	20.38	20.28		4
	75	0	20.56	20.49	20.70	20.34	20.35		4

Table 9-46
LTE Band 41 PC3 Maximum Conducted Powers - 10 MHz Bandwidth

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	24.01	23.90	24.21	23.90	23.88	0	0
	1	25	23.89	23.86	24.03	23.80	23.83		0
	1	49	23.88	23.80	24.18	23.85	23.86		0
	25	0	23.11	22.95	23.25	22.98	22.90	0-1	1
	25	12	23.14	22.99	23.30	22.95	22.93		1
	25	25	23.12	22.94	23.29	22.94	22.89		1
	50	0	23.15	22.97	23.33	22.97	22.98		1
16QAM	1	0	22.95	22.88	22.90	22.78	22.80	0-1	1
	1	25	22.91	22.80	22.96	22.77	22.82		1
	1	49	22.95	22.87	22.94	22.71	22.85		1
	25	0	22.00	22.03	22.39	22.15	21.90	0-2	2
	25	12	22.20	22.01	22.39	22.10	21.96		2
	25	25	22.22	22.00	22.38	22.14	21.90		2
	50	0	22.10	21.96	22.31	21.99	21.95		2
64QAM	1	0	21.90	21.80	22.05	21.90	21.90	0-2	2
	1	25	21.79	21.80	22.09	21.77	21.89		2
	1	49	21.82	21.83	22.01	21.78	21.95		2
	25	0	20.98	20.84	21.18	20.99	20.90	0-3	3
	25	12	20.97	20.92	21.15	20.90	20.85		3
	25	25	20.98	20.80	21.16	20.92	20.81		3
	50	0	21.20	21.04	21.22	21.04	21.01		3
256QAM	1	0	20.80	20.79	21.17	20.83	20.92	0-5	3
	1	25	20.67	20.83	21.18	20.98	21.01		3
	1	49	20.70	20.79	21.12	20.80	20.87		3
	25	0	20.45	20.50	20.70	20.45	20.35		4
	25	12	20.48	20.46	20.66	20.45	20.36		4
	25	25	20.40	20.45	20.63	20.46	20.34		4
	50	0	20.52	20.53	20.86	20.51	20.44		4

Table 9-47
LTE Band 41 PC3 Maximum Conducted Powers - 5 MHz Bandwidth

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	24.04	24.06	24.35	23.90	23.90	0	0
	1	12	24.20	23.99	24.31	24.00	23.92		0
	1	24	24.06	24.01	24.34	23.85	23.86		0
	12	0	23.15	22.99	23.30	22.90	22.98	0-1	1
	12	6	23.13	22.98	23.28	22.92	22.95		1
	12	13	23.14	22.89	23.28	22.89	22.94		1
	25	0	23.12	22.93	23.26	22.88	22.66		1
16QAM	1	0	22.80	22.79	22.79	22.66	22.67	0-1	1
	1	12	22.98	22.75	22.80	22.60	22.75		1
	1	24	22.82	22.68	22.79	22.58	22.70		1
	12	0	22.18	21.90	22.22	21.68	21.70	0-2	2
	12	6	22.16	21.88	22.17	21.78	21.85		2
	12	13	22.19	21.83	22.16	22.08	21.74		2
	25	0	22.06	21.90	22.39	21.98	21.85		2
64QAM	1	0	21.89	22.09	21.90	21.85	21.76	0-2	2
	1	12	21.90	22.04	21.95	21.89	21.70		2
	1	24	21.80	22.03	21.89	21.98	21.69		2
	12	0	21.20	20.95	21.24	20.97	20.69	0-3	3
	12	6	21.18	20.89	21.21	20.99	20.85		3
	12	13	21.20	20.96	21.22	21.00	20.86		3
	25	0	21.09	20.80	21.31	20.85	20.72		3
256QAM	1	0	21.09	20.85	21.20	20.76	20.61	0-5	3
	1	12	21.21	20.79	21.30	20.79	20.68		3
	1	24	21.08	20.78	21.25	20.70	20.67		3
	12	0	20.51	20.36	20.65	20.29	20.30		4
	12	6	20.53	20.35	20.65	20.31	20.40		4
	12	13	20.48	20.30	20.64	20.30	20.29		4
	25	0	20.33	20.26	20.64	20.28	20.29		4

Table 9-48
LTE Band 41 PC3 Reduced Conducted Powers - Hotspot, Grip Sensor and/or Earjack Mode 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	22.05	22.50	23.17	22.78	22.21	0	0
	1	50	22.11	22.56	**23.36**	22.96	22.20		0
	1	99	22.08	22.33	23.11	22.71	22.18		0
	50	0	22.61	22.86	23.17	22.86	22.82	0-1	0
	50	25	22.55	22.96	**23.25**	22.88	22.81		0
	50	50	22.58	22.77	23.11	22.85	22.76		0
	100	0	22.57	22.86	23.12	22.85	22.77		0
16QAM	1	0	22.56	22.20	22.79	22.72	22.48	0-1	0
	1	50	22.58	22.27	22.67	22.68	22.59		0
	1	99	22.52	22.11	22.71	22.68	22.31		0
	50	0	21.63	21.91	22.35	22.04	21.87	0-2	1
	50	25	21.59	21.86	22.29	22.01	21.83		1
	50	50	21.55	21.90	22.22	21.94	21.78		1
	100	0	21.50	21.88	22.22	21.88	21.75		1
64QAM	1	0	21.56	21.93	22.33	22.07	21.59	0-2	1
	1	50	21.56	21.89	22.25	22.02	21.58		1
	1	99	21.53	21.85	22.22	21.25	21.54		1
	50	0	20.63	20.91	21.21	20.90	20.84	0-3	2
	50	25	20.67	20.85	21.23	20.99	20.86		2
	50	50	20.66	20.77	21.13	20.99	20.79		2
	100	0	20.56	20.83	21.12	20.97	20.73		2
256QAM	1	0	20.69	21.02	20.72	20.74	20.82	0-5	2
	1	50	20.73	21.03	20.64	20.85	21.06		2
	1	99	20.71	20.91	20.56	20.74	20.86		2
	50	0	20.79	20.67	20.76	20.36	20.62		2
	50	25	20.80	20.63	20.76	20.33	20.64		2
	50	50	20.83	20.60	20.69	20.35	20.63		2
	100	0	20.68	20.55	20.71	20.39	20.55		2

Table 9-49
LTE Band 41 PC3 Reduced Conducted Powers - Hotspot, Grip Sensor and/or Earjack Mode 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	23.13	23.08	23.20	23.04	23.15	0	0
	1	36	23.12	23.03	23.15	22.98	23.14		0
	1	74	23.15	23.00	23.13	23.05	23.16		0
	36	0	23.35	23.08	23.32	23.00	23.08	0-1	0
	36	18	23.37	23.12	23.31	22.99	23.11		0
	36	37	23.34	23.07	23.27	22.99	23.08		0
	75	0	23.32	23.06	23.25	22.97	23.05		0
16QAM	1	0	22.95	22.94	22.97	22.82	22.69	0-1	0
	1	36	22.94	22.86	22.95	22.84	22.61		0
	1	74	22.95	22.88	22.90	22.82	22.66		0
	36	0	22.32	22.18	22.33	22.03	22.15	0-2	1
	36	18	22.30	22.14	22.34	22.08	22.13		1
	36	37	22.30	22.14	22.29	22.07	22.14		1
	75	0	22.27	22.05	22.21	21.93	22.04		1
64QAM	1	0	22.06	22.06	21.75	21.88	22.04	0-2	1
	1	36	22.01	21.99	21.69	21.93	22.03		1
	1	74	22.10	21.93	21.70	21.89	22.04		1
	36	0	21.23	21.14	21.44	21.04	21.08	0-3	2
	36	18	21.21	21.09	21.43	21.05	21.11		2
	36	37	21.21	21.06	21.46	21.03	21.09		2
	75	0	21.24	20.96	21.24	20.87	20.97		2
256QAM	1	0	21.26	21.24	21.10	20.70	21.01	0-5	2
	1	36	21.29	21.18	21.02	20.65	21.02		2
	1	74	21.26	21.11	21.00	20.69	21.06		2
	36	0	20.62	20.47	20.69	20.39	20.44		2
	36	18	20.63	20.46	20.68	20.43	20.44		2
	36	37	20.59	20.44	20.66	20.41	20.44		2
	75	0	20.74	20.58	20.77	20.47	20.60		2

Table 9-50
LTE Band 41 PC3 Reduced Conducted Powers - Hotspot, Grip Sensor and/or Earjack Mode 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	23.28	23.12	23.24	23.10	23.23	0	0
	1	25	23.27	23.05	23.18	23.02	23.29		0
	1	49	23.29	23.06	23.19	23.13	23.24		0
	25	0	23.27	23.07	23.29	22.95	23.03	0-1	0
	25	12	23.26	23.06	23.28	22.93	23.02		0
	25	25	23.27	23.03	23.30	22.94	23.03		0
	50	0	23.31	23.10	23.34	22.97	23.04		0
16QAM	1	0	22.73	22.67	22.89	22.71	22.71	0-1	0
	1	25	22.77	22.59	22.94	22.66	22.69		0
	1	49	22.76	22.52	22.84	22.72	22.74		0
	25	0	22.17	22.01	22.20	21.98	21.90	0-2	1
	25	12	22.19	22.03	22.19	21.97	21.91		1
	25	25	22.16	22.01	22.14	21.96	21.89		1
	50	0	22.54	22.25	22.51	21.93	21.95		1
64QAM	1	0	21.76	22.22	22.54	22.44	22.17	0-2	1
	1	25	21.73	22.16	22.49	22.41	22.14		1
	1	49	21.74	22.18	22.52	22.36	22.25		1
	25	0	21.22	20.90	21.15	20.92	20.87	0-3	2
	25	12	21.22	20.89	21.12	20.90	20.86		2
	25	25	21.19	20.87	21.14	20.89	20.86		2
	50	0	21.20	21.04	21.31	21.07	21.02		2
256QAM	1	0	20.86	20.80	21.07	21.13	20.71	0-5	2
	1	25	20.92	20.77	21.11	21.08	20.74		2
	1	49	20.81	20.73	21.03	21.12	20.70		2
	25	0	20.89	20.47	20.72	20.51	20.44		2
	25	12	20.88	20.45	20.71	20.52	20.45		2
	25	25	20.88	20.46	20.70	20.50	20.43		2
	50	0	20.72	20.53	20.76	20.57	20.50		2

Table 9-51
LTE Band 41 PC3 Reduced Conducted Powers - Hotspot, Grip Sensor and/or Earjack Mode 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	23.17	23.25	23.41	23.22	23.20	0	0
	1	12	23.16	23.31	23.25	23.21	23.18		0
	1	24	23.17	23.24	23.37	23.21	23.22		0
	12	0	23.29	23.06	23.31	22.93	23.00	0-1	0
	12	6	23.30	23.03	23.33	22.94	22.96		0
	12	13	23.28	23.02	23.30	22.95	22.99		0
	25	0	23.24	23.05	23.29	22.92	23.00		0
16QAM	1	0	22.82	22.64	22.81	22.69	22.61	0-1	0
	1	12	22.94	22.74	22.94	22.73	22.65		0
	1	24	22.86	22.71	22.93	22.65	22.59		0
	12	0	22.16	22.24	22.25	21.84	22.16	0-2	1
	12	6	22.17	22.23	22.27	21.81	22.17		1
	12	13	22.18	22.22	22.23	21.83	22.13		1
	25	0	22.18	22.01	22.29	21.92	22.08		1
64QAM	1	0	22.06	22.20	22.04	21.65	21.90	0-2	1
	1	12	22.15	22.37	22.26	21.89	22.06		1
	1	24	22.02	22.18	22.01	21.73	21.91		1
	12	0	21.14	20.98	21.51	21.02	20.96	0-3	2
	12	6	21.13	21.00	21.48	21.03	20.94		2
	12	13	21.18	20.94	21.49	21.00	20.97		2
	25	0	21.11	20.96	21.32	20.92	20.89		2
256QAM	1	0	21.24	21.43	21.23	21.07	21.30	0-5	2
	1	12	21.44	21.33	21.57	21.17	21.37		2
	1	24	21.26	21.39	21.20	21.06	21.29		2
	12	0	20.55	20.70	20.99	20.62	20.54		2
	12	6	20.56	20.72	21.02	20.66	20.55		2
	12	13	20.54	20.66	20.98	20.61	20.53		2
	25	0	20.58	20.44	20.65	20.25	20.41		2

Table 9-52
LTE Band 41 PC2 Maximum Conducted Powers - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	25.04	25.46	26.09	25.79	25.42	0	0
	1	50	25.03	25.42	26.34	25.91	25.38		0
	1	99	25.03	25.43	26.05	25.73	25.30		0
	50	0	24.67	24.94	25.22	24.87	24.85	0-1	1
	50	25	24.60	24.96	25.26	24.90	24.81		1
	50	50	24.57	24.91	25.11	24.81	24.77		1
	100	0	24.63	24.80	25.22	24.92	24.82		1

Table 9-53
LTE Band 41 PC2 Reduced Conducted Powers - Hotspot and/or Grip Sensor 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	22.36	22.04	**23.12**	22.82	22.40	0	0
	1	50	22.48	22.44	23.09	22.73	22.41		0
	1	99	22.39	22.17	23.02	22.72	22.00		0
	50	0	22.49	22.95	23.15	22.87	22.84	0-1	0
	50	25	22.55	22.85	**23.16**	22.83	22.77		0
	50	50	22.51	22.77	23.08	22.76	22.74		0
	100	0	22.58	22.77	23.11	22.83	22.82		0

9.1 NR Conducted Powers

9.1.1 NR Band n5

Table 9-54
NR Band n5 Maximum Conducted Powers - 20 MHz Bandwidth

NR Band n5 20 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	167300 (836.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	24.78	0	0.0
	1	53	**25.11**		0.0
	1	104	25.02		0.0
	50	0	24.04	0-1	1.0
	50	28	**25.07**	0	0.0
	50	56	24.12	0-1	1.0
	100	0	24.14		1.0
DFT-s-OFDM 16QAM	1	1	23.79	0-1	1.0
CP-OFDM QPSK	1	1	23.22	0-1.5	1.5

Note: NR Band n5 at 20 MHz bandwidth does not support non-overlapping channels. Per FCC Guidance, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

Table 9-55
NR Band n5 Maximum Conducted Powers - 15 MHz Bandwidth

NR Band n5 15 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	167300 (836.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	25.33	0	0.0
	1	40	25.41		0.0
	1	77	25.38		0.0
	36	0	24.41	0-1	1.0
	36	22	25.45	0	0.0
	36	43	24.45	0-1	1.0
	75	0	24.46		1.0
DFT-s-OFDM 16QAM	1	1	24.14	0-1	1.0
CP-OFDM QPSK	1	1	23.82	0-1.5	1.5

Note: NR Band n5 at 15 MHz bandwidth does not support non-overlapping channels. Per FCC Guidance, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

Table 9-56
NR Band n5 Maximum Conducted Powers - 10 MHz Bandwidth

NR Band n5 10 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	167300 (836.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	24.53	0	0.0
	1	26	24.74		0.0
	1	50	24.70		0.0
	25	0	24.09	0-1	1.0
	25	14	24.61	0	0.0
	25	27	24.18	0-1	1.0
	50	0	24.16		1.0
DFT-s-OFDM 16QAM	1	1	23.98	0-1	1.0
CP-OFDM QPSK	1	1	23.54	0-1.5	1.5

Note: NR Band n5 at 10 MHz bandwidth does not support non-overlapping channels. Per FCC Guidance, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

Table 9-57
NR Band n5 Maximum Conducted Powers - 5 MHz Bandwidth

NR Band n5 5 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	165300 (826.5 MHz)	167300 (836.5 MHz)	169300 (846.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM QPSK	1	1	25.08	25.49	25.19	0	0.0
	1	13	24.98	25.46	25.12		0.0
	1	23	25.27	25.48	25.22		0.0
	12	0	24.18	24.44	24.23	0-1	1.0
	12	7	25.21	25.37	25.19	0	0.0
	12	13	24.21	24.49	24.28	0-1	1.0
	25	0	24.17	24.42	24.17		1.0
DFT-s-OFDM 16QAM	1	1	24.06	24.50	24.42	0-1	1.0
CP-OFDM QPSK	1	1	23.54	23.88	23.78	0-1.5	1.5

9.1.2 NR Band n66

Table 9-58
NR Band n66 Maximum Conducted Powers - 20 MHz Bandwidth

NR Band n66 20 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	344000 (1720 MHz)	349000 (1745 MHz)	354000 (1770 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM QPSK	1	1	24.20	24.46	24.36	0	0.0
	1	53	24.47	**25.00**	24.75		0.0
	1	104	24.38	24.99	24.57		0.0
	50	0	23.77	23.73	23.50	0-1	1.0
	50	28	24.41	**24.88**	24.67	0	0.0
	50	56	23.59	24.00	23.65	0-1	1.0
	100	0	23.39	23.80	23.62		1.0
DFT-s-OFDM 16QAM	1	1	23.16	23.40	23.33	0-1	1.0
CP-OFDM QPSK	1	1	22.58	22.81	22.64	0-1.5	1.5

Table 9-59
NR Band n66 Maximum Conducted Powers - 15 MHz Bandwidth

NR Band n66 15 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	343500 (1717.5 MHz)	349000 (1745 MHz)	354500 (1772.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM QPSK	1	1	24.90	24.50	24.66	0	0.0
	1	40	24.79	24.77	24.85		0.0
	1	77	24.66	24.99	24.92		0.0
	36	0	23.86	23.60	23.81	0-1	1.0
	36	22	24.84	24.79	24.89	0	0.0
	36	43	23.83	23.87	23.98	0-1	1.0
	75	0	23.81	23.75	23.93		1.0
DFT-s-OFDM 16QAM	1	1	23.80	23.65	23.58	0-1	1.0
CP-OFDM QPSK	1	1	23.43	23.06	23.14	0-1.5	1.5

Table 9-60
NR Band n66 Maximum Conducted Powers - 10 MHz Bandwidth

NR Band n66 10 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	343000 (1715 MHz)	349000 (1745 MHz)	355000 (1775 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM QPSK	1	1	24.89	24.70	24.94	0	0.0
	1	26	25.00	24.83	25.00		0.0
	1	50	24.95	24.85	24.99		0.0
	25	0	23.83	23.74	24.00	0-1	1.0
	25	14	24.98	24.73	24.97	0	0.0
	25	27	23.90	23.88	23.98	0-1	1.0
	50	0	23.99	23.81	23.99		1.0
DFT-s-OFDM 16QAM	1	1	23.93	23.75	23.87	0-1	1.0
CP-OFDM QPSK	1	1	23.46	23.22	23.32	0-1.5	1.5

Table 9-61
NR Band n66 Maximum Conducted Powers - 5 MHz Bandwidth

NR Band n66 5 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	342500 (1712.5 MHz)	349000 (1745 MHz)	355500 (1777.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM QPSK	1	1	24.86	24.83	24.98	0	0.0
	1	13	24.84	24.65	24.90		0.0
	1	23	25.00	24.85	25.00		0.0
	12	0	23.95	23.80	23.95	0-1	1.0
	12	7	24.93	24.89	24.97	0	0.0
	12	13	23.89	23.90	23.93	0-1	1.0
	25	0	23.90	23.82	23.99		1.0
DFT-s-OFDM 16QAM	1	1	23.73	23.82	24.00	0-1	1.0
CP-OFDM QPSK	1	1	23.50	23.26	23.50	0-1.5	1.5

Table 9-62
NR Band n66 Reduced Conducted Powers - Hotspot, Grip Sensor and/or Earjack Mode Active - 20 MHz Bandwidth

NR Band n66 20 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	344000 (1720 MHz)	349000 (1745 MHz)	354000 (1770 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM QPSK	1	1	21.44	21.47	21.63		0.0
	1	53	21.63	21.87	21.97	0	0.0
	1	104	21.53	**21.98**	21.74		0.0
	50	0	21.53	21.68	21.71	0-1	0.0
	50	28	21.55	21.85	21.86	0	0.0
	50	56	21.61	**22.00**	21.82	0-1	0.0
	100	0	21.56	21.78	21.81		0.0
DFT-s-OFDM 16QAM	1	1	21.46	21.48	21.66	0-1	0.0
CP-OFDM QPSK	1	1	21.57	21.43	21.67	0-1.5	0.0

Table 9-63
NR Band n66 Reduced Conducted Powers - Hotspot, Grip Sensor and/or Earjack Mode Active - 15 MHz Bandwidth

NR Band n66 15 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	343500 (1717.5 MHz)	349000 (1745 MHz)	354500 (1772.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM QPSK	1	1	21.71	21.36	21.51	0	0.0
	1	40	21.66	21.51	21.64		0.0
	1	77	21.61	21.74	21.75		0.0
	36	0	21.73	21.47	21.65	0-1	0.0
	36	22	21.73	21.58	21.72	0	0.0
	36	43	21.69	21.72	21.74	0-1	0.0
	75	0	21.72	21.55	21.67		0.0
DFT-s-OFDM 16QAM	1	1	21.71	21.45	21.50	0-1	0.0
CP-OFDM QPSK	1	1	21.69	21.41	21.49	0-1.5	0.0

Table 9-64
NR Band n66 Reduced Conducted Powers - Hotspot, Grip Sensor and/or Earjack Mode Active - 10 MHz Bandwidth

NR Band n66 10 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	343000 (1715 MHz)	349000 (1745 MHz)	355000 (1775 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM QPSK	1	1	21.81	21.52	21.78	0	0.0
	1	26	21.87	21.70	21.91		0.0
	1	50	21.74	21.78	21.83		0.0
	25	0	21.75	21.53	21.77	0-1	0.0
	25	14	21.81	21.61	21.81	0	0.0
	25	27	21.77	21.71	21.83	0-1	0.0
	50	0	21.81	21.59	21.83		0.0
DFT-s-OFDM 16QAM	1	1	21.83	21.57	21.83	0-1	0.0
CP-OFDM QPSK	1	1	21.75	21.47	21.70	0-1.5	0.0

Table 9-65
NR Band n66 Reduced Conducted Powers - Hotspot, Grip Sensor and/or Earjack Mode Active - 5 MHz Bandwidth

NR Band n66 5 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	342500 (1712.5 MHz)	349000 (1745 MHz)	355500 (1777.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM QPSK	1	1	21.84	21.64	21.83	0	0.0
	1	13	21.75	21.61	21.79		0.0
	1	23	21.85	21.76	21.89		0.0
	12	0	21.79	21.63	21.83	0-1	0.0
	12	7	21.79	21.62	21.85	0	0.0
	12	13	21.79	21.69	21.84	0-1	0.0
	25	0	21.79	21.66	21.85		0.0
DFT-s-OFDM 16QAM	1	1	21.85	21.66	21.91	0-1	0.0
CP-OFDM QPSK	1	1	21.88	21.60	21.79	0-1.5	0.0

9.2 WLAN Conducted Powers

Table 9-66
2.4 GHz WLAN Maximum Average RF Power – Ant 1

2.4GHz Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11b
		Average
2412	1	18.45
2437	6	18.21
2462	11	18.54

Table 9-67
2.4 GHz WLAN Maximum Average RF Power – Ant 2

2.4GHz Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11b
		Average
2412	1	18.42
2437	6	18.31
2462	11	18.21

Table 9-68
2.4 GHz WLAN Maximum Average RF Power – MIMO

2.4GHz 802.11g Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
2412	1	14.98	15.41	18.21
2417	2	16.67	17.25	19.98
2422	3	17.66	17.70	20.69
2437	6	17.98	17.49	20.75
2452	9	16.59	17.27	19.95
2457	10	16.02	16.21	19.13
2462	11	16.17	16.38	19.29

Table 9-69
5 GHz WLAN Maximum Average RF Power – MIMO

5GHz (20MHz) 802.11n Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
5180	36	15.56	14.62	18.13
5200	40	17.98	17.52	20.77
5220	44	17.97	17.48	20.74
5240	48	17.94	17.45	20.71
5260	52	17.88	17.48	20.69
5280	56	17.96	17.39	20.69
5300	60	17.98	17.44	20.73
5320	64	14.94	14.72	17.84
5500	100	17.49	17.44	20.48
5600	120	17.57	17.30	20.45
5620	124	17.86	17.52	20.70
5720	144	17.64	17.41	20.54
5745	149	16.68	16.91	19.81
5785	157	16.74	16.95	19.86
5825	165	16.54	16.87	19.72

Table 9-70
Maximum Output Powers During Conditions with 2.4 GHz and 5 GHz WLAN

2.4GHz 802.11n Conducted Power [dBm]			
Freq [MHz]	Channel	ANT1	ANT2
2412	1	13.95	14.43
2422	3	16.62	16.58
2437	6	16.96	16.33
2452	9	15.40	16.26
2462	11	14.23	14.45

5GHz (40MHz) 802.11n Conducted Power [dBm]			
Freq [MHz]	Channel	ANT1	ANT2
5190	38	13.13	13.58
5230	46	13.27	13.22
5270	54	13.22	13.36
5310	62	12.63	12.59

5GHz (80MHz) 802.11ac Conducted Power [dBm]			
Freq [MHz]	Channel	ANT1	ANT2
5530	106	13.23	13.15
5610	122	13.44	13.75
5690	138	13.61	13.57
5775	155	13.59	13.81

Table 9-71
2.4 GHz WLAN Reduced Average RF Power (Held-to-Ear) – Ant 1

2.4GHz Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11b
		Average
2412	1	16.85
2437	6	16.91
2462	11	16.99

Table 9-72
2.4 GHz WLAN Reduced Average RF Power (Held-to-Ear) – Ant 2

2.4GHz Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11b
		Average
2412	1	16.96
2437	6	16.49
2462	11	16.12

Table 9-73
5 GHz WLAN Reduced Average RF Power (Held-to-Ear) – MIMO

5GHz (40MHz) 802.11n Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
5190	38	13.13	13.58	16.97
5230	46	14.33	14.29	17.32
5270	54	14.05	14.11	17.09
5310	62	12.63	12.59	15.62

5GHz (80MHz) 802.11ac Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
5530	106	13.23	13.15	16.45
5610	122	14.43	14.65	17.55
5690	138	14.60	14.69	17.66
5775	155	14.72	14.88	17.81

5GHz (160MHz) 802.11ac Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
5250	50	12.55	12.03	15.31
5570	114	14.51	14.25	17.39

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

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

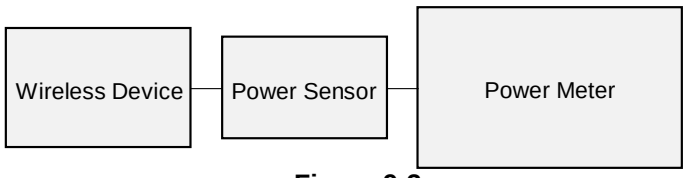

Figure 9-3
Power Measurement Setup

9.3 Bluetooth Conducted Powers

Table 9-74
Bluetooth Average RF Power – Ant 1

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
			[dBm]	[mW]
2402	1.0	0	17.22	52.684
2441	1.0	39	15.70	37.166
2480	1.0	78	15.85	38.443
2402	2.0	0	13.03	20.093
2441	2.0	39	13.32	21.465
2480	2.0	78	14.07	25.515
2402	3.0	0	13.77	23.827
2441	3.0	39	13.50	22.371
2480	3.0	78	14.19	26.242

Table 9-75
Bluetooth Average RF Power – Ant 2

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
			[dBm]	[mW]
2402	1.0	0	17.87	61.222
2441	1.0	39	17.79	60.069
2480	1.0	78	17.40	55.013
2402	2.0	0	14.22	26.446
2441	2.0	39	14.64	29.139
2480	2.0	78	14.93	31.104
2402	3.0	0	14.92	31.073
2441	3.0	39	14.71	29.564
2480	3.0	78	14.98	31.487

Table 9-76
Bluetooth Average RF Power – MIMO

Frequency [MHz]	Data Rate [Mbps]	Power Scheme	Channel No.	Avg Conducted Power_ANT1		Avg Conducted Power_ANT2		Avg Conducted Power_DUAL	
				[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]
2402	1.0	iPA	0	10.97	12.514	10.96	12.477	13.98	25.003
2441	1.0	iPA	39	10.57	11.389	11.13	12.981	13.87	24.378
2480	1.0	iPA	78	10.73	11.841	10.66	11.641	13.71	23.496
2402	2.0	ePA	0	15.49	35.375	13.57	22.725	17.64	58.076
2441	2.0	ePA	39	13.62	23.036	13.30	21.399	16.48	44.463
2480	2.0	ePA	78	13.72	23.556	13.15	20.640	16.45	44.157
2402	3.0	ePA	0	13.24	35.571	13.51	22.423	16.38	43.451
2441	3.0	ePA	39	13.67	23.297	13.31	21.419	16.50	44.668
2480	3.0	ePA	78	13.57	22.756	13.08	20.310	16.34	43.053

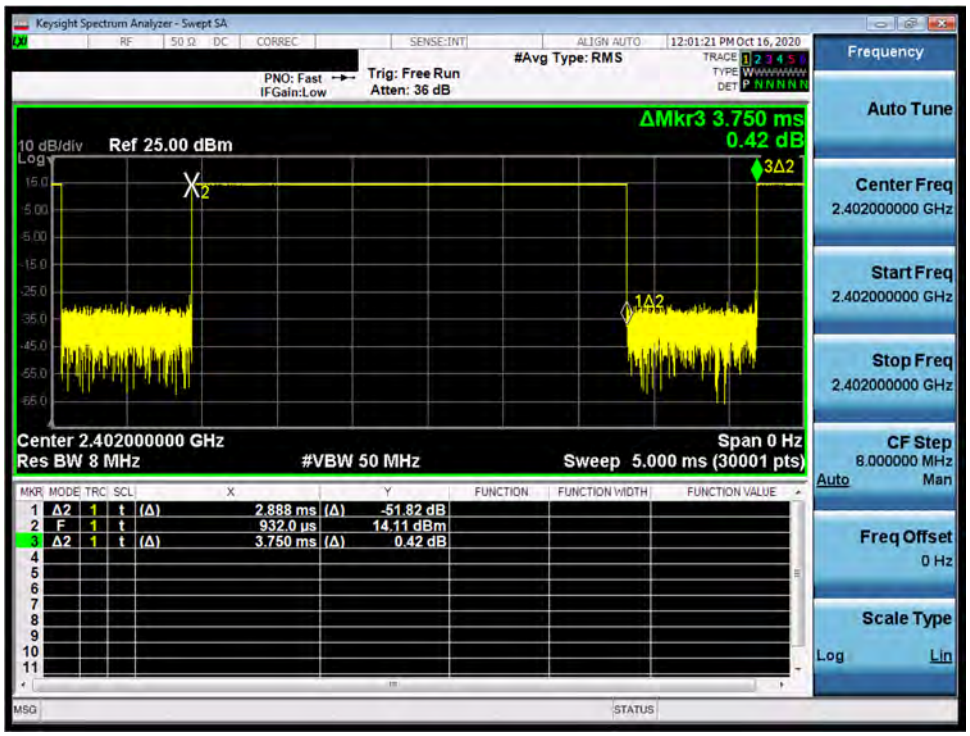

Figure 9-4
Bluetooth Transmission Plot – Ant 1

Equation 9-1
Bluetooth Duty Cycle Calculation – Ant 1

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{2.89ms}{3.75ms} * 100\% = 77.0\%$$

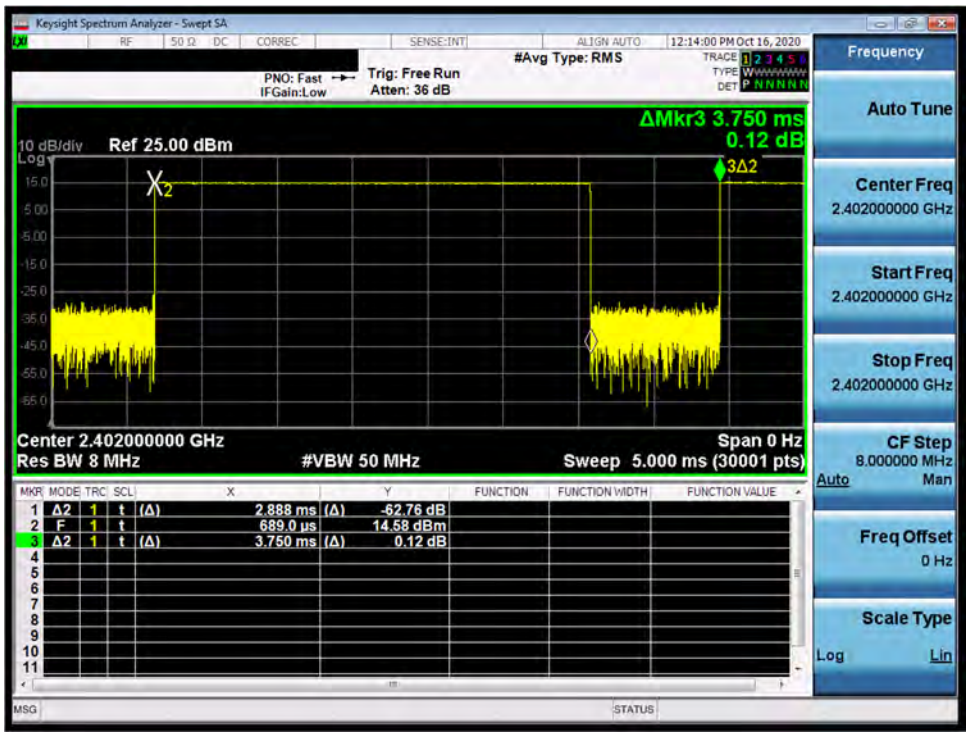

Figure 9-5
Bluetooth Transmission Plot – Ant 2

Equation 9-2
Bluetooth Duty Cycle Calculation – Ant 2

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{2.89ms}{3.75ms} * 100\% = 77.0\%$$

Figure 9-6
Bluetooth Transmission Plot – MIMO

Equation 9-3
Bluetooth Duty Cycle Calculation – MIMO

$$\boldsymbol{Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{2.89ms}{3.75ms} * 100\% = 77.0\%}$$

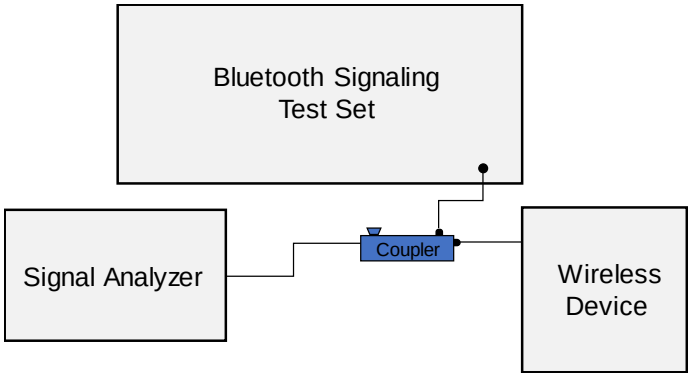

Figure 9-7
Power Measurement Setup

10 SYSTEM VERIFICATION

10.1 Tissue Verification

Table 10-1
Measured Head Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (°C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	%dev σ	%dev ε
10/27/2020	750 Head	22.0	700	0.905	42.543	0.889	42.201	1.80%	0.81%
			710	0.909	42.521	0.890	42.149	2.13%	0.88%
			750	0.924	42.383	0.894	41.942	3.36%	1.05%
			770	0.931	42.308	0.895	41.838	4.02%	1.12%
			785	0.936	42.261	0.896	41.760	4.46%	1.20%
11/08/2020	835 Head	22.7	820	0.925	40.137	0.899	41.578	2.89%	-3.47%
			835	0.931	40.098	0.900	41.500	3.44%	-3.38%
			850	0.936	40.050	0.916	41.500	2.18%	-3.49%
11/18/2020	835 Head	21.6	820	0.878	41.410	0.899	41.578	-2.34%	-0.40%
			835	0.893	41.193	0.900	41.500	-0.78%	-0.74%
			850	0.907	40.983	0.916	41.500	-0.98%	-1.25%
11/10/2020	1750 Head	22.2	1710	1.344	38.214	1.348	40.142	-0.30%	-4.80%
			1720	1.351	38.199	1.354	40.126	-0.22%	-4.80%
			1745	1.364	38.176	1.368	40.087	-0.29%	-4.77%
			1750	1.368	38.173	1.371	40.079	-0.22%	-4.76%
			1770	1.380	38.138	1.383	40.047	-0.22%	-4.77%
			1790	1.394	38.126	1.394	40.016	0.00%	-4.72%
10/21/2020	1900 Head	24.3	1850	1.346	40.464	1.400	40.000	-3.86%	1.16%
			1860	1.357	40.434	1.400	40.000	-3.07%	1.08%
			1880	1.377	40.352	1.400	40.000	-1.64%	0.88%
			1900	1.399	40.288	1.400	40.000	-0.07%	0.72%
			1905	1.404	40.273	1.400	40.000	0.29%	0.68%
			1910	1.409	40.267	1.400	40.000	0.64%	0.67%
11/11/2020	2450 Head	22.3	2400	1.790	37.630	1.756	39.289	1.94%	-4.22%
			2450	1.829	37.557	1.800	39.200	1.61%	-4.19%
			2480	1.849	37.504	1.833	39.162	0.87%	-4.23%
			2500	1.864	37.470	1.855	39.136	0.49%	-4.26%
11/15/2020	2450 Head	21.9	2560	1.942	37.206	1.920	39.060	1.15%	-4.75%
			2600	1.974	37.157	1.964	39.009	0.51%	-4.75%
			2650	2.012	37.037	2.018	38.945	-0.30%	-4.90%
			2680	2.039	36.993	2.051	38.907	-0.59%	-4.92%
			2700	2.054	36.975	2.073	38.882	-0.92%	-4.90%
11/09/2020	5200-5800 Head	22.1	5250	4.615	34.740	4.706	35.929	-1.93%	-3.31%
			5270	4.646	34.698	4.727	35.906	-1.71%	-3.36%
			5600	5.000	34.099	5.065	35.529	-1.28%	-4.02%
			5690	5.101	33.955	5.158	35.426	-1.11%	-4.15%
			5750	5.180	33.871	5.219	35.357	-0.75%	-4.20%
			5775	5.196	33.801	5.245	35.329	-0.93%	-4.33%

Table 10-2
Measured Body Tissue Properties (1 of 2)

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (°C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	%dev σ	%dev ε
11/04/2020	750 Body	21.5	700	0.968	53.334	0.959	55.726	0.94%	-4.29%
			710	0.972	53.310	0.960	55.687	1.25%	-4.27%
			750	0.987	53.193	0.964	55.531	2.39%	-4.21%
			770	0.994	53.141	0.965	55.453	3.01%	-4.17%
			785	1.000	53.105	0.966	55.395	3.52%	-4.13%
10/27/2020	835 Body	23.4	820	0.935	54.041	0.969	55.258	-3.51%	-2.20%
			835	0.951	53.901	0.970	55.200	-1.96%	-2.35%
			850	0.966	53.750	0.988	55.154	-2.23%	-2.55%
10/29/2020	835 Body	23.9	820	0.935	55.333	0.969	55.258	-3.51%	0.14%
			835	0.951	55.191	0.970	55.200	-1.96%	-0.02%
			850	0.965	55.035	0.988	55.154	-2.33%	-0.22%
11/05/2020	835 Body	23.5	820	0.935	54.060	0.969	55.258	-3.51%	-2.17%
			835	0.949	53.914	0.970	55.200	-2.16%	-2.33%
			850	0.964	53.756	0.988	55.154	-2.43%	-2.53%
11/09/2020	835 Body	21.9	820	0.933	54.889	0.969	55.258	-3.72%	-0.67%
			835	0.948	54.721	0.970	55.200	-2.27%	-0.87%
			850	0.964	54.583	0.988	55.154	-2.43%	-1.04%
12/08/2020	835 Body	22.2	820	0.937	54.254	0.969	55.258	-3.30%	-1.82%
			835	0.951	54.096	0.970	55.200	-1.96%	-2.00%
			850	0.966	53.944	0.988	55.154	-2.23%	-2.19%
10/28/2020	1750 Body	21.5	1710	1.487	51.841	1.463	53.537	1.64%	-3.17%
			1720	1.498	51.808	1.469	53.511	1.97%	-3.18%
			1745	1.529	51.717	1.485	53.445	2.96%	-3.23%
			1750	1.535	51.697	1.488	53.432	3.16%	-3.25%
			1770	1.559	51.615	1.501	53.379	3.86%	-3.30%
			1790	1.582	51.528	1.514	53.326	4.49%	-3.37%
11/02/2020	1750 Body	22.1	1710	1.491	52.369	1.463	53.537	1.91%	-2.18%
			1720	1.502	52.327	1.469	53.511	2.25%	-2.21%
			1745	1.531	52.211	1.485	53.445	3.10%	-2.31%
			1750	1.536	52.187	1.488	53.432	3.23%	-2.33%
			1770	1.558	52.097	1.501	53.379	3.80%	-2.40%
			1790	1.578	52.014	1.514	53.326	4.23%	-2.46%
11/16/2020	1750 Body	22.3	1710	1.489	51.318	1.463	53.537	1.78%	-4.14%
			1720	1.500	51.268	1.469	53.511	2.11%	-4.19%
			1745	1.528	51.157	1.485	53.445	2.90%	-4.28%
			1750	1.534	51.138	1.488	53.432	3.09%	-4.29%
			1770	1.555	51.068	1.501	53.379	3.60%	-4.33%
			1790	1.575	50.994	1.514	53.326	4.03%	-4.37%
11/19/2020	1750 Body	23.3	1710	1.467	51.153	1.463	53.537	0.27%	-4.45%
			1720	1.478	51.127	1.469	53.511	0.61%	-4.46%
			1745	1.506	51.052	1.485	53.445	1.41%	-4.48%
			1750	1.512	51.036	1.488	53.432	1.61%	-4.48%
			1770	1.536	50.969	1.501	53.379	2.33%	-4.51%
			1790	1.559	50.904	1.514	53.326	2.97%	-4.54%
12/02/2020	1750 Body	23.4	1710	1.465	51.045	1.463	53.537	0.14%	-4.65%
			1720	1.476	50.997	1.469	53.511	0.48%	-4.70%
			1745	1.502	50.888	1.485	53.445	1.14%	-4.78%
			1750	1.508	50.869	1.488	53.432	1.34%	-4.80%
			1770	1.528	50.797	1.501	53.379	1.80%	-4.84%
			1790	1.547	50.729	1.514	53.326	2.18%	-4.87%
12/09/2020	1750 Body	24.4	1710	1.471	51.264	1.463	53.537	0.55%	-4.25%
			1720	1.482	51.220	1.469	53.511	0.88%	-4.28%
			1745	1.511	51.108	1.485	53.445	1.75%	-4.37%
			1750	1.517	51.089	1.488	53.432	1.95%	-4.39%
			1770	1.538	51.024	1.501	53.379	2.47%	-4.41%
			1790	1.558	50.962	1.514	53.326	2.91%	-4.43%
10/21/2020	1900 Body	24.6	1850	1.508	52.741	1.520	53.300	-0.79%	-1.05%
			1860	1.518	52.710	1.520	53.300	-0.13%	-1.11%
			1880	1.540	52.647	1.520	53.300	1.32%	-1.23%
			1900	1.563	52.585	1.520	53.300	2.83%	-1.34%
			1905	1.569	52.570	1.520	53.300	3.22%	-1.37%
			1910	1.575	52.556	1.520	53.300	3.62%	-1.40%
10/24/2020	1900 Body	24.2	1850	1.506	54.436	1.520	53.300	-0.92%	2.13%
			1860	1.518	54.410	1.520	53.300	-0.13%	2.08%
			1880	1.540	54.347	1.520	53.300	1.32%	1.96%
			1900	1.563	54.273	1.520	53.300	2.83%	1.83%
			1905	1.569	54.253	1.520	53.300	3.22%	1.79%
			1910	1.575	54.234	1.520	53.300	3.62%	1.75%
11/8/2020	1900 Body	24.4	1850	1.507	52.821	1.520	53.300	-0.86%	-0.90%
			1860	1.518	52.795	1.520	53.300	-0.13%	-0.95%
			1880	1.540	52.742	1.520	53.300	1.32%	-1.05%
			1900	1.563	52.677	1.520	53.300	2.83%	-1.17%
			1905	1.568	52.658	1.520	53.300	3.16%	-1.20%
			1910	1.574	52.641	1.520	53.300	3.55%	-1.24%
12/3/2020	1900 Body	23.4	1850	1.506	52.806	1.520	53.300	-0.92%	-0.93%
			1860	1.517	52.774	1.520	53.300	-0.20%	-0.99%
			1880	1.539	52.706	1.520	53.300	1.25%	-1.11%
			1900	1.561	52.634	1.520	53.300	2.70%	-1.25%
			1905	1.567	52.617	1.520	53.300	3.09%	-1.28%
			1910	1.573	52.599	1.520	53.300	3.49%	-1.32%

Table 10-3
Measured Body Tissue Properties (2 of 2)

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (˚C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	%dev σ	%dev ε
11/8/2020	2450 Body	23.1	2400	1.986	51.879	1.902	52.767	4.42%	-1.68%
			2450	2.045	51.711	1.950	52.700	4.87%	-1.88%
			2480	2.081	51.617	1.993	52.662	4.42%	-1.98%
			2500	2.104	51.565	2.021	52.636	4.11%	-2.03%
11/16/2020	2450 Body	24.3	2400	1.947	51.234	1.902	52.767	2.37%	-2.91%
			2450	2.017	51.048	1.950	52.700	3.44%	-3.13%
			2480	2.058	50.947	1.993	52.662	3.26%	-3.26%
			2500	2.085	50.870	2.021	52.636	3.17%	-3.36%
11/19/2020	2450 Body	23.6	2400	1.902	52.170	1.902	52.767	0.00%	-1.13%
			2450	1.972	52.020	1.950	52.700	1.13%	-1.29%
			2480	2.014	51.917	1.993	52.662	1.05%	-1.41%
			2500	2.038	51.831	2.021	52.636	0.84%	-1.53%
			2510	2.056	51.803	2.035	52.623	1.03%	-1.56%
			2535	2.088	51.716	2.071	52.592	0.82%	-1.67%
			2550	2.106	51.656	2.092	52.573	0.67%	-1.74%
			2560	2.124	51.631	2.106	52.560	0.85%	-1.77%
			2600	2.177	51.469	2.163	52.509	0.65%	-1.98%
			2650	2.248	51.288	2.234	52.445	0.63%	-2.21%
			2680	2.293	51.175	2.277	52.407	0.70%	-2.35%
			2700	2.319	51.120	2.305	52.382	0.61%	-2.41%
11/21/2020	2450 Body	22.8	2400	1.975	52.606	1.902	52.767	3.84%	-0.31%
			2450	2.033	52.458	1.950	52.700	4.26%	-0.46%
			2480	2.069	52.386	1.993	52.662	3.81%	-0.52%
			2500	2.091	52.335	2.021	52.636	3.46%	-0.57%
			2510	2.101	52.296	2.035	52.623	3.24%	-0.62%
			2535	2.137	52.215	2.071	52.592	3.19%	-0.72%
			2550	2.154	52.169	2.092	52.573	2.96%	-0.77%
			2560	2.167	52.161	2.106	52.560	2.90%	-0.76%
			2600	2.211	52.047	2.163	52.509	2.22%	-0.88%
			2650	2.276	51.887	2.234	52.445	1.88%	-1.06%
			2680	2.313	51.807	2.277	52.407	1.58%	-1.14%
			2700	2.334	51.730	2.305	52.382	1.26%	-1.24%
11/15/2020	5200-5800 Body	22.1	5250	5.505	47.282	5.358	48.947	2.74%	-3.40%
			5270	5.529	47.236	5.381	48.919	2.75%	-3.44%
			5300	5.569	47.211	5.416	48.879	2.82%	-3.41%
			5600	5.964	46.695	5.766	48.471	3.43%	-3.66%
			5610	5.974	46.697	5.778	48.458	3.39%	-3.63%
			5720	6.127	46.512	5.907	48.309	3.72%	-3.72%
			5750	6.176	46.473	5.942	48.268	3.94%	-3.72%
			5775	6.198	46.424	5.971	48.234	3.80%	-3.75%
			5785	6.216	46.383	5.982	48.220	3.91%	-3.81%
11/22/2020	5200-5800 Body	22.5	5250	5.532	46.984	5.358	48.947	3.25%	-4.01%
			5300	5.596	46.905	5.416	48.879	3.32%	-4.04%
			5720	6.180	46.157	5.907	48.309	4.62%	-4.45%
			5750	6.218	46.134	5.942	48.268	4.64%	-4.42%

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

10.2 Test System Verification

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

Table 10-4
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)	$Deviation_{1g}$ (%)
L	750	HEAD	10/27/2020	24.1	22.0	0.200	1161	7406	1.730	8.030	8.650	7.72%
E	835	HEAD	11/08/2020	22.9	22.7	0.200	4d133	3589	2.000	9.430	10.000	6.04%
D	835	HEAD	11/18/2020	22.7	21.6	0.200	4d047	7488	1.920	9.420	9.600	1.91%
E	1750	HEAD	11/10/2020	23.0	22.2	0.100	1008	3589	3.590	36.200	35.900	-0.83%
L	1900	HEAD	10/21/2020	24.6	24.5	0.100	5d148	7406	4.140	39.100	41.400	5.88%
E	2450	HEAD	11/11/2020	22.7	22.5	0.100	981	3589	5.420	52.300	54.200	3.63%
E	2600	HEAD	11/15/2020	23.4	22.2	0.100	1004	3589	5.820	55.900	58.200	4.11%
H	5250	HEAD	11/09/2020	23.5	23.5	0.050	1057	7357	3.880	79.200	77.600	-2.02%
H	5600	HEAD	11/09/2020	23.5	23.5	0.050	1057	7357	3.820	84.100	76.400	-9.16%
H	5750	HEAD	11/09/2020	23.5	23.5	0.050	1057	7357	4.000	80.500	80.000	-0.62%
O	750	BODY	11/04/2020	22.6	21.5	0.200	1161	7547	1.800	8.430	9.000	6.76%
I	835	BODY	10/27/2020	24.9	23.4	0.200	4d133	7570	1.940	9.750	9.700	-0.51%
I	835	BODY	10/29/2020	24.8	23.9	0.200	4d133	7570	1.950	9.750	9.750	0.00%
I	835	BODY	11/05/2020	23.5	23.1	0.200	4d133	7570	1.990	9.750	9.950	2.05%
D	835	BODY	11/09/2020	22.3	21.9	0.200	4d047	7488	1.910	9.470	9.550	0.84%
D	835	BODY	12/08/2020	23.4	22.2	0.200	4d047	7488	1.800	9.470	9.000	-4.96%
P	1750	BODY	10/28/2020	22.2	21.5	0.100	1150	7308	3.840	36.600	38.400	4.92%
H	1750	BODY	11/16/2020	23.0	22.5	0.100	1008	7357	3.930	37.400	39.300	5.08%
H	1750	BODY	11/19/2020	22.0	23.3	0.100	1008	7357	3.770	37.400	37.700	0.80%
H	1750	BODY	12/02/2020	24.2	23.4	0.100	1150	7357	3.840	36.600	38.400	4.92%
H	1750	BODY	12/09/2020	24.7	24.4	0.100	1008	7357	3.950	37.400	39.500	5.61%
J	1900	BODY	10/21/2020	22.0	24.6	0.100	5d080	7571	4.150	39.200	41.500	5.87%
J	1900	BODY	10/24/2020	22.5	22.2	0.100	5d080	7571	4.170	39.200	41.700	6.38%
J	1900	BODY	11/08/2020	22.5	22.4	0.100	5d149	7571	4.070	39.400	40.700	3.30%
J	1900	BODY	12/03/2020	24.5	23.4	0.100	5d149	7410	4.220	39.400	42.200	7.11%
K	2450	BODY	11/08/2020	22.2	23.1	0.100	981	7409	5.110	50.900	51.100	0.39%
P	2450	BODY	11/16/2020	22.9	23.4	0.100	797	7308	4.950	49.400	49.500	0.20%
P	2450	BODY	11/19/2020	24.9	22.6	0.100	797	7308	4.800	49.400	48.000	-2.83%
K	2450	BODY	11/21/2020	22.6	22.0	0.100	981	7409	5.120	50.900	51.200	0.59%
P	2600	BODY	11/19/2020	24.9	22.6	0.100	1064	7308	5.450	55.600	54.500	-1.98%
G	5250	BODY	11/15/2020	21.9	22.1	0.050	1237	7406	3.530	75.600	70.600	-6.61%
G	5600	BODY	11/15/2020	21.9	22.1	0.050	1237	7406	3.750	78.500	75.000	-4.46%
G	5750	BODY	11/15/2020	21.9	22.1	0.050	1237	7406	3.600	75.900	72.000	-5.14%

Table 10-5
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)	$Deviation_{10g}$ (%)
P	1750	BODY	10/28/2020	22.2	21.5	0.100	1150	7308	2.010	19.400	20.100	3.61%
P	1750	BODY	11/02/2020	19.8	20.4	0.100	1150	7308	1.970	19.400	19.700	1.55%
H	1750	BODY	12/09/2020	24.7	24.4	0.100	1008	7357	2.090	19.900	20.900	5.03%
J	1900	BODY	10/21/2020	22.0	24.6	0.100	5d080	7571	2.140	20.600	21.400	3.88%
J	1900	BODY	10/24/2020	22.5	22.2	0.100	5d080	7571	2.140	20.600	21.400	3.88%
J	1900	BODY	11/08/2020	22.5	22.4	0.100	5d149	7571	2.080	20.700	20.800	0.48%
K	2450	BODY	11/21/2020	22.6	22.0	0.100	981	7409	2.350	24.200	23.500	-2.89%
K	2600	BODY	11/21/2020	22.6	22.0	0.100	1004	7409	2.290	24.700	22.900	-7.29%
G	5250	BODY	11/22/2020	22.0	22.5	0.050	1237	7406	0.995	21.200	19.900	-6.13%
G	5750	BODY	11/22/2020	22.0	22.5	0.050	1237	7406	0.981	21.200	19.620	-7.45%

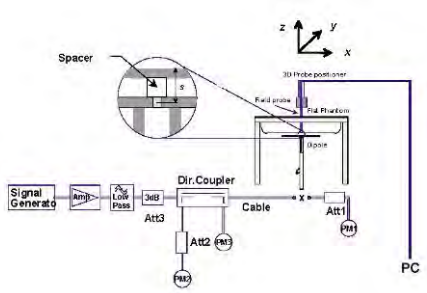

Figure 10-1
System Verification Setup Diagram

Figure 10-2
System Verification Setup Photo

11 SAR DATA SUMMARY

11.1 Standalone Head SAR Data

Table 11-1
GSM 850 Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
836.60	190	GSM 850	GSM	34.0	33.29	-0.08	Right	Cheek	0194M	1:8.3	0.133	1.178	0.157	A1
836.60	190	GSM 850	GSM	34.0	33.29	-0.07	Right	Tilt	0194M	1:8.3	0.056	1.178	0.066	
836.60	190	GSM 850	GSM	34.0	33.29	0.07	Left	Cheek	0194M	1:8.3	0.099	1.178	0.117	
836.60	190	GSM 850	GSM	34.0	33.29	-0.03	Left	Tilt	0194M	1:8.3	0.057	1.178	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							

Table 11-2
GSM 1900 Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1880.00	661	GSM 1900	GSM	31.0	30.09	0.21	Right	Cheek	0195M	1:8.3	0.026	1.233	0.032	
1880.00	661	GSM 1900	GSM	31.0	30.09	0.18	Right	Tilt	0195M	1:8.3	0.017	1.233	0.021	
1880.00	661	GSM 1900	GSM	31.0	30.09	-0.07	Left	Cheek	0195M	1:8.3	0.035	1.233	0.043	A2
1880.00	661	GSM 1900	GSM	31.0	30.09	-0.14	Left	Tilt	0195M	1:8.3	0.015	1.233	0.018	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-3
UMTS 850 Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
836.60	4183	UMTS 850	RMC	25.5	25.39	0.00	Right	Cheek	1645M	1:1	0.146	1.026	0.150	A3
836.60	4183	UMTS 850	RMC	25.5	25.39	0.08	Right	Tilt	1645M	1:1	0.068	1.026	0.070	
836.60	4183	UMTS 850	RMC	25.5	25.39	0.01	Left	Cheek	1645M	1:1	0.098	1.026	0.101	
836.60	4183	UMTS 850	RMC	25.5	25.39	0.00	Left	Tilt	1645M	1:1	0.056	1.026	0.057	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-4
UMTS 1750 Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1732.40	1412	UMTS 1750	RMC	25.0	24.93	0.13	Right	Cheek	0106M	1:1	0.056	1.016	0.057	
1732.40	1412	UMTS 1750	RMC	25.0	24.93	0.20	Right	Tilt	0106M	1:1	0.058	1.016	0.059	
1732.40	1412	UMTS 1750	RMC	25.0	24.93	0.03	Left	Cheek	0106M	1:1	0.086	1.016	0.087	A4
1732.40	1412	UMTS 1750	RMC	25.0	24.93	0.15	Left	Tilt	0106M	1:1	0.070	1.016	0.071	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-5
UMTS 1900 Head SAR

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
1880.00	9400	UMTS 1900	RMC	25.0	24.62	0.03	Right	Cheek	0195M	1:1	0.064	1.091	0.070	
1880.00	9400	UMTS 1900	RMC	25.0	24.62	0.00	Right	Tilt	0195M	1:1	0.037	1.091	0.040	
1880.00	9400	UMTS 1900	RMC	25.0	24.62	0.02	Left	Cheek	0195M	1:1	0.074	1.091	0.081	A5
1880.00	9400	UMTS 1900	RMC	25.0	24.62	-0.18	Left	Tilt	0195M	1:1	0.035	1.091	0.038	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-6
LTE Band 12 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
707.50	23095	Mid	LTE Band 12	10	25.5	25.37	-0.12	0	Right	Cheek	QPSK	1	0	0106M	1:1	0.106	1.030	0.109	A6
707.50	23095	Mid	LTE Band 12	10	24.5	23.91	-0.16	1	Right	Cheek	QPSK	25	12	0106M	1:1	0.089	1.146	0.102	
707.50	23095	Mid	LTE Band 12	10	25.5	25.37	0.08	0	Right	Tilt	QPSK	1	0	0106M	1:1	0.043	1.030	0.044	
707.50	23095	Mid	LTE Band 12	10	24.5	23.91	0.19	1	Right	Tilt	QPSK	25	12	0106M	1:1	0.038	1.146	0.044	
707.50	23095	Mid	LTE Band 12	10	25.5	25.37	0.12	0	Left	Cheek	QPSK	1	0	0106M	1:1	0.088	1.030	0.091	
707.50	23095	Mid	LTE Band 12	10	24.5	23.91	0.12	1	Left	Cheek	QPSK	25	12	0106M	1:1	0.071	1.146	0.081	
707.50	23095	Mid	LTE Band 12	10	25.5	25.37	0.12	0	Left	Tilt	QPSK	1	0	0106M	1:1	0.035	1.030	0.036	
707.50	23095	Mid	LTE Band 12	10	24.5	23.91	-0.21	1	Left	Tilt	QPSK	25	12	0106M	1:1	0.031	1.146	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 11-7
LTE Band 13 Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
782.00	23230	Mid	LTE Band 13	10	25.5	24.53	0.15	0	Right	Cheek	QPSK	1	0	0106M	1:1	0.102	1.250	0.128	A7
782.00	23230	Mid	LTE Band 13	10	24.5	23.34	0.16	1	Right	Cheek	QPSK	25	0	0106M	1:1	0.075	1.306	0.098	
782.00	23230	Mid	LTE Band 13	10	25.5	24.53	0.02	0	Right	Tilt	QPSK	1	0	0106M	1:1	0.042	1.250	0.053	
782.00	23230	Mid	LTE Band 13	10	24.5	23.34	0.17	1	Right	Tilt	QPSK	25	0	0106M	1:1	0.032	1.306	0.042	
782.00	23230	Mid	LTE Band 13	10	25.5	24.53	0.10	0	Left	Cheek	QPSK	1	0	0106M	1:1	0.070	1.250	0.088	
782.00	23230	Mid	LTE Band 13	10	24.5	23.34	0.21	1	Left	Cheek	QPSK	25	0	0106M	1:1	0.056	1.306	0.073	
782.00	23230	Mid	LTE Band 13	10	25.5	24.53	0.18	0	Left	Tilt	QPSK	1	0	0106M	1:1	0.038	1.250	0.048	
782.00	23230	Mid	LTE Band 13	10	24.5	23.34	0.21	1	Left	Tilt	QPSK	25	0	0106M	1:1	0.029	1.306	0.038	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Head 1.6 W/kg (mW/g) averaged over 1 gram			

Table 11-8
LTE Band 26 (Cell) Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	24.92	-0.03	0	Right	Cheek	QPSK	1	0	0106M	1:1	0.112	1.143	0.128	A8
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	23.45	-0.03	1	Right	Cheek	QPSK	36	0	0106M	1:1	0.063	1.274	0.080	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	24.92	0.04	0	Right	Tilt	QPSK	1	0	0106M	1:1	0.053	1.143	0.061	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	23.45	0.07	1	Right	Tilt	QPSK	36	0	0106M	1:1	0.029	1.274	0.037	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	24.92	0.01	0	Left	Cheek	QPSK	1	0	0106M	1:1	0.073	1.143	0.083	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	23.45	0.12	1	Left	Cheek	QPSK	36	0	0106M	1:1	0.044	1.274	0.056	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	24.92	0.20	0	Left	Tilt	QPSK	1	0	0106M	1:1	0.042	1.143	0.048	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	23.45	-0.18	1	Left	Tilt	QPSK	36	0	0106M	1:1	0.027	1.274	0.034	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Head 1.6 W/kg (mW/g) averaged over 1 gram			

Table 11-9
LTE Band 66 (AWS) Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.02	0.12	0	Right	Cheek	QPSK	1	50	0115M	1:1	0.053	1.253	0.066	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	22.83	0.15	1	Right	Cheek	QPSK	50	25	0115M	1:1	0.042	1.309	0.055	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.02	0.21	0	Right	Tilt	QPSK	1	50	0115M	1:1	0.048	1.253	0.060	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	22.83	0.14	1	Right	Tilt	QPSK	50	25	0115M	1:1	0.033	1.309	0.043	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.02	0.20	0	Left	Cheek	QPSK	1	50	0115M	1:1	0.120	1.253	0.150	A9
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	22.83	0.14	1	Left	Cheek	QPSK	50	25	0115M	1:1	0.100	1.309	0.131	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.02	0.19	0	Left	Tilt	QPSK	1	50	0115M	1:1	0.070	1.253	0.088	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	22.83	0.15	1	Left	Tilt	QPSK	50	25	0115M	1:1	0.055	1.309	0.072	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Head 1.6 W/kg (mW/g) averaged over 1 gram			

Table 11-10
LTE Band 25 (PCS) Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	23.79	0.04	0	Right	Cheek	QPSK	1	50	0195M	1:1	0.062	1.321	0.082	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	22.67	0.16	1	Right	Cheek	QPSK	50	0	0195M	1:1	0.040	1.358	0.054	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	23.79	-0.08	0	Right	Tilt	QPSK	1	50	0195M	1:1	0.033	1.321	0.044	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	22.67	0.20	1	Right	Tilt	QPSK	50	0	0195M	1:1	0.027	1.358	0.037	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	23.79	0.13	0	Left	Cheek	QPSK	1	50	0195M	1:1	0.090	1.321	0.119	A10
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	22.67	0.01	1	Left	Cheek	QPSK	50	0	0195M	1:1	0.077	1.358	0.105	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	23.79	0.19	0	Left	Tilt	QPSK	1	50	0195M	1:1	0.032	1.321	0.042	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	22.67	0.14	1	Left	Tilt	QPSK	50	0	0195M	1:1	0.024	1.358	0.033	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Head 1.6 W/kg (mW/g) averaged over 1 gram					

Table 11-11
LTE Band 41 Head SAR

MEASUREMENT RESULTS																				
Power Class	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
	MHz	Ch.															(W/kg)		(W/kg)	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	25.0	24.04	0.12	0	Right	Cheek	QPSK	1	0	1590M	1:1.58	0.021	1.247	0.026	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.0	23.20	0.14	1	Right	Cheek	QPSK	50	25	1590M	1:1.58	0.020	1.202	0.024	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	25.0	24.04	0.10	0	Right	Tilt	QPSK	1	0	1590M	1:1.58	0.042	1.247	0.052	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.0	23.20	0.13	1	Right	Tilt	QPSK	50	25	1590M	1:1.58	0.038	1.202	0.046	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	25.0	24.04	0.15	0	Left	Cheek	QPSK	1	0	1590M	1:1.58	0.060	1.247	0.075	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.0	23.20	0.17	1	Left	Cheek	QPSK	50	25	1590M	1:1.58	0.053	1.202	0.064	
Power Class 2	2593.00	40620	Mid	LTE Band 41	20	27.0	26.09	0.18	0	Left	Cheek	QPSK	1	0	1590M	1:2.31	0.063	1.233	0.078	A11
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	25.0	24.04	0.20	0	Left	Tilt	QPSK	1	0	1590M	1:1.58	0.028	1.247	0.035	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.0	23.20	0.15	1	Left	Tilt	QPSK	50	25	1590M	1:1.58	0.027	1.202	0.032	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Head 1.6 W/kg (mW/g) averaged over 1 gram					

Table 11-12
NR Band n5 (Cell) Head SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Waveform	Modulation	RB Size	RB Offset	Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.5	25.11	0.18	0	Right	Cheek	DFT-S-OFDM	QPSK	1	53	0562M	1:1	0.023	1.094	0.025	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.5	25.07	-0.12	0	Right	Cheek	DFT-S-OFDM	QPSK	50	28	0562M	1:1	0.027	1.104	0.030	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.5	25.11	0.16	0	Right	Tilt	DFT-S-OFDM	QPSK	1	53	0562M	1:1	0.028	1.094	0.031	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.5	25.07	0.15	0	Right	Tilt	DFT-S-OFDM	QPSK	50	28	0562M	1:1	0.033	1.104	0.036	A12
836.50	167300	Mid	NR Band n5 (Cell)	20	24.0	23.22	0.14	1.5	Right	Tilt	CP-OFDM	QPSK	1	1	0562M	1:1	0.017	1.197	0.020	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.5	25.11	0.13	0	Left	Cheek	DFT-S-OFDM	QPSK	1	53	0562M	1:1	0.025	1.094	0.027	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.5	25.07	0.20	0	Left	Cheek	DFT-S-OFDM	QPSK	50	28	0562M	1:1	0.030	1.104	0.033	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.5	25.11	0.20	0	Left	Tilt	DFT-S-OFDM	QPSK	1	53	0562M	1:1	0.010	1.094	0.011	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.5	25.07	0.13	0	Left	Tilt	DFT-S-OFDM	QPSK	50	28	0562M	1:1	0.015	1.104	0.017	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Head 1.6 W/kg (mW/g) averaged over 1 gram					

Table 11-13
NR Band n66 (AWS) Head SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Waveform	Modulation	RB Size	RB Offset	Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.0	25.00	0.15	0	Right	Cheek	DFT-S-OFDM	QPSK	1	53	0562M	1:1	0.066	1.000	0.066	
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.0	24.88	0.19	0	Right	Cheek	DFT-S-OFDM	QPSK	50	28	0562M	1:1	0.059	1.028	0.061	
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.0	25.00	0.19	0	Right	Tilt	DFT-S-OFDM	QPSK	1	53	0562M	1:1	0.082	1.000	0.082	
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.0	24.88	0.16	0	Right	Tilt	DFT-S-OFDM	QPSK	50	28	0562M	1:1	0.070	1.028	0.072	
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.0	25.00	0.20	0	Left	Cheek	DFT-S-OFDM	QPSK	1	53	0562M	1:1	0.108	1.000	0.108	A13
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.0	24.88	0.17	0	Left	Cheek	DFT-S-OFDM	QPSK	50	28	0562M	1:1	0.106	1.028	0.109	
1745.00	349000	Mid	NR Band n66 (AWS)	20	23.5	22.81	0.21	1.5	Left	Cheek	CP-OFDM	QPSK	1	1	0562M	1:1	0.064	1.172	0.075	
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.0	25.00	0.20	0	Left	Tilt	DFT-S-OFDM	QPSK	1	53	0562M	1:1	0.108	1.000	0.108	
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.0	24.88	0.20	0	Left	Tilt	DFT-S-OFDM	QPSK	50	28	0562M	1:1	0.093	1.028	0.096	
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
DTS Head SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
2462	11	802.11b	DSSS	22	17.0	16.99	0.17	Right	Cheek	1	1615M	1	99.0	0.024	-	1.002	1.010	-	
2462	11	802.11b	DSSS	22	17.0	16.99	0.15	Right	Tilt	1	1615M	1	99.0	0.027	0.015	1.002	1.010	0.015	
2462	11	802.11b	DSSS	22	17.0	16.99	0.21	Left	Cheek	1	1615M	1	99.0	0.011	-	1.002	1.010	-	
2462	11	802.11b	DSSS	22	17.0	16.99	0.00	Left	Tilt	1	1615M	1	99.0	0.020	-	1.002	1.010	-	
2412	1	802.11b	DSSS	22	17.0	16.96	0.07	Right	Cheek	2	1615M	1	99.0	0.306	-	1.009	1.010	-	
2412	1	802.11b	DSSS	22	17.0	16.96	0.17	Right	Tilt	2	1615M	1	99.0	0.052	-	1.009	1.010	-	
2412	1	802.11b	DSSS	22	17.0	16.96	0.14	Left	Cheek	2	1615M	1	99.0	0.385	0.232	1.009	1.010	0.236	A14
2412	1	802.11b	DSSS	22	17.0	16.96	0.19	Left	Tilt	2	1615M	1	99.0	0.030	-	1.009	1.010	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Head 1.6 W/kg (mW/g) averaged over 1 gram											

Table 11-15
NII MIMO Head 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]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5270	54	802.11n	OFDM	40	15.0	14.05	15.0	14.11	0.12	Right	Cheek	MIMO	0107M	27	97.3	0.167	-	1.245	1.028	-	
5270	54	802.11n	OFDM	40	15.0	14.05	15.0	14.11	0.21	Right	Tilt	MIMO	0107M	27	97.3	0.238	0.091	1.245	1.028	0.116	
5270	54	802.11n	OFDM	40	15.0	14.05	15.0	14.11	0.13	Left	Cheek	MIMO	0107M	27	97.3	0.196	-	1.245	1.028	-	
5270	54	802.11n	OFDM	40	15.0	14.05	15.0	14.11	0.21	Left	Tilt	MIMO	0107M	27	97.3	0.158	-	1.245	1.028	-	
5690	138	802.11ac	OFDM	80	15.0	14.60	15.0	14.69	0.04	Right	Cheek	MIMO	0107M	58.5	91.2	0.505	0.175	1.096	1.096	0.210	
5690	138	802.11ac	OFDM	80	15.0	14.60	15.0	14.69	0.20	Right	Tilt	MIMO	0107M	58.5	91.2	0.287	-	1.096	1.096	-	
5690	138	802.11ac	OFDM	80	15.0	14.60	15.0	14.69	0.19	Left	Cheek	MIMO	0107M	58.5	91.2	0.366	-	1.096	1.096	-	
5690	138	802.11ac	OFDM	80	15.0	14.60	15.0	14.69	0.18	Left	Tilt	MIMO	0107M	58.5	91.2	0.200	-	1.096	1.096	-	
5775	155	802.11ac	OFDM	80	15.0	14.72	15.0	14.88	0.15	Right	Cheek	MIMO	0107M	58.5	91.2	0.382	0.208	1.067	1.096	0.243	A15
5775	155	802.11ac	OFDM	80	15.0	14.72	15.0	14.88	0.19	Right	Tilt	MIMO	0107M	58.5	91.2	0.209	-	1.067	1.096	-	
5775	155	802.11ac	OFDM	80	15.0	14.72	15.0	14.88	0.16	Left	Cheek	MIMO	0107M	58.5	91.2	0.364	-	1.067	1.096	-	
5775	155	802.11ac	OFDM	80	15.0	14.72	15.0	14.88	0.17	Left	Tilt	MIMO	0107M	58.5	91.2	0.161	-	1.067	1.096	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram												

To achieve the 18.0 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 15.0 dBm.

Table 11-16
DSS Head SAR

MEASUREMENT RESULTS																	
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	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)	
2402.00	0	Bluetooth	FHSS	18.0	17.22	0.20	Right	Cheek	1	1645M	1	77.0	0.017	1.197	1.299	0.026	
2402.00	0	Bluetooth	FHSS	18.0	17.22	0.15	Right	Tilt	1	1645M	1	77.0	0.017	1.197	1.299	0.026	
2402.00	0	Bluetooth	FHSS	18.0	17.22	0.19	Left	Cheek	1	1645M	1	77.0	0.008	1.197	1.299	0.012	
2402.00	0	Bluetooth	FHSS	18.0	17.22	0.21	Left	Tilt	1	1645M	1	77.0	0.014	1.197	1.299	0.022	
2402.00	0	Bluetooth	FHSS	18.0	17.87	-0.09	Right	Cheek	2	1645M	1	77.0	0.088	1.030	1.299	0.118	
2402.00	0	Bluetooth	FHSS	18.0	17.87	0.02	Right	Tilt	2	1645M	1	77.0	0.014	1.030	1.299	0.019	
2402.00	0	Bluetooth	FHSS	18.0	17.87	0.13	Left	Cheek	2	1645M	1	77.0	0.122	1.030	1.299	**0.163**	A16
2402.00	0	Bluetooth	FHSS	18.0	17.87	0.15	Left	Tilt	2	1645M	1	77.0	0.008	1.030	1.299	0.011	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram										

11.2 Standalone Body-Worn SAR Data

Table 11-17
GSM/UMTS Body-Worn SAR Data

MEASUREMENT RESULTS														
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.										(W/kg)		(W/kg)	
836.60	190	GSM 850	GSM	34.0	33.29	0.02	15 mm	0194M	1:8.3	back	0.226	1.178	0.266	A17
1880.00	661	GSM 1900	GSM	31.0	30.09	-0.02	15 mm	0106M	1:8.3	back	0.188	1.233	0.232	A19
836.60	4183	UMTS 850	RMC	25.5	25.39	0.04	15 mm	0211M	1:1	back	0.252	1.026	0.259	A21
1732.40	1412	UMTS 1750	RMC	25.0	24.93	-0.04	15 mm	0106M	1:1	back	0.569	1.016	0.578	A23
1880.00	9400	UMTS 1900	RMC	25.0	24.62	-0.02	15 mm	0216M	1:1	back	0.427	1.091	0.466	A25
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 11-18
LTE Body-Worn SAR

MEASUREMENT RESULTS																		
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
707.50	23095	Mid	LTE Band 12	10	25.5	25.37	-0.02	0	0216M	QPSK	1	0	15 mm	back	1:1	0.183	1.030	0.188	A27
707.50	23095	Mid	LTE Band 12	10	24.5	23.91	0.00	1	0216M	QPSK	25	12	15 mm	back	1:1	0.146	1.146	0.167	
782.00	23230	Mid	LTE Band 13	10	25.5	24.53	-0.06	0	0216M	QPSK	1	0	15 mm	back	1:1	0.173	1.250	0.216	A29
782.00	23230	Mid	LTE Band 13	10	24.5	23.34	-0.01	1	0216M	QPSK	25	0	15 mm	back	1:1	0.127	1.306	0.166	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	24.92	0.00	0	0211M	QPSK	1	0	15 mm	back	1:1	0.211	1.143	0.241	A31
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	23.45	0.01	1	0211M	QPSK	36	0	15 mm	back	1:1	0.179	1.274	0.228	
1720.00	132072	Low	LTE Band 66 (AWS)	20	25.0	23.71	0.01	0	1645M	QPSK	1	0	15 mm	back	1:1	0.461	1.346	0.621	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.02	0.20	0	1645M	QPSK	1	50	15 mm	back	1:1	0.571	1.253	0.715	A34
1770.00	132572	High	LTE Band 66 (AWS)	20	25.0	23.78	-0.01	0	1645M	QPSK	1	0	15 mm	back	1:1	0.501	1.324	0.663	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	22.83	0.01	1	1645M	QPSK	50	25	15 mm	back	1:1	0.399	1.309	0.522	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	23.79	-0.13	0	0106M	QPSK	1	50	15 mm	back	1:1	0.381	1.321	0.503	A36
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	22.67	0.04	1	0106M	QPSK	50	0	15 mm	back	1:1	0.263	1.358	0.357	
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 11-19
LTE Band 41 Body-Worn SAR

MEASUREMENT RESULTS																				
Power Class	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
	MHz	Ch.															(W/kg)		(W/kg)	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	25.0	24.04	0.10	0	1590M	QPSK	1	0	15 mm	back	1:1.58	0.336	1.247	0.419	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.0	23.20	0.01	1	1590M	QPSK	50	25	15 mm	back	1:1.58	0.273	1.202	0.328	
Power Class 2	2593.00	40620	Mid	LTE Band 41	20	27.0	26.09	-0.04	0	1590M	QPSK	1	0	15 mm	back	1:2.31	0.344	1.233	0.424	A38
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-20
NR Body-Worn SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Waveform	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.5	25.11	-0.02	0	0562M	DFT-S-OFDM	QPSK	1	53	15 mm	back	1:1	0.062	1.094	0.068	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.5	25.07	0.06	0	0562M	DFT-S-OFDM	QPSK	50	28	15 mm	back	1:1	0.068	1.104	0.075	A40
836.50	167300	Mid	NR Band n5 (Cell)	20	24.0	23.22	0.21	1.5	0562M	CP-OFDM	QPSK	1	1	15 mm	back	1:1	0.052	1.197	0.062	
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.0	25.00	-0.01	0	1615M	DFT-S-OFDM	QPSK	1	53	15 mm	back	1:1	0.576	1.000	0.576	A42
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.0	24.88	-0.02	0	1615M	DFT-S-OFDM	QPSK	50	28	15 mm	back	1:1	0.567	1.028	0.583	
1745.00	349000	Mid	NR Band n66 (AWS)	20	23.5	22.81	-0.05	1.5	1615M	CP-OFDM	QPSK	1	1	15 mm	back	1:1	0.376	1.172	0.441	
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 11-21
DTS 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)	
2462	11	802.11b	DSSS	22	19.0	18.54	-0.05	15 mm	1	1615M	1	back	99.0	0.231	0.157	1.112	1.010	0.176	
2412	1	802.11b	DSSS	22	19.0	18.42	0.14	15 mm	2	1615M	1	back	99.0	0.055	0.040	1.143	1.010	0.046	
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 11-22
DTS 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)	
2437	6	802.11g	OFDM	20	18.0	17.98	18.0	17.49	0.00	15 mm	MIMO	1590M	6	back	98.7	0.230	0.162	1.125	1.013	0.185	A44
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram						

To achieve the 21.0 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 18.0 dBm.

Table 11-23
DTS MIMO Body-Worn SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (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)	
2437	6	802.11n	OFDM	20	17.0	16.96	17.0	16.33	0.00	15 mm	MIMO	1590M	13	back	98.8	0.202	0.123	1.167	1.012	0.145	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram						

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

Table 11-24
NII MIMO Body-Worn SAR

MEASUREMENT RESULTS																							
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5300	60	802.11n	OFDM	20	18.0	17.98	18.0	17.44	0.07	15 mm	MIMO	1621M	13	back	98.7	0.795	0.349	1.138	1.013	0.402	
5620	124	802.11n	OFDM	20	18.0	17.86	18.0	17.52	0.07	15 mm	MIMO	1621M	13	back	98.7	1.011	0.425	1.117	1.013	**0.481**	A46
5785	157	802.11n	OFDM	20	17.0	16.74	17.0	16.95	0.21	15 mm	MIMO	1621M	13	back	98.7	0.798	0.333	1.062	1.013	0.358	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram					

Notes:

1. For channels 60 and 124, to achieve the 21.0 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 18.0 dBm.
2. For channel 157, to achieve the 20.0 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 17.0 dBm.

Table 11-25
NII MIMO Body-Worn SAR for Conditions with 2.4 GHz and 5 GHz WLAN SAR

MEASUREMENT RESULTS																							
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5270	54	802.11n	OFDM	40	14.0	13.22	14.0	13.36	0.16	15 mm	MIMO	1621M	27	back	97.3	0.217	0.092	1.197	1.028	0.113	
5610	122	802.11ac	OFDM	80	14.0	13.44	14.0	13.75	-0.01	15 mm	MIMO	1621M	58.5	back	91.2	0.250	0.111	1.138	1.096	0.138	
5775	155	802.11ac	OFDM	80	14.0	13.59	14.0	13.81	0.13	15 mm	MIMO	1621M	58.5	back	91.2	0.230	0.108	1.099	1.096	0.130	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram					

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 11-26
DSS Single Antenna Body-Worn SAR

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	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)	
2402	0	Bluetooth	FHSS	18.0	17.22	-0.05	15 mm	1	0197M	1	back	77	0.054	1.197	1.299	**0.084**	A48
2402	0	Bluetooth	FHSS	18.0	17.87	0.21	15 mm	2	0197M	1	back	77	0.015	1.030	1.299	0.020	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram				

Table 11-27
DSS Dual Mode Body-Worn SAR

MEASUREMENT RESULTS																				
FREQUENCY		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 (%)	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.														(W/kg)			(W/kg)	
2402	0	FHSS	20	15.5	15.49	14.5	13.57	-0.15	15 mm	MIMO	1590M	4	back	77.0	0.021	1.239	1.299	0.034	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram				

To achieve the 18.0 dBm maximum allowed Dual Mode power shown in the documentation, antenna 1 transmits at a maximum allowed power of 15.5 dBm, and antenna 2 transmits at a maximum allowed power of 14.5 dBm

11.3 Standalone Hotspot SAR Data

Table 11-28
GPRS/UMTS Hotspot SAR Data

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	# of Time Slots	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
836.60	190	GSM 850	GPRS	30.5	29.77	-0.14	10 mm	0194M	3	1:2.76	back	0.505	1.183	0.597	A18
836.60	190	GSM 850	GPRS	30.5	29.77	-0.07	10 mm	0194M	3	1:2.76	front	0.353	1.183	0.418	
836.60	190	GSM 850	GPRS	30.5	29.77	-0.06	10 mm	0194M	3	1:2.76	bottom	0.314	1.183	0.371	
836.60	190	GSM 850	GPRS	30.5	29.77	0.06	10 mm	0194M	3	1:2.76	right	0.203	1.183	0.240	
836.60	190	GSM 850	GPRS	30.5	29.77	-0.01	10 mm	0194M	3	1:2.76	left	0.059	1.183	0.070	
1880.00	661	GSM 1900	GPRS	24.5	23.85	0.07	10 mm	0106M	3	1:2.76	back	0.242	1.161	0.281	
1880.00	661	GSM 1900	GPRS	24.5	23.85	-0.04	10 mm	0106M	3	1:2.76	front	0.229	1.161	0.266	
1850.20	512	GSM 1900	GPRS	24.5	23.45	0.04	10 mm	0106M	3	1:2.76	bottom	0.639	1.274	0.814	
1880.00	661	GSM 1900	GPRS	24.5	23.85	-0.05	10 mm	0106M	3	1:2.76	bottom	0.681	1.161	0.791	A20
1909.80	810	GSM 1900	GPRS	24.5	23.67	0.00	10 mm	0106M	3	1:2.76	bottom	0.651	1.211	0.788	
1880.00	661	GSM 1900	GPRS	24.5	23.85	-0.14	10 mm	0106M	3	1:2.76	right	0.037	1.161	0.043	
1880.00	661	GSM 1900	GPRS	24.5	23.85	0.16	10 mm	0106M	3	1:2.76	left	0.040	1.161	0.046	
836.60	4183	UMTS 850	RMC	25.5	25.39	-0.03	10 mm	0211M	N/A	1:1	back	0.542	1.026	0.556	A22
836.60	4183	UMTS 850	RMC	25.5	25.39	-0.01	10 mm	0211M	N/A	1:1	front	0.367	1.026	0.377	
836.60	4183	UMTS 850	RMC	25.5	25.39	0.03	10 mm	0211M	N/A	1:1	bottom	0.319	1.026	0.327	
836.60	4183	UMTS 850	RMC	25.5	25.39	-0.03	10 mm	0211M	N/A	1:1	right	0.222	1.026	0.228	
836.60	4183	UMTS 850	RMC	25.5	25.39	0.09	10 mm	0211M	N/A	1:1	left	0.048	1.026	0.049	
1732.40	1412	UMTS 1750	RMC	22.0	21.93	-0.01	10 mm	0106M	N/A	1:1	back	0.494	1.016	0.502	
1732.40	1412	UMTS 1750	RMC	22.0	21.93	0.02	10 mm	0106M	N/A	1:1	front	0.415	1.016	0.422	
1712.40	1312	UMTS 1750	RMC	22.0	21.68	-0.04	10 mm	0106M	N/A	1:1	bottom	0.930	1.076	1.001	
1732.40	1412	UMTS 1750	RMC	22.0	21.93	-0.03	10 mm	0106M	N/A	1:1	bottom	0.948	1.016	0.963	
1752.60	1513	UMTS 1750	RMC	22.0	21.93	-0.02	10 mm	0106M	N/A	1:1	bottom	1.040	1.016	1.057	A24
1732.40	1412	UMTS 1750	RMC	22.0	21.93	0.07	10 mm	0106M	N/A	1:1	right	0.084	1.016	0.085	
1732.40	1412	UMTS 1750	RMC	22.0	21.93	-0.06	10 mm	0106M	N/A	1:1	left	0.096	1.016	0.098	
1880.00	9400	UMTS 1900	RMC	22.0	21.59	0.00	10 mm	0106M	N/A	1:1	back	0.396	1.099	0.435	
1880.00	9400	UMTS 1900	RMC	22.0	21.59	-0.01	10 mm	0106M	N/A	1:1	front	0.375	1.099	0.412	
1852.40	9262	UMTS 1900	RMC	22.0	21.53	-0.02	10 mm	0106M	N/A	1:1	bottom	0.918	1.114	1.023	
1880.00	9400	UMTS 1900	RMC	22.0	21.59	-0.04	10 mm	0106M	N/A	1:1	bottom	1.060	1.099	1.165	A26
1907.60	9538	UMTS 1900	RMC	22.0	21.41	-0.04	10 mm	0106M	N/A	1:1	bottom	1.010	1.146	1.157	
1880.00	9400	UMTS 1900	RMC	22.0	21.59	-0.04	10 mm	0106M	N/A	1:1	right	0.064	1.099	0.070	
1880.00	9400	UMTS 1900	RMC	22.0	21.59	-0.04	10 mm	0106M	N/A	1:1	left	0.063	1.099	0.069	
1880.00	9400	UMTS 1900	RMC	22.0	21.59	-0.07	10 mm	0106M	N/A	1:1	bottom	0.926	1.099	1.018	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram							

Note: Blue entry indicates Variability measurement.

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]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
707.50	23095	Mid	LTE Band 12	10	25.5	25.37	-0.02	0	0216M	QPSK	1	0	10 mm	back	1:1	0.288	1.030	0.297	A28
707.50	23095	Mid	LTE Band 12	10	24.5	23.91	0.00	1	0216M	QPSK	25	12	10 mm	back	1:1	0.219	1.146	0.251	
707.50	23095	Mid	LTE Band 12	10	25.5	25.37	0.00	0	0216M	QPSK	1	0	10 mm	front	1:1	0.207	1.030	0.213	
707.50	23095	Mid	LTE Band 12	10	24.5	23.91	0.01	1	0216M	QPSK	25	12	10 mm	front	1:1	0.169	1.146	0.194	
707.50	23095	Mid	LTE Band 12	10	25.5	25.37	0.01	0	0216M	QPSK	1	0	10 mm	bottom	1:1	0.177	1.030	0.182	
707.50	23095	Mid	LTE Band 12	10	24.5	23.91	0.02	1	0216M	QPSK	25	12	10 mm	bottom	1:1	0.145	1.146	0.166	
707.50	23095	Mid	LTE Band 12	10	25.5	25.37	0.02	0	0216M	QPSK	1	0	10 mm	right	1:1	0.272	1.030	0.280	
707.50	23095	Mid	LTE Band 12	10	24.5	23.91	0.00	1	0216M	QPSK	25	12	10 mm	right	1:1	0.213	1.146	0.244	
707.50	23095	Mid	LTE Band 12	10	25.5	25.37	0.01	0	0216M	QPSK	1	0	10 mm	left	1:1	0.088	1.030	0.091	
707.50	23095	Mid	LTE Band 12	10	24.5	23.91	0.07	1	0216M	QPSK	25	12	10 mm	left	1:1	0.065	1.146	0.074	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 11-30
LTE Band 13 Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
782.00	23230	Mid	LTE Band 13	10	25.5	24.53	-0.08	0	0216M	QPSK	1	0	10 mm	back	1:1	0.381	1.250	0.476	A30
782.00	23230	Mid	LTE Band 13	10	24.5	23.34	-0.06	1	0216M	QPSK	25	0	10 mm	back	1:1	0.293	1.306	0.383	
782.00	23230	Mid	LTE Band 13	10	25.5	24.53	-0.04	0	0216M	QPSK	1	0	10 mm	front	1:1	0.259	1.250	0.324	
782.00	23230	Mid	LTE Band 13	10	24.5	23.34	-0.05	1	0216M	QPSK	25	0	10 mm	front	1:1	0.201	1.306	0.263	
782.00	23230	Mid	LTE Band 13	10	25.5	24.53	0.04	0	0216M	QPSK	1	0	10 mm	bottom	1:1	0.227	1.250	0.284	
782.00	23230	Mid	LTE Band 13	10	24.5	23.34	-0.05	1	0216M	QPSK	25	0	10 mm	bottom	1:1	0.183	1.306	0.239	
782.00	23230	Mid	LTE Band 13	10	25.5	24.53	-0.02	0	0216M	QPSK	1	0	10 mm	right	1:1	0.164	1.250	0.205	
782.00	23230	Mid	LTE Band 13	10	24.5	23.34	-0.01	1	0216M	QPSK	25	0	10 mm	right	1:1	0.126	1.306	0.165	
782.00	23230	Mid	LTE Band 13	10	25.5	24.53	0.21	0	0216M	QPSK	1	0	10 mm	left	1:1	0.053	1.250	0.066	
782.00	23230	Mid	LTE Band 13	10	24.5	23.34	-0.09	1	0216M	QPSK	25	0	10 mm	left	1:1	0.046	1.306	0.060	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram						

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

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	24.92	0.00	0	0211M	QPSK	1	0	10 mm	back	1:1	0.467	1.143	0.534	A32
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	23.45	0.01	1	0211M	QPSK	36	0	10 mm	back	1:1	0.398	1.274	0.507	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	24.92	0.04	0	0211M	QPSK	1	0	10 mm	front	1:1	0.308	1.143	0.352	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	23.45	0.05	1	0211M	QPSK	36	0	10 mm	front	1:1	0.259	1.274	0.330	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	24.92	0.02	0	0211M	QPSK	1	0	10 mm	bottom	1:1	0.286	1.143	0.327	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	23.45	0.00	1	0211M	QPSK	36	0	10 mm	bottom	1:1	0.237	1.274	0.302	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	24.92	0.02	0	0211M	QPSK	1	0	10 mm	right	1:1	0.197	1.143	0.225	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	23.45	0.03	1	0211M	QPSK	36	0	10 mm	right	1:1	0.160	1.274	0.204	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.5	24.92	0.01	0	0211M	QPSK	1	0	10 mm	left	1:1	0.045	1.143	0.051	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.5	23.45	0.03	1	0211M	QPSK	36	0	10 mm	left	1:1	0.037	1.274	0.047	
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 with 5G NR Active

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
836.50	20525	Mid	LTE Band 5 (Cell)	10	22.0	21.61	-0.07	0	1645M	QPSK	1	25	10 mm	back	1:1	0.175	1.094	0.191	A33
836.50	20525	Mid	LTE Band 5 (Cell)	10	22.0	21.58	-0.15	0	1645M	QPSK	25	0	10 mm	back	1:1	0.173	1.102	0.191	
836.50	20525	Mid	LTE Band 5 (Cell)	10	22.0	21.61	0.02	0	1645M	QPSK	1	25	10 mm	front	1:1	0.090	1.094	0.098	
836.50	20525	Mid	LTE Band 5 (Cell)	10	22.0	21.58	0.04	0	1645M	QPSK	25	0	10 mm	front	1:1	0.091	1.102	0.100	
836.50	20525	Mid	LTE Band 5 (Cell)	10	22.0	21.61	-0.05	0	1645M	QPSK	1	25	10 mm	bottom	1:1	0.081	1.094	0.089	
836.50	20525	Mid	LTE Band 5 (Cell)	10	22.0	21.58	0.02	0	1645M	QPSK	25	0	10 mm	bottom	1:1	0.085	1.102	0.094	
836.50	20525	Mid	LTE Band 5 (Cell)	10	22.0	21.61	0.02	0	1645M	QPSK	1	25	10 mm	right	1:1	0.057	1.094	0.062	
836.50	20525	Mid	LTE Band 5 (Cell)	10	22.0	21.58	0.04	0	1645M	QPSK	25	0	10 mm	right	1:1	0.055	1.102	0.061	
836.50	20525	Mid	LTE Band 5 (Cell)	10	22.0	21.61	0.06	0	1645M	QPSK	1	25	10 mm	left	1:1	0.016	1.094	0.018	
836.50	20525	Mid	LTE Band 5 (Cell)	10	22.0	21.58	0.14	0	1645M	QPSK	25	0	10 mm	left	1:1	0.016	1.102	0.018	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram							

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

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.0	20.89	-0.01	0	1645M	QPSK	1	99	10 mm	back	1:1	0.478	1.291	0.617	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.0	20.79	-0.02	0	1645M	QPSK	50	25	10 mm	back	1:1	0.475	1.321	0.627	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.0	20.89	0.06	0	1645M	QPSK	1	99	10 mm	front	1:1	0.398	1.291	0.514	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.0	20.79	0.03	0	1645M	QPSK	50	25	10 mm	front	1:1	0.399	1.321	0.527	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.0	20.64	-0.02	0	1645M	QPSK	1	99	10 mm	bottom	1:1	0.661	1.368	0.904	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.0	20.89	-0.01	0	1645M	QPSK	1	99	10 mm	bottom	1:1	0.715	1.291	0.923	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.0	20.77	-0.01	0	1645M	QPSK	1	99	10 mm	bottom	1:1	0.757	1.327	1.005	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.0	20.55	0.17	0	1645M	QPSK	50	50	10 mm	bottom	1:1	0.769	1.396	1.074	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.0	20.79	-0.03	0	1645M	QPSK	50	25	10 mm	bottom	1:1	0.698	1.321	0.922	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.0	20.61	0.19	0	1645M	QPSK	50	50	10 mm	bottom	1:1	0.810	1.377	1.115	A35
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.0	20.75	-0.02	0	1645M	QPSK	100	0	10 mm	bottom	1:1	0.698	1.334	0.931	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.0	20.89	0.05	0	1645M	QPSK	1	99	10 mm	right	1:1	0.059	1.291	0.076	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.0	20.79	0.06	0	1645M	QPSK	50	25	10 mm	right	1:1	0.060	1.321	0.079	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.0	20.89	-0.01	0	1645M	QPSK	1	99	10 mm	left	1:1	0.084	1.291	0.108	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.0	20.79	0.05	0	1645M	QPSK	50	25	10 mm	left	1:1	0.084	1.321	0.111	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 11-34
LTE Band 25 (PCS) Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.0	20.98	0.01	0	1645M	QPSK	1	50	10 mm	back	1:1	0.302	1.265	0.382	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.0	20.84	0.03	0	1645M	QPSK	50	25	10 mm	back	1:1	0.312	1.306	0.407	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.0	20.98	-0.02	0	1645M	QPSK	1	50	10 mm	front	1:1	0.235	1.265	0.297	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.0	20.84	-0.03	0	1645M	QPSK	50	25	10 mm	front	1:1	0.246	1.306	0.321	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.0	20.92	0.01	0	1645M	QPSK	1	50	10 mm	bottom	1:1	0.819	1.282	1.050	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.0	20.98	-0.01	0	1645M	QPSK	1	50	10 mm	bottom	1:1	0.890	1.265	1.126	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.0	20.67	-0.02	0	1645M	QPSK	1	50	10 mm	bottom	1:1	0.965	1.358	1.310	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.0	20.71	-0.01	0	1645M	QPSK	50	25	10 mm	bottom	1:1	0.864	1.346	1.163	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.0	20.84	-0.04	0	1645M	QPSK	50	25	10 mm	bottom	1:1	0.902	1.306	1.178	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.0	20.65	0.00	0	1645M	QPSK	50	25	10 mm	bottom	1:1	0.978	1.365	**1.335**	A37
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.0	20.82	-0.01	0	1645M	QPSK	100	0	10 mm	bottom	1:1	0.903	1.312	1.185	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.0	20.98	-0.06	0	1645M	QPSK	1	50	10 mm	right	1:1	0.051	1.265	0.065	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.0	20.84	0.00	0	1645M	QPSK	50	25	10 mm	right	1:1	0.052	1.306	0.068	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.0	20.98	0.06	0	1645M	QPSK	1	50	10 mm	left	1:1	0.044	1.265	0.056	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.0	20.84	-0.01	0	1645M	QPSK	50	25	10 mm	left	1:1	0.045	1.306	0.059	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 11-35
LTE Band 41 Hotspot SAR

MEASUREMENT RESULTS																						
Power Class	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
	MHz	Ch.															(W/kg)		(W/kg)	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.0	23.36	-0.02	0	1590M	QPSK	1	50	10 mm	back	1:1.58	0.391	1.159	0.453	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.0	23.25	0.04	0	1590M	QPSK	50	25	10 mm	back	1:1.58	0.398	1.189	0.473	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.0	23.36	0.16	0	1590M	QPSK	1	50	10 mm	front	1:1.58	0.259	1.159	0.300	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.0	23.25	0.00	0	1590M	QPSK	50	25	10 mm	front	1:1.58	0.269	1.189	0.320	
Power Class 3	2506.00	39750	Low	LTE Band 41	20	24.0	22.11	-0.01	0	1590M	QPSK	1	50	10 mm	bottom	1:1.58	0.340	1.545	0.525	
Power Class 3	2549.50	40185	Low-Mid	LTE Band 41	20	24.0	22.56	-0.19	0	1590M	QPSK	1	50	10 mm	bottom	1:1.58	0.477	1.393	0.664	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.0	23.36	0.02	0	1590M	QPSK	1	50	10 mm	bottom	1:1.58	0.597	1.159	0.692	
Power Class 3	2636.50	41055	Mid-High	LTE Band 41	20	24.0	22.96	-0.05	0	1590M	QPSK	1	50	10 mm	bottom	1:1.58	0.601	1.271	0.764	
Power Class 3	2680.00	41490	High	LTE Band 41	20	24.0	22.21	0.21	0	1590M	QPSK	1	0	10 mm	bottom	1:1.58	0.603	1.510	0.911	
Power Class 3	2506.00	39750	Low	LTE Band 41	20	24.0	22.61	0.13	0	1590M	QPSK	50	0	10 mm	bottom	1:1.58	0.340	1.377	0.468	
Power Class 3	2549.50	40185	Low-Mid	LTE Band 41	20	24.0	22.96	-0.10	0	1590M	QPSK	50	25	10 mm	bottom	1:1.58	0.436	1.271	0.554	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.0	23.25	0.18	0	1590M	QPSK	50	25	10 mm	bottom	1:1.58	0.586	1.189	0.697	
Power Class 3	2636.50	41055	Mid-High	LTE Band 41	20	24.0	22.88	0.07	0	1590M	QPSK	50	25	10 mm	bottom	1:1.58	0.617	1.294	0.798	A39
Power Class 3	2680.00	41490	High	LTE Band 41	20	24.0	22.82	-0.19	0	1590M	QPSK	50	0	10 mm	bottom	1:1.58	0.613	1.312	0.804	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.0	23.12	0.04	0	1590M	QPSK	100	0	10 mm	bottom	1:1.58	0.574	1.225	0.703	
Power Class 2	2680.00	41490	High	LTE Band 41	20	24.0	22.40	0.02	0	1590M	QPSK	1	0	10 mm	bottom	1:2.31	0.472	1.445	0.682	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.0	23.36	-0.17	0	1590M	QPSK	1	50	10 mm	left	1:1.58	0.118	1.159	0.137	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.0	23.25	-0.19	0	1590M	QPSK	50	25	10 mm	left	1:1.58	0.113	1.189	0.134	

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

Table 11-36
NR Band n5 (Cell) Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Waveform	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.5	25.11	0.01	0	0562M	DFT-S-OFDM	QPSK	1	53	10 mm	back	1:1	0.143	1.094	0.156	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.5	25.07	0.07	0	0562M	DFT-S-OFDM	QPSK	50	28	10 mm	back	1:1	0.154	1.104	0.170	A41
836.50	167300	Mid	NR Band n5 (Cell)	20	24.0	23.22	0.00	1.5	0562M	CP-OFDM	QPSK	1	1	10 mm	back	1:1	0.114	1.197	0.136	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.5	25.11	-0.06	0	0562M	DFT-S-OFDM	QPSK	1	53	10 mm	front	1:1	0.114	1.094	0.125	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.5	25.07	-0.06	0	0562M	DFT-S-OFDM	QPSK	50	28	10 mm	front	1:1	0.119	1.104	0.131	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.5	25.11	0.02	0	0562M	DFT-S-OFDM	QPSK	1	53	10 mm	bottom	1:1	0.141	1.094	0.154	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.5	25.07	0.15	0	0562M	DFT-S-OFDM	QPSK	50	28	10 mm	bottom	1:1	0.147	1.104	0.162	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.5	25.11	0.08	0	0562M	DFT-S-OFDM	QPSK	1	53	10 mm	right	1:1	0.035	1.094	0.038	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.5	25.07	0.03	0	0562M	DFT-S-OFDM	QPSK	50	28	10 mm	right	1:1	0.039	1.104	0.043	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.5	25.11	-0.14	0	0562M	DFT-S-OFDM	QPSK	1	53	10 mm	left	1:1	0.020	1.094	0.022	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.5	25.07	0.15	0	0562M	DFT-S-OFDM	QPSK	50	28	10 mm	left	1:1	0.021	1.104	0.023	

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

Table 11-37
NR Band n66 (AWS) Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Waveform	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
1745.00	349000	Mid	NR Band n66 (AWS)	20	22.0	21.98	0.01	0	1615M	DFT-S-OFDM	QPSK	1	104	10 mm	back	1:1	0.519	1.005	0.522	
1745.00	349000	Mid	NR Band n66 (AWS)	20	22.0	22.00	0.00	0	1615M	DFT-S-OFDM	QPSK	50	56	10 mm	back	1:1	0.531	1.000	0.531	
1745.00	349000	Mid	NR Band n66 (AWS)	20	22.0	21.98	0.08	0	1615M	DFT-S-OFDM	QPSK	1	104	10 mm	front	1:1	0.491	1.005	0.493	
1745.00	349000	Mid	NR Band n66 (AWS)	20	22.0	22.00	0.03	0	1615M	DFT-S-OFDM	QPSK	50	56	10 mm	front	1:1	0.508	1.000	0.508	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.0	21.63	0.01	0	1615M	DFT-S-OFDM	QPSK	1	53	10 mm	bottom	1:1	0.996	1.089	1.085	
1745.00	349000	Mid	NR Band n66 (AWS)	20	22.0	21.98	-0.02	0	1615M	DFT-S-OFDM	QPSK	1	104	10 mm	bottom	1:1	0.969	1.005	0.974	
1770.00	354000	High	NR Band n66 (AWS)	20	22.0	21.97	-0.05	0	1615M	DFT-S-OFDM	QPSK	1	53	10 mm	bottom	1:1	1.050	1.007	1.057	A43
1720.00	344000	Low	NR Band n66 (AWS)	20	22.0	21.61	-0.02	0	1615M	DFT-S-OFDM	QPSK	50	56	10 mm	bottom	1:1	0.972	1.094	1.063	
1745.00	349000	Mid	NR Band n66 (AWS)	20	22.0	22.00	-0.02	0	1615M	DFT-S-OFDM	QPSK	50	56	10 mm	bottom	1:1	0.975	1.000	0.975	
1770.00	354000	High	NR Band n66 (AWS)	20	22.0	21.86	-0.02	0	1615M	DFT-S-OFDM	QPSK	50	28	10 mm	bottom	1:1	1.020	1.033	1.054	
1770.00	354000	High	NR Band n66 (AWS)	20	22.0	21.81	-0.02	0	1615M	DFT-S-OFDM	QPSK	100	0	10 mm	bottom	1:1	1.010	1.045	1.055	
1770.00	354000	High	NR Band n66 (AWS)	20	22.0	21.67	0.02	0	1615M	CP-OFDM	QPSK	1	1	10 mm	bottom	1:1	0.985	1.079	1.063	
1745.00	349000	Mid	NR Band n66 (AWS)	20	22.0	21.98	0.08	0	1615M	DFT-S-OFDM	QPSK	1	104	10 mm	right	1:1	0.076	1.005	0.076	
1745.00	349000	Mid	NR Band n66 (AWS)	20	22.0	22.00	0.05	0	1615M	DFT-S-OFDM	QPSK	50	56	10 mm	right	1:1	0.075	1.000	0.075	
1745.00	349000	Mid	NR Band n66 (AWS)	20	22.0	21.98	0.04	0	1615M	DFT-S-OFDM	QPSK	1	104	10 mm	left	1:1	0.082	1.005	0.082	
1745.00	349000	Mid	NR Band n66 (AWS)	20	22.0	22.00	0.00	0	1615M	DFT-S-OFDM	QPSK	50	56	10 mm	left	1:1	0.089	1.000	0.089	
1770.00	354000	High	NR Band n66 (AWS)	20	22.0	21.97	-0.06	0	1615M	DFT-S-OFDM	QPSK	1	53	10 mm	bottom	1:1	1.010	1.007	1.017	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Body 1.6 W/kg (mW/g) averaged over 1 gram								

Note: Blue entry indicated Variability measurement.

Table 11-38
DTS 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)	
2462	11	802.11b	DSSS	22	19.0	18.54	0.19	10 mm	1	1615M	1	back	99.0	0.582	0.502	1.112	1.010	**0.564**	A45
2462	11	802.11b	DSSS	22	19.0	18.54	0.12	10 mm	1	1615M	1	front	99.0	0.008	0.003	1.112	1.010	0.003	
2462	11	802.11b	DSSS	22	19.0	18.54	-0.17	10 mm	1	1615M	1	top	99.0	0.064	0.042	1.112	1.010	0.047	
2462	11	802.11b	DSSS	22	19.0	18.54	0.14	10 mm	1	1615M	1	left	99.0	0.062	-	1.112	1.010	-	
2412	1	802.11b	DSSS	22	19.0	18.42	0.17	10 mm	2	1615M	1	back	99.0	0.133	0.086	1.143	1.010	0.099	
2412	1	802.11b	DSSS	22	19.0	18.42	0.13	10 mm	2	1615M	1	front	99.0	0.144	-	1.143	1.010	-	
2412	1	802.11b	DSSS	22	19.0	18.42	0.21	10 mm	2	1615M	1	left	99.0	0.298	0.191	1.143	1.010	0.220	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 11-39
DTS 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)	
2437	6	802.11g	OFDM	20	18.0	17.98	18.0	17.49	0.16	10 mm	MIMO	1590M	6	back	98.7	0.505	0.361	1.125	1.013	0.411	
2437	6	802.11g	OFDM	20	18.0	17.98	18.0	17.49	0.15	10 mm	MIMO	1590M	6	front	98.7	0.132	0.082	1.125	1.013	0.093	
2437	6	802.11g	OFDM	20	18.0	17.98	18.0	17.49	0.15	10 mm	MIMO	1590M	6	top	98.7	0.064	0.044	1.125	1.013	0.050	
2437	6	802.11g	OFDM	20	18.0	17.98	18.0	17.49	0.19	10 mm	MIMO	1590M	6	left	98.7	0.375	0.219	1.125	1.013	0.250	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram					

To achieve the 21.0 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 18.0 dBm.

Table 11-40
DTS 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 W/kg	SAR (1g) (W/kg)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g) (W/kg)	Plot #
MHz	Ch.																						
2437	6	802.11n	OFDM	20	17.0	16.96	17.0	16.33	0.13	10 mm	MIMO	1590M	13	back	98.8	0.475	0.294	1.167	1.012	0.347	
2437	6	802.11n	OFDM	20	17.0	16.96	17.0	16.33	0.12	10 mm	MIMO	1590M	13	front	98.8	0.095	0.064	1.167	1.012	0.076	
2437	6	802.11n	OFDM	20	17.0	16.96	17.0	16.33	0.13	10 mm	MIMO	1590M	13	top	98.8	0.049	0.033	1.167	1.012	0.039	
2437	6	802.11n	OFDM	20	17.0	16.96	17.0	16.33	0.04	10 mm	MIMO	1590M	13	left	98.8	0.283	0.161	1.167	1.012	0.190	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram					

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

Table 11-41
NII 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 W/kg	SAR (1g) (W/kg)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g) (W/kg)	Plot #
MHz	Ch.																						
5785	157	802.11n	OFDM	20	17.0	16.74	17.0	16.95	0.20	10 mm	MIMO	1621M	13	back	98.7	1.299	0.542	1.062	1.013	0.583	A47
5785	157	802.11n	OFDM	20	17.0	16.74	17.0	16.95	0.12	10 mm	MIMO	1621M	13	front	98.7	0.074	0.030	1.062	1.013	0.032	
5785	157	802.11n	OFDM	20	17.0	16.74	17.0	16.95	0.21	10 mm	MIMO	1621M	13	top	98.7	0.126	0.061	1.062	1.013	0.066	
5785	157	802.11n	OFDM	20	17.0	16.74	17.0	16.95	0.14	10 mm	MIMO	1621M	13	left	98.7	0.244	0.096	1.062	1.013	0.103	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram					

Notes: To achieve the 20.0 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 17.0 dBm.

Table 11-42
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 W/kg	SAR (1g) (W/kg)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g) (W/kg)	Plot #
MHz	Ch.																						
5775	155	802.11ac	OFDM	80	14.0	13.59	14.0	13.81	0.15	10 mm	MIMO	1621M	58.5	back	91.2	0.345	0.134	1.099	1.096	0.161	
5775	155	802.11ac	OFDM	80	14.0	13.59	14.0	13.81	0.16	10 mm	MIMO	1621M	58.5	front	91.2	0.041	0.023	1.099	1.096	0.028	
5775	155	802.11ac	OFDM	80	14.0	13.59	14.0	13.81	0.18	10 mm	MIMO	1621M	58.5	top	91.2	0.089	-	1.099	1.096	-	
5775	155	802.11ac	OFDM	80	14.0	13.59	14.0	13.81	0.20	10 mm	MIMO	1621M	58.5	left	91.2	0.118	0.053	1.099	1.096	0.064	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram					

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

Table 11-43
DSS Single Antenna Hotspot SAR

MEASUREMENT RESULTS																	
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	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)	
2402	0	Bluetooth	FHSS	18.0	17.22	0.12	10 mm	1	0197M	1	back	77	0.118	1.197	1.299	**0.183**	
2402	0	Bluetooth	FHSS	18.0	17.22	0.16	10 mm	1	0197M	1	front	77	0.003	1.197	1.299	0.005	
2402	0	Bluetooth	FHSS	18.0	17.22	0.19	10 mm	1	0197M	1	top	77	0.010	1.197	1.299	0.016	
2402	0	Bluetooth	FHSS	18.0	17.22	0.17	10 mm	1	0197M	1	left	77	0.004	1.197	1.299	0.006	
2402	0	Bluetooth	FHSS	18.0	17.87	0.20	10 mm	2	0197M	1	back	77	0.046	1.030	1.299	0.062	
2402	0	Bluetooth	FHSS	18.0	17.87	-0.08	10 mm	2	0197M	1	front	77	0.029	1.030	1.299	0.039	
2402	0	Bluetooth	FHSS	18.0	17.87	0.12	10 mm	2	0197M	1	left	77	0.136	1.030	1.299	0.182	A49
ANSI / IEEE C95.1 1992 - SAFETY LIMIT **Spatial Peak** **Uncontrolled Exposure/General Population**							**Body** **1.6 W/kg (mW/g)** averaged over 1 gram										

Table 11-44
DSS Dual Mode 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 (%)	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															(W/kg)			(W/kg)	
2402	0	Bluetooth	FHSS	20	15.5	15.49	14.5	13.57	0.18	10 mm	MIMO	1590M	4	back	77.0	0.051	1.239	1.299	0.082	
2402	0	Bluetooth	FHSS	20	15.5	15.49	14.5	13.57	-0.05	10 mm	MIMO	1590M	4	front	77.0	0.041	1.239	1.299	0.066	
2402	0	Bluetooth	FHSS	20	15.5	15.49	14.5	13.57	0.15	10 mm	MIMO	1590M	4	top	77.0	0.009	1.239	1.299	0.014	
2402	0	Bluetooth	FHSS	20	15.5	15.49	14.5	13.57	0.08	10 mm	MIMO	1590M	4	left	77.0	0.100	1.239	1.299	0.161	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT **Spatial Peak** **Uncontrolled Exposure/General Population**										**Body** **1.6 W/kg (mW/g)** averaged over 1 gram									

To achieve the 18.0 dBm maximum allowed Dual Mode power shown in the documentation, antenna 1 transmits at a maximum allowed power of 15.5 dBm, and antenna 2 transmits at a maximum allowed power of 14.5 dBm

11.4 Standalone Phablet SAR Data

Table 11-45
GPRS/UMTS Phablet SAR Data

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Device Serial Number	# of Time Slots	Duty Cycle	Side	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1880.00	661	GSM 1900	GPRS	26.5	25.80	0.07	7 mm	0106M	3	1:2.76	back	0.368	1.175	0.432	
1880.00	661	GSM 1900	GPRS	26.5	25.80	-0.01	6 mm	0106M	3	1:2.76	front	0.316	1.175	0.371	
1880.00	661	GSM 1900	GPRS	26.5	25.80	-0.08	11 mm	0106M	3	1:2.76	bottom	0.479	1.175	0.563	
1880.00	661	GSM 1900	GPRS	26.5	25.80	0.09	0 mm	0106M	3	1:2.76	right	0.131	1.175	0.154	
1880.00	661	GSM 1900	GPRS	26.5	25.80	-0.21	0 mm	0106M	3	1:2.76	left	0.141	1.175	0.166	
1880.00	661	GSM 1900	GPRS	24.5	23.85	0.15	0 mm	0106M	3	1:2.76	back	0.742	1.161	0.861	
1880.00	661	GSM 1900	GPRS	24.5	23.85	0.11	0 mm	0106M	3	1:2.76	front	0.763	1.161	0.886	
1850.20	512	GSM 1900	GPRS	24.5	23.45	-0.01	0 mm	0106M	3	1:2.76	bottom	1.240	1.274	1.580	
1880.00	661	GSM 1900	GPRS	24.5	23.85	-0.04	0 mm	0106M	3	1:2.76	bottom	1.350	1.161	1.567	A50
1909.80	810	GSM 1900	GPRS	24.5	23.67	0.18	0 mm	0106M	3	1:2.76	bottom	1.280	1.211	1.550	
1732.40	1412	UMTS 1750	RMC	25.0	24.93	-0.10	7 mm	1645M	N/A	1:1	back	0.763	1.016	0.775	
1732.40	1412	UMTS 1750	RMC	25.0	24.93	-0.07	6 mm	1645M	N/A	1:1	front	0.769	1.016	0.781	
1732.40	1412	UMTS 1750	RMC	25.0	24.93	0.00	11 mm	1645M	N/A	1:1	bottom	0.802	1.016	0.815	
1732.40	1412	UMTS 1750	RMC	25.0	24.93	0.04	0 mm	1645M	N/A	1:1	right	0.289	1.016	0.294	
1732.40	1412	UMTS 1750	RMC	25.0	24.93	-0.07	0 mm	1645M	N/A	1:1	left	0.412	1.016	0.419	
1732.40	1412	UMTS 1750	RMC	22.0	21.93	0.00	0 mm	0106M	N/A	1:1	back	1.450	1.016	1.473	
1732.40	1412	UMTS 1750	RMC	22.0	21.93	-0.03	0 mm	0106M	N/A	1:1	front	1.660	1.016	1.687	
1712.40	1312	UMTS 1750	RMC	22.0	21.68	-0.05	0 mm	0106M	N/A	1:1	bottom	1.930	1.076	2.077	
1732.40	1412	UMTS 1750	RMC	22.0	21.93	0.01	0 mm	0106M	N/A	1:1	bottom	1.820	1.016	1.849	
1752.60	1513	UMTS 1750	RMC	22.0	21.93	0.07	0 mm	0106M	N/A	1:1	bottom	2.050	1.016	2.083	A51
1880.00	9400	UMTS 1900	RMC	25.0	24.62	-0.05	7 mm	0106M	N/A	1:1	back	0.989	1.091	1.079	
1880.00	9400	UMTS 1900	RMC	25.0	24.62	-0.01	6 mm	0106M	N/A	1:1	front	0.712	1.091	0.777	
1880.00	9400	UMTS 1900	RMC	25.0	24.62	-0.04	11 mm	0106M	N/A	1:1	bottom	1.090	1.091	1.189	
1880.00	9400	UMTS 1900	RMC	25.0	24.62	0.04	0 mm	0106M	N/A	1:1	right	0.309	1.091	0.337	
1880.00	9400	UMTS 1900	RMC	25.0	24.62	-0.08	0 mm	0106M	N/A	1:1	left	0.336	1.091	0.367	
1880.00	9400	UMTS 1900	RMC	22.0	21.59	0.11	0 mm	0106M	N/A	1:1	back	1.110	1.099	1.220	
1880.00	9400	UMTS 1900	RMC	22.0	21.59	-0.12	0 mm	0106M	N/A	1:1	front	1.090	1.099	1.198	
1852.40	9262	UMTS 1900	RMC	22.0	21.53	0.05	0 mm	0106M	N/A	1:1	bottom	1.560	1.114	1.738	
1880.00	9400	UMTS 1900	RMC	22.0	21.59	0.04	0 mm	0106M	N/A	1:1	bottom	1.710	1.099	1.879	A52
1907.60	9538	UMTS 1900	RMC	22.0	21.41	0.03	0 mm	0106M	N/A	1:1	bottom	1.510	1.146	1.730	
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 11-46
LTE Band 66 (AWS) Phablet SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.02	-0.02	0	0106M	QPSK	1	50	7 mm	back	1:1	0.810	1.253	1.015	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	22.83	-0.01	1	0106M	QPSK	50	25	7 mm	back	1:1	0.591	1.309	0.774	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.02	0.05	0	0106M	QPSK	1	50	6 mm	front	1:1	0.585	1.253	0.733	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	22.83	0.01	1	0106M	QPSK	50	25	6 mm	front	1:1	0.435	1.309	0.569	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.02	-0.03	0	0106M	QPSK	1	50	11 mm	bottom	1:1	1.180	1.253	1.479	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	22.83	-0.01	1	0106M	QPSK	50	25	11 mm	bottom	1:1	0.978	1.309	1.280	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.02	0.05	0	0106M	QPSK	1	50	0 mm	right	1:1	0.400	1.253	0.501	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	22.83	0.04	1	0106M	QPSK	50	25	0 mm	right	1:1	0.301	1.309	0.394	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	25.0	24.02	-0.04	0	0106M	QPSK	1	50	0 mm	left	1:1	0.474	1.253	0.594	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	24.0	22.83	0.00	1	0106M	QPSK	50	25	0 mm	left	1:1	0.371	1.309	0.486	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.0	20.89	0.01	0	1645M	QPSK	1	99	0 mm	back	1:1	1.090	1.291	1.407	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.0	20.79	-0.02	0	1645M	QPSK	50	25	0 mm	back	1:1	1.160	1.321	1.532	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.0	20.89	-0.01	0	1645M	QPSK	1	99	0 mm	front	1:1	1.010	1.291	1.304	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.0	20.79	-0.01	0	1645M	QPSK	50	25	0 mm	front	1:1	1.040	1.321	1.374	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.0	20.64	-0.03	0	1645M	QPSK	1	99	0 mm	bottom	1:1	1.450	1.368	1.984	A53
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.0	20.89	-0.04	0	1645M	QPSK	1	99	0 mm	bottom	1:1	1.370	1.291	1.769	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.0	20.77	-0.04	0	1645M	QPSK	1	99	0 mm	bottom	1:1	1.160	1.327	1.539	
1720.00	132072	Low	LTE Band 66 (AWS)	20	22.0	20.55	-0.04	0	1645M	QPSK	50	50	0 mm	bottom	1:1	1.390	1.396	1.940	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.0	20.79	0.15	0	1645M	QPSK	50	25	0 mm	bottom	1:1	1.420	1.321	1.876	
1770.00	132572	High	LTE Band 66 (AWS)	20	22.0	20.61	-0.13	0	1645M	QPSK	50	50	0 mm	bottom	1:1	1.240	1.377	1.707	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	22.0	20.75	-0.14	0	1645M	QPSK	100	0	0 mm	bottom	1:1	1.430	1.334	1.908	
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 11-47
LTE Band 25 (PCS) Phablet SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.															(W/kg)		(W/kg)	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	23.79	0.01	0	0106M	QPSK	1	50	7 mm	back	1:1	0.669	1.321	0.884	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	22.67	-0.01	1	0106M	QPSK	50	0	7 mm	back	1:1	0.494	1.358	0.671	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	23.79	0.15	0	0106M	QPSK	1	50	6 mm	front	1:1	0.701	1.321	0.926	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	22.67	-0.12	1	0106M	QPSK	50	0	6 mm	front	1:1	0.671	1.358	0.911	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	23.79	-0.13	0	0106M	QPSK	1	50	11 mm	bottom	1:1	0.591	1.321	0.781	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	22.67	-0.21	1	0106M	QPSK	50	0	11 mm	bottom	1:1	0.243	1.358	0.330	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	23.79	0.03	0	0106M	QPSK	1	50	0 mm	right	1:1	0.310	1.321	0.410	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	22.67	0.06	1	0106M	QPSK	50	0	0 mm	right	1:1	0.265	1.358	0.360	
1860.00	26140	Low	LTE Band 25 (PCS)	20	25.0	23.79	-0.03	0	0106M	QPSK	1	50	0 mm	left	1:1	0.188	1.321	0.248	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	22.67	0.02	1	0106M	QPSK	50	0	0 mm	left	1:1	0.127	1.358	0.172	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.0	20.98	0.07	0	0106M	QPSK	1	50	0 mm	back	1:1	1.070	1.265	1.354	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.0	20.84	0.16	0	0106M	QPSK	50	25	0 mm	back	1:1	1.140	1.306	1.489	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.0	20.98	-0.07	0	0106M	QPSK	1	50	0 mm	front	1:1	1.100	1.265	1.392	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.0	20.84	-0.06	0	0106M	QPSK	50	25	0 mm	front	1:1	1.150	1.306	1.502	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.0	20.92	-0.14	0	0106M	QPSK	1	50	0 mm	bottom	1:1	1.760	1.282	2.256	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.0	20.98	-0.13	0	0106M	QPSK	1	50	0 mm	bottom	1:1	1.860	1.265	2.353	
1905.00	26590	High	LTE Band 25 (PCS)	20	22.0	20.67	-0.16	0	0106M	QPSK	1	50	0 mm	bottom	1:1	1.630	1.358	2.214	
1860.00	26140	Low	LTE Band 25 (PCS)	20	22.0	20.71	-0.18	0	0106M	QPSK	50	25	0 mm	bottom	1:1	1.880	1.346	2.530	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.0	20.84	-0.14	0	0106M	QPSK	50	25	0 mm	bottom	1:1	2.030	1.306	2.651	A54
1905.00	26590	High	LTE Band 25 (PCS)	20	22.0	20.65	-0.15	0	0106M	QPSK	50	25	0 mm	bottom	1:1	1.750	1.365	2.389	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.0	20.82	-0.15	0	0106M	QPSK	100	0	0 mm	bottom	1:1	1.690	1.312	2.217	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	22.0	20.84	-0.19	0	0106M	QPSK	50	25	0 mm	bottom	1:1	1.970	1.306	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							

Note: Blue entry represents variability measurement

Table 11-48
LTE Band 41 Phablet SAR

MEASUREMENT RESULTS																					
Power Class	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
	MHz	Ch.															(W/kg)		(W/kg)	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	25.0	24.04	-0.14	0	1590M	QPSK	1	0	7 mm	back	1:1.58	0.401	1.247	0.500	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.0	23.20	-0.10	1	1590M	QPSK	50	25	7 mm	back	1:1.58	0.329	1.202	0.395	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	25.0	24.04	0.01	0	1590M	QPSK	1	0	6 mm	front	1:1.58	0.340	1.247	0.424	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.0	23.20	-0.01	1	1590M	QPSK	50	25	6 mm	front	1:1.58	0.276	1.202	0.332	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	25.0	24.04	0.01	0	1590M	QPSK	1	0	11 mm	bottom	1:1.58	0.379	1.247	0.473	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.0	23.20	-0.02	1	1590M	QPSK	50	25	11 mm	bottom	1:1.58	0.341	1.202	0.410	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	25.0	24.04	-0.13	0	1590M	QPSK	1	0	0 mm	left	1:1.58	0.466	1.247	0.581	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.0	23.20	-0.08	1	1590M	QPSK	50	25	0 mm	left	1:1.58	0.410	1.202	0.493	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.0	23.36	-0.20	0	1590M	QPSK	1	50	0 mm	back	1:1.58	1.270	1.159	1.472	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.0	23.25	-0.16	0	1590M	QPSK	50	25	0 mm	back	1:1.58	1.260	1.189	1.498	
Power Class 3	2506.00	39750	Low	LTE Band 41	20	24.0	22.11	0.07	0	1590M	QPSK	1	50	0 mm	front	1:1.58	1.260	1.545	1.947	
Power Class 3	2549.50	40185	Low-Mid	LTE Band 41	20	24.0	22.56	0.01	0	1590M	QPSK	1	50	0 mm	front	1:1.58	1.340	1.393	1.867	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.0	23.36	-0.03	0	1590M	QPSK	1	50	0 mm	front	1:1.58	1.530	1.159	1.773	
Power Class 3	2636.50	41055	Mid-High	LTE Band 41	20	24.0	22.96	0.00	0	1590M	QPSK	1	50	0 mm	front	1:1.58	1.390	1.271	1.767	
Power Class 3	2680.00	41490	High	LTE Band 41	20	24.0	22.21	0.13	0	1590M	QPSK	1	0	0 mm	front	1:1.58	1.240	1.510	1.872	
Power Class 3	2506.00	39750	Low	LTE Band 41	20	24.0	22.61	0.06	0	1590M	QPSK	50	0	0 mm	front	1:1.58	1.430	1.377	1.969	
Power Class 3	2549.50	40185	Low-Mid	LTE Band 41	20	24.0	22.96	-0.03	0	1590M	QPSK	50	25	0 mm	front	1:1.58	1.500	1.271	1.907	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.0	23.25	0.04	0	1590M	QPSK	50	25	0 mm	front	1:1.58	1.520	1.189	1.807	
Power Class 3	2636.50	41055	Mid-High	LTE Band 41	20	24.0	22.88	-0.19	0	1590M	QPSK	50	25	0 mm	front	1:1.58	1.380	1.294	1.786	
Power Class 3	2680.00	41490	High	LTE Band 41	20	24.0	22.82	-0.03	0	1590M	QPSK	50	0	0 mm	front	1:1.58	1.350	1.312	1.771	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.0	23.12	0.02	0	1590M	QPSK	100	0	0 mm	front	1:1.58	1.510	1.225	1.850	
Power Class 3	2506.00	39750	Low	LTE Band 41	20	24.0	22.11	0.10	0	1590M	QPSK	1	50	0 mm	bottom	1:1.58	1.600	1.545	2.472	
Power Class 3	2549.50	40185	Low-Mid	LTE Band 41	20	24.0	22.56	0.03	0	1590M	QPSK	1	50	0 mm	bottom	1:1.58	1.350	1.393	1.881	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.0	23.36	0.05	0	1590M	QPSK	1	50	0 mm	bottom	1:1.58	1.590	1.159	1.843	
Power Class 3	2636.50	41055	Mid-High	LTE Band 41	20	24.0	22.96	0.03	0	1590M	QPSK	1	50	0 mm	bottom	1:1.58	1.410	1.271	1.792	
Power Class 3	2680.00	41490	High	LTE Band 41	20	24.0	22.21	0.03	0	1590M	QPSK	1	0	0 mm	bottom	1:1.58	1.420	1.510	2.144	
Power Class 3	2506.00	39750	Low	LTE Band 41	20	24.0	22.61	0.14	0	1590M	QPSK	50	0	0 mm	bottom	1:1.58	1.550	1.377	2.134	
Power Class 3	2549.50	40185	Low-Mid	LTE Band 41	20	24.0	22.96	0.11	0	1590M	QPSK	50	25	0 mm	bottom	1:1.58	1.510	1.271	1.919	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.0	23.25	0.08	0	1590M	QPSK	50	25	0 mm	bottom	1:1.58	1.790	1.189	2.128	A55
Power Class 3	2636.50	41055	Mid-High	LTE Band 41	20	24.0	22.88	0.10	0	1590M	QPSK	50	25	0 mm	bottom	1:1.58	1.600	1.294	2.070	
Power Class 3	2680.00	41490	High	LTE Band 41	20	24.0	22.82	0.06	0	1590M	QPSK	50	0	0 mm	bottom	1:1.58	1.420	1.312	1.863	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	24.0	23.12	0.07	0	1590M	QPSK	100	0	0 mm	bottom	1:1.58	1.780	1.225	2.181	
Power Class 2	2506.00	39750	Low	LTE Band 41	20	24.0	22.48	0.09	0	1590M	QPSK	1	50	0 mm	bottom	1:2.31	1.120	1.419	1.589	
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
NR Band n66 (AWS) Phablet SAR

MEASUREMENT RESULTS																						
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Waveform	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.0	25.00	0.00	0	0619M	DFT-S-OFDM	QPSK	1	53	7 mm	back	1:1	1.110	1.000	1.110	
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.0	24.88	0.02	0	0619M	DFT-S-OFDM	QPSK	50	28	7 mm	back	1:1	1.100	1.028	1.131	
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.0	25.00	0.00	0	0619M	DFT-S-OFDM	QPSK	1	53	6 mm	front	1:1	1.330	1.000	1.330	
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.0	24.88	0.02	0	0619M	DFT-S-OFDM	QPSK	50	28	6 mm	front	1:1	1.330	1.028	1.367	
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.0	25.00	-0.05	0	0619M	DFT-S-OFDM	QPSK	1	53	11 mm	bottom	1:1	1.060	1.000	1.060	
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.0	24.88	0.06	0	0619M	DFT-S-OFDM	QPSK	50	28	11 mm	bottom	1:1	1.060	1.028	1.090	
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.0	25.00	0.05	0	0619M	DFT-S-OFDM	QPSK	1	53	0 mm	right	1:1	0.362	1.000	0.362	
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.0	24.88	0.05	0	0619M	DFT-S-OFDM	QPSK	50	28	0 mm	right	1:1	0.346	1.028	0.356	
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.0	25.00	0.04	0	0619M	DFT-S-OFDM	QPSK	1	53	0 mm	left	1:1	0.499	1.000	0.499	
1745.00	349000	Mid	NR Band n66 (AWS)	20	25.0	24.88	-0.05	0	0619M	DFT-S-OFDM	QPSK	50	28	0 mm	left	1:1	0.475	1.028	0.488	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.0	21.63	0.02	0	0562M	DFT-S-OFDM	QPSK	1	53	0 mm	back	1:1	1.940	1.089	2.113	
1745.00	349000	Mid	NR Band n66 (AWS)	20	22.0	21.98	0.02	0	0562M	DFT-S-OFDM	QPSK	1	104	0 mm	back	1:1	2.000	1.005	2.010	
1770.00	354000	High	NR Band n66 (AWS)	20	22.0	21.97	0.02	0	0562M	DFT-S-OFDM	QPSK	1	53	0 mm	back	1:1	2.000	1.007	2.014	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.0	21.61	0.01	0	0562M	DFT-S-OFDM	QPSK	50	56	0 mm	back	1:1	1.950	1.094	2.133	
1745.00	349000	Mid	NR Band n66 (AWS)	20	22.0	22.00	0.02	0	0562M	DFT-S-OFDM	QPSK	50	56	0 mm	back	1:1	2.080	1.000	2.080	
1770.00	354000	High	NR Band n66 (AWS)	20	22.0	21.86	0.01	0	0562M	DFT-S-OFDM	QPSK	50	28	0 mm	back	1:1	2.000	1.033	2.066	
1770.00	354000	High	NR Band n66 (AWS)	20	22.0	21.81	0.00	0	0562M	DFT-S-OFDM	QPSK	100	0	0 mm	back	1:1	1.980	1.045	2.069	
1745.00	349000	Mid	NR Band n66 (AWS)	20	22.0	21.98	-0.03	0	0562M	DFT-S-OFDM	QPSK	1	104	0 mm	front	1:1	1.920	1.005	1.930	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.0	21.61	0.02	0	0562M	DFT-S-OFDM	QPSK	50	56	0 mm	front	1:1	1.880	1.094	2.057	
1745.00	349000	Mid	NR Band n66 (AWS)	20	22.0	22.00	-0.02	0	0562M	DFT-S-OFDM	QPSK	50	56	0 mm	front	1:1	2.000	1.000	2.000	
1770.00	354000	High	NR Band n66 (AWS)	20	22.0	21.86	-0.02	0	0562M	DFT-S-OFDM	QPSK	50	28	0 mm	front	1:1	1.880	1.033	1.942	
1770.00	354000	High	NR Band n66 (AWS)	20	22.0	21.81	-0.05	0	0562M	DFT-S-OFDM	QPSK	100	0	0 mm	front	1:1	1.900	1.045	1.986	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.0	21.63	-0.01	0	0562M	DFT-S-OFDM	QPSK	1	53	0 mm	bottom	1:1	2.550	1.089	2.777	
1745.00	349000	Mid	NR Band n66 (AWS)	20	22.0	21.98	0.05	0	0562M	DFT-S-OFDM	QPSK	1	104	0 mm	bottom	1:1	2.540	1.005	2.553	
1770.00	354000	High	NR Band n66 (AWS)	20	22.0	21.97	-0.01	0	0562M	DFT-S-OFDM	QPSK	1	53	0 mm	bottom	1:1	2.550	1.007	2.568	
1720.00	344000	Low	NR Band n66 (AWS)	20	22.0	21.61	-0.10	0	0562M	DFT-S-OFDM	QPSK	50	56	0 mm	bottom	1:1	2.550	1.094	**2.790**	
1745.00	349000	Mid	NR Band n66 (AWS)	20	22.0	22.00	-0.04	0	0562M	DFT-S-OFDM	QPSK	50	56	0 mm	bottom	1:1	2.700	1.000	2.700	A56
1770.00	354000	High	NR Band n66 (AWS)	20	22.0	21.86	-0.03	0	0562M	DFT-S-OFDM	QPSK	50	28	0 mm	bottom	1:1	2.590	1.033	2.675	
1770.00	354000	High	NR Band n66 (AWS)	20	22.0	21.81	-0.04	0	0562M	DFT-S-OFDM	QPSK	100	0	0 mm	bottom	1:1	2.580	1.045	2.696	
1770.00	354000	High	NR Band n66 (AWS)	20	22.0	21.67	-0.02	0	0562M	CP-OFDM	QPSK	1	1	0 mm	bottom	1:1	2.440	1.079	2.633	
1745.00	349000	Mid	NR Band n66 (AWS)	20	22.0	22.00	-0.05	0	0562M	DFT-S-OFDM	QPSK	50	56	0 mm	bottom	1:1	2.680	1.000	2.680	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																	Phablet 4.0 W/kg (mW/g) averaged over 10 grams			

Note: Blue entry represents variability measurement

Table 11-50
NII MIMO Phablet SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (10g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (10g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5300	60	802.11n	OFDM	20	18.0	17.98	18.0	17.44	-0.20	0 mm	MIMO	1621M	13	back	98.7	7.418	0.927	1.138	1.013	**1.069**	A57
5300	60	802.11n	OFDM	20	18.0	17.98	18.0	17.44	0.21	0 mm	MIMO	1621M	13	front	98.7	2.125	0.298	1.138	1.013	0.344	
5300	60	802.11n	OFDM	20	18.0	17.98	18.0	17.44	-0.19	0 mm	MIMO	1621M	13	top	98.7	1.016	-	1.138	1.013	-	
5300	60	802.11n	OFDM	20	18.0	17.98	18.0	17.44	0.17	0 mm	MIMO	1621M	13	left	98.7	13.460	0.768	1.138	1.013	0.885	
5620	124	802.11n	OFDM	20	18.0	17.86	18.0	17.52	0.20	0 mm	MIMO	1621M	13	back	98.7	6.089	0.493	1.117	1.013	0.558	
5620	124	802.11n	OFDM	20	18.0	17.86	18.0	17.52	0.19	0 mm	MIMO	1621M	13	front	98.7	1.393	0.174	1.117	1.013	0.197	
5620	124	802.11n	OFDM	20	18.0	17.86	18.0	17.52	0.12	0 mm	MIMO	1621M	13	top	98.7	0.618	-	1.117	1.013	-	
5620	124	802.11n	OFDM	20	18.0	17.86	18.0	17.52	0.16	0 mm	MIMO	1621M	13	left	98.7	9.944	0.556	1.117	1.013	0.629	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Phablet 4.0 W/kg (mW/g) averaged over 10 grams					

Notes: To achieve the 21.0 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 18.0 dBm.

11.5 SAR Test Notes

General Notes:

1. The test data reported are the worst-case SAR values according to test procedures specified in IEEE 1528-2013, and FCC KDB Publication 447498 D01v06.
2. Batteries are fully charged at the beginning of the SAR measurements.
3. Liquid tissue depth was at least 15.0 cm for all frequencies.
4. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
5. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D01v06.
6. Device was tested using a fixed spacing for body-worn accessory testing. A separation distance of 15 mm was considered because the manufacturer has determined that there will be body-worn accessories available in the marketplace for users to support this separation distance.
7. Per FCC KDB Publication 648474 D04v01r03, body-worn SAR was evaluated without a headset connected to the device. Since the standalone reported body-worn SAR was ≤ 1.2 W/kg, no additional body-worn SAR evaluations using a headset cable were required.
8. Per FCC KDB 865664 D01v01r04, variability SAR tests were performed when the measured SAR results for a frequency band were greater than or equal to 0.8 W/kg. Repeated SAR measurements are highlighted in the tables above for clarity. Please see Section 13 for variability analysis.
9. During SAR Testing for the Wireless Router conditions per FCC KDB Publication 941225 D06v02r01, the actual Portable Hotspot operation (with actual simultaneous transmission of a transmitter with WIFI) was not activated (See Section 6.7 for more details).
10. Per FCC KDB Publication 648474 D04v01r03, this device is considered a "phablet" since the diagonal dimension is > 160 mm and < 200 mm. Therefore, phablet SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR > 1.2 W/kg.
11. This device utilizes power reduction for some wireless modes and technologies, as outlined in Section 1.3. The maximum output power allowed for each transmitter and exposure condition was evaluated for SAR compliance based on expected use conditions and simultaneous transmission scenarios.
12. Unless otherwise noted, when 10g SAR measurement is considered, a factor of 2.5 is applied to the 1g thresholds for the equivalent test cases.
13. Additional SAR tests for phablet SAR were evaluated per KDB 616217 Section 6 (See Section 6.9 for more information).

GSM Test Notes:

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

UMTS Notes:

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

LTE Notes:

1. LTE test configurations are determined according to SAR Evaluation Considerations for LTE Devices in FCC KDB Publication 941225 D05v02r04. The general test procedures used for testing can be found in Section 8.5.4.
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 SAR measured at the highest output power channel in a given a test configuration was > 0.6 W/kg for 1g evaluations, testing at the other channels was required for such test configurations.
5. TDD LTE was tested per the guidance provided in FCC KDB Publication 941225 D05v02r04. Testing was performed using UL-DL configuration 0 with 6 UL subframes and 2 S subframes using extended cyclic prefix only and special subframe configuration 6. SAR tests were performed at maximum output power and worst-case transmission duty factor in extended cyclic prefix. Per 3GPP 36.211 Section 4, the duty factor for special subframe configuration 6 using extended cyclic prefix is 0.633.
6. Per KDB Publication 941225 D05Av01r02, SAR for downlink only LTE CA operations was not needed since the maximum average output power in LTE CA mode was not >0.25 dB higher than the maximum output power when downlink carrier aggregation was inactive.
7. This device supports Power Class 2 and Power Class 3 operations for LTE Band 41. The highest available duty cycle for Power Class 2 operations is 43.3 % using UL-DL configuration 1. Per FCC Guidance, all SAR tests were performed using Power Class 3. SAR with power class 2 at the available duty factor was additionally performed for the power class 3 configuration with the highest SAR configuration for each exposure conditions. Please see Section 14 for linearity results.

NR Notes:

1. NR implementation supports SA and NSA mode. In EN-DC mode, NR operates with the LTE Bands shown in the NR FR1 checklist acting as anchor bands. Per FCC guidance, SAR tests for NR Bands and LTE Anchors Bands were performed separately due to limitations in SAR probe calibration factors.
2. Due to test setup limitations, SAR testing for NR was performed under an online connection of an EN-DC configuration (DC_2A-n5A for n5, DC_5A-n66A for n66). The LTE anchor was configured in all down bits such that conducted and radiated output power did not impact the NR SAR result.
3. This device additionally supports some EN-DC conditions where additional LTE carriers are added on the downlink only.
4. Per FCC Guidance, NR modulations and RB Sizes/Offsets were selected for testing such that configurations with the highest output power were evaluated for SAR tests.

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/ax) was not required due to the maximum allowed powers and the highest reported DSSS SAR. See Section 8.6.5 for more information.
3. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 5 GHz WIFI operations, the initial test configuration was selected according to the transmission mode with the highest maximum allowed powers. Other transmission modes were not investigated since the highest reported SAR for initial test configuration adjusted by the ratio of maximum output powers is less than 1.2 W/kg for 1g evaluations. See Section 8.6.6 for more information.
4. Per KDB Publication 248227 D01v02r02, SAR for MIMO was evaluated by following the simultaneous SAR provisions from KDB Publication 447498 D01v06 by either evaluating the sum of the 1g SAR values of each antenna transmitting independently or making a SAR measurement with both antennas transmitting simultaneously. Please see Section 12 for complete analysis.
5. When the maximum reported 1g averaged SAR is ≤0.8 W/kg, SAR testing on additional channels was not required. Otherwise, SAR for the next highest output power channel was required until the reported SAR result was ≤ 1.20 W/kg for 1g evaluations or all test channels were measured.
6. The device was configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools. The reported SAR was scaled to the 100% transmission duty factor to determine compliance. Procedures used to measure the duty factor are identical to that in the associated EMC test reports.

Bluetooth Notes

1. Bluetooth SAR was measured with the device connected to a call box with hopping disabled with DH5 operation and Tx Tests test mode type. Per October 2016 TCB Workshop Notes, the reported SAR was scaled to the 100% transmission duty factor to determine compliance. See Section 9.3 for the time domain plot and calculation for the duty factor of the device.
2. Head and Hotspot Bluetooth SAR were evaluated for BT tethering applications.

12 FCC MULTI-TX AND ANTENNA SAR CONSIDERATIONS

12.1 Introduction

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

12.2 Simultaneous Transmission Procedures

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

When standalone SAR is not required to be measured, per FCC KDB 447498 D01v06 4.3.2 b), the following equation must be used to estimate the standalone 1g SAR for simultaneous transmission assessment involving that transmitter.

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

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

LTE B25 SAR additionally represents LTE B2 and LTE B26 additionally represents LTE B5 since their transmission frequency ranges are overlapped and they share the same transmission path and signal characteristics.

This device supports 6 GHz WIFI Operations. RF Exposure assessment for these bands can be found in the WIFI 6 GHz RF Exposure Report (1M2009280154-25-R2.A3L).

12.3 Head SAR Simultaneous Transmission Analysis

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

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Head SAR	GSM 850	0.157	0.015	0.236	0.172	0.393	**0.408**
	GSM 1900	0.043	0.015	0.236	0.058	0.279	0.294
	UMTS 850	0.150	0.015	0.236	0.165	0.386	0.401
	UMTS 1750	0.087	0.015	0.236	0.102	0.323	0.338
	UMTS 1900	0.081	0.015	0.236	0.096	0.317	0.332
	LTE Band 12	0.109	0.015	0.236	0.124	0.345	0.360
	LTE Band 13	0.128	0.015	0.236	0.143	0.364	0.379
	LTE Band 26 (Cell)	0.128	0.015	0.236	0.143	0.364	0.379
	LTE Band 66 (AWS)	0.150	0.015	0.236	0.165	0.386	0.401
	LTE Band 25 (PCS)	0.119	0.015	0.236	0.134	0.355	0.370
	LTE Band 41	0.078	0.015	0.236	0.093	0.314	0.329
	NR Band n5 (Cell)	0.036	0.015	0.236	0.051	0.272	0.287
	NR Band n66 (AWS)	0.109	0.015	0.236	0.124	0.345	0.360

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+3	1+2+4	1+2+3+4
Head SAR	LTE Band 66 (AWS)	0.150	0.036	0.015	0.236	0.201	0.422	**0.437**
	LTE Band 25 (PCS)	0.119	0.036	0.015	0.236	0.170	0.391	0.406

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (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	4	1+2+3	1+2+4	1+2+3+4
Head SAR	LTE Band 12	0.109	0.109	0.015	0.236	0.233	0.454	0.469
	LTE Band 26 (Cell)	0.128	0.109	0.015	0.236	0.252	0.473	**0.488**

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

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Head SAR	GSM 850	0.157	0.243	**0.400**
	GSM 1900	0.043	0.243	0.286
	UMTS 850	0.150	0.243	0.393
	UMTS 1750	0.087	0.243	0.330
	UMTS 1900	0.081	0.243	0.324
	LTE Band 12	0.109	0.243	0.352
	LTE Band 13	0.128	0.243	0.371
	LTE Band 26 (Cell)	0.128	0.243	0.371
	LTE Band 66 (AWS)	0.150	0.243	0.393
	LTE Band 25 (PCS)	0.119	0.243	0.362
	LTE Band 41	0.078	0.243	0.321
	NR Band n5 (Cell)	0.036	0.243	0.279
	NR Band n66 (AWS)	0.109	0.243	0.352

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	LTE Band 66 (AWS)	0.150	0.036	0.243	**0.429**
	LTE Band 25 (PCS)	0.119	0.036	0.243	0.398

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	LTE Band 12	0.109	0.109	0.243	0.461
	LTE Band 26 (Cell)	0.128	0.109	0.243	**0.480**

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

Configuration	Mode	2G/3G/4G /5G 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 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	GSM 850	0.157	0.015	0.236	0.243	**0.651**
	GSM 1900	0.043	0.015	0.236	0.243	0.537
	UMTS 850	0.150	0.015	0.236	0.243	0.644
	UMTS 1750	0.087	0.015	0.236	0.243	0.581
	UMTS 1900	0.081	0.015	0.236	0.243	0.575
	LTE Band 12	0.109	0.015	0.236	0.243	0.603
	LTE Band 13	0.128	0.015	0.236	0.243	0.622
	LTE Band 26 (Cell)	0.128	0.015	0.236	0.243	0.622
	LTE Band 66 (AWS)	0.150	0.015	0.236	0.243	0.644
	LTE Band 25 (PCS)	0.119	0.015	0.236	0.243	0.613
	LTE Band 41	0.078	0.015	0.236	0.243	0.572
	NR Band n5 (Cell)	0.036	0.015	0.236	0.243	0.530
	NR Band n66 (AWS)	0.109	0.015	0.236	0.243	0.603

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) 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 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	5	1+2+3+4+5
Head SAR	LTE Band 66 (AWS)	0.150	0.036	0.015	0.236	0.243	**0.680**
	LTE Band 25 (PCS)	0.119	0.036	0.015	0.236	0.243	0.649

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (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 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	5	1+2+3+4+5
Head SAR	LTE Band 12	0.109	0.109	0.015	0.236	0.243	0.712
	LTE Band 26 (Cell)	0.128	0.109	0.015	0.236	0.243	**0.731**

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

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Head SAR	GSM 850	0.157	0.026	0.163	0.183	0.320	**0.346**
	GSM 1900	0.043	0.026	0.163	0.069	0.206	0.232
	UMTS 850	0.150	0.026	0.163	0.176	0.313	0.339
	UMTS 1750	0.087	0.026	0.163	0.113	0.250	0.276
	UMTS 1900	0.081	0.026	0.163	0.107	0.244	0.270
	LTE Band 12	0.109	0.026	0.163	0.135	0.272	0.298
	LTE Band 13	0.128	0.026	0.163	0.154	0.291	0.317
	LTE Band 26 (Cell)	0.128	0.026	0.163	0.154	0.291	0.317
	LTE Band 66 (AWS)	0.150	0.026	0.163	0.176	0.313	0.339
	LTE Band 25 (PCS)	0.119	0.026	0.163	0.145	0.282	0.308
	LTE Band 41	0.078	0.026	0.163	0.104	0.241	0.267
	NR Band n5 (Cell)	0.036	0.026	0.163	0.062	0.199	0.225
	NR Band n66 (AWS)	0.109	0.026	0.163	0.135	0.272	0.298

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz Bluetooth 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	LTE Band 66 (AWS)	0.150	0.036	0.026	0.163	0.212	0.349	**0.375**
	LTE Band 25 (PCS)	0.119	0.036	0.026	0.163	0.181	0.318	0.344

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz Bluetooth 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	LTE Band 12	0.109	0.109	0.026	0.163	0.244	0.381	0.407
	LTE Band 26 (Cell)	0.128	0.109	0.026	0.163	0.263	0.400	**0.426**

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

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+4	1+3+4	1+2+3+4
Head SAR	GSM 850	0.157	0.026	0.163	0.243	0.426	0.563	**0.589**
	GSM 1900	0.043	0.026	0.163	0.243	0.312	0.449	0.475
	UMTS 850	0.150	0.026	0.163	0.243	0.419	0.556	0.582
	UMTS 1750	0.087	0.026	0.163	0.243	0.356	0.493	0.519
	UMTS 1900	0.081	0.026	0.163	0.243	0.350	0.487	0.513
	LTE Band 12	0.109	0.026	0.163	0.243	0.378	0.515	0.541
	LTE Band 13	0.128	0.026	0.163	0.243	0.397	0.534	0.560
	LTE Band 26 (Cell)	0.128	0.026	0.163	0.243	0.397	0.534	0.560
	LTE Band 66 (AWS)	0.150	0.026	0.163	0.243	0.419	0.556	0.582
	LTE Band 25 (PCS)	0.119	0.026	0.163	0.243	0.388	0.525	0.551
	LTE Band 41	0.078	0.026	0.163	0.243	0.347	0.484	0.510
	NR Band n5 (Cell)	0.036	0.026	0.163	0.243	0.305	0.442	0.468
	NR Band n66 (AWS)	0.109	0.026	0.163	0.243	0.378	0.515	0.541

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	5	1+2+3+5	1+2+4+5	1+2+3+4+5
Head SAR	LTE Band 66 (AWS)	0.150	0.036	0.026	0.163	0.243	0.455	0.592	**0.618**
	LTE Band 25 (PCS)	0.119	0.036	0.026	0.163	0.243	0.424	0.561	0.587

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	5	1+2+3+5	1+2+4+5	1+2+3+4+5
Head SAR	LTE Band 12	0.109	0.109	0.026	0.163	0.243	0.487	0.624	0.650
	LTE Band 26 (Cell)	0.128	0.109	0.026	0.163	0.243	0.506	0.643	**0.669**

Table 12-6
Simultaneous Transmission Scenario with 6 GHz WLAN MIMO (Held to Ear)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	6 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Head SAR	GSM 850	0.157	0.013	**0.170**
	GSM 1900	0.043	0.013	0.056
	UMTS 850	0.150	0.013	0.163
	UMTS 1750	0.087	0.013	0.100
	UMTS 1900	0.081	0.013	0.094
	LTE Band 12	0.109	0.013	0.122
	LTE Band 13	0.128	0.013	0.141
	LTE Band 26 (Cell)	0.128	0.013	0.141
	LTE Band 66 (AWS)	0.150	0.013	0.163
	LTE Band 25 (PCS)	0.119	0.013	0.132
	LTE Band 41	0.078	0.013	0.091
	NR Band n5 (Cell)	0.036	0.013	0.049
	NR Band n66 (AWS)	0.109	0.013	0.122

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	6 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	LTE Band 66 (AWS)	0.150	0.036	0.013	**0.199**
	LTE Band 25 (PCS)	0.119	0.036	0.013	0.168

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	6 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	LTE Band 12	0.109	0.109	0.013	0.231
	LTE Band 26 (Cell)	0.128	0.109	0.013	**0.250**

Table 12-7
Simultaneous Transmission Scenario with 2.4 GHz WLAN and 6 GHz WLAN MIMO (Held to Ear)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	6 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	GSM 850	0.157	0.015	0.236	0.013	**0.421**
	GSM 1900	0.043	0.015	0.236	0.013	0.307
	UMTS 850	0.150	0.015	0.236	0.013	0.414
	UMTS 1750	0.087	0.015	0.236	0.013	0.351
	UMTS 1900	0.081	0.015	0.236	0.013	0.345
	LTE Band 12	0.109	0.015	0.236	0.013	0.373
	LTE Band 13	0.128	0.015	0.236	0.013	0.392
	LTE Band 26 (Cell)	0.128	0.015	0.236	0.013	0.392
	LTE Band 66 (AWS)	0.150	0.015	0.236	0.013	0.414
	LTE Band 25 (PCS)	0.119	0.015	0.236	0.013	0.383
	LTE Band 41	0.078	0.015	0.236	0.013	0.342
	NR Band n5 (Cell)	0.036	0.015	0.236	0.013	0.300
	NR Band n66 (AWS)	0.109	0.015	0.236	0.013	0.373

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	6 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	5	1+2+3+4+5
Head SAR	LTE Band 66 (AWS)	0.150	0.036	0.015	0.236	0.013	**0.450**
	LTE Band 25 (PCS)	0.119	0.036	0.015	0.236	0.013	0.419

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	6 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	5	1+2+3+4+5
Head SAR	LTE Band 12	0.109	0.109	0.015	0.236	0.013	0.482
	LTE Band 26 (Cell)	0.128	0.109	0.015	0.236	0.013	**0.501**

Table 12-8
Simultaneous Transmission Scenario with Bluetooth and 6 GHz WLAN MIMO (Held to Ear)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	6 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+4	1+3+4	1+2+3+4
Head SAR	GSM 850	0.157	0.026	0.163	0.013	0.196	0.333	**0.359**
	GSM 1900	0.043	0.026	0.163	0.013	0.082	0.219	0.245
	UMTS 850	0.150	0.026	0.163	0.013	0.189	0.326	0.352
	UMTS 1750	0.087	0.026	0.163	0.013	0.126	0.263	0.289
	UMTS 1900	0.081	0.026	0.163	0.013	0.120	0.257	0.283
	LTE Band 12	0.109	0.026	0.163	0.013	0.148	0.285	0.311
	LTE Band 13	0.128	0.026	0.163	0.013	0.167	0.304	0.330
	LTE Band 26 (Cell)	0.128	0.026	0.163	0.013	0.167	0.304	0.330
	LTE Band 66 (AWS)	0.150	0.026	0.163	0.013	0.189	0.326	0.352
	LTE Band 25 (PCS)	0.119	0.026	0.163	0.013	0.158	0.295	0.321
	LTE Band 41	0.078	0.026	0.163	0.013	0.117	0.254	0.280
	NR Band n5 (Cell)	0.036	0.026	0.163	0.013	0.075	0.212	0.238
	NR Band n66 (AWS)	0.109	0.026	0.163	0.013	0.148	0.285	0.311

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	6 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	5	1+2+3+4+5
Head SAR	LTE Band 66 (AWS)	0.150	0.036	0.026	0.163	0.013	**0.388**
	LTE Band 25 (PCS)	0.119	0.036	0.026	0.163	0.013	0.357

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	6 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	5	1+2+3+4+5
Head SAR	LTE Band 12	0.109	0.109	0.026	0.163	0.013	0.420
	LTE Band 26 (Cell)	0.128	0.109	0.026	0.163	0.013	**0.439**

12.4 Body-Worn Simultaneous Transmission Analysis

Table 12-9
Simultaneous Transmission Scenario with 2.4 GHz WLAN SISO (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G /5G 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
Body - Worn SAR	GSM 850	0.266	0.176	0.046	0.442	0.312
	GSM 1900	0.232	0.176	0.046	0.408	0.278
	UMTS 850	0.259	0.176	0.046	0.435	0.305
	UMTS 1750	0.578	0.176	0.046	0.754	0.624
	UMTS 1900	0.466	0.176	0.046	0.642	0.512
	LTE Band 12	0.188	0.176	0.046	0.364	0.234
	LTE Band 13	0.216	0.176	0.046	0.392	0.262
	LTE Band 26 (Cell)	0.241	0.176	0.046	0.417	0.287
	LTE Band 66 (AWS)	0.715	0.176	0.046	**0.891**	0.761
	LTE Band 25 (PCS)	0.503	0.176	0.046	0.679	0.549
	LTE Band 41	0.424	0.176	0.046	0.600	0.470
	NR Band n5 (Cell)	0.075	0.176	0.046	0.251	0.121
	NR Band n66 (AWS)	0.583	0.176	0.046	0.759	0.629

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	4	1+2+3	1+2+4
Body - Worn SAR	LTE Band 66 (AWS)	0.715	0.075	0.176	0.046	**0.966**	0.836
	LTE Band 25 (PCS)	0.503	0.075	0.176	0.046	0.754	0.624

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (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	4	1+2+3	1+2+4
Body - Worn SAR	LTE Band 12	0.188	0.583	0.176	0.046	0.947	0.817
	LTE Band 26 (Cell)	0.241	0.583	0.176	0.046	**1.000**	0.870

Table 12-10
Simultaneous Transmission Scenario with 2.4 GHz WLAN MIMO (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body - Worn SAR	GSM 850	0.266	0.185	0.451
	GSM 1900	0.232	0.185	0.417
	UMTS 850	0.259	0.185	0.444
	UMTS 1750	0.578	0.185	0.763
	UMTS 1900	0.466	0.185	0.651
	LTE Band 12	0.188	0.185	0.373
	LTE Band 13	0.216	0.185	0.401
	LTE Band 26 (Cell)	0.241	0.185	0.426
	LTE Band 66 (AWS)	0.715	0.185	**0.900**
	LTE Band 25 (PCS)	0.503	0.185	0.688
	LTE Band 41	0.424	0.185	0.609
	NR Band n5 (Cell)	0.075	0.185	0.260
	NR Band n66 (AWS)	0.583	0.185	0.768

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 66 (AWS)	0.715	0.075	0.185	**0.975**
	LTE Band 25 (PCS)	0.503	0.075	0.185	0.763
Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 12	0.188	0.583	0.185	0.956
	LTE Band 26 (Cell)	0.241	0.583	0.185	**1.009**

Table 12-11
Simultaneous Transmission Scenario with 5 GHz WLAN MIMO (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body - Worn SAR	GSM 850	0.266	0.481	0.747
	GSM 1900	0.232	0.481	0.713
	UMTS 850	0.259	0.481	0.740
	UMTS 1750	0.578	0.481	1.059
	UMTS 1900	0.466	0.481	0.947
	LTE Band 12	0.188	0.481	0.669
	LTE Band 13	0.216	0.481	0.697
	LTE Band 26 (Cell)	0.241	0.481	0.722
	LTE Band 66 (AWS)	0.715	0.481	**1.196**
	LTE Band 25 (PCS)	0.503	0.481	0.984
	LTE Band 41	0.424	0.481	0.905
	NR Band n5 (Cell)	0.075	0.481	0.556
	NR Band n66 (AWS)	0.583	0.481	1.064

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 66 (AWS)	0.715	0.075	0.481	**1.271**
	LTE Band 25 (PCS)	0.503	0.075	0.481	1.059

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 12	0.188	0.583	0.481	1.252
	LTE Band 26 (Cell)	0.241	0.583	0.481	**1.305**

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

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz WLAN MIMO at 19 dBm SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	GSM 850	0.266	0.145	0.138	0.549
	GSM 1900	0.232	0.145	0.138	0.515
	UMTS 850	0.259	0.145	0.138	0.542
	UMTS 1750	0.578	0.145	0.138	0.861
	UMTS 1900	0.466	0.145	0.138	0.749
	LTE Band 12	0.188	0.145	0.138	0.471
	LTE Band 13	0.216	0.145	0.138	0.499
	LTE Band 26 (Cell)	0.241	0.145	0.138	0.524
	LTE Band 66 (AWS)	0.715	0.145	0.138	**0.998**
	LTE Band 25 (PCS)	0.503	0.145	0.138	0.786
	LTE Band 41	0.424	0.145	0.138	0.707
	NR Band n5 (Cell)	0.075	0.145	0.138	0.358
	NR Band n66 (AWS)	0.583	0.145	0.138	0.866

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz WLAN MIMO at 19 dBm SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	LTE Band 66 (AWS)	0.715	0.075	0.145	0.138	**1.073**
	LTE Band 25 (PCS)	0.503	0.075	0.145	0.138	0.861
Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz WLAN MIMO at 19 dBm SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	LTE Band 12	0.188	0.583	0.145	0.138	1.054
	LTE Band 26 (Cell)	0.241	0.583	0.145	0.138	**1.107**

Table 12-13
Simultaneous Transmission Scenario with Bluetooth Single Antenna (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Body - Worn SAR	GSM 850	0.266	0.084	0.020	0.350	0.286
	GSM 1900	0.232	0.084	0.020	0.316	0.252
	UMTS 850	0.259	0.084	0.020	0.343	0.279
	UMTS 1750	0.578	0.084	0.020	0.662	0.598
	UMTS 1900	0.466	0.084	0.020	0.550	0.486
	LTE Band 12	0.188	0.084	0.020	0.272	0.208
	LTE Band 13	0.216	0.084	0.020	0.300	0.236
	LTE Band 26 (Cell)	0.241	0.084	0.020	0.325	0.261
	LTE Band 66 (AWS)	0.715	0.084	0.020	**0.799**	0.735
	LTE Band 25 (PCS)	0.503	0.084	0.020	0.587	0.523
	LTE Band 41	0.424	0.084	0.020	0.508	0.444
	NR Band n5 (Cell)	0.075	0.084	0.020	0.159	0.095
	NR Band n66 (AWS)	0.583	0.084	0.020	0.667	0.603

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	4	1+2+3	1+2+4
Body - Worn SAR	LTE Band 66 (AWS)	0.715	0.075	0.084	0.020	**0.874**	0.810
	LTE Band 25 (PCS)	0.503	0.075	0.084	0.020	0.662	0.598

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	4	1+2+3	1+2+4
Body - Worn SAR	LTE Band 12	0.188	0.583	0.084	0.020	0.855	0.791
	LTE Band 26 (Cell)	0.241	0.583	0.084	0.020	**0.908**	0.844

Table 12-14
Simultaneous Transmission Scenario with Bluetooth Dual Mode (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz Bluetooth Dual Mode SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body - Worn SAR	GSM 850	0.266	0.034	0.300
	GSM 1900	0.232	0.034	0.266
	UMTS 850	0.259	0.034	0.293
	UMTS 1750	0.578	0.034	0.612
	UMTS 1900	0.466	0.034	0.500
	LTE Band 12	0.188	0.034	0.222
	LTE Band 13	0.216	0.034	0.250
	LTE Band 26 (Cell)	0.241	0.034	0.275
	LTE Band 66 (AWS)	0.715	0.034	**0.749**
	LTE Band 25 (PCS)	0.503	0.034	0.537
	LTE Band 41	0.424	0.034	0.458
	NR Band n5 (Cell)	0.075	0.034	0.109
	NR Band n66 (AWS)	0.583	0.034	0.617

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Dual Mode SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 66 (AWS)	0.715	0.075	0.034	**0.824**
	LTE Band 25 (PCS)	0.503	0.075	0.034	0.612

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Dual Mode SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 12	0.188	0.583	0.034	0.805
	LTE Band 26 (Cell)	0.241	0.583	0.034	**0.858**

Table 12-15
Simultaneous Transmission Scenario with Bluetooth Single Antenna and 5 GHz WLAN MIMO (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	4	1+2+4	1+3+4
Body - Worn SAR	GSM 850	0.266	0.084	0.020	0.481	0.831	0.767
	GSM 1900	0.232	0.084	0.020	0.481	0.797	0.733
	UMTS 850	0.259	0.084	0.020	0.481	0.824	0.760
	UMTS 1750	0.578	0.084	0.020	0.481	1.143	1.079
	UMTS 1900	0.466	0.084	0.020	0.481	1.031	0.967
	LTE Band 12	0.188	0.084	0.020	0.481	0.753	0.689
	LTE Band 13	0.216	0.084	0.020	0.481	0.781	0.717
	LTE Band 26 (Cell)	0.241	0.084	0.020	0.481	0.806	0.742
	LTE Band 66 (AWS)	0.715	0.084	0.020	0.481	**1.280**	1.216
	LTE Band 25 (PCS)	0.503	0.084	0.020	0.481	1.068	1.004
	LTE Band 41	0.424	0.084	0.020	0.481	0.989	0.925
	NR Band n5 (Cell)	0.075	0.084	0.020	0.481	0.640	0.576
	NR Band n66 (AWS)	0.583	0.084	0.020	0.481	1.148	1.084

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	4	5	1+2+3+5	1+2+4+5
Body - Worn SAR	LTE Band 66 (AWS)	0.715	0.075	0.084	0.020	0.481	**1.355**	1.291
	LTE Band 25 (PCS)	0.503	0.075	0.084	0.020	0.481	1.143	1.079

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	4	5	1+2+3+5	1+2+4+5
Body - Worn SAR	LTE Band 12	0.188	0.583	0.084	0.020	0.481	1.336	1.272
	LTE Band 26 (Cell)	0.241	0.583	0.084	0.020	0.481	**1.389**	1.325

Table 12-16
Simultaneous Transmission Scenario with Bluetooth Dual Mode and 5 GHz WLAN MIMO
(Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz Bluetooth Dual Mode SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	GSM 850	0.266	0.034	0.481	0.781
	GSM 1900	0.232	0.034	0.481	0.747
	UMTS 850	0.259	0.034	0.481	0.774
	UMTS 1750	0.578	0.034	0.481	1.093
	UMTS 1900	0.466	0.034	0.481	0.981
	LTE Band 12	0.188	0.034	0.481	0.703
	LTE Band 13	0.216	0.034	0.481	0.731
	LTE Band 26 (Cell)	0.241	0.034	0.481	0.756
	LTE Band 66 (AWS)	0.715	0.034	0.481	**1.230**
	LTE Band 25 (PCS)	0.503	0.034	0.481	1.018
	LTE Band 41	0.424	0.034	0.481	0.939
	NR Band n5 (Cell)	0.075	0.034	0.481	0.590
	NR Band n66 (AWS)	0.583	0.034	0.481	1.098

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Dual Mode SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	LTE Band 66 (AWS)	0.715	0.075	0.034	0.481	**1.305**
	LTE Band 25 (PCS)	0.503	0.075	0.034	0.481	1.093

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Dual Mode SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	LTE Band 12	0.188	0.583	0.034	0.481	1.286
	LTE Band 26 (Cell)	0.241	0.583	0.034	0.481	**1.339**

Table 12-17
Simultaneous Transmission Scenario with 6 GHz WLAN MIMO (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	6 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body - Worn SAR	GSM 850	0.266	0.056	0.322
	GSM 1900	0.232	0.056	0.288
	UMTS 850	0.259	0.056	0.315
	UMTS 1750	0.578	0.056	0.634
	UMTS 1900	0.466	0.056	0.522
	LTE Band 12	0.188	0.056	0.244
	LTE Band 13	0.216	0.056	0.272
	LTE Band 26 (Cell)	0.241	0.056	0.297
	LTE Band 66 (AWS)	0.715	0.056	**0.771**
	LTE Band 25 (PCS)	0.503	0.056	0.559
	LTE Band 41	0.424	0.056	0.480
	NR Band n5 (Cell)	0.075	0.056	0.131
	NR Band n66 (AWS)	0.583	0.056	0.639

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	6 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 66 (AWS)	0.715	0.075	0.056	**0.846**
	LTE Band 25 (PCS)	0.503	0.075	0.056	0.634

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	6 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 12	0.188	0.583	0.056	0.827
	LTE Band 26 (Cell)	0.241	0.583	0.056	**0.880**

Table 12-18
Simultaneous Transmission Scenario with 2.4 GHz WLAN MIMO and 6 GHz WLAN MIMO
(Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	6 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	GSM 850	0.266	0.185	0.056	0.507
	GSM 1900	0.232	0.185	0.056	0.473
	UMTS 850	0.259	0.185	0.056	0.500
	UMTS 1750	0.578	0.185	0.056	0.819
	UMTS 1900	0.466	0.185	0.056	0.707
	LTE Band 12	0.188	0.185	0.056	0.429
	LTE Band 13	0.216	0.185	0.056	0.457
	LTE Band 26 (Cell)	0.241	0.185	0.056	0.482
	LTE Band 66 (AWS)	0.715	0.185	0.056	**0.956**
	LTE Band 25 (PCS)	0.503	0.185	0.056	0.744
	LTE Band 41	0.424	0.185	0.056	0.665
	NR Band n5 (Cell)	0.075	0.185	0.056	0.316
	NR Band n66 (AWS)	0.583	0.185	0.056	0.824

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	6 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	LTE Band 66 (AWS)	0.715	0.075	0.185	0.056	**1.031**
	LTE Band 25 (PCS)	0.503	0.075	0.185	0.056	0.819

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	6 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	LTE Band 12	0.188	0.583	0.185	0.056	1.012
	LTE Band 26 (Cell)	0.241	0.583	0.185	0.056	**1.065**

Table 12-19
Simultaneous Transmission Scenario with Bluetooth Single Antenna and 6 GHz WLAN MIMO (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	6 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	4	1+2+4	1+3+4
Body - Worn SAR	GSM 850	0.266	0.084	0.020	0.056	0.406	0.342
	GSM 1900	0.232	0.084	0.020	0.056	0.372	0.308
	UMTS 850	0.259	0.084	0.020	0.056	0.399	0.335
	UMTS 1750	0.578	0.084	0.020	0.056	0.718	0.654
	UMTS 1900	0.466	0.084	0.020	0.056	0.606	0.542
	LTE Band 12	0.188	0.084	0.020	0.056	0.328	0.264
	LTE Band 13	0.216	0.084	0.020	0.056	0.356	0.292
	LTE Band 26 (Cell)	0.241	0.084	0.020	0.056	0.381	0.317
	LTE Band 66 (AWS)	0.715	0.084	0.020	0.056	**0.855**	0.791
	LTE Band 25 (PCS)	0.503	0.084	0.020	0.056	0.643	0.579
	LTE Band 41	0.424	0.084	0.020	0.056	0.564	0.500
	NR Band n5 (Cell)	0.075	0.084	0.020	0.056	0.215	0.151
	NR Band n66 (AWS)	0.583	0.084	0.020	0.056	0.723	0.659

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	6 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	4	5	1+2+3+5	1+2+4+5
Body - Worn SAR	LTE Band 66 (AWS)	0.715	0.075	0.084	0.020	0.056	**0.930**	0.866
	LTE Band 25 (PCS)	0.503	0.075	0.084	0.020	0.056	0.718	0.654

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	6 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	4	5	1+2+3+5	1+2+4+5
Body - Worn SAR	LTE Band 12	0.188	0.583	0.084	0.020	0.056	0.911	0.847
	LTE Band 26 (Cell)	0.241	0.583	0.084	0.020	0.056	**0.964**	0.900

Table 12-20
Simultaneous Transmission Scenario with Bluetooth Dual Mode and 6 GHz WLAN MIMO
(Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz Bluetooth Dual Mode SAR (W/kg)	6 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	GSM 850	0.266	0.034	0.056	0.356
	GSM 1900	0.232	0.034	0.056	0.322
	UMTS 850	0.259	0.034	0.056	0.349
	UMTS 1750	0.578	0.034	0.056	0.668
	UMTS 1900	0.466	0.034	0.056	0.556
	LTE Band 12	0.188	0.034	0.056	0.278
	LTE Band 13	0.216	0.034	0.056	0.306
	LTE Band 26 (Cell)	0.241	0.034	0.056	0.331
	LTE Band 66 (AWS)	0.715	0.034	0.056	**0.805**
	LTE Band 25 (PCS)	0.503	0.034	0.056	0.593
	LTE Band 41	0.424	0.034	0.056	0.514
	NR Band n5 (Cell)	0.075	0.034	0.056	0.165
	NR Band n66 (AWS)	0.583	0.034	0.056	0.673

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Dual Mode SAR (W/kg)	6 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	LTE Band 66 (AWS)	0.715	0.075	0.034	0.056	**0.880**
	LTE Band 25 (PCS)	0.503	0.075	0.034	0.056	0.668

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Dual Mode SAR (W/kg)	6 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	LTE Band 12	0.188	0.583	0.034	0.056	0.861
	LTE Band 26 (Cell)	0.241	0.583	0.034	0.056	**0.914**

12.5 Hotspot SAR Simultaneous Transmission Analysis

Table 12-21
Simultaneous Transmission Scenario with 2.4 GHz WLAN SISO (Hotspot at 1.0 cm) (1 of 2)

Configuration	Mode	2G/3G/4G /5G 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
Hotspot SAR	GPRS 850	0.597	0.564	0.220	1.161	0.817
	GPRS 1900	0.814	0.564	0.220	1.378	1.034
	UMTS 850	0.556	0.564	0.220	1.120	0.776
	UMTS 1750	1.057	0.564	0.220	See Table Below	1.277
	UMTS 1900	1.165	0.564	0.220	See Table Below	1.385
	LTE Band 12	0.297	0.564	0.220	0.861	0.517
	LTE Band 13	0.476	0.564	0.220	1.040	0.696
	LTE Band 26 (Cell)	0.534	0.564	0.220	1.098	0.754
	LTE Band 66 (AWS)	1.115	0.564	0.220	See Table Below	1.335
	LTE Band 25 (PCS)	1.335	0.564	0.220	See Table Below	**1.555**
	LTE Band 41	0.911	0.564	0.220	1.475	1.131
	NR Band n5 (Cell)	0.170	0.564	0.220	0.734	0.390
	NR Band n66 (AWS)	1.085	0.564	0.220	See Table Below	1.305

Table 12-22
Simultaneous Transmission Scenario with 2.4 GHz WLAN SISO (Hotspot at 1.0 cm) (2 of 2)

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.502	0.564	**1.066**
	Front	0.422	0.003	0.425
	Top	-	0.047	0.047
	Bottom	1.057	-	1.057
	Right	0.085	-	0.085
	Left	0.098	0.564*	0.662

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.435	0.564	0.999
	Front	0.412	0.003	0.415
	Top	-	0.047	0.047
	Bottom	1.165	-	**1.165**
	Right	0.070	-	0.070
	Left	0.069	0.564*	0.633

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.627	0.564	**1.191**
	Front	0.527	0.003	0.530
	Top	-	0.047	0.047
	Bottom	1.115	-	1.115
	Right	0.079	-	0.079
	Left	0.111	0.564*	0.675

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.407	0.564	0.971
	Front	0.321	0.003	0.324
	Top	-	0.047	0.047
	Bottom	1.335	-	**1.335**
	Right	0.068	-	0.068
	Left	0.059	0.564*	0.623

Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.531	0.564	**1.095**
	Front	0.508	0.003	0.511
	Top	-	0.047	0.047
	Bottom	1.085	-	1.085
	Right	0.076	-	0.076
	Left	0.089	0.564*	0.653

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	4	1+2+3	1+2+4
Hotspot SAR	Back	0.627	0.170	0.564	0.099	**1.361**	0.896
	Front	0.527	0.131	0.003	0.220*	0.661	0.878
	Top	-	-	0.047	-	0.047	-
	Bottom	1.115	0.162	-	-	1.277	1.277
	Right	0.079	0.043	-	-	0.122	0.122
	Left	0.111	0.023	0.564*	0.220	0.698	0.354

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	4	1+2+3	1+2+4
Hotspot SAR	Back	0.407	0.170	0.564	0.099	1.141	0.676
	Front	0.321	0.131	0.003	0.220*	0.455	0.672
	Top	-	-	0.047	-	0.047	-
	Bottom	1.335	0.162	-	-	**1.497**	**1.497**
	Right	0.068	0.043	-	-	0.111	0.111
	Left	0.059	0.023	0.564*	0.220	0.646	0.302

Simult Tx	Configuration	LTE Band 12 SAR (W/kg)	NR Band n66 (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	4	1+2+3	1+2+4
Hotspot SAR	Back	0.297	0.531	0.564	0.099	**1.392**	0.927
	Front	0.213	0.508	0.003	0.220*	0.724	0.941
	Top	-	-	0.047	-	0.047	-
	Bottom	0.182	1.085	-	-	1.267	1.267
	Right	0.280	0.076	-	-	0.356	0.356
	Left	0.091	0.089	0.564*	0.220	0.744	0.400

Simult Tx	Configuration	LTE Band 5 (Cell) SAR (W/kg)	NR Band n66 (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	4	1+2+3	1+2+4
Hotspot SAR	Back	0.191	0.531	0.564	0.099	**1.286**	0.821
	Front	0.100	0.508	0.003	0.220*	0.611	0.828
	Top	-	-	0.047	-	0.047	-
	Bottom	0.094	1.085	-	-	1.179	1.179
	Right	0.062	0.076	-	-	0.138	0.138
	Left	0.018	0.089	0.564*	0.220	0.671	0.327

Table 12-23
Simultaneous Transmission Scenario with 2.4 GHz WLAN MIMO (Hotspot at 1.0 cm) (1 of 2)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	GPRS 850	0.597	0.411	1.008
	GPRS 1900	0.814	0.411	1.225
	UMTS 850	0.556	0.411	0.967
	UMTS 1750	1.057	0.411	1.468
	UMTS 1900	1.165	0.411	**1.576**
	LTE Band 12	0.297	0.411	0.708
	LTE Band 13	0.476	0.411	0.887
	LTE Band 26 (Cell)	0.534	0.411	0.945
	LTE Band 66 (AWS)	1.115	0.411	1.526
	LTE Band 25 (PCS)	1.335	0.411	See Table Below
	LTE Band 41	0.911	0.411	1.322
	NR Band n5 (Cell)	0.170	0.411	0.581
	NR Band n66 (AWS)	1.085	0.411	1.496

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.407	0.411	0.818
	Front	0.321	0.093	0.414
	Top	-	0.050	0.050
	Bottom	1.335	-	**1.335**
	Right	0.068	-	0.068
	Left	0.059	0.250	0.309

Table 12-24
Simultaneous Transmission Scenario with 2.4 GHz WLAN MIMO (Hotspot at 1.0 cm) (2 of 2)

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.627	0.170	0.411	1.208
	Front	0.527	0.131	0.093	0.751
	Top	-	-	0.050	0.050
	Bottom	1.115	0.162	-	**1.277**
	Right	0.079	0.043	-	0.122
	Left	0.111	0.023	0.250	0.384
Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.407	0.170	0.411	0.988
	Front	0.321	0.131	0.093	0.545
	Top	-	-	0.050	0.050
	Bottom	1.335	0.162	-	**1.497**
	Right	0.068	0.043	-	0.111
	Left	0.059	0.023	0.250	0.332
Simult Tx	Configuration	LTE Band 12 SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.297	0.531	0.411	1.239
	Front	0.213	0.508	0.093	0.814
	Top	-	-	0.050	0.050
	Bottom	0.182	1.085	-	**1.267**
	Right	0.280	0.076	-	0.356
	Left	0.091	0.089	0.250	0.430
Simult Tx	Configuration	LTE Band 5 (Cell) SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.191	0.531	0.411	1.133
	Front	0.100	0.508	0.093	0.701
	Top	-	-	0.050	0.050
	Bottom	0.094	1.085	-	**1.179**
	Right	0.062	0.076	-	0.138
	Left	0.018	0.089	0.250	0.357

Table 12-25
Simultaneous Transmission Scenario with 5 GHz WLAN MIMO (Hotspot at 1.0 cm) (1 of 2)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	GPRS 850	0.597	0.583	1.180
	GPRS 1900	0.814	0.583	1.397
	UMTS 850	0.556	0.583	1.139
	UMTS 1750	1.057	0.583	See Table Below
	UMTS 1900	1.165	0.583	See Table Below
	LTE Band 12	0.297	0.583	0.880
	LTE Band 13	0.476	0.583	1.059
	LTE Band 26 (Cell)	0.534	0.583	1.117
	LTE Band 66 (AWS)	1.115	0.583	See Table Below
	LTE Band 25 (PCS)	1.335	0.583	See Table Below
	LTE Band 41	0.911	0.583	**1.494**
	NR Band n5 (Cell)	0.170	0.583	0.753
	NR Band n66 (AWS)	1.085	0.583	See Table Below

Table 12-26
Simultaneous Transmission Scenario with 5 GHz WLAN MIMO (Hotspot at 1.0 cm) (2 of 2)

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.502	0.583	**1.085**
	Front	0.422	0.032	0.454
	Top	-	0.066	0.066
	Bottom	1.057	-	1.057
	Right	0.085	-	0.085
	Left	0.098	0.103	0.201

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.435	0.583	1.018
	Front	0.412	0.032	0.444
	Top	-	0.066	0.066
	Bottom	1.165	-	**1.165**
	Right	0.070	-	0.070
	Left	0.069	0.103	0.172

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
Hotspot SAR	Back	0.627	0.583	**1.210**
	Front	0.527	0.032	0.559
	Top	-	0.066	0.066
	Bottom	1.115	-	1.115
	Right	0.079	-	0.079
	Left	0.111	0.103	0.214

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.407	0.583	0.990
	Front	0.321	0.032	0.353
	Top	-	0.066	0.066
	Bottom	1.335	-	**1.335**
	Right	0.068	-	0.068
	Left	0.059	0.103	0.162

Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.531	0.583	**1.114**
	Front	0.508	0.032	0.540
	Top	-	0.066	0.066
	Bottom	1.085	-	1.085
	Right	0.076	-	0.076
	Left	0.089	0.103	0.192

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.627	0.170	0.583	**1.380**
	Front	0.527	0.131	0.032	0.690
	Top	-	-	0.066	0.066
	Bottom	1.115	0.162	-	1.277
	Right	0.079	0.043	-	0.122
	Left	0.111	0.023	0.103	0.237

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.407	0.170	0.583	1.160
	Front	0.321	0.131	0.032	0.484
	Top	-	-	0.066	0.066
	Bottom	1.335	0.162	-	**1.497**
	Right	0.068	0.043	-	0.111
	Left	0.059	0.023	0.103	0.185

Simult Tx	Configuration	LTE Band 12 SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.297	0.531	0.583	**1.411**
	Front	0.213	0.508	0.032	0.753
	Top	-	-	0.066	0.066
	Bottom	0.182	1.085	-	1.267
	Right	0.280	0.076	-	0.356
	Left	0.091	0.089	0.103	0.283

Simult Tx	Configuration	LTE Band 5 (Cell) SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.191	0.531	0.583	**1.305**
	Front	0.100	0.508	0.032	0.640
	Top	-	-	0.066	0.066
	Bottom	0.094	1.085	-	1.179
	Right	0.062	0.076	-	0.138
	Left	0.018	0.089	0.103	0.210

Table 12-27
Simultaneous Transmission Scenario with 2.4 GHz WLAN MIMO and 5 GHz WLAN MIMO
(Hotspot at 1.0 cm) (1 of 2)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz WLAN MIMO at 19 dBm SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	GPRS 850	0.597	0.347	0.161	1.105
	GPRS 1900	0.814	0.347	0.161	1.322
	UMTS 850	0.556	0.347	0.161	1.064
	UMTS 1750	1.057	0.347	0.161	1.565
	UMTS 1900	1.165	0.347	0.161	See Table Below
	LTE Band 12	0.297	0.347	0.161	0.805
	LTE Band 13	0.476	0.347	0.161	0.984
	LTE Band 26 (Cell)	0.534	0.347	0.161	1.042
	LTE Band 66 (AWS)	1.115	0.347	0.161	See Table Below
	LTE Band 25 (PCS)	1.335	0.347	0.161	See Table Below
	LTE Band 41	0.911	0.347	0.161	1.419
	NR Band n5 (Cell)	0.170	0.347	0.161	0.678
	NR Band n66 (AWS)	1.085	0.347	0.161	**1.593**

Table 12-28
Simultaneous Transmission Scenario with 2.4 GHz WLAN MIMO and 5 GHz WLAN MIMO (Hotspot at 1.0 cm) (2 of 2)

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	2.4 GHz WLAN MIMO at 19 dBm SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body SAR	Back	0.435	0.347	0.161	0.943
	Front	0.412	0.076	0.028	0.516
	Top	-	0.039	0.161*	0.200
	Bottom	1.165	-	-	**1.165**
	Right	0.070	-	-	0.070
	Left	0.069	0.190	0.064	0.323
Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	2.4 GHz WLAN MIMO at 19 dBm SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body SAR	Back	0.627	0.347	0.161	**1.135**
	Front	0.527	0.076	0.028	0.631
	Top	-	0.039	0.161*	0.200
	Bottom	1.115	-	-	1.115
	Right	0.079	-	-	0.079
	Left	0.111	0.190	0.064	0.365
Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	2.4 GHz WLAN MIMO at 19 dBm SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body SAR	Back	0.407	0.347	0.161	0.915
	Front	0.321	0.076	0.028	0.425
	Top	-	0.039	0.161*	0.200
	Bottom	1.335	-	-	**1.335**
	Right	0.068	-	-	0.068
	Left	0.059	0.190	0.064	0.313

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz WLAN MIMO at 19 dBm SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.627	0.170	0.347	0.161	**1.305**
	Front	0.527	0.131	0.076	0.028	0.762
	Top	-	-	0.039	0.161*	0.200
	Bottom	1.115	0.162	-	-	1.277
	Right	0.079	0.043	-	-	0.122
	Left	0.111	0.023	0.190	0.064	0.388
Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz WLAN MIMO at 19 dBm SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.407	0.170	0.347	0.161	1.085
	Front	0.321	0.131	0.076	0.028	0.556
	Top	-	-	0.039	0.161*	0.200
	Bottom	1.335	0.162	-	-	**1.497**
	Right	0.068	0.043	-	-	0.111
	Left	0.059	0.023	0.190	0.064	0.336
Simult Tx	Configuration	LTE Band 12 SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz WLAN MIMO at 19 dBm SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.297	0.531	0.347	0.161	**1.336**
	Front	0.213	0.508	0.076	0.028	0.825
	Top	-	-	0.039	0.161*	0.200
	Bottom	0.182	1.085	-	-	1.267
	Right	0.280	0.076	-	-	0.356
	Left	0.091	0.089	0.190	0.064	0.434
Simult Tx	Configuration	LTE Band 5 (Cell) SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz WLAN MIMO at 19 dBm SAR (W/kg)	5 GHz WLAN MIMO at 16 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.191	0.531	0.347	0.161	**1.230**
	Front	0.100	0.508	0.076	0.028	0.712
	Top	-	-	0.039	0.161*	0.200
	Bottom	0.094	1.085	-	-	1.179
	Right	0.062	0.076	-	-	0.138
	Left	0.018	0.089	0.190	0.064	0.361

Table 12-29
Simultaneous Transmission Scenario with Bluetooth Single Antenna (Hotspot at 1.0 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	1+2	1+3
Hotspot SAR	GPRS 850	0.597	0.183	0.182	0.780	0.779
	GPRS 1900	0.814	0.183	0.182	0.997	0.996
	UMTS 850	0.556	0.183	0.182	0.739	0.738
	UMTS 1750	1.057	0.183	0.182	1.240	1.239
	UMTS 1900	1.165	0.183	0.182	1.348	1.347
	LTE Band 12	0.297	0.183	0.182	0.480	0.479
	LTE Band 13	0.476	0.183	0.182	0.659	0.658
	LTE Band 26 (Cell)	0.534	0.183	0.182	0.717	0.716
	LTE Band 66 (AWS)	1.115	0.183	0.182	1.298	1.297
	LTE Band 25 (PCS)	1.335	0.183	0.182	**1.518**	1.517
	LTE Band 41	0.911	0.183	0.182	1.094	1.093
	NR Band n5 (Cell)	0.170	0.183	0.182	0.353	0.352
	NR Band n66 (AWS)	1.085	0.183	0.182	1.268	1.267

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	4	1+2+3	1+2+4
Hotspot SAR	LTE Band 66 (AWS)	1.115	0.170	0.183	0.182	**1.468**	1.467
	LTE Band 25 (PCS)	1.335	0.170	0.183	0.182	See Table Below	See Table Below

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	4	1+2+3	1+2+4
Hotspot SAR	LTE Band 12	0.297	1.085	0.183	0.182	**1.565**	1.564
	LTE Band 5 (Cell)	0.191	1.085	0.183	0.182	1.459	1.458

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	4	1+2+3	1+2+4
Hotspot SAR	Back	0.407	0.170	0.183	0.062	0.760	0.639
	Front	0.321	0.131	0.005	0.039	0.457	0.491
	Top	-	-	0.016	-	0.016	-
	Bottom	1.335	0.162	-	-	**1.497**	**1.497**
	Right	0.068	0.043	-	-	0.111	0.111
	Left	0.059	0.023	0.006	0.182	0.088	0.264

Table 12-30
Simultaneous Transmission Scenario with Bluetooth Dual Mode (Hotspot at 1.0 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz Bluetooth Dual Mode SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	GPRS 850	0.597	0.161	0.758
	GPRS 1900	0.814	0.161	0.975
	UMTS 850	0.556	0.161	0.717
	UMTS 1750	1.057	0.161	1.218
	UMTS 1900	1.165	0.161	1.326
	LTE Band 12	0.297	0.161	0.458
	LTE Band 13	0.476	0.161	0.637
	LTE Band 26 (Cell)	0.534	0.161	0.695
	LTE Band 66 (AWS)	1.115	0.161	1.276
	LTE Band 25 (PCS)	1.335	0.161	**1.496**
	LTE Band 41	0.911	0.161	1.072
	NR Band n5 (Cell)	0.170	0.161	0.331
	NR Band n66 (AWS)	1.085	0.161	1.246

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Dual Mode SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	LTE Band 66 (AWS)	1.115	0.170	0.161	**1.446**
	LTE Band 25 (PCS)	1.335	0.170	0.161	See Table Below

Configuration	Mode	Anchor Band SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Dual Mode SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	LTE Band 12	0.297	1.085	0.161	**1.543**
	LTE Band 5 (Cell)	0.191	1.085	0.161	1.437

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Dual Mode SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.407	0.170	0.082	0.659
	Front	0.321	0.131	0.066	0.518
	Top	-	-	0.014	0.014
	Bottom	1.335	0.162	-	**1.497**
	Right	0.068	0.043	-	0.111
	Left	0.059	0.023	0.161	0.243

Table 12-31
Simultaneous Transmission Scenario with Bluetooth Single Antenna and 5 GHz WLAN MIMO (Hotspot at 1.0 cm) (1 of 3)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	4	1+2+4	1+3+4
Hotspot SAR	GPRS 850	0.597	0.183	0.182	0.583	1.363	1.362
	GPRS 1900	0.814	0.183	0.182	0.583	**1.580**	1.579
	UMTS 850	0.556	0.183	0.182	0.583	1.322	1.321
	UMTS 1750	1.057	0.183	0.182	0.583	See Table Below	See Table Below
	UMTS 1900	1.165	0.183	0.182	0.583	See Table Below	See Table Below
	LTE Band 12	0.297	0.183	0.182	0.583	1.063	1.062
	LTE Band 13	0.476	0.183	0.182	0.583	1.242	1.241
	LTE Band 26 (Cell)	0.534	0.183	0.182	0.583	1.300	1.299
	LTE Band 66 (AWS)	1.115	0.183	0.182	0.583	See Table Below	See Table Below
	LTE Band 25 (PCS)	1.335	0.183	0.182	0.583	See Table Below	See Table Below
	LTE Band 41	0.911	0.183	0.182	0.583	See Table Below	See Table Below
	NR Band n5 (Cell)	0.170	0.183	0.182	0.583	0.936	0.935
	NR Band n66 (AWS)	1.085	0.183	0.182	0.583	See Table Below	See Table Below

Table 12-32
Simultaneous Transmission Scenario with Bluetooth Single Antenna and 5 GHz WLAN MIMO (Hotspot at 1.0 cm) (2 of 3)

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.502	0.183	0.583	**1.268**
	Front	0.422	0.005	0.032	0.459
	Top	-	0.016	0.066	0.082
	Bottom	1.057	-	-	1.057
	Right	0.085	-	-	0.085
	Left	0.098	0.006	0.103	0.207

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.502	0.062	0.583	**1.147**
	Front	0.422	0.039	0.032	0.493
	Top	-	-	0.066	0.066
	Bottom	1.057	-	-	1.057
	Right	0.085	-	-	0.085
	Left	0.098	0.182	0.103	0.383

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.435	0.183	0.583	**1.201**
	Front	0.412	0.005	0.032	0.449
	Top	-	0.016	0.066	0.082
	Bottom	1.165	-	-	1.165
	Right	0.070	-	-	0.070
	Left	0.069	0.006	0.103	0.178

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.435	0.062	0.583	1.080
	Front	0.412	0.039	0.032	0.483
	Top	-	-	0.066	0.066
	Bottom	1.165	-	-	**1.165**
	Right	0.070	-	-	0.070
	Left	0.069	0.182	0.103	0.354

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.627	0.183	0.583	**1.393**
	Front	0.527	0.005	0.032	0.564
	Top	-	0.016	0.066	0.082
	Bottom	1.115	-	-	1.115
	Right	0.079	-	-	0.079
	Left	0.111	0.006	0.103	0.220

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.627	0.062	0.583	**1.272**
	Front	0.527	0.039	0.032	0.598
	Top	-	-	0.066	0.066
	Bottom	1.115	-	-	1.115
	Right	0.079	-	-	0.079
	Left	0.111	0.182	0.103	0.396

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.407	0.183	0.583	1.173
	Front	0.321	0.005	0.032	0.358
	Top	-	0.016	0.066	0.082
	Bottom	1.335	-	-	**1.335**
	Right	0.068	-	-	0.068
	Left	0.059	0.006	0.103	0.168

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.407	0.062	0.583	1.052
	Front	0.321	0.039	0.032	0.392
	Top	-	-	0.066	0.066
	Bottom	1.335	-	-	**1.335**
	Right	0.068	-	-	0.068
	Left	0.059	0.182	0.103	0.344

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.473	0.183	0.583	**1.239**
	Front	0.320	0.005	0.032	0.357
	Top	-	0.016	0.066	0.082
	Bottom	0.911	-	-	0.911
	Right	-	-	-	-
	Left	0.137	0.006	0.103	0.246

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.473	0.062	0.583	**1.118**
	Front	0.320	0.039	0.032	0.391
	Top	-	-	0.066	0.066
	Bottom	0.911	-	-	0.911
	Right	-	-	-	-
	Left	0.137	0.182	0.103	0.422

Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.531	0.183	0.583	**1.297**
	Front	0.508	0.005	0.032	0.545
	Top	-	0.016	0.066	0.082
	Bottom	1.085	-	-	1.085
	Right	0.076	-	-	0.076
	Left	0.089	0.006	0.103	0.198

Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.531	0.062	0.583	**1.176**
	Front	0.508	0.039	0.032	0.579
	Top	-	-	0.066	0.066
	Bottom	1.085	-	-	1.085
	Right	0.076	-	-	0.076
	Left	0.089	0.182	0.103	0.374

Table 12-33
Simultaneous Transmission Scenario with Bluetooth Single Antenna and 5 GHz WLAN MIMO (Hotspot at 1.0 cm) (3 of 3)

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	4	5	1+2+3+5	1+2+4+5
Hotspot SAR	Back	0.627	0.170	0.183	0.062	0.583	**1.563**	1.442
	Front	0.527	0.131	0.005	0.039	0.032	0.695	0.729
	Top	-	-	0.016	-	0.066	0.082	0.066
	Bottom	1.115	0.162	-	-	-	1.277	1.277
	Right	0.079	0.043	-	-	-	0.122	0.122
	Left	0.111	0.023	0.006	0.182	0.103	0.243	0.419
Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	4	5	1+2+3+5	1+2+4+5
Hotspot SAR	Back	0.407	0.170	0.183	0.062	0.583	1.343	1.222
	Front	0.321	0.131	0.005	0.039	0.032	0.489	0.523
	Top	-	-	0.016	-	0.066	0.082	0.066
	Bottom	1.335	0.162	-	-	-	**1.497**	**1.497**
	Right	0.068	0.043	-	-	-	0.111	0.111
	Left	0.059	0.023	0.006	0.182	0.103	0.191	0.367
Simult Tx	Configuration	LTE Band 12 SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	4	5	1+2+3+5	1+2+4+5
Hotspot SAR	Back	0.297	0.531	0.183	0.062	0.583	**1.594**	1.473
	Front	0.213	0.508	0.005	0.039	0.032	0.758	0.792
	Top	-	-	0.016	-	0.066	0.082	0.066
	Bottom	0.182	1.085	-	-	-	1.267	1.267
	Right	0.280	0.076	-	-	-	0.356	0.356
	Left	0.091	0.089	0.006	0.182	0.103	0.289	0.465
Simult Tx	Configuration	LTE Band 5 (Cell) SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)	
		1	2	3	4	5	1+2+3+5	1+2+4+5
Hotspot SAR	Back	0.191	0.531	0.183	0.062	0.583	**1.488**	1.367
	Front	0.100	0.508	0.005	0.039	0.032	0.645	0.679
	Top	-	-	0.016	-	0.066	0.082	0.066
	Bottom	0.094	1.085	-	-	-	1.179	1.179
	Right	0.062	0.076	-	-	-	0.138	0.138
	Left	0.018	0.089	0.006	0.182	0.103	0.216	0.392

Table 12-34
Simultaneous Transmission Scenario with Bluetooth Dual Mode and 5 GHz WLAN MIMO (Hotspot at 1.0 cm) (1 of 2)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz Bluetooth Dual Mode SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	GPRS 850	0.597	0.161	0.583	1.341
	GPRS 1900	0.814	0.161	0.583	**1.558**
	UMTS 850	0.556	0.161	0.583	1.300
	UMTS 1750	1.057	0.161	0.583	See Table Below
	UMTS 1900	1.165	0.161	0.583	See Table Below
	LTE Band 12	0.297	0.161	0.583	1.041
	LTE Band 13	0.476	0.161	0.583	1.220
	LTE Band 26 (Cell)	0.534	0.161	0.583	1.278
	LTE Band 66 (AWS)	1.115	0.161	0.583	See Table Below
	LTE Band 25 (PCS)	1.335	0.161	0.583	See Table Below
	LTE Band 41	0.911	0.161	0.583	See Table Below
	NR Band n5 (Cell)	0.170	0.161	0.583	0.914
	NR Band n66 (AWS)	1.085	0.161	0.583	See Table Below

Table 12-35
Simultaneous Transmission Scenario with Bluetooth Dual Mode and 5 GHz WLAN MIMO (Hotspot at 1.0 cm) (2 of 2)

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	2.4 GHz Bluetooth Dual Mode SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.502	0.082	0.583	**1.167**
	Front	0.422	0.066	0.032	0.520
	Top	-	0.014	0.066	0.080
	Bottom	1.057	-	-	1.057
	Right	0.085	-	-	0.085
	Left	0.098	0.161	0.103	0.362

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	2.4 GHz Bluetooth Dual Mode SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.435	0.082	0.583	1.100
	Front	0.412	0.066	0.032	0.510
	Top	-	0.014	0.066	0.080
	Bottom	1.165	-	-	**1.165**
	Right	0.070	-	-	0.070
	Left	0.069	0.161	0.103	0.333

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Dual Mode SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.627	0.082	0.583	**1.292**
	Front	0.527	0.066	0.032	0.625
	Top	-	0.014	0.066	0.080
	Bottom	1.115	-	-	1.115
	Right	0.079	-	-	0.079
	Left	0.111	0.161	0.103	0.375

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	2.4 GHz Bluetooth Dual Mode SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.407	0.082	0.583	1.072
	Front	0.321	0.066	0.032	0.419
	Top	-	0.014	0.066	0.080
	Bottom	1.335	-	-	**1.335**
	Right	0.068	-	-	0.068
	Left	0.059	0.161	0.103	0.323

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	2.4 GHz Bluetooth Dual Mode SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.473	0.082	0.583	**1.138**
	Front	0.320	0.066	0.032	0.418
	Top	-	0.014	0.066	0.080
	Bottom	0.911	-	-	0.911
	Right	0.137	0.161	0.103	0.401

Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Dual Mode SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	Back	0.531	0.082	0.583	**1.196**
	Front	0.508	0.066	0.032	0.606
	Top	-	0.014	0.066	0.080
	Bottom	1.085	-	-	1.085
	Right	0.076	-	-	0.076
	Left	0.089	0.161	0.103	0.353

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Dual Mode SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.627	0.170	0.082	0.583	**1.462**
	Front	0.527	0.131	0.066	0.032	0.756
	Top	-	-	0.014	0.066	0.080
	Bottom	1.115	0.162	-	-	1.277
	Right	0.079	0.043	-	-	0.122
	Left	0.111	0.023	0.161	0.103	0.398

Simult Tx	Configuration	LTE Band 25 (PCS) SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Dual Mode SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.407	0.170	0.082	0.583	1.242
	Front	0.321	0.131	0.066	0.032	0.550
	Top	-	-	0.014	0.066	0.080
	Bottom	1.335	0.162	-	-	**1.497**
	Right	0.068	0.043	-	-	0.111
	Left	0.059	0.023	0.161	0.103	0.346

Simult Tx	Configuration	LTE Band 12 SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Dual Mode SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.297	0.531	0.082	0.583	**1.493**
	Front	0.213	0.508	0.066	0.032	0.819
	Top	-	-	0.014	0.066	0.080
	Bottom	0.182	1.085	-	-	1.267
	Right	0.280	0.076	-	-	0.356
	Left	0.091	0.089	0.161	0.103	0.444

Simult Tx	Configuration	LTE Band 5 (Cell) SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Dual Mode SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	Back	0.191	0.531	0.082	0.583	**1.387**
	Front	0.100	0.508	0.066	0.032	0.706
	Top	-	-	0.014	0.066	0.080
	Bottom	0.094	1.085	-	-	1.179
	Right	0.062	0.076	-	-	0.138
	Left	0.018	0.089	0.161	0.103	0.371

12.6 Phablet Simultaneous Transmission Analysis

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

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

Table 12-36
Simultaneous Transmission Scenario with 5 GHz WLAN MIMO (Phablet)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	GPRS 1900	1.580	1.069	2.649
	UMTS 1750	2.083	1.069	3.152
	UMTS 1900	1.879	1.069	2.948
	LTE Band 66 (AWS)	1.984	1.069	3.053
	LTE Band 25 (PCS)	2.651	1.069	3.720
	LTE Band 41	2.472	1.069	3.541
	NR Band n66 (AWS)	2.790	1.069	**3.859**

Table 12-37
Simultaneous Transmission Scenario with 6 GHz WLAN MIMO (Phablet)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	6 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	GPRS 1900	1.580	0.140	1.720
	UMTS 1750	2.083	0.140	2.223
	UMTS 1900	1.879	0.140	2.019
	LTE Band 66 (AWS)	1.984	0.140	2.124
	LTE Band 25 (PCS)	2.651	0.140	2.791
	LTE Band 41	2.472	0.140	2.612
	NR Band n66 (AWS)	2.790	0.140	**2.930**

12.7 Simultaneous Transmission Conclusion

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

13 SAR MEASUREMENT VARIABILITY

13.1 Measurement Variability

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

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

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

Table 13-1
Body SAR Measurement Variability Results

BODY VARIABILITY RESULTS													
Band	FREQUENCY		Mode	Service	Side	Spacing	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	Ratio	3rd Repeated SAR (1g)	Ratio
	MHz	Ch.					(W/kg)	(W/kg)		(W/kg)		(W/kg)	
1750	1770.00	354000	NR Band n66 (AWS), 20 MHz Bandwidth	DFT-S-OFDM QPSK, 1 RB, 53 RB Offset	bottom	10 mm	1.050	1.010	1.04	N/A	N/A	N/A	N/A
1900	1880.00	9400	UMTS 1900	RMC	bottom	10 mm	1.060	0.926	1.14	N/A	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 13-2
Phablet SAR Measurement Variability Results

PHABLET VARIABILITY RESULTS													
Band	FREQUENCY		Mode	Service	Side	Spacing	Measured SAR (10g)	1st Repeated SAR (10g)	Ratio	2nd Repeated SAR (10g)	Ratio	3rd Repeated SAR (10g)	Ratio
	MHz	Ch.					(W/kg)	(W/kg)		(W/kg)		(W/kg)	
1750	1745.00	349000	NR Band n66 (AWS), 20 MHz Bandwidth	DFT-S-OFDM, 50 RB, 56 RB Offset	bottom	0 mm	2.700	2.680	1.01	N/A	N/A	N/A	N/A
1900	1882.50	26365	LTE Band 25 (PCS), 20 MHz Bandwidth	QPSK, 50 RB, 25 RB Offset	bottom	0 mm	2.030	1.970	1.03	N/A	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Phablet 4.0 W/kg (mW/g) averaged over 10 grams						

13.2 Measurement Uncertainty

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

14 ADDITIONAL TESTING PER FCC GUIDANCE

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

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

Table 14-1
LTE Band 41 Head Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	25	27
Measured Output Power (dBm)	24.04	26.09
Measured SAR (W/kg)	0.060	0.063
Measured Power (mW)	253.51	406.44
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	160.47	175.99
% deviation from expected linearity		-4.23%

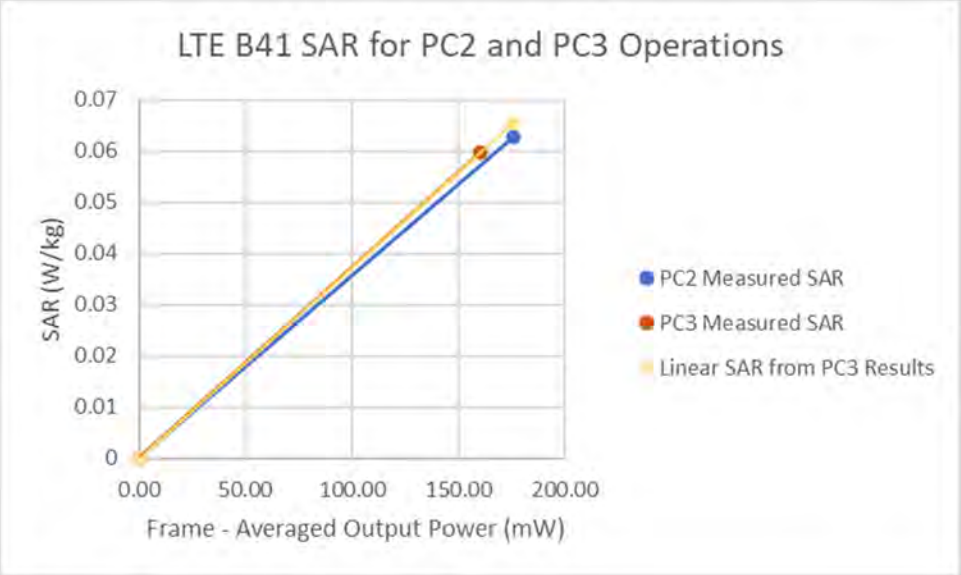

Figure 14-1
LTE Band 41 Head Linearity

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

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	25	27
Measured Output Power (dBm)	24.04	26.09
Measured SAR (W/kg)	0.336	0.344
Measured Power (mW)	253.51	406.44
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	160.47	175.99
% deviation from expected linearity		-6.65%

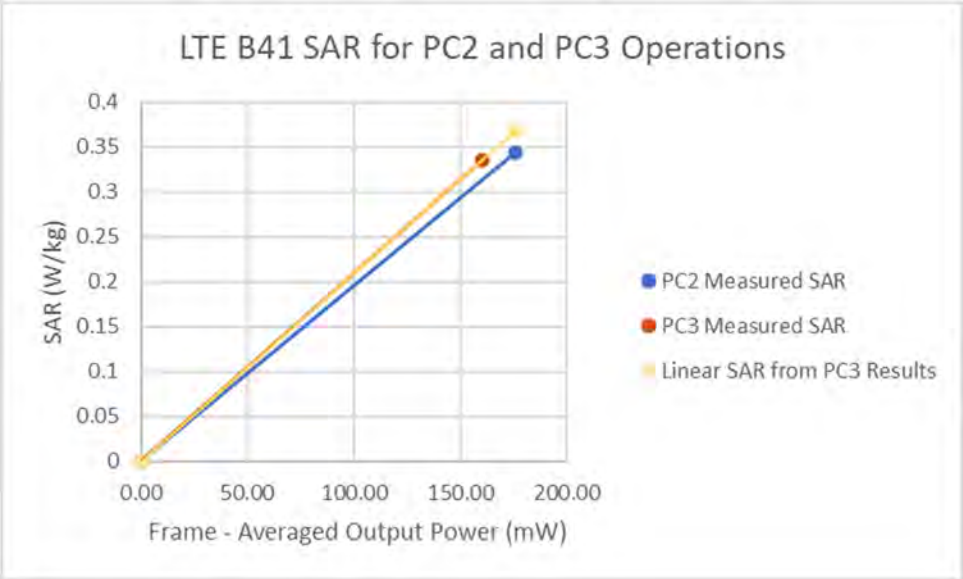

Figure 14-2
LTE Band 41 Body-Worn Linearity

Table 14-3
LTE Band 41 Hotspot Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	24	24
Measured Output Power (dBm)	22.21	22.40
Measured SAR (W/kg)	0.603	0.472
Measured Power (mW)	166.34	173.78
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	105.29	75.25
% deviation from expected linearity		9.53%

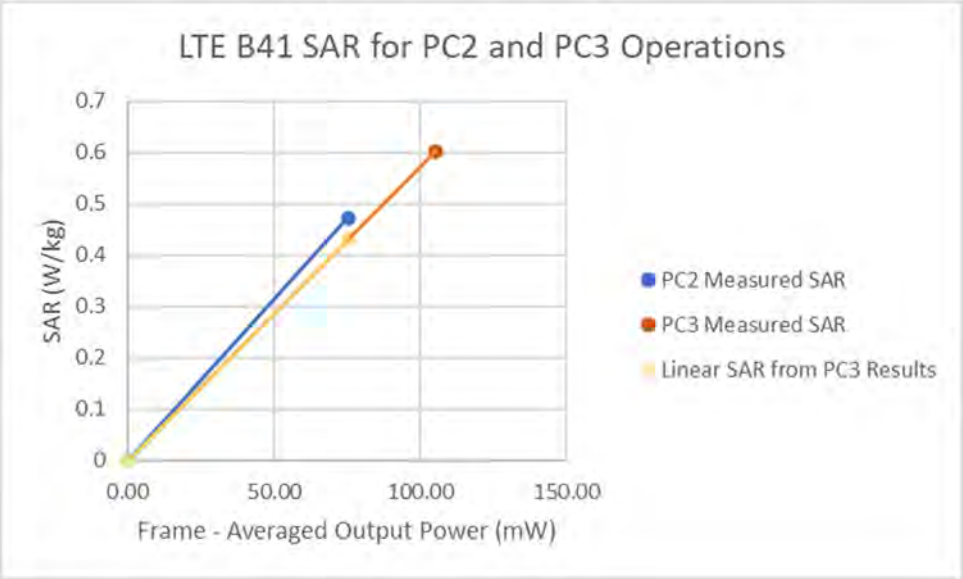

Figure 14-3
LTE Band 41 Hotspot Linearity

Table 14-4
LTE Band 41 Phablet Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	24	24
Measured Output Power (dBm)	22.11	22.48
Measured SAR (W/kg)	1.6	1.12
Measured Power (mW)	162.55	177.01
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	102.90	76.65
% deviation from expected linearity		-6.02%

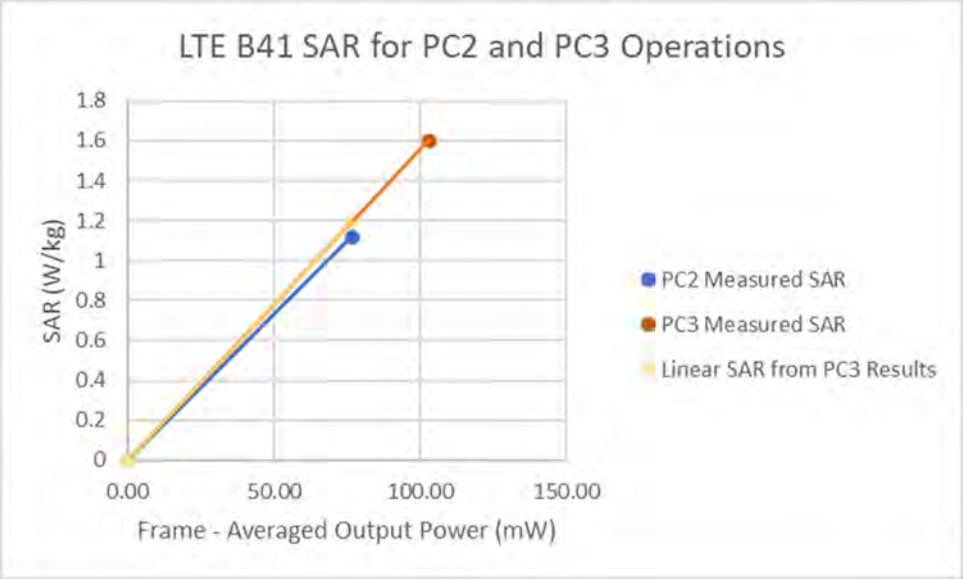

Figure 14-4
LTE Band 41 Phablet Linearity

15 EQUIPMENT LIST

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	85033E	3.5mm Standard Calibration Kit	6/6/2020	Annual	6/6/2021	MY53402352
Agilent	8594A	(9kHz-2.9GHz) Spectrum Analyzer	N/A	N/A	N/A	3051A00187
Agilent	8753ES	Network Analyzer	3/5/2020	Annual	3/5/2021	MY40001472
Agilent	8753ES	S-Parameter Network Analyzer	12/31/2019	Annual	12/31/2020	US39170122
Agilent	E4438C	ESG Vector Signal Generator	12/13/2019	Annual	12/13/2020	MY42082659
Agilent	E4438C	ESG Vector Signal Generator	3/8/2019	Biennial	3/8/2021	MY42082385
Agilent	E5515C	8960 Series 10 Wireless Communications Test Set	2/10/2020	Annual	2/10/2021	GB42230325
Agilent	E5515C	Wireless Communications Test Set	2/26/2020	Annual	2/26/2021	GB44400860
Agilent	N4010A	Wireless Connectivity Test Set	N/A	N/A	N/A	GB46170464
Agilent	N5182A	MXG Vector Signal Generator	2/19/2020	Annual	2/19/2021	MY47420651
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433972
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433974
Anritsu	MA24106A	USB Power Sensor	9/15/2020	Annual	9/15/2021	1244515
Anritsu	MA24106A	USB Power Sensor	2/27/2020	Annual	2/27/2021	1244524
Anritsu	MA2411B	Pulse Power Sensor	12/4/2019	Annual	12/4/2020	1126066
Anritsu	MA2411B	Pulse Power Sensor	1/21/2020	Annual	1/21/2021	1207470
Anritsu	ML2495A	Power Meter	11/15/2019	Annual	11/15/2020	1039008
Anritsu	ML2495A	Power Meter	12/17/2019	Annual	12/17/2020	941001
Anritsu	MT8821C	Radio Communication Analyzer	3/10/2020	Annual	3/10/2021	6200901190
Anritsu	MT8821C	Radio Communication Analyzer	6/15/2020	Annual	6/15/2021	6201381794
Anritsu	MT8821C	Radio Communication Analyzer	2/22/2020	Annual	2/22/2021	6261895213
Control Company	4040	Therm./ Clock/ Humidity Monitor	2/17/2020	Biennial	2/17/2022	200113269
Control Company	4040	Therm./ Clock/ Humidity Monitor	2/17/2020	Biennial	2/17/2022	200113274
Control Company	4040	Therm./ Clock/ Humidity Monitor	3/6/2020	Biennial	3/6/2022	200170313
Control Company	4352	Long Stem Thermometer	6/26/2019	Biennial	6/26/2021	192282744
Control Company	4352	Long Stem Thermometer	6/26/2019	Biennial	6/26/2021	192282739
Control Company	4352	Long Stem Thermometer	6/26/2019	Biennial	6/26/2021	192282745
Control Company	4352	Long Stem Thermometer	6/26/2019	Biennial	6/26/2021	192282753
Keysight	772D	Dual Directional Coupler	CBT	N/A	CBT	MY52180215
Keysight	E4438C	Vector Signal Generator	6/22/2020	Annual	6/22/2021	MY45092078
Keysight Technologies	AT/N6705B	DC Power Supply	N/A	N/A	N/A	MY53001315
Keysight Technologies	N6705B	DC Power Analyzer	4/27/2019	Biennial	4/27/2021	MY53004059
Keysight Technologies	U3401A	Digital Multimeter	5/14/2020	Biennial	5/14/2022	MY57201470
Insize	1108-150	Digital Caliper	1/17/2020	Biennial	1/17/2022	409193536
MCL	BW-N6W5+	6dB Attenuator	CBT	N/A	CBT	1139
MiniCircuits	SLP-2400+	Low Pass Filter	CBT	N/A	CBT	R8979500903
MiniCircuits	VLF-6000+	Low Pass Filter	CBT	N/A	CBT	N/A
MiniCircuits	VLF-6000+	Low Pass Filter	CBT	N/A	CBT	N/A
Mini-Circuits	BW-N20W5	Power Attenuator	CBT	N/A	CBT	1226
Mini-Circuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-1200+	Low Pass Filter DC to 1000 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT	N/A	CBT	N/A
Mitutoyo	CD-6"CSX	Digital Caliper	N/A	N/A	N/A	11670711
Narda	4014C-6	4 - 8 GHz SMA 6 dB Directional Coupler	CBT	N/A	CBT	N/A
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Narda	BW-S3W2	Attenuator (3dB)	CBT	N/A	CBT	120
Pasternack	NC-100	Torque Wrench	8/4/2020	Biennial	8/4/2022	N/A
Pasternack	NC-100	Torque Wrench	8/4/2020	Biennial	8/4/2022	1445
Pasternack	PE2208-6	Bidirectional Coupler	CBT	N/A	CBT	N/A
Pasternack	PE2209-10	Bidirectional Coupler	CBT	N/A	CBT	N/A
Rohde & Schwarz	CMW500	Radio Communication Tester	11/4/2020	Annual	11/4/2021	100976
Rohde & Schwarz	CMW500	Radio Communication Tester	11/5/2020	Annual	11/5/2021	112347
Rohde & Schwarz	CMW500	Radio Communication Tester	3/27/2020	Annual	3/27/2021	128633
Rohde & Schwarz	CMW500	Radio Communication Tester	5/21/2020	Annual	5/21/2021	128635
Rohde & Schwarz	ZNLE6	Vector Network Analyzer	9/29/2020	Annual	9/29/2021	101307
SPEAG	EX3DV4	SAR Probe	1/21/2020	Annual	1/21/2021	3589
SPEAG	EX3DV4	SAR Probe	6/23/2020	Annual	6/23/2021	7406
SPEAG	EX3DV4	SAR Probe	1/21/2020	Annual	1/21/2021	7488
SPEAG	EX3DV4	SAR Probe	4/21/2020	Annual	4/21/2021	7357
SPEAG	EX3DV4	SAR Probe	8/19/2020	Annual	8/19/2021	7547
SPEAG	EX3DV4	SAR Probe	12/11/2019	Annual	12/11/2020	7570
SPEAG	EX3DV4	SAR Probe	7/31/2020	Annual	7/31/2021	7308
SPEAG	EX3DV4	SAR Probe	6/23/2020	Annual	6/23/2021	7409
SPEAG	EX3DV4	SAR Probe	12/11/2019	Annual	12/11/2020	7571
SPEAG	EX3DV4	SAR Probe	7/20/2020	Annual	7/20/2021	7410
SPEAG	D750V3	750 MHz SAR Dipole	10/19/2018	Triennial	10/19/2021	1161
SPEAG	D835V2	835 MHz SAR Dipole	10/19/2018	Triennial	10/19/2021	4d133
SPEAG	D835V2	835 MHz SAR Dipole	3/13/2019	Biennial	3/13/2021	4d047
SPEAG	D1765V2	1765 MHz SAR Dipole	5/23/2018	Triennial	5/23/2021	1008
SPEAG	D1750V2	1750 MHz SAR Dipole	10/22/2018	Triennial	10/22/2021	1150
SPEAG	D1900V2	1900 MHz SAR Dipole	2/21/2019	Biennial	2/21/2021	5d148
SPEAG	D1900V2	1900 MHz SAR Dipole	10/23/2018	Triennial	10/23/2021	5d149
SPEAG	D1900V2	1900 MHz SAR Dipole	10/23/2018	Triennial	10/23/2021	5d080
SPEAG	D2450V2	2450 MHz SAR Dipole	8/16/2018	Triennial	8/16/2021	981
SPEAG	D2450V2	2450 MHz SAR Dipole	9/9/2020	Annual	9/9/2021	797
SPEAG	D2600V2	2600 MHz SAR Dipole	4/11/2018	Triennial	4/11/2021	1004
SPEAG	D2600V2	2600 MHz SAR Dipole	6/14/2019	Biennial	6/14/2021	1064
SPEAG	D5GHzV2	5 GHz SAR Dipole	8/10/2018	Triennial	8/10/2021	1237
SPEAG	D5GHzV2	5 GHz SAR Dipole	1/16/2018	Triennial	1/16/2021	1057
SPEAG	DAE4	Dasy Data Acquisition Electronics	8/12/2020	Annual	8/12/2021	1323
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/13/2020	Annual	1/13/2021	1530
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/13/2020	Annual	1/13/2021	1558
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/15/2020	Annual	4/15/2021	1407
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/12/2020	Annual	3/12/2021	1368
SPEAG	DAE4	Dasy Data Acquisition Electronics	6/18/2020	Annual	6/18/2021	1334
SPEAG	DAE4	Dasy Data Acquisition Electronics	8/11/2020	Annual	8/11/2021	1450
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/14/2020	Annual	5/14/2021	1583
SPEAG	DAE4	Dasy Data Acquisition Electronics	12/5/2019	Annual	12/5/2020	1533
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/15/2020	Annual	7/15/2021	1322
SPEAG	DAK-3.5	Dielectric Assessment Kit	5/12/2020	Annual	5/12/2021	1070
SPEAG	DAK-3.5	Dielectric Assessment Kit	10/14/2020	Annual	10/14/2021	1091

Notes:

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 in its respective calibration period.

16 MEASUREMENT UNCERTAINTIES

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

17 CONCLUSION

17.1 Measurement Conclusion

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

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

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APPENDIX A: SAR TEST DATA

PCTEST

DUT: A3LSMG998B; Type: Portable Handset; Serial: 0194M

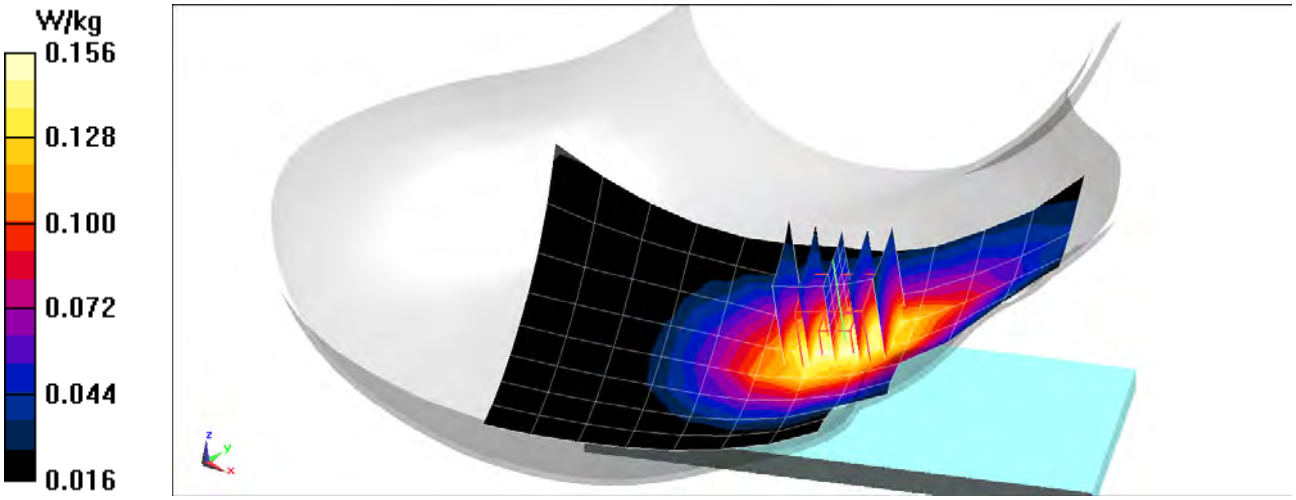
Communication System: UID 0, GSM; Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: 835 Head; Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.894 S/m; ε_r = 41.171; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 11/18/2020; Ambient Temp: 22.7°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7488; ConvF(10.21, 10.21, 10.21) @ 836.6 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/13/2020
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1646
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

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

Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.60 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 0.168 W/kg
SAR(1 g) = 0.133 W/kg



PCTEST

DUT: A3LSMG998B; Type: Portable Handset; Serial: 0195M

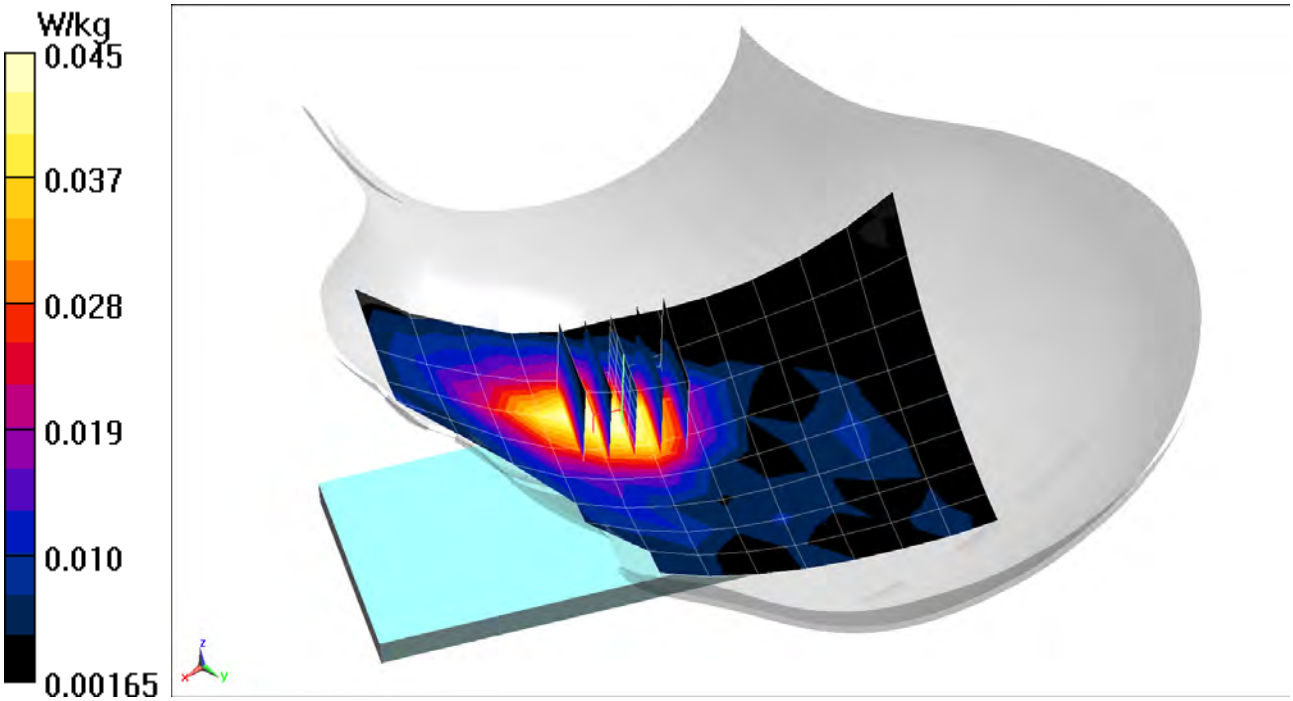
Communication System: UID 0, GSM; Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: 1900 Head; Medium parameters used:
f = 1880 MHz; σ = 1.377 S/m; ε_r = 40.352; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 10/21/2020; Ambient Temp: 24.6°C; Tissue Temp: 24.5°C

Probe: EX3DV4 - SN7406; ConvF(7.96, 7.96, 7.96) @ 1880 MHz; Calibrated: 6/23/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1583; Calibrated: 5/14/2020
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1966
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

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

Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.356 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.0540 W/kg
SAR(1 g) = 0.035 W/kg



PCTEST

DUT: A3LSMG998B; Type: Portable Handset; Serial: 1645M

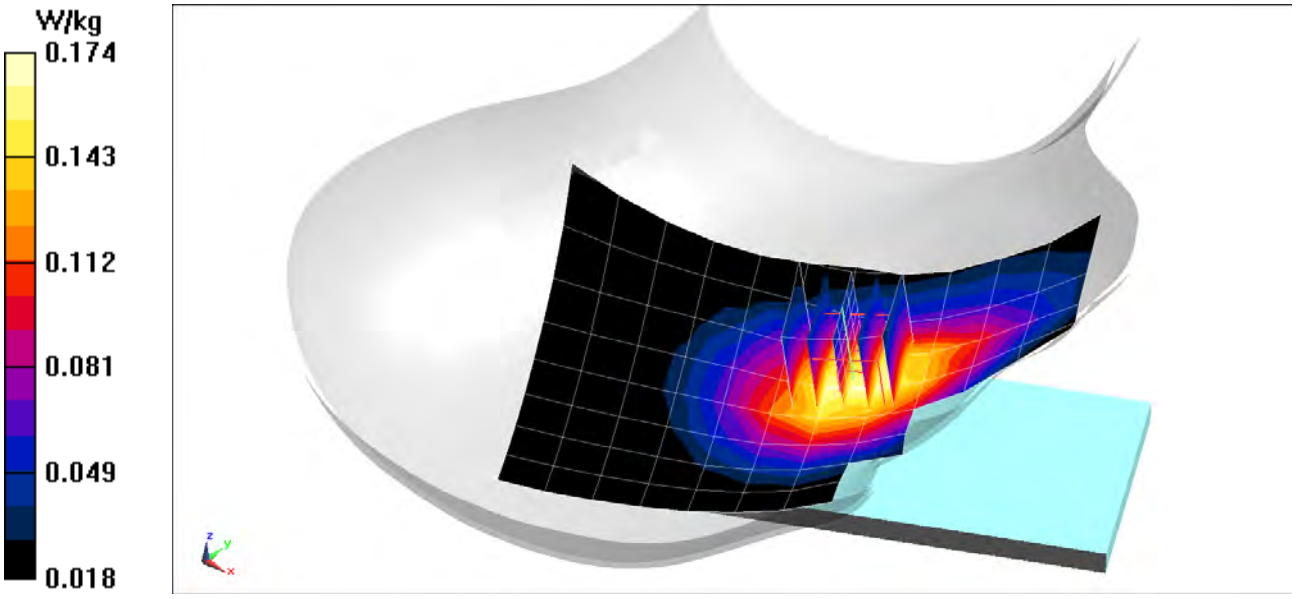
Communication System: UID 0, UMTS; Frequency: 836.6 MHz; Duty Cycle: 1:1
Medium: 835 Head; Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.894 S/m; ε_r = 41.171; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 11/18/2020; Ambient Temp: 22.7°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7488; ConvF(10.21, 10.21, 10.21) @ 836.6 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/13/2020
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1646
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

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

Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.19 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.188 W/kg
SAR(1 g) = 0.146 W/kg



PCTEST

DUT: A3LSMG998B; Type: Portable Handset; Serial: 0106M

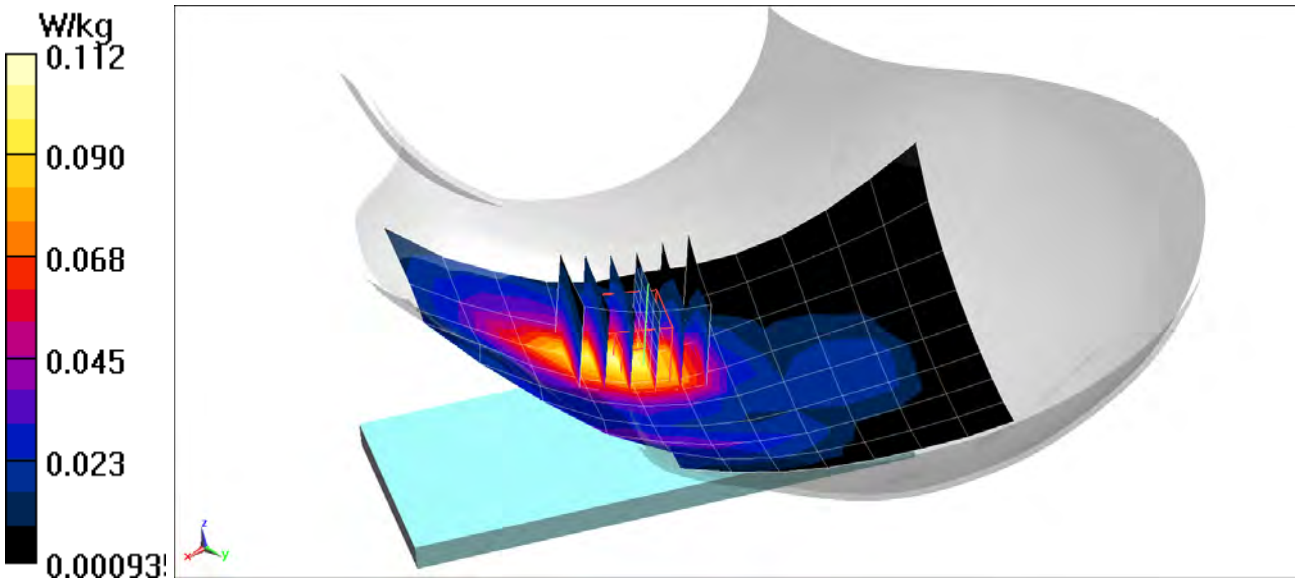
Communication System: UID 0, UMTS; Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium: 1750 Head; Medium parameters used (interpolated):
f = 1732.4 MHz; σ = 1.357 S/m; ε_r = 38.188; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 11/10/2020; Ambient Temp: 23.0°C; Tissue Temp: 22.2°C

Probe: EX3DV4 - SN3589; ConvF(7.55, 7.55, 7.55) @ 1732.4 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 1/13/2020
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.401 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.126 W/kg
SAR(1 g) = 0.086 W/kg



PCTEST

DUT: A3LSMG998B; Type: Portable Handset; Serial: 0195M

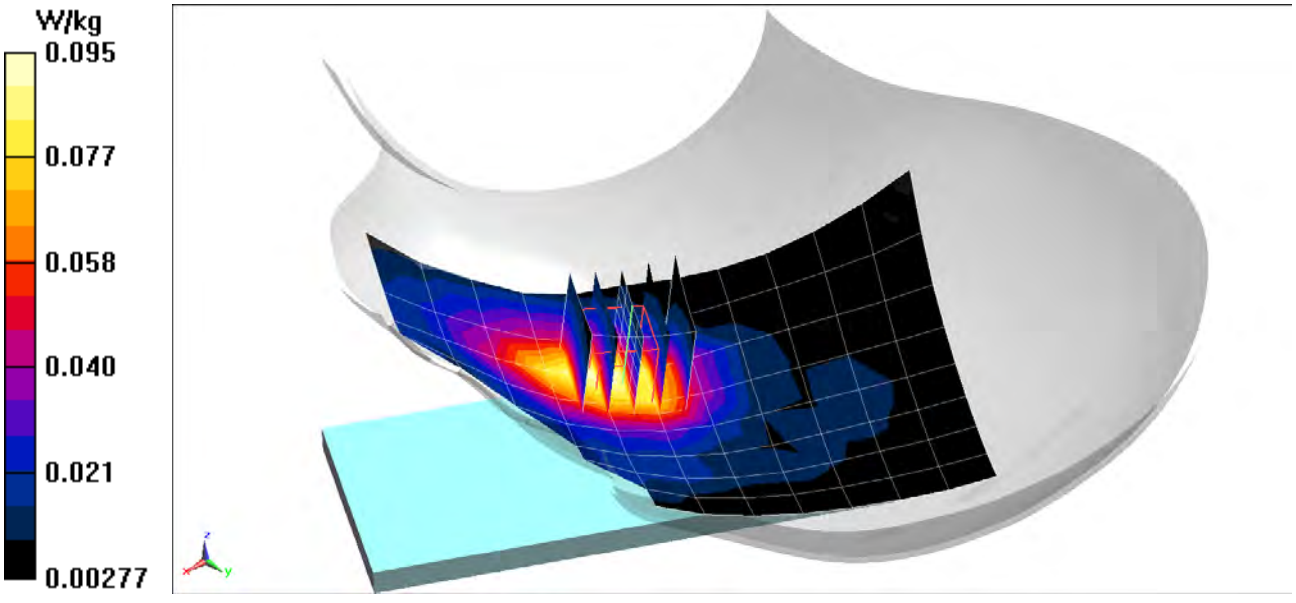
Communication System: UID 0, UMTS; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: 1900 Head; Medium parameters used:
f = 1880 MHz; σ = 1.377 S/m; ε_r = 40.352; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 10/21/2020; Ambient Temp: 24.6°C; Tissue Temp: 24.5°C

Probe: EX3DV4 - SN7406; ConvF(7.96, 7.96, 7.96) @ 1880 MHz; Calibrated: 6/23/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1583; Calibrated: 5/14/2020
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1966
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

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

Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.584 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.109 W/kg
SAR(1 g) = 0.074 W/kg



PCTEST

DUT: A3LSMG998B; Type: Portable Handset; Serial: 0106M

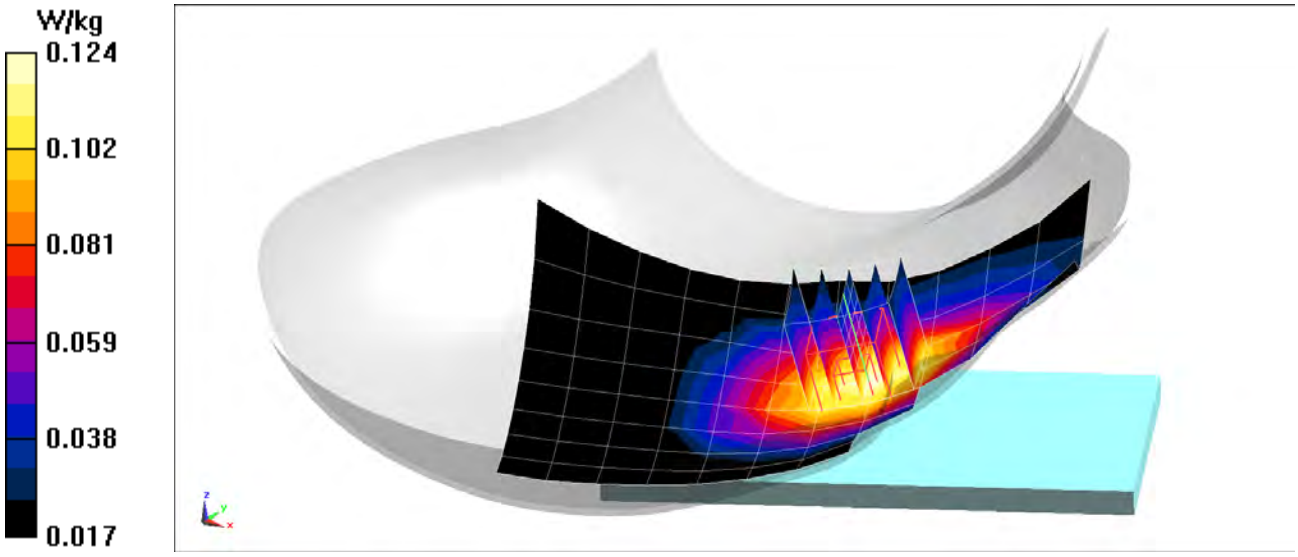
Communication System: UID 0, LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: 750 Head; Medium parameters used (interpolated):
f = 707.5 MHz; σ = 0.908 S/m; ε_r = 42.527; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 10/27/2020; Ambient Temp: 24.1°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7406; ConvF(10.04, 10.04, 10.04) @ 707.5 MHz; Calibrated: 6/23/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1583; Calibrated: 5/14/2020
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

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

Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.45 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.133 W/kg
SAR(1 g) = 0.106 W/kg



PCTEST

DUT: A3LSMG998B; Type: Portable Handset; Serial: 0106M

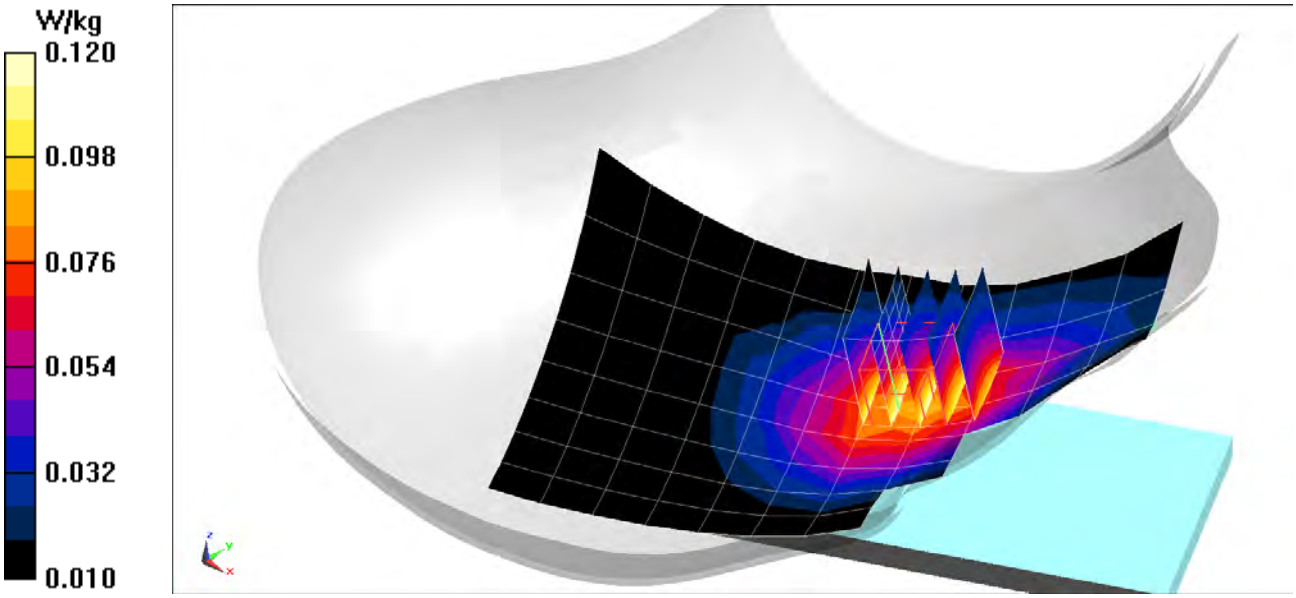
Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1
Medium: 750 Head; Medium parameters used (interpolated):
f = 782 MHz; σ = 0.935 S/m; ε_r = 42.27; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 10/27/2020; Ambient Temp: 24.1°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7406; ConvF(10.04, 10.04, 10.04) @ 782 MHz; Calibrated: 6/23/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1583; Calibrated: 5/14/2020
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1630
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

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

Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.527 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 0.132 W/kg
SAR(1 g) = 0.102 W/kg



DUT: A3LSMG998B; Type: Portable Handset; Serial: 0106M

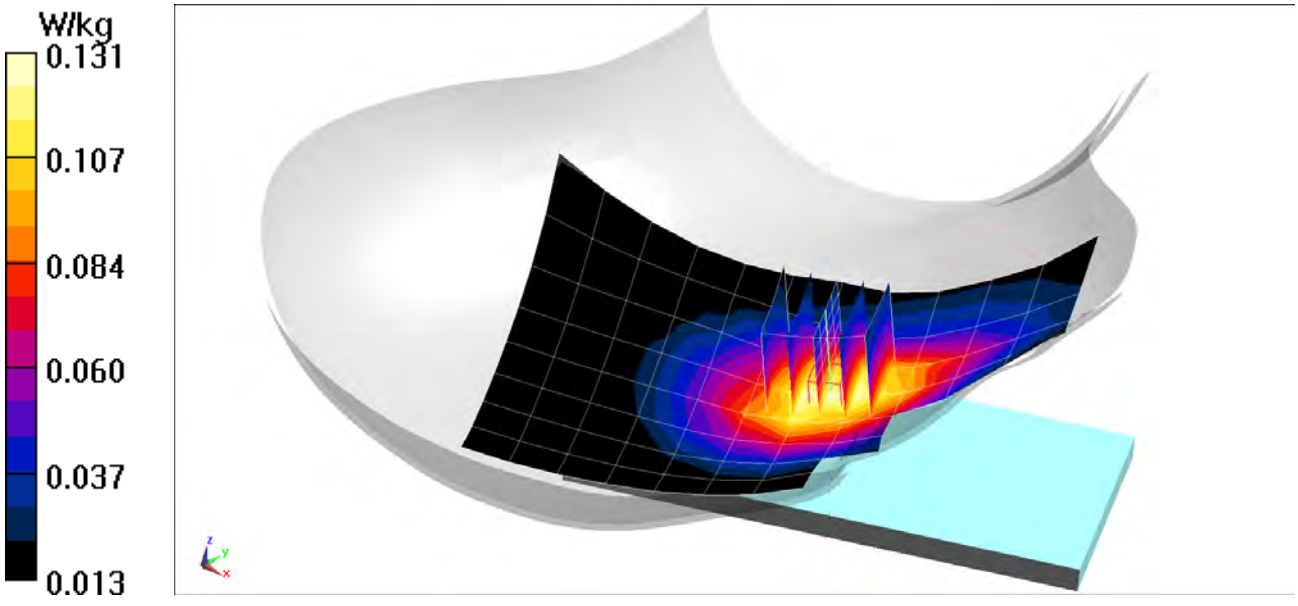
Communication System: UID 0, LTE Band 26; Frequency: 831.5 MHz; Duty Cycle: 1:1
Medium: 835 Head; Medium parameters used (interpolated):
f = 831.5 MHz; σ = 0.89 S/m; ε_r = 41.244; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 11/18/2020; Ambient Temp: 22.7°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7488; ConvF(10.21, 10.21, 10.21) @ 831.5 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/13/2020
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1646
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

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

Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.75 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.141 W/kg
SAR(1 g) = 0.112 W/kg



DUT: A3LSMG998B; Type: Portable Handset; Serial: 0115M

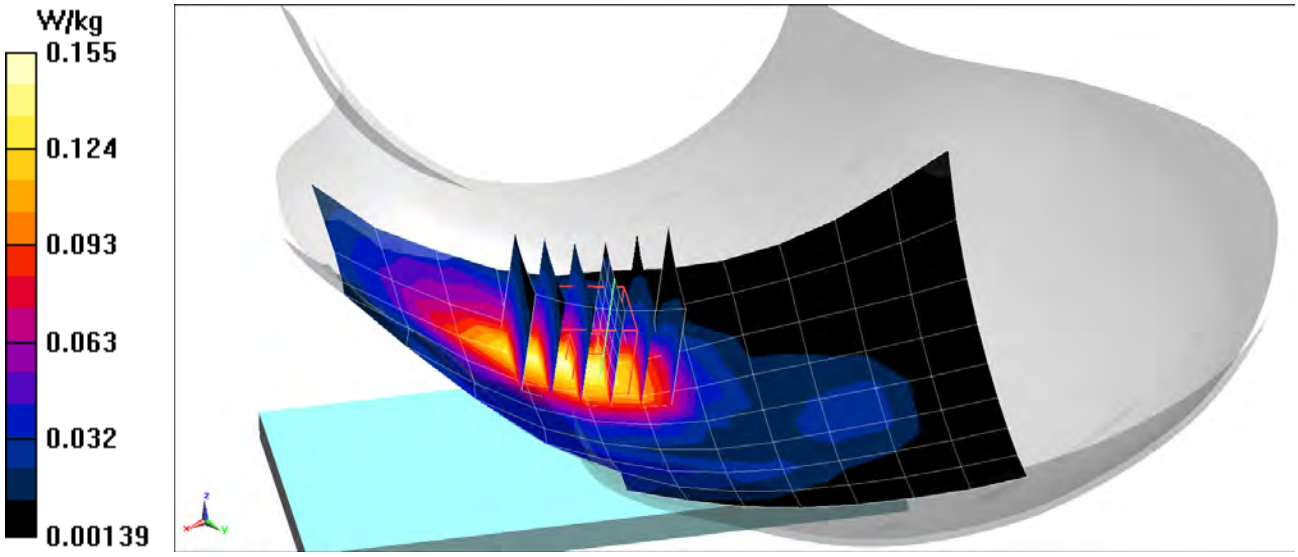
Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1745 MHz; Duty Cycle: 1:1
Medium: 1750 Head; Medium parameters used:
f = 1745 MHz; σ = 1.364 S/m; ε_r = 38.176; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 11/10/2020; Ambient Temp: 23.0°C; Tissue Temp: 22.2°C

Probe: EX3DV4 - SN3589; ConvF(7.55, 7.55, 7.55) @ 1745 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 1/13/2020
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

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

Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.10 V/m; Power Drift = 0.20 dB
Peak SAR (extrapolated) = 0.176 W/kg
SAR(1 g) = 0.120 W/kg



DUT: A3LSMG998B; Type: Portable Handset; Serial: 0195M

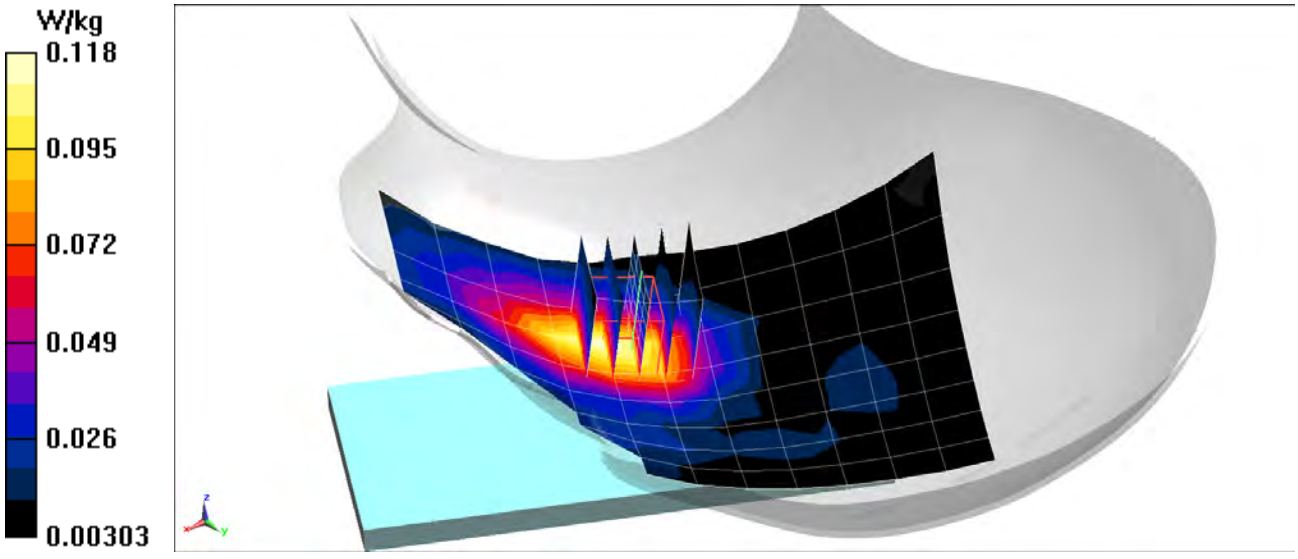
Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1860 MHz; Duty Cycle: 1:1
Medium: 1900 Head; Medium parameters used:
f = 1860 MHz; σ = 1.357 S/m; ε_r = 40.434; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 10/21/2020; Ambient Temp: 24.6°C; Tissue Temp: 24.5°C

Probe: EX3DV4 - SN7406; ConvF(7.96, 7.96, 7.96) @ 1860 MHz; Calibrated: 6/23/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1583; Calibrated: 5/14/2020
Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1966
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 25 (PCS), Left Head, Cheek, Low.ch, 20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset

Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.724 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 0.135 W/kg
SAR(1 g) = 0.090 W/kg



DUT: A3LSMG998B; Type: Portable Handset; Serial: 1590M

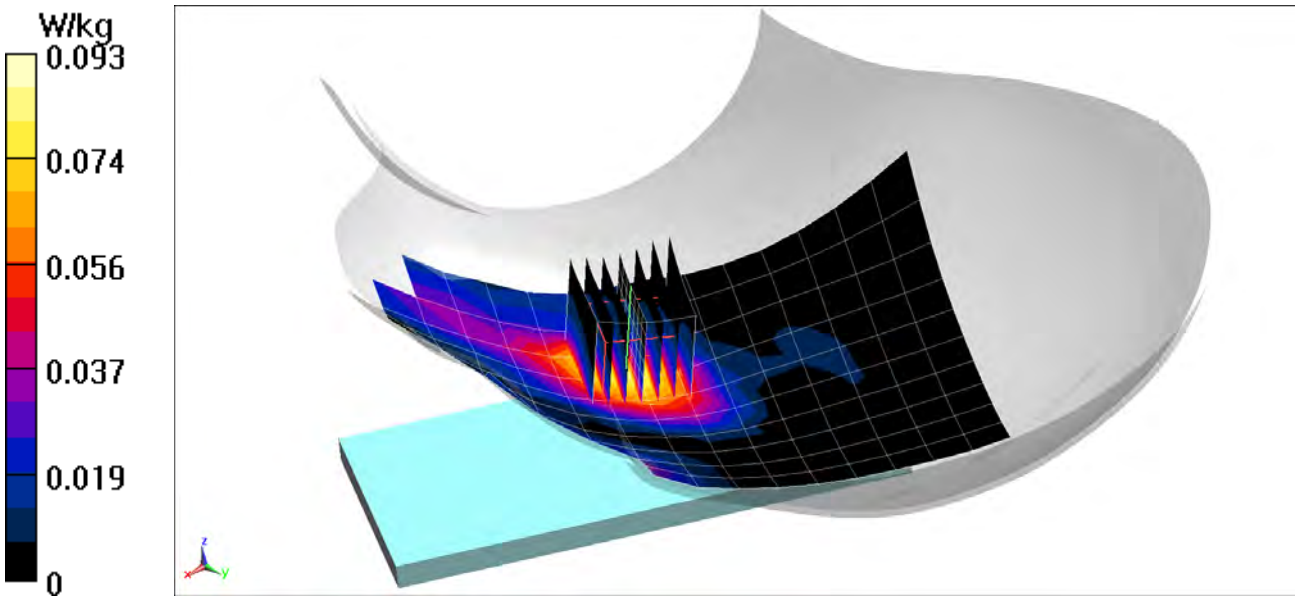
Communication System: UID 0, LTE Band 41 (Class 2); Frequency: 2593 MHz, Duty Cycle: 1:2.31
Medium: 2450 Head; Medium parameters used (interpolated):
f = 2593 MHz; σ = 1.968 S/m; ε_r = 37.166; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 11/15/2020; Ambient Temp: 23.4°C; Tissue Temp: 22.2°C

Probe: EX3DV4 - SN3589; ConvF(6.6, 6.6, 6.6) @ 2593 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 1/13/2020
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 41 PC2, Left Head, Cheek, Mid.ch, QPSK, 20 MHz Bandwidth, 1 RB, 0 RB Offset

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (8x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.187 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 0.113 W/kg
SAR(1 g) = 0.063 W/kg



PCTEST

DUT: A3LSMG998B; Type: Portable Handset; Serial: 0562M

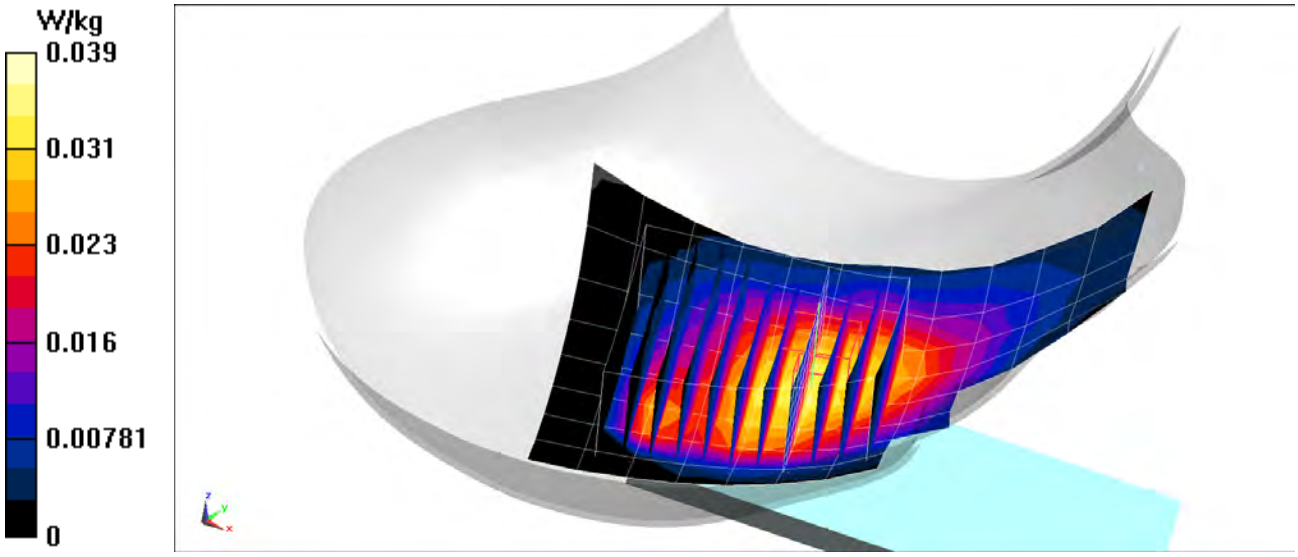
Communication System: UID 0, NR Band n5; Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: 835 Head; Medium parameters used (interpolated):
f = 836.5 MHz; σ = 0.932 S/m; ε_r = 40.093; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 11/08/2020; Ambient Temp: 22.9°C; Tissue Temp: 22.7°C

Probe: EX3DV4 - SN3589; ConvF(8.58, 8.58, 8.58) @ 836.5 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 1/13/2020
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: NR Band n5, Right Head, Tilt, 20 MHz Bandwidth, DFT-s-OFDM QPSK, Ch. 167300, 50 RB, 28 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (10x11x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.344 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 0.0440 W/kg
SAR(1 g) = 0.033 W/kg



PCTEST

DUT: A3LSMG998B; Type: Portable Handset; Serial: 0562M

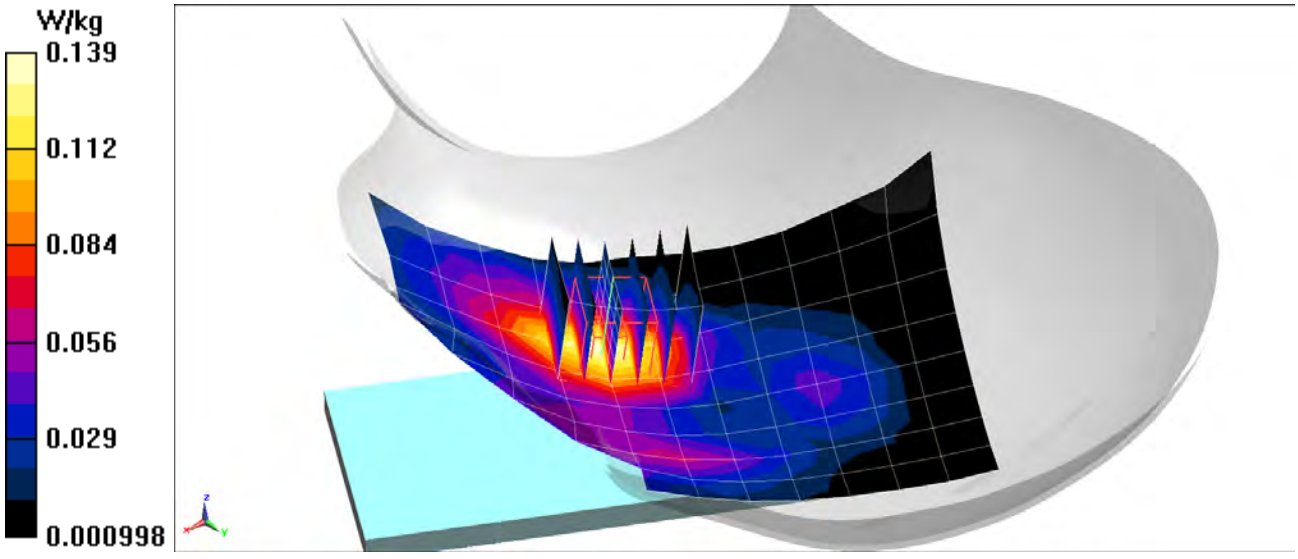
Communication System: UID 0, NR Band n66; Frequency: 1745 MHz; Duty Cycle: 1:1
Medium: 1750 Head; Medium parameters used:
f = 1745 MHz; σ = 1.364 S/m; ε_r = 38.176; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 11/10/2020; Ambient Temp: 23.0°C; Tissue Temp: 22.2°C

Probe: EX3DV4 - SN3589; ConvF(7.55, 7.55, 7.55) @ 1745 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 1/13/2020
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: NR Band n66, Left Head, Cheek, 20 MHz Bandwidth, DFT-s-OFDM QPSK, Ch. 349000, 1 RB, 53 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.542 V/m; Power Drift = 0.20 dB
Peak SAR (extrapolated) = 0.158 W/kg
SAR(1 g) = 0.108 W/kg



PCTEST

DUT: A3LSMG998B; Type: Portable Handset; Serial: 1615M

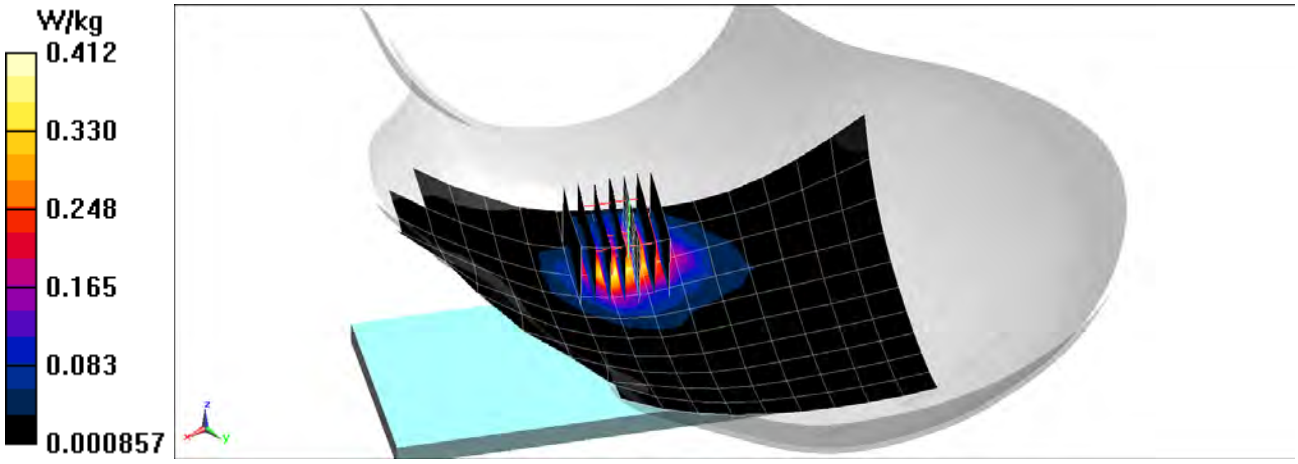
Communication System: UID 0, _IEEE 802.11b; Frequency: 2412 MHz; Duty Cycle: 1:1
Medium: 2450 Head; Medium parameters used (interpolated):
f = 2412 MHz; σ = 1.799 S/m; ε_r = 37.612; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 11/11/2020; Ambient Temp: 22.7°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN3589; ConvF(6.85, 6.85, 6.85) @ 2412 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 1/13/2020
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: IEEE 802.11b, Antenna 2, 22 MHz Bandwidth, Left Head, Cheek, Ch 1, 1 Mbps

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.031 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 0.524 W/kg
SAR(1 g) = 0.232 W/kg



DUT: A3LSMG998B; Type: Portable Handset; Serial: 0107M

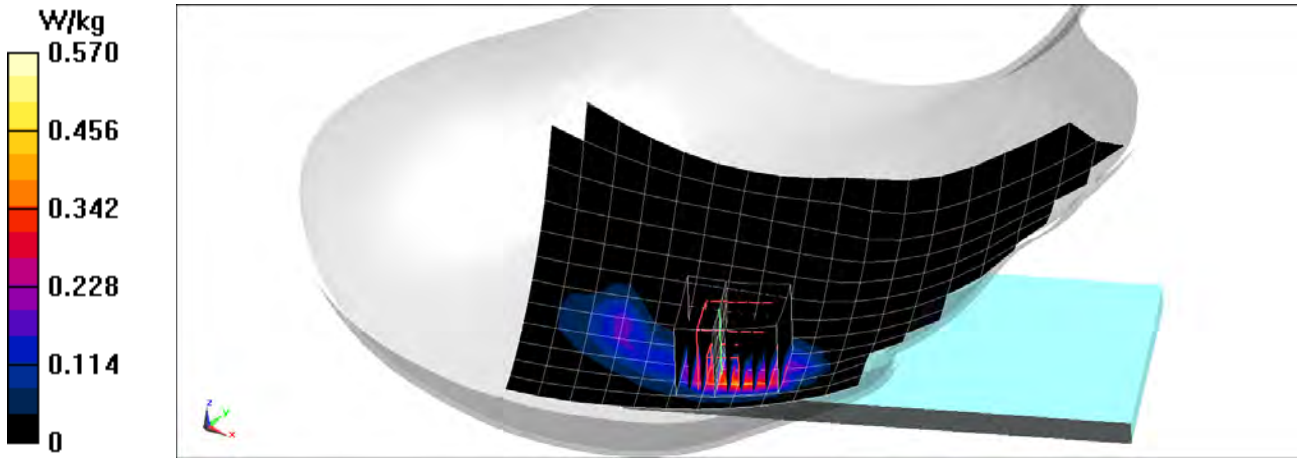
Communication System: UID 0, IEEE 802.11ac; Frequency: 5775 MHz; Duty Cycle: 1:1
Medium: 5200-5800 Head; Medium parameters used:
f = 5775 MHz; σ = 5.196 S/m; ε_r = 33.801; ρ = 1000 kg/m^3
Phantom section: Right Section

Test Date: 11/09/2020; Ambient Temp: 23.5°C; Tissue Temp: 23.5°C

Probe: EX3DV4 - SN7357; ConvF(5.05, 5.05, 5.05) @ 5775 MHz; Calibrated: 4/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/15/2020
Phantom: Twin-SAM V5.0 Left 20; Type: QD 000 P40 CD; Serial: 1715
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: IEEE 802.11ac, MIMO, U-NII-3, 80 MHz Bandwidth, 58.5 Mbps, Right Head, Cheek, Ch 155

Area Scan (13x22x1): Measurement grid: dx=10mm, dy=10mm
Zoom Scan (9x9x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4
Reference Value = 2.175 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 0.942 W/kg
SAR(1 g) = 0.208 W/kg



PCTEST

DUT: A3LSMG998B; Type: Portable Handset; Serial: 1645M

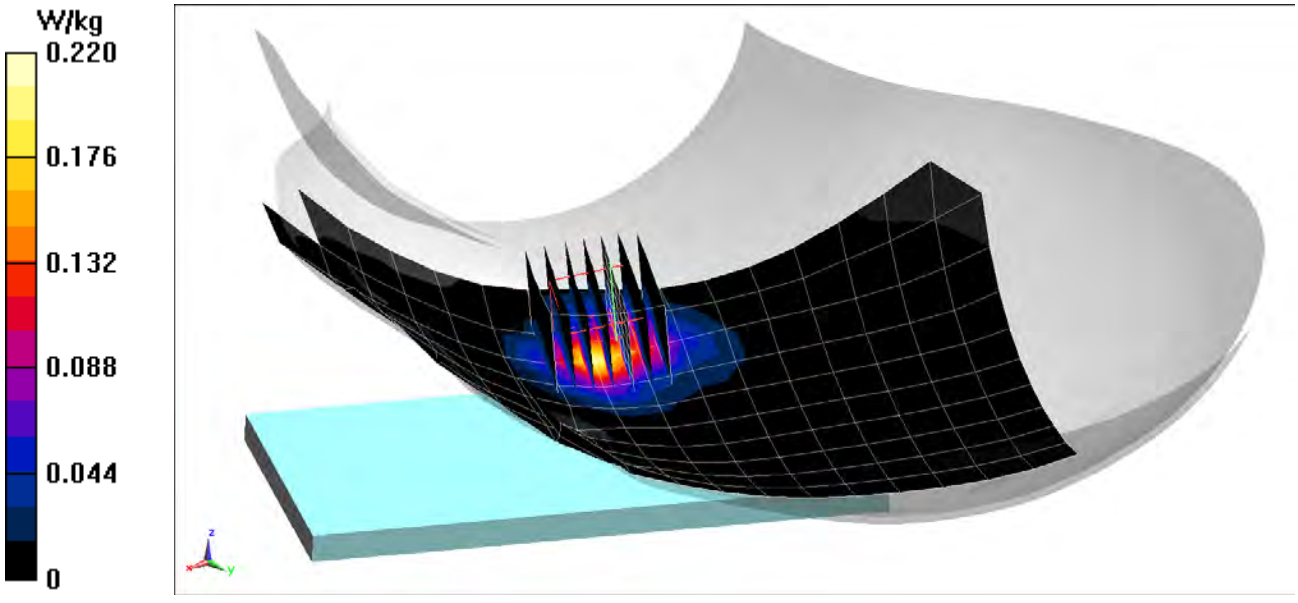
Communication System: UID 0, Bluetooth; Frequency: 2402 MHz; Duty Cycle: 1:1.299
Medium: 2450 Head; Medium parameters used (interpolated):
f = 2402 MHz; σ = 1.792 S/m; ε_r = 37.627; ρ = 1000 kg/m^3
Phantom section: Left Section

Test Date: 11/11/2020; Ambient Temp: 22.7°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN3589; ConvF(6.85, 6.85, 6.85) @ 2402 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1558; Calibrated: 1/13/2020
Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: Bluetooth, Antenna 2, Left Head, Cheek, Ch 0, 1 Mbps

Area Scan (11x19x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.317 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 0.285 W/kg
SAR(1 g) = 0.122 W/kg



PCTEST

DUT: A3LSMG998B; Type: Portable Handset; Serial: 0194M

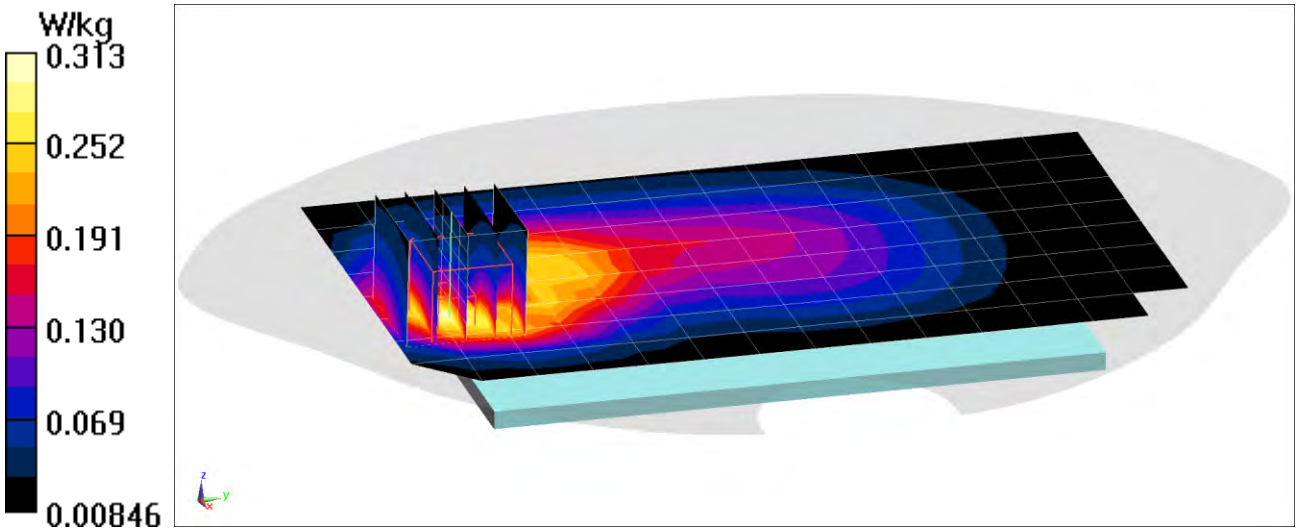
Communication System: UID 0, GSM; Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: 835 Body; Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.952 S/m; ε_r = 55.174; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 10/29/2020; Ambient Temp: 24.8°C; Tissue Temp: 23.9°C

Probe: EX3DV4 - SN7570; ConvF(9.83, 9.83, 9.83) @ 836.6 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1368; Calibrated: 3/12/2020
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.98 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.361 W/kg
SAR(1 g) = 0.226 W/kg



DUT: A3LSMG998B; Type: Portable Handset; Serial: 0194M

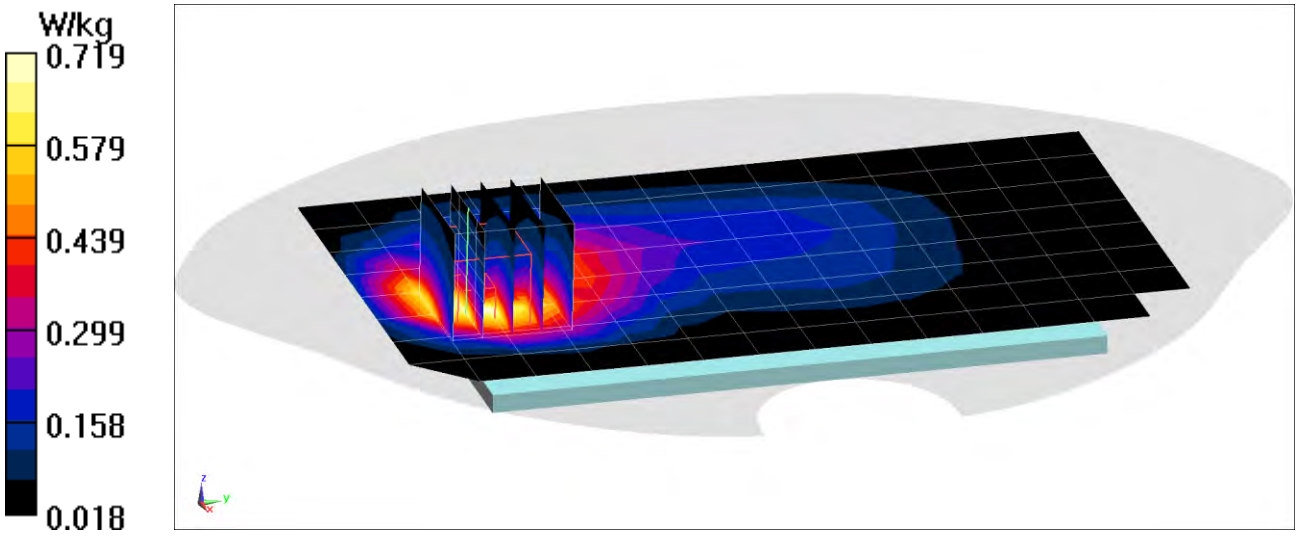
Communication System: UID 0, GSM GPRS; 3 Tx slots; Frequency: 836.6 MHz; Duty Cycle: 1:2.76
Medium: 835 Body; Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.95 S/m; ε_r = 54.706; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11/09/2020; Ambient Temp: 22.3°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN7488; ConvF(11.04, 11.04, 11.04) @ 836.6 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/13/2020
Phantom: Twin-SAM V4.0 Left 30; Type: QD 000 P40 CC; Serial: 1687
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.66 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 0.870 W/kg
SAR(1 g) = 0.505 W/kg



PCTEST

DUT: A3LSMG998B; Type: Portable Handset; Serial: 0106M

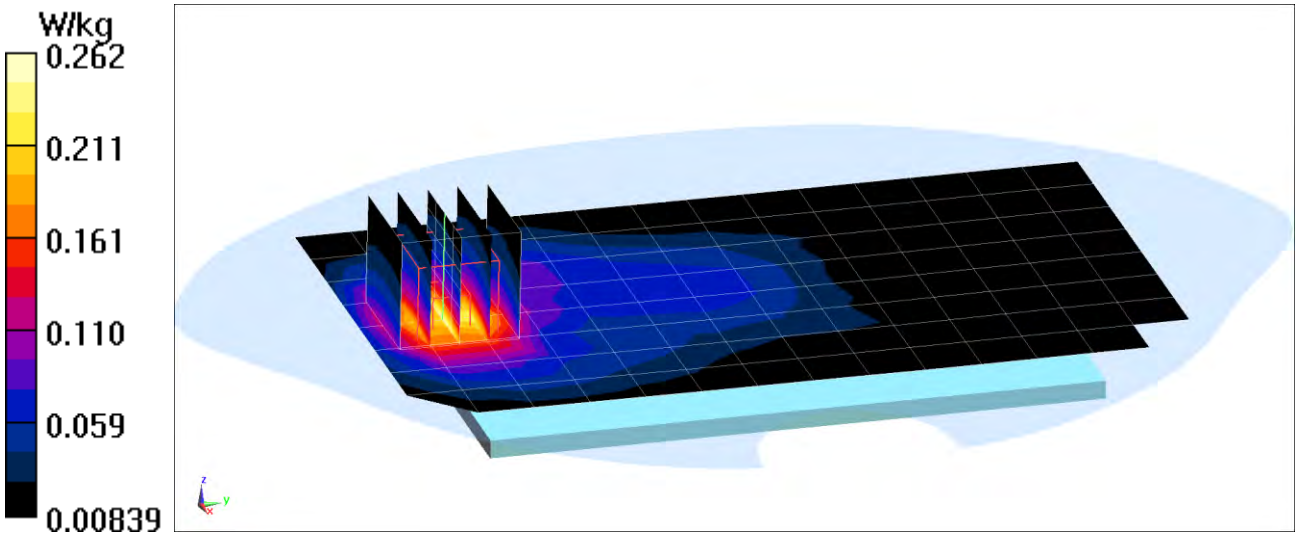
Communication System: UID 0, GSM; Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: 1900 Body; Medium parameters used:
f = 1880 MHz; σ = 1.54 S/m; ε_r = 54.347; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 10/24/2020; Ambient Temp: 22.5°C; Tissue Temp: 22.2°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1880 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.55 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.300 W/kg
SAR(1 g) = 0.188 W/kg



PCTEST

DUT: A3LSMG998B; Type: Portable Handset; Serial: 0106M

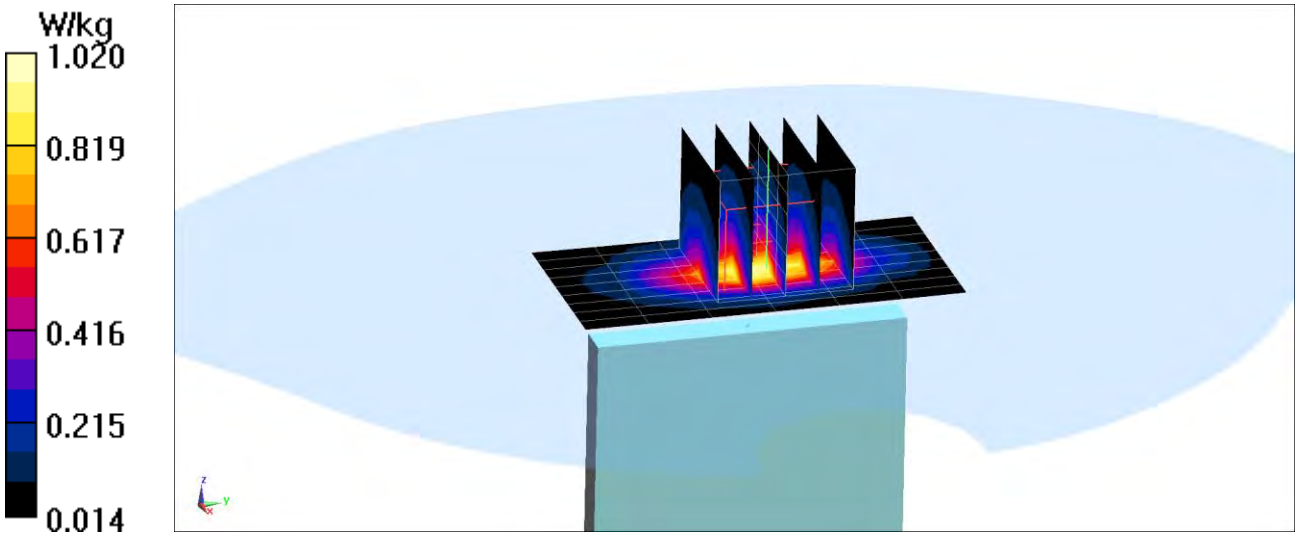
Communication System: UID 0, GSM GPRS; 3 Tx slots; Frequency: 1880 MHz; Duty Cycle: 1:2.76
Medium: 1900 Body; Medium parameters used:
f = 1880 MHz; σ = 1.54 S/m; ε_r = 52.742; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11/08/2020; Ambient Temp: 22.5°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1880 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: GPRS 1900, Body SAR, Bottom Edge, Mid.ch, 3 Tx Slots

Area Scan (10x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.28 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.681 W/kg



PCTEST

DUT: A3LSMG998B; Type: Portable Handset; Serial: 0211M

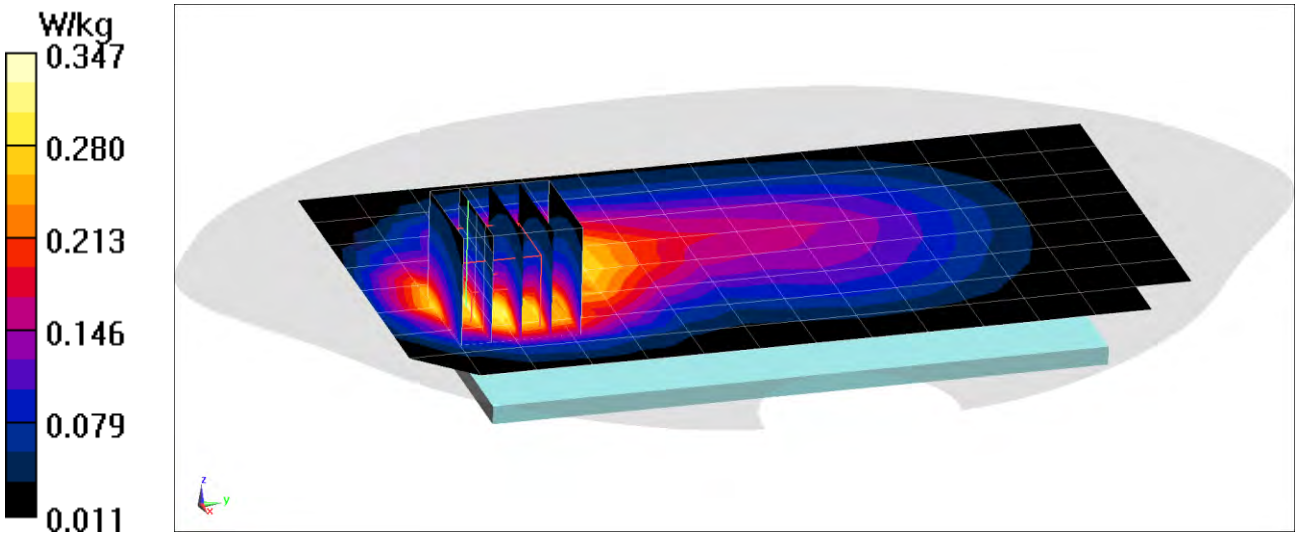
Communication System: UID 0, UMTS; Frequency: 836.6 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.953 S/m; ε_r = 53.885; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 10/27/2020; Ambient Temp: 24.9°C; Tissue Temp: 23.4°C

Probe: EX3DV4 - SN7570; ConvF(9.83, 9.83, 9.83) @ 836.6 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1368; Calibrated: 3/12/2020
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.78 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.408 W/kg
SAR(1 g) = 0.252 W/kg



PCTEST

DUT: A3LSMG998B; Type: Portable Handset; Serial: 0211M

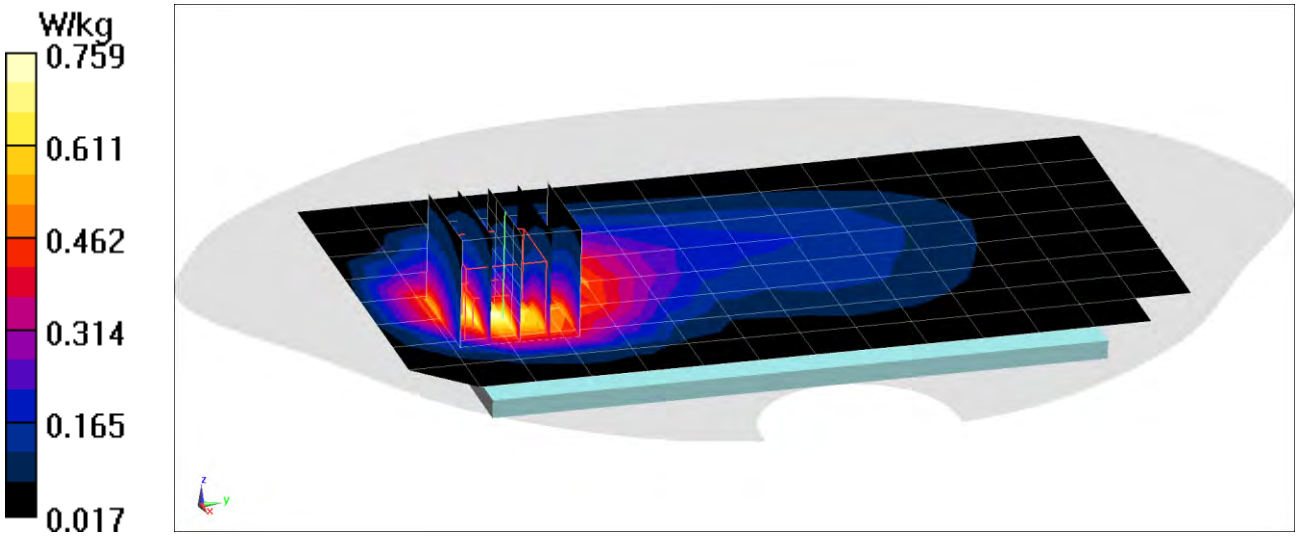
Communication System: UID 0, UMTS; Frequency: 836.6 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
f = 836.6 MHz; σ = 0.953 S/m; ε_r = 53.885; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 10/27/2020; Ambient Temp: 24.9°C; Tissue Temp: 23.4°C

Probe: EX3DV4 - SN7570; ConvF(9.83, 9.83, 9.83) @ 836.6 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1368; Calibrated: 3/12/2020
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.39 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.935 W/kg
SAR(1 g) = 0.542 W/kg



DUT: A3LSMG998B; Type: Portable Handset; Serial: 0106M

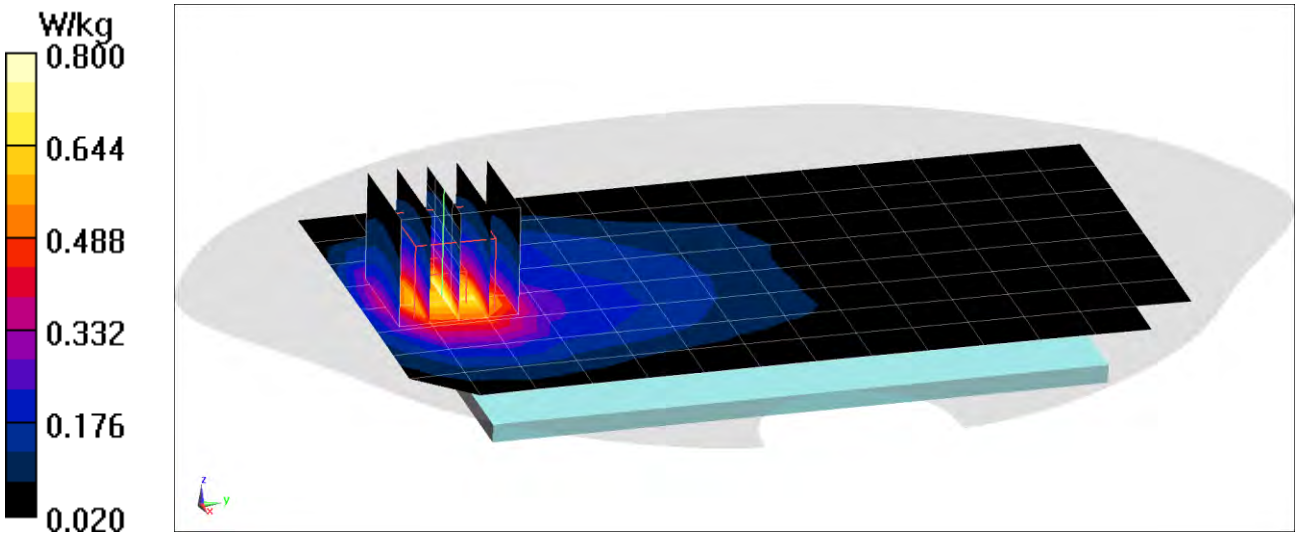
Communication System: UID 0, UMTS; Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used (interpolated):
f = 1732.4 MHz; σ = 1.513 S/m; ε_r = 51.763; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 10/28/2020; Ambient Temp: 22.2°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7308; ConvF(8.2, 8.2, 8.2) @ 1732.4 MHz; Calibrated: 7/31/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/11/2020
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.26 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.922 W/kg
SAR(1 g) = 0.569 W/kg



DUT: A3LSMG998B; Type: Portable Handset; Serial: 0106M

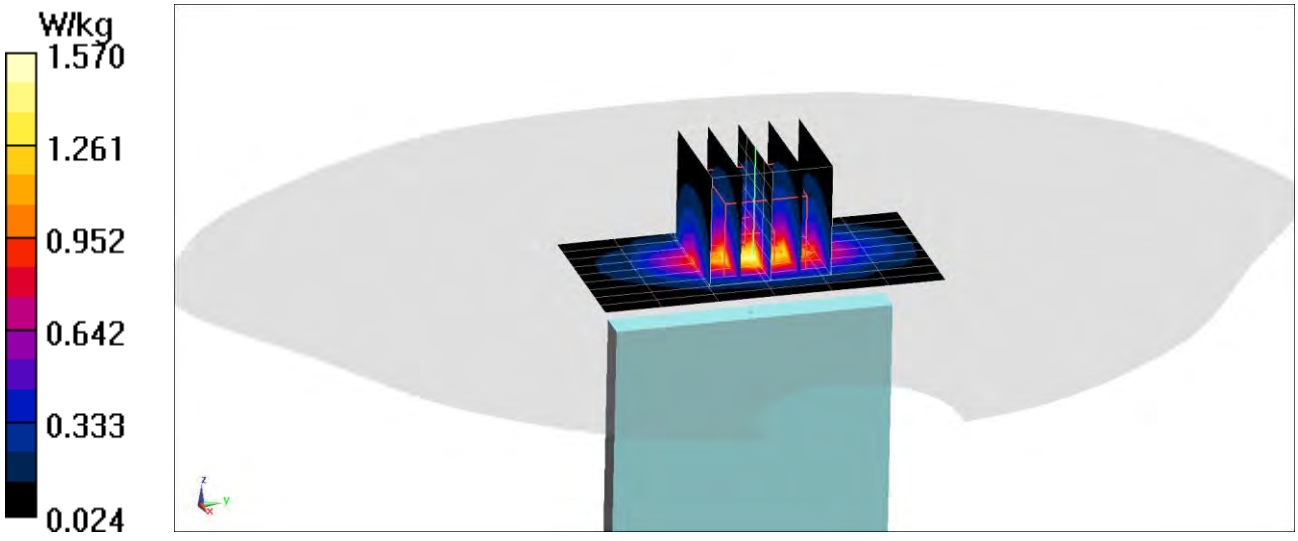
Communication System: UID 0, UMTS; Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used (interpolated):
f = 1752.6 MHz; σ = 1.538 S/m; ε_r = 51.686; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 10/28/2020; Ambient Temp: 22.2°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7308; ConvF(8.2, 8.2, 8.2) @ 1752.6 MHz; Calibrated: 7/31/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/11/2020
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: UMTS 1750, Body SAR, Bottom Edge, High.ch

Area Scan (10x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.34 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 1.87 W/kg
SAR(1 g) = 1.04 W/kg



DUT: A3LSMG998B; Type: Portable Handset; Serial: 0216M

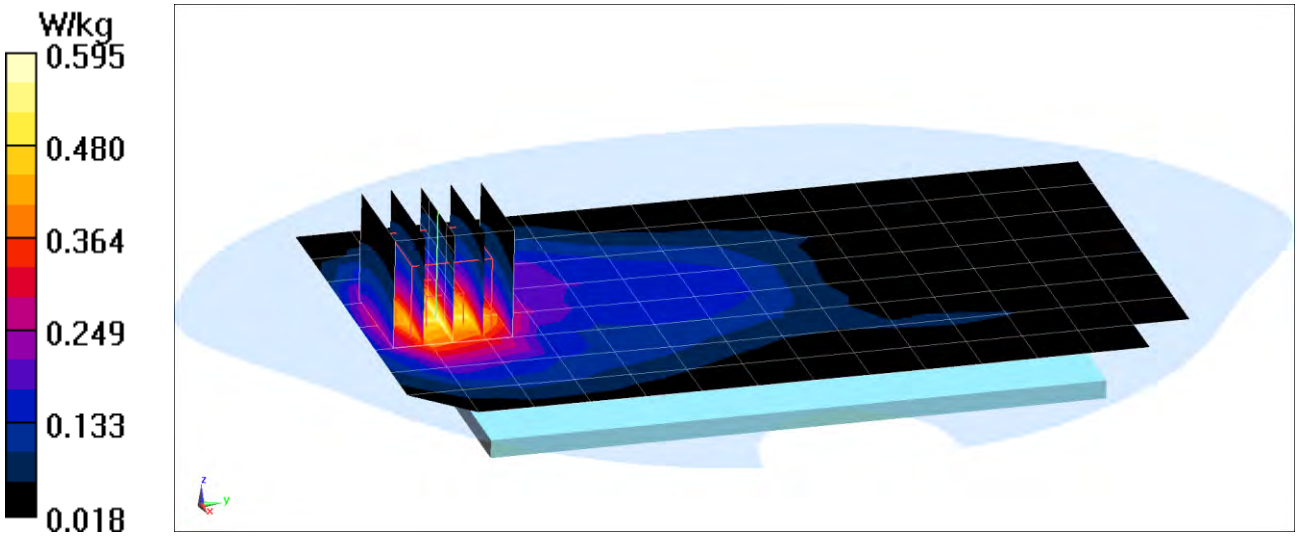
Communication System: UID 0, UMTS; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used:
f = 1880 MHz; σ = 1.54 S/m; ε_r = 52.647; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 10/21/2020; Ambient Temp: 22.0°C; Tissue Temp: 24.6°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1880 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

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

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.44 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.685 W/kg
SAR(1 g) = 0.427 W/kg



DUT: A3LSMG998B; Type: Portable Handset; Serial: 0106M

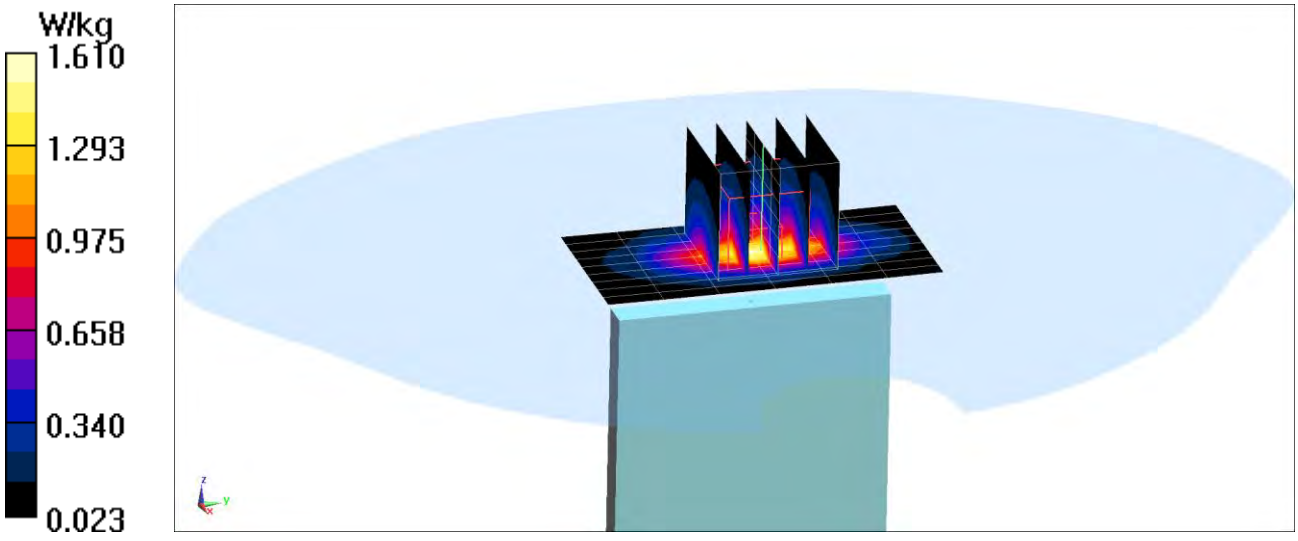
Communication System: UID 0, UMTS; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used:
f = 1880 MHz; σ = 1.54 S/m; ε_r = 52.742; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11/08/2020; Ambient Temp: 22.5°C; Tissue Temp: 22.4°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1880 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1533; Calibrated: 12/5/2019
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

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

Area Scan (10x7x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.82 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 1.90 W/kg
SAR(1 g) = 1.06 W/kg



DUT: A3LSMG998B; Type: Portable Handset; Serial: 0216M

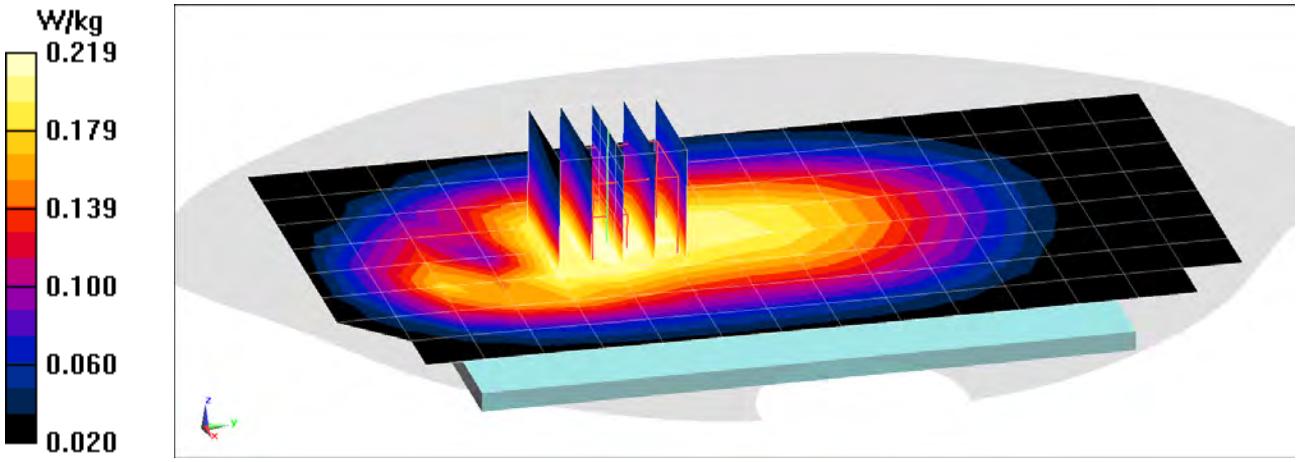
Communication System: UID 0, LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: 750 Body; Medium parameters used (interpolated):
f = 707.5 MHz; σ = 0.971 S/m; ε_r = 53.316; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11/04/2020; Ambient Temp: 22.6°C; Tissue Temp:21.5°C

Probe: EX3DV4 - SN7547; ConvF(9.98, 9.98, 9.98) @ 707.5 MHz; Calibrated: 8/19/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 8/12/2020
Phantom: Left Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 12, Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (9x16x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.98 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.240 W/kg
SAR(1 g) = 0.183 W/kg



DUT: A3LSMG998B; Type: Portable Handset; Serial: 0216M

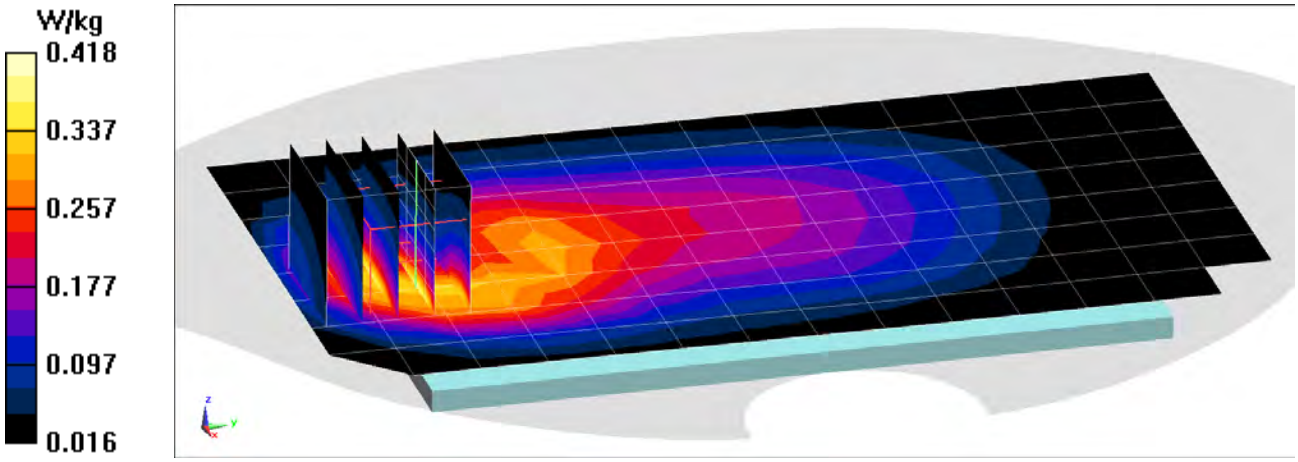
Communication System: UID 0, LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: 750 Body; Medium parameters used (interpolated):
f = 707.5 MHz; σ = 0.971 S/m; ε_r = 53.316; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11/04/2020; Ambient Temp: 22.6°C; Tissue Temp:21.5°C

Probe: EX3DV4 - SN7547; ConvF(9.98, 9.98, 9.98) @ 707.5 MHz; Calibrated: 8/19/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 8/12/2020
Phantom: Left Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 12, Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.25 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.505 W/kg
SAR(1 g) = 0.288 W/kg



DUT: A3LSMG998B; Type: Portable Handset; Serial: 0216M

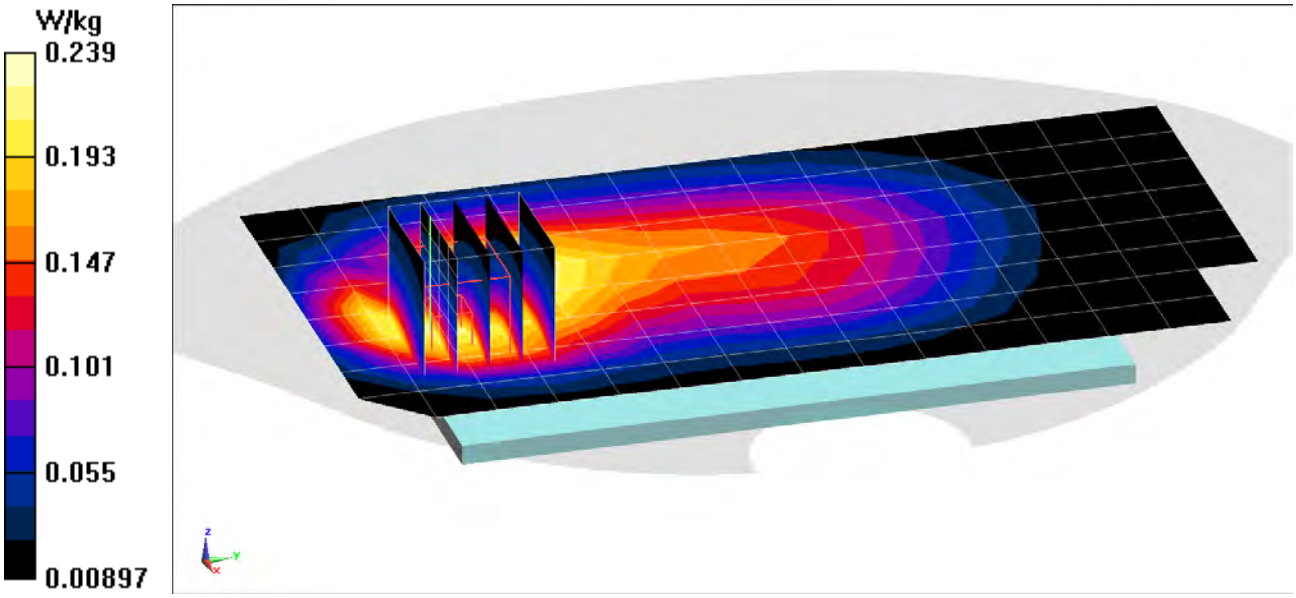
Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1
Medium: 750 Body; Medium parameters used (interpolated):
f = 782 MHz; σ = 0.999 S/m; ε_r = 53.112; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11/04/2020; Ambient Temp: 22.6°C; Tissue Temp:21.5°C

Probe: EX3DV4 - SN7547; ConvF(9.98, 9.98, 9.98) @ 782 MHz; Calibrated: 8/19/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 8/12/2020
Phantom: Left Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 13, Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (9x16x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.61 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.285 W/kg
SAR(1 g) = 0.173 W/kg



DUT: A3LSMG998B; Type: Portable Handset; Serial: 0216M

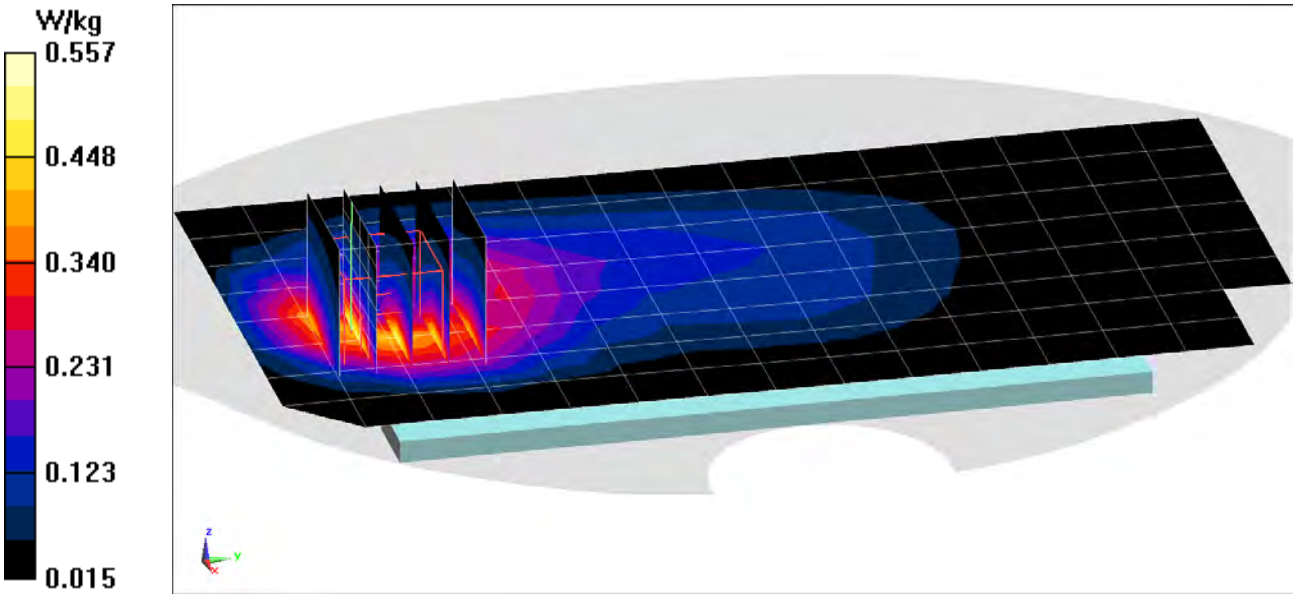
Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1
Medium: 750 Body; Medium parameters used (interpolated):
f = 782 MHz; σ = 0.999 S/m; ε_r = 53.112; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11/04/2020; Ambient Temp: 22.6°C; Tissue Temp:21.5°C

Probe: EX3DV4 - SN7547; ConvF(9.98, 9.98, 9.98) @ 782 MHz; Calibrated: 8/19/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1323; Calibrated: 8/12/2020
Phantom: Left Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 13, Body SAR, Back side, Mid.ch, 10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (9x16x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.75 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 0.670 W/kg
SAR(1 g) = 0.381 W/kg



DUT: A3LSMG998B; Type: Portable Handset; Serial: 0211M

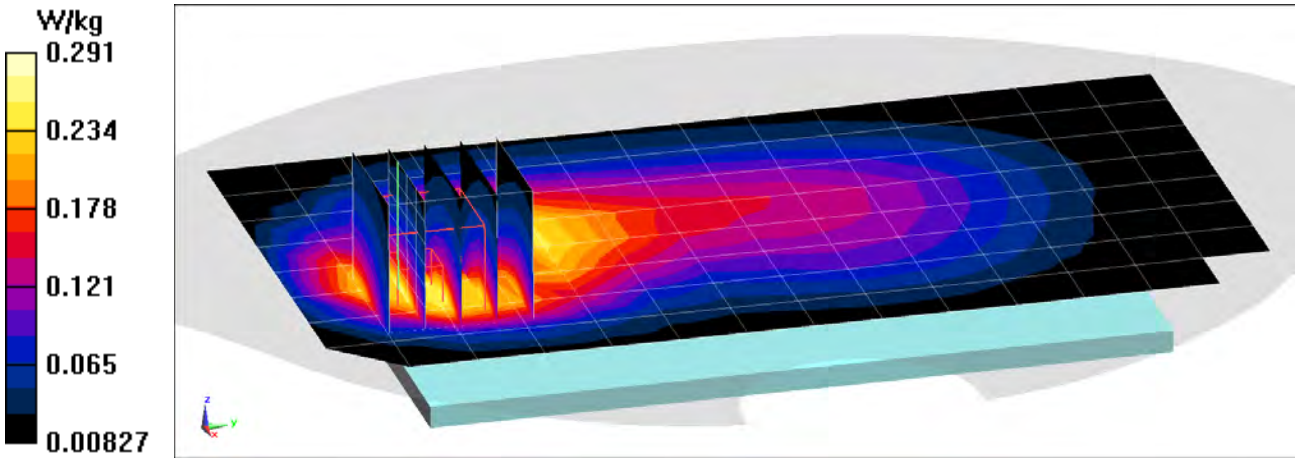
Communication System: UID 0, LTE Band 26; Frequency: 831.5 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
f = 831.5 MHz; σ = 0.947 S/m; ε_r = 55.224; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 10/29/2020; Ambient Temp: 24.8°C; Tissue Temp: 23.9°C

Probe: EX3DV4 - SN7570; ConvF(9.83, 9.83, 9.83) @ 831.5 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1368; Calibrated: 3/12/2020
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 26 (Cell.), Body SAR, Back side, Mid.ch, 15 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.38 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.341 W/kg
SAR(1 g) = 0.211 W/kg



DUT: A3LSMG998B; Type: Portable Handset; Serial: 0211M

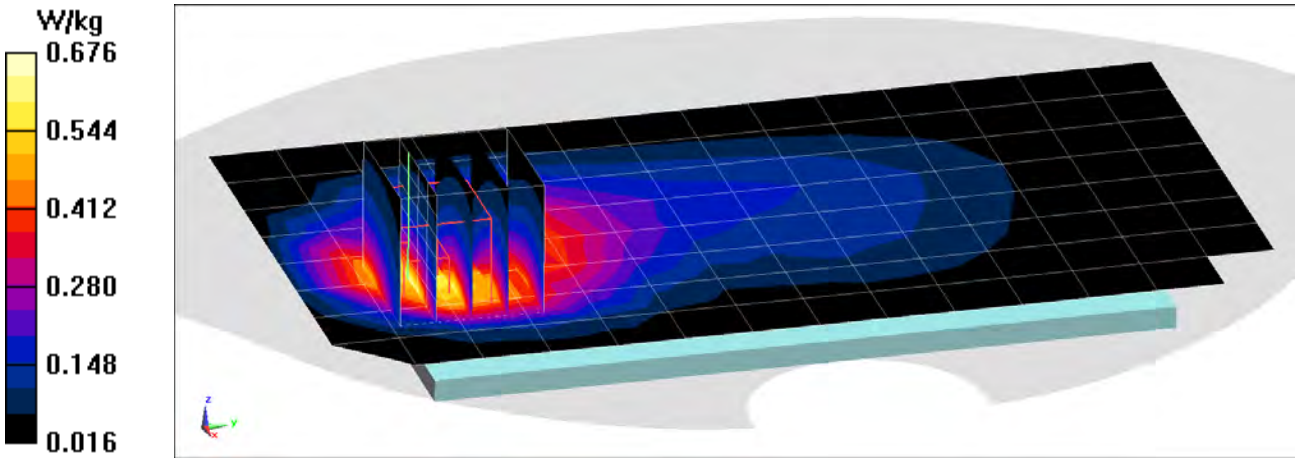
Communication System: UID 0, LTE Band 26; Frequency: 831.5 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
f = 831.5 MHz; σ = 0.947 S/m; ε_r = 55.224; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 10/29/2020; Ambient Temp: 24.8°C; Tissue Temp: 23.9°C

Probe: EX3DV4 - SN7570; ConvF(9.83, 9.83, 9.83) @ 831.5 MHz; Calibrated: 12/11/2019
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1368; Calibrated: 3/12/2020
Phantom: Right Back Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1692
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 26 (Cell.), Body SAR, Back side, Mid.ch, 15 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.80 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.810 W/kg
SAR(1 g) = 0.467 W/kg



PCTEST

DUT: A3LSMG998B; Type: Portable Handset; Serial: 1645M

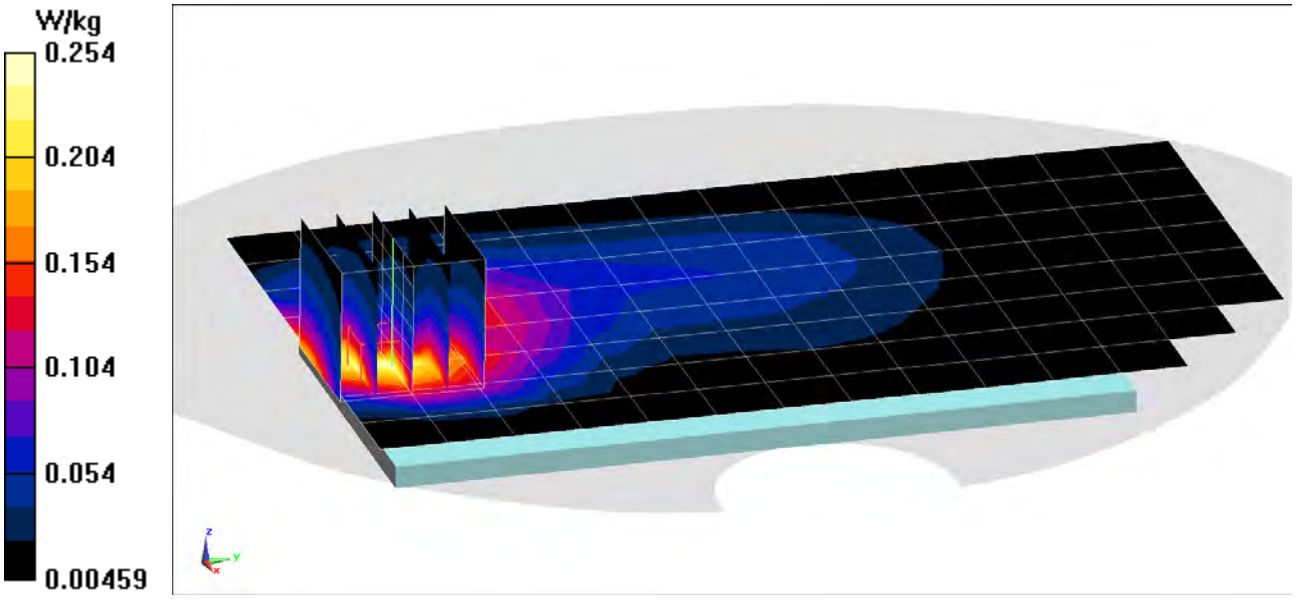
Communication System: UID 0, LTE Band 5; Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: 835 Body; Medium parameters used (interpolated):
f = 836.5 MHz; σ = 0.953 S/m; ε_r = 54.081; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12/08/2020; Ambient Temp: 23.4°C; Tissue Temp: 22.2°C

Probe: EX3DV4 - SN7488; ConvF(11.04, 11.04, 11.04) @ 836.5 MHz; Calibrated: 1/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1530; Calibrated: 1/13/2020
Phantom: Twin-SAM V4.0 Left 30; Type: QD 000 P40 CC; Serial: 1687
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 5 (Cell), 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 = 13.90 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.317 W/kg
SAR(1 g) = 0.175 W/kg



DUT: A3LSMG998B; Type: Portable Handset; Serial: 1645M

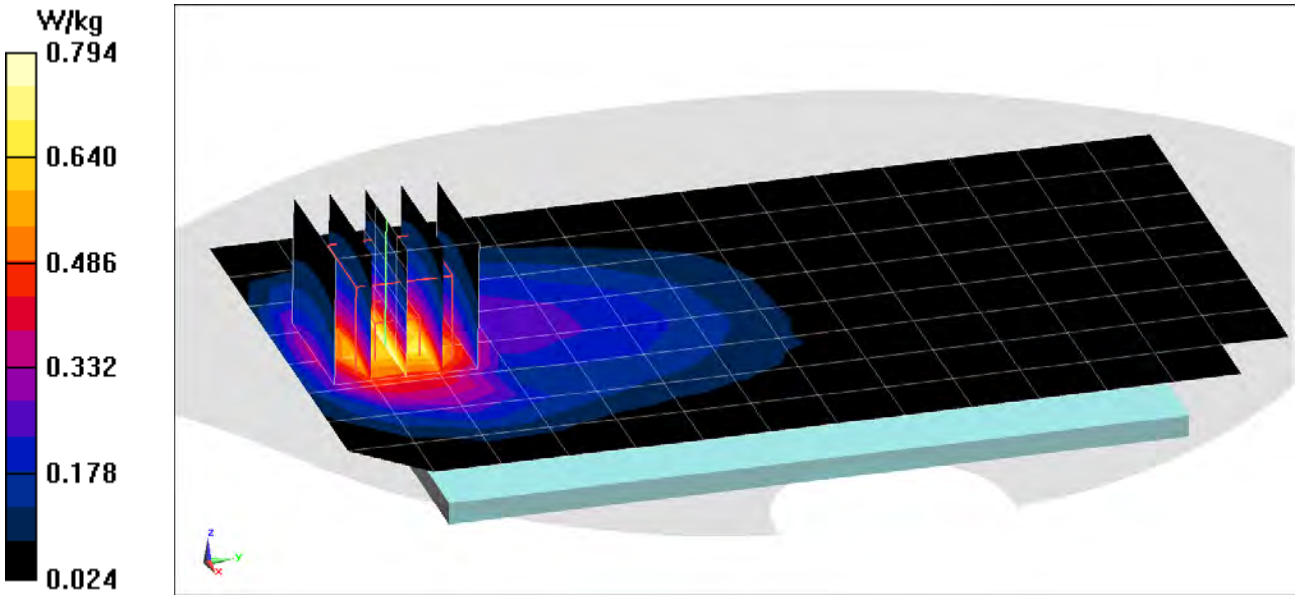
Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1745 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used:
f = 1745 MHz; σ = 1.528 S/m; ε_r = 51.157; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11/16/2020; Ambient Temp: 23.0°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7357; ConvF(8.17, 8.17, 8.17) @ 1745 MHz; Calibrated: 4/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/15/2020
Phantom: Twin-SAM V5.0 Right 20; Type: QD 000 P40 CD; Serial: 1759
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 66 (AWS), Body SAR, Back side, Mid.ch, 20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.22 V/m; Power Drift = 0.20 dB
Peak SAR (extrapolated) = 0.910 W/kg
SAR(1 g) = 0.571 W/kg



DUT: A3LSMG998B; Type: Portable Handset; Serial: 1645M

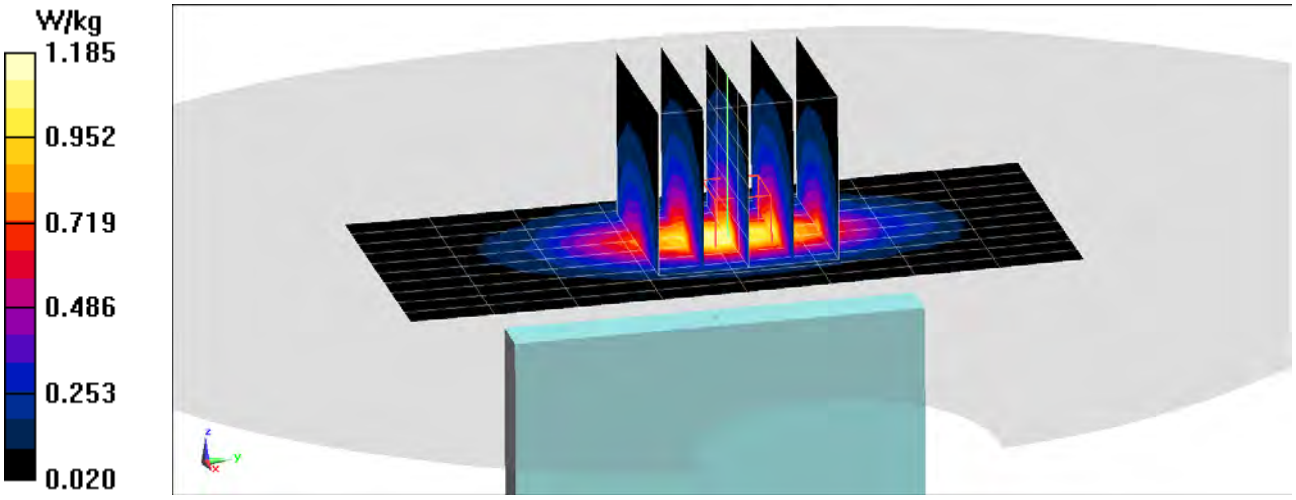
Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1770 MHz; Duty Cycle: 1:1
Medium: 1750 Body; Medium parameters used:
f = 1770 MHz; σ = 1.538 S/m; ε_r = 51.024; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12/09/2020; Ambient Temp: 24.7°C; Tissue Temp: 24.4°C

Probe: EX3DV4 - SN7357; ConvF(8.17, 8.17, 8.17) @ 1770 MHz; Calibrated: 4/21/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1407; Calibrated: 4/15/2020
Phantom: Twin-SAM V5.0 Right 30; Type: QD 000 P40 CD; Serial: 1759
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 66 (AWS), Body SAR, Bottom Edge, High.ch, 20 MHz Bandwidth, QPSK, 50 RB, 50 RB Offset

Area Scan (11x9x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.17 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 1.39 W/kg
SAR(1 g) = 0.810 W/kg



DUT: A3LSMG998B; Type: Portable Handset; Serial: 0106M

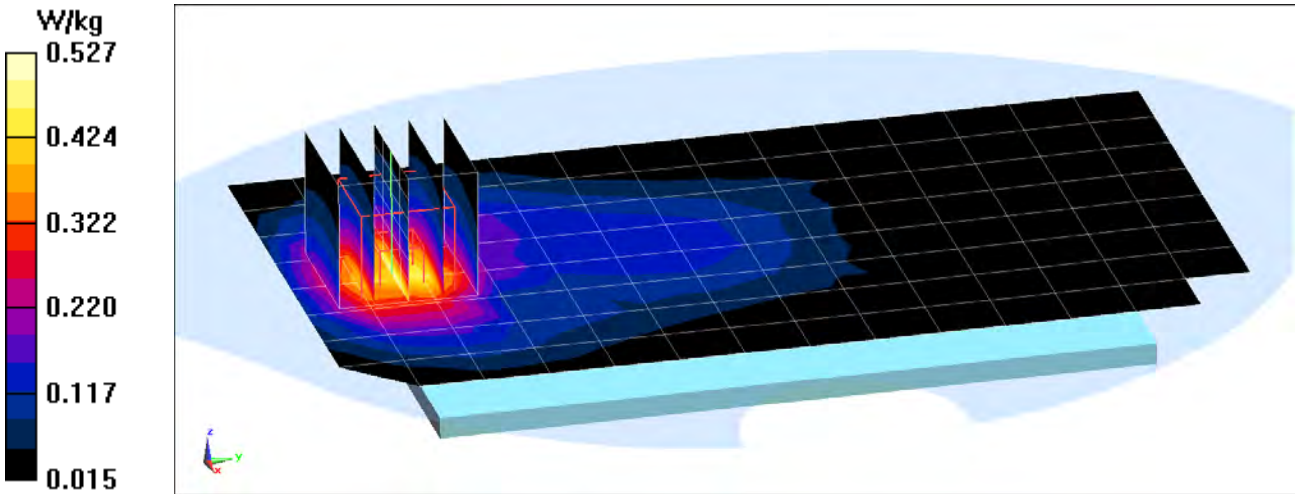
Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1860 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used:
f = 1860 MHz; σ = 1.517 S/m; ε_r = 52.774; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 12/03/2020; Ambient Temp: 24.5°C; Tissue Temp: 23.4°C

Probe: EX3DV4 - SN7410; ConvF(7.76, 7.76, 7.76) @ 1860 MHz; Calibrated: 7/20/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/15/2020
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 25 (PCS), Body SAR, Back side, Low.ch, 20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.68 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 0.598 W/kg
SAR(1 g) = 0.381 W/kg



DUT: A3LSMG998B; Type: Portable Handset; Serial: 1645M

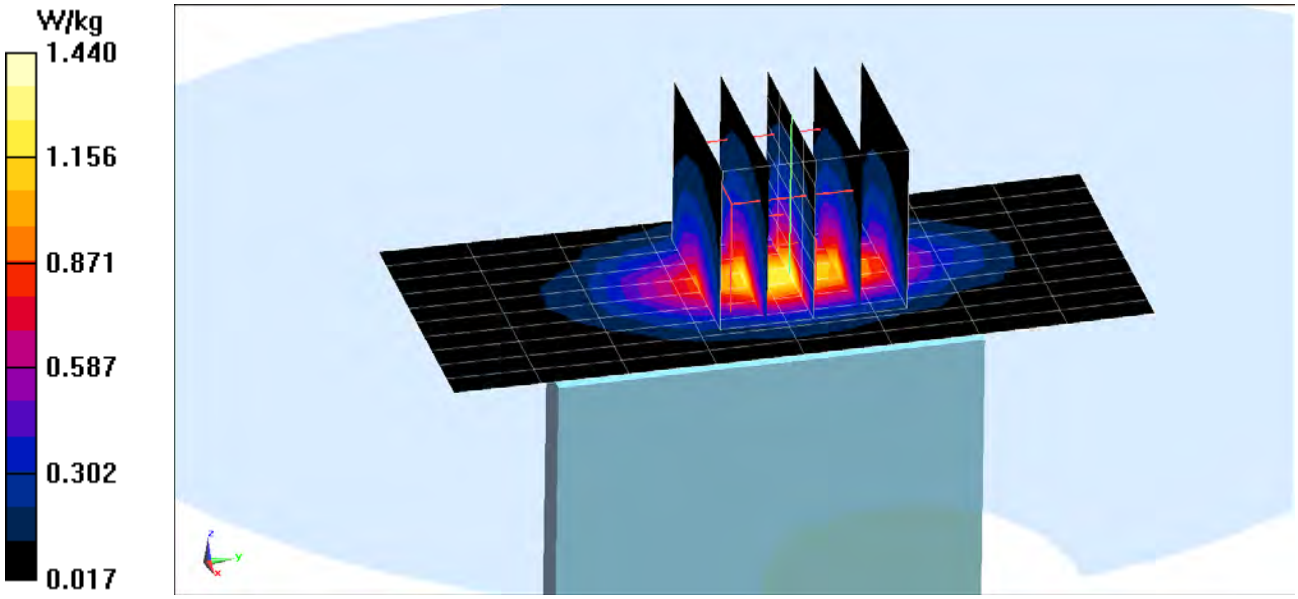
Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1905 MHz; Duty Cycle: 1:1
Medium: 1900 Body; Medium parameters used:
f = 1905 MHz; σ = 1.567 S/m; ε_r = 52.617; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12/03/2020; Ambient Temp: 24.5°C; Tissue Temp: 23.4°C

Probe: EX3DV4 - SN7410; ConvF(7.76, 7.76, 7.76) @ 1905 MHz; Calibrated: 7/20/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1322; Calibrated: 7/15/2020
Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 25 (PCS), Body SAR, Bottom Edge, High.ch, 20 MHz Bandwidth, QPSK, 50 RB, 25 RB Offset

Area Scan (11x9x1): Measurement grid: dx=5mm, dy=15mm
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.57 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 1.68 W/kg
SAR(1 g) = 0.978 W/kg



DUT: A3LSMG998B; Type: Portable Handset; Serial: 1590M

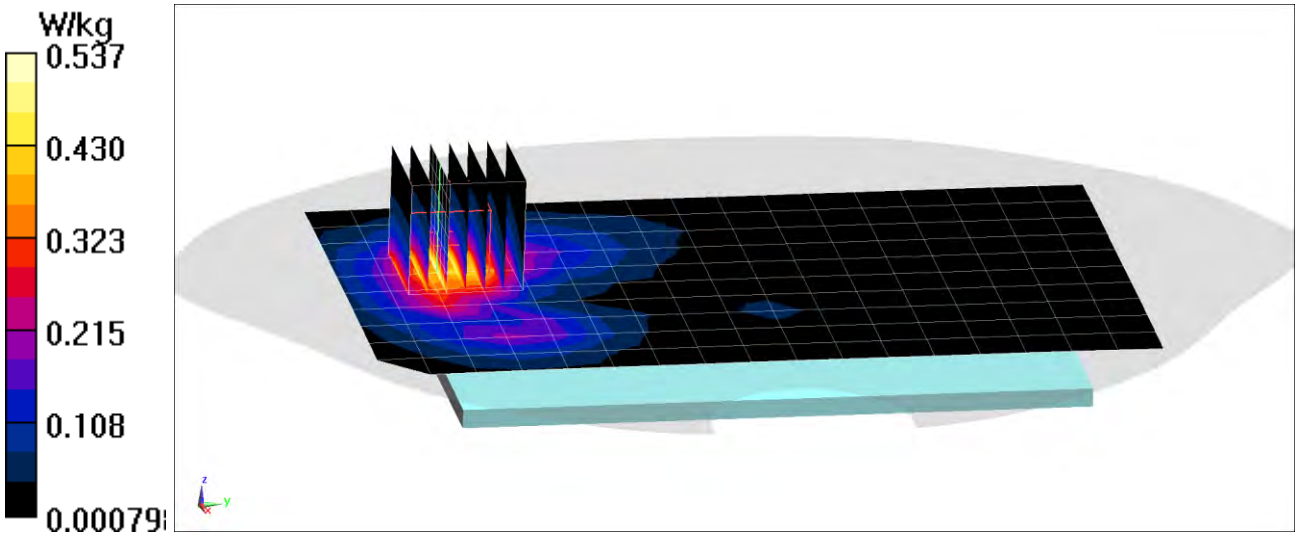
Communication System: UID 0, LTE Band 41 (Class 2); Frequency: 2593 MHz; Duty Cycle: 1:2.31
Medium: 2450 Body; Medium parameters used (interpolated):
f = 2593 MHz; σ = 2.168 S/m; ε_r = 51.497; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 11/19/2020; Ambient Temp: 24.9°C; Tissue Temp: 22.6°C

Probe: EX3DV4 - SN7308; ConvF(7.37, 7.37, 7.37) @ 2593 MHz; Calibrated: 7/31/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/11/2020
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 41 PC2, Body SAR, Back side, Mid.ch, 20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset

Area Scan (11x18x1): Measurement grid: dx=12mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.88 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.677 W/kg
SAR(1 g) = 0.344 W/kg



DUT: A3LSMG998B; Type: Portable Handset; Serial: 1590M

Communication System: UID 0, LTE Band 41 (Class 3); Frequency: 2636.5 MHz; Duty Cycle: 1:1.58
Medium: 2450 Body; Medium parameters used (interpolated):
f = 2636.5 MHz; σ = 2.229 S/m; ε_r = 51.337; ρ = 1000 kg/m^3
Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11/19/2020; Ambient Temp: 24.9°C; Tissue Temp: 22.6°C

Probe: EX3DV4 - SN7308; ConvF(7.37, 7.37, 7.37) @ 2636.5 MHz; Calibrated: 7/31/2020
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1450; Calibrated: 8/11/2020
Phantom: Twin-SAM V5.0; Type: QD 000 P40 CD; Serial: 1792
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

Mode: LTE Band 41, Body SAR, Bottom Edge, Mid-High.ch, 20 MHz Bandwidth, QPSK, 50 RB, 25 RB Offset

Area Scan (11x10x1): Measurement grid: dx=5mm, dy=12mm
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.43 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 1.31 W/kg
SAR(1 g) = 0.617 W/kg